



# **Volume 1 of 1 Project Manual**

## **Bid Package 1**

**SCSU Lyman Center – HVAC/Electrical Renovations  
501 Crescent Street  
New Haven, CT  
Project No.: BI-RS-357BP1**

**Prepared By:  
Friar Architecture Inc.  
21 Talcott Notch Road  
Farmington, CT  
06032**

**Josh Geballe – Commissioner**

**State of Connecticut  
Department of Administrative Services  
Construction Services  
450 Columbus Boulevard  
Hartford, CT 06103**

**Project Manual Date: April 10, 2020**



**FOR YOUR INFORMATION**

**IMPORTANT NOTICE**

**From The State of Connecticut  
Department of Administrative Services - Construction Services  
Office of Legal Affairs, Policy, and Procurement**

**THIS PROJECT MANUAL CONTAINS UPDATED REQUIREMENTS:**

**10/10/19: UPDATED 01 11 00 SUMMARY OF WORK:**

- **Section 1.11 F: Contract Documents will no longer be provided in paper format.** One (1) set of PDF (latest version) Contract Documents on Electronic Data Storage Devices will be provided to the Contractor, at no cost, on or about the time of execution of the Contract from the Architect. Additional sets of PDF (latest version) Contract Documents on Electronic Data Storage Devices from the Architect shall be available at the cost of their reproduction, to the Contractor.

**10/10/19: UPDATED 00 21 13 INSTRUCTIONS TO BIDDERS:**

- **Sections 1.10.3.2, 2.7.1, 2.7.5, Named Subcontractors and Classes of Work:** In accordance with Connecticut General Statutes 4b-93, if the Bidder intends to use **more than one** Subcontractor to perform a Class of Work, then it shall provide **ALL** of the Subcontractor Names and Proposed Dollar Values for **subcontracts in excess of \$100,000**. Failure to correctly state **ALL** of the **Named Subcontractor's prices within a particular Class of Work** on the Bid Proposal Form **shall** be cause for **rejection** of the Bid.
- **Section 2.7.8.1, 2.7.10.3, Named Subcontractor Prequalification:** For Subcontracts greater than \$500,000, the three (3) Apparent Lowest Bidders shall submit within ten (10) Calendar Days after receipt of the "Set-Aside Contractor Schedule Request" current DAS Prequalification Certificate(s) and Update (Bid) Statement(s) for each Named Subcontractor in Table 2.7 of the Bid Proposal Form, to the extent the Class of Work for the Named Subcontractor is a Prequalification Classification. This information shall be considered as part of the Bid Proposal Form and failure to comply with any portion of this requirement **shall** cause rejection of the bid.
- **Section 2.7.10.2, Bidder Performing Work as Named Subcontractor:** In the event that the Bidder names a Subcontractor to perform some, but not all, of the separate section of the specifications for a particular Class of Work, then it will be presumed, in addition, that the Bidder intends to perform the balance of the Class of Work. Post-bid, the Bidder cannot substitute a Subcontractor for one named in the Bid Proposal Form or bring in a Subcontractor for any designated subtrade work presumed to be performed by the General Contractor's own forces, except for "Good Cause" as determined by the awarding authority.

**10/10/19: UPDATED 00 41 00 BID PROPOSAL FORM:**

- **Section 2.7, Named Subcontractors and Classes of Work:** In accordance with Connecticut General Statutes 4b-93, if the Bidder intends to use **more than one** Subcontractor to perform a Class of Work, then it shall provide **ALL** of the Subcontractor Names and Proposed Dollar Values for **subcontracts in excess of \$100,000**. If applicable, Table 2.7 will include an extra page for listing additional named subcontractors.
- **Section 2.9, Insurance Coverages:** Descriptions have been edited to correlate with 00 72 13 General Conditions.

**07/12/19: UPDATED SECTION 00 72 13 GENERAL CONDITIONS:**

The following Articles of the 00 72 13 General Conditions have been revised and/or added:

- **Article 1 Definitions:** Section 1.71 and Section 1.72;
- **Article 3 Correlation of Contract Documents:** Section 3.6;
- **Article 28 Partial Payments:** Section 28.2;
- **Article 33: Owner's Right to Stop Work or Terminate Contract:** Section 33.2 and Section 33.3;
- **Article 35 Contractor's Insurance:** Section 35.1 and Section 35.6;
- **Article 36 Foreign Materials:** Section 36.3;
- **Article 40 Disclosure of Records:** Section 40.1; and
- **Article 41 Audit and Inspection of Plants, Places of Business, and Records:** Section 41.1.

**02/01/19: NEW REPORTING & CONTRACTING REQUIREMENTS FOR SUBCONTRACTOR PAYMENTS:**

**NEW REPORTING REQUIREMENTS FOR CONTRACTOR AND SUBCONTRACTOR PAYMENTS:**

- For compliance with the Connecticut General Statutes Sections 4b-95 and 49-41a, the Department of Administrative Services-Construction Services (DAS/CS) requires every Contractor (and its Subcontractors) who has been awarded a DAS/CS construction contract to log on to the State of Connecticut web-based platform, BizNet, each month and enter payments they have received from the state, from the Contractor, or from a higher tier Subcontractor (as applicable).
- The process is described as follows: The state will pay the Contractor on a monthly basis for work performed (and purchases made) by it and its Subcontractors. The Contractor will input the payment date and amount they receive from the state on a monthly basis. The Contractor's first-level Subcontractor (Tier 1 Subcontractor) will input the payment they receive from the Contractor. The second-level Subcontractor (Tier 2 Subcontractor) will input the payment they receive from the Tier 1 Subcontractor. And so on.
- Detailed instructions can be found in the DAS/CS publication, "**6002 Instructions to Contractors/Subcontractors for Entering Payments in BizNet**", available for download by going to the DAS Homepage ([www.ct.gov/DAS](http://www.ct.gov/DAS)) and selecting Doing Business With The State > State Building Construction > Publications and Forms > DAS Construction Services Library > 6000 Series.

**NEW CONTRACTING REQUIREMENTS FOR CONTRACTOR AND SUBCONTRACTOR PAYMENTS:**

- Contractors awarded a DAS/CS construction contract shall contain a provision in their subcontract agreements requiring their Subcontractors to enter payment receipt from the Contractor in the State of Connecticut web-based platform, BizNet, for work performed or purchases made in relation to state projects.






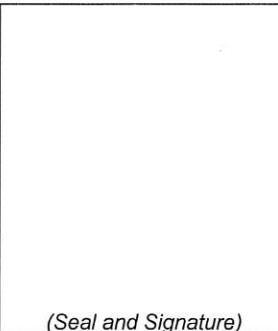
**THE FOLLOWING DOCUMENTS HAVE BEEN REVISED TO REFLECT THE NEW REQUIREMENTS:**

- Section 00 11 16 Invitation to Bid;
- Section 00 21 13 Instructions to Bidders;
- Section 00 41 10 Bid Package Submittal Requirements; and
- Section 01 11 00 Summary of Work.

**END**

<b>Project Title:</b>	Lyman Center - HVAC/ELECTRICAL RENOVATIONS - BID PACKAGE 1
<b>Project Location:</b>	Southern Connecticut State University
<b>Project Number:</b>	BI-RS-357BP1
<b>Architect/Engineer:</b>	Friar Architecture Inc. 21 Talcott Notch Rd. Farmington, CT 06032

**SEALS, SIGNATURES, AND DATES OF DESIGN PROFESSIONALS OF RECORD**

 <p>(Seal and Signature)</p>	<p><b>Architect Professional Certification:</b> I hereby certify that these documents were prepared or approved by me and that I am a duly registered Architect.</p> <p>Robert W. Roach (Print Consultant Name) ARI.0009870 License No. 7/31/2020 Expiration Date</p>	 <p>(Seal and Signature)</p>	<p><b>Civil Engineer Professional Certification:</b> I hereby certify that these documents were prepared or approved by me and that I am a duly registered Professional Engineer.</p> <p>_____ (Print Consultant Name) _____ License No. _____ Expiration Date</p>
 <p>(Seal and Signature)</p>	<p><b>Structural Engineer Professional Certification:</b> I hereby certify that these documents were prepared or approved by me and that I am a duly registered Professional Engineer.</p> <p>_____ (Print Consultant Name) _____ License No. _____ Expiration Date</p>	 <p>(Seal and Signature)</p>	<p><b>Electrical Engineer Professional Certification:</b> I hereby certify that these documents were prepared or approved by me and that I am a duly registered Professional Engineer.</p> <p>Robert H. Ricard (Print Consultant Name) PEN.0017223 License No. 1/31/2021 Expiration Date</p>
 <p>(Seal and Signature)</p>	<p><b>Mechanical Engineer Professional Certification:</b> I hereby certify that these documents were prepared or approved by me and that I am a duly registered Professional Engineer.</p> <p>Robert H. Ricard (Print Consultant Name) PEC.0017223 License No. 1/31/2021 Expiration Date</p>	 <p>(Seal and Signature)</p>	<p><b>Fire-Protection Engineer Professional Certification:</b> I hereby certify that these documents were prepared or approved by me and that I am a duly registered Professional Engineer.</p> <p>_____ (Print Consultant Name) _____ License No. _____ Expiration Date</p>

End of Section  
00 01 07 Seals Page



## VOLUME 1 of 1

## DIVISION 00 PROCUREMENT AND CONTRACTING REQUIREMENTS

Section No.	Title	Page Count	Not Used
00 01 01	Title Page	1	<input type="checkbox"/>
00 01 07	Seals Page	1	<input type="checkbox"/>
00 01 10	Table of Contents	7	<input type="checkbox"/>
00 01 15	List of Drawing Sheets	1	<input type="checkbox"/>
00 11 16	Invitation to Bid	3	<input type="checkbox"/>
00 21 13	Instructions To Bidders	17	<input type="checkbox"/>
00 25 13	Pre-Bid Meeting Agenda	3	<input type="checkbox"/>
00 30 00	General Statements for Available Information	3	<input type="checkbox"/>
00 30 10	General Statement for Existing Conditions Information		<input type="checkbox"/>
00 30 20	General Statement for Environmental Assessment Information		<input checked="" type="checkbox"/>
00 30 30	General Statement for Hazardous Building Materials Inspection and Inventory		<input type="checkbox"/>
00 30 40	General Statement for Subsurface Geotechnical Report		<input checked="" type="checkbox"/>
00 30 50	General Statement for Elevator Agreement		<input checked="" type="checkbox"/>
00 30 60	General Statement for FM Global Checklist for Roofing Systems		<input checked="" type="checkbox"/>
00 30 70	General Statement for "Statement of Special Inspections"		<input checked="" type="checkbox"/>
00 30 80	General Statement for Other Information		<input checked="" type="checkbox"/>
00 40 14	Certificate (of Authority) ( <i>Bidder uploads to BizNet</i> )	2	<input type="checkbox"/>
00 40 15	CT DAS Contractor Prequalification Forms ( <i>Bidder uploads to BizNet</i> )	4	<input checked="" type="checkbox"/>
00 41 00	Bid Proposal Form ( <i>Bidder uploads to BizNet</i> )	9	<input type="checkbox"/>
00 41 10	Bid Package Submittal Requirements	4	<input type="checkbox"/>
00 43 16	Standard Bid Bond ( <i>Bidder uploads to BizNet</i> )	1	<input type="checkbox"/>
00 45 14	General Contractor Bidder's Qualification Statement ( <i>Bidder uploads to BizNet</i> )	7	<input type="checkbox"/>
00 45 15	Objective Criteria Established for Evaluating Qualifications of Bidders	3	<input type="checkbox"/>
00 45 17	Named Subcontractor Bidder's Qualification Statement	7	<input checked="" type="checkbox"/>
00 52 03	Contract	3	<input type="checkbox"/>
00 52 73	Subcontract Agreement Form	3	<input checked="" type="checkbox"/>
00 62 16	Certificate of Insurance	1	<input type="checkbox"/>
00 62 16.1	Asbestos Attachment to Acord Form	1	<input checked="" type="checkbox"/>
00 72 13	General Conditions of the Contract for Construction – For Design-Bid-Build	33	<input type="checkbox"/>
00 72 13.1	Supplementary General Conditions of the Contract for Construction – For Design-Bid-Build	2	<input checked="" type="checkbox"/>
00 73 27	Set-Aside Contractor Schedule – <i>SAMPLE</i>	1	<input checked="" type="checkbox"/>
00 73 38	CHRO Contract Compliance Regulations	7	<input type="checkbox"/>
00 73 44	Prevailing Wage Rates/Contractor's Wage Certification/Payroll Certification	27	<input type="checkbox"/>
00 73 63	CT DOC Security Requirements	3	<input checked="" type="checkbox"/>
00 92 10	Additional Forms To be Submitted After Bond Commission Funding Approval	7	<input type="checkbox"/>
00 92 30	Procedures Regarding Taxation for Nonresident General/Prime Contractor and Subcontractors	2	<input type="checkbox"/>

**VOLUME 1 of 1**  
(continued)

**DIVISION 01 GENERAL REQUIREMENTS**

Section No.	Title	Page Count	Not Used
01 11 00	Summary of Work	4	<input type="checkbox"/>
01 20 00	Contract Considerations	2	<input type="checkbox"/>
01 25 00	Substitution Procedures	5	<input type="checkbox"/>
01 26 00	Contract Modification Procedures	3	<input type="checkbox"/>
01 29 76	Progress Payment Procedures	5	<input type="checkbox"/>
01 31 00	Project Management and Coordination	4	<input type="checkbox"/>
01 31 19	Project Meetings	4	<input type="checkbox"/>
01 32 16	Construction Progress Schedules	3	<input type="checkbox"/>
01 32 16.13	CPM Schedules		<input checked="" type="checkbox"/>
01 32 33	Photographic Documentation	2	<input type="checkbox"/>
01 33 00	Submittal Procedures	8	<input type="checkbox"/>
01 35 16	Alteration Project Procedures	3	<input type="checkbox"/>
01 35 26	Government Safety Requirements	11	<input type="checkbox"/>
01 42 20	Reference Standards & Definitions	3	<input type="checkbox"/>
01 45 00	Quality Control	4	<input type="checkbox"/>
01 45 23.13	Testing for Indoor Air Quality, Baseline Indoor Air Quality, and Materials	4	<input type="checkbox"/>
01 50 00	Temporary Facilities & Controls	7	<input type="checkbox"/>
01 57 30	Indoor Environmental Control	3	<input type="checkbox"/>
01 57 40	Construction Indoor Air Quality Management Plan	2	<input type="checkbox"/>
01 60 00	Product Requirements	3	<input type="checkbox"/>
01 71 23	Field Engineering		<input checked="" type="checkbox"/>
01 73 29	Cutting and Patching	4	<input type="checkbox"/>
01 74 19	Construction Waste Management & Disposal	5	<input type="checkbox"/>
01 75 00	Starting & Adjusting	2	<input type="checkbox"/>
01 77 00	Closeout Procedures	4	<input type="checkbox"/>
01 78 23	Operation & Maintenance Data	5	<input type="checkbox"/>
01 78 30	Warranties & Bonds	3	<input type="checkbox"/>
01 80 13	Sustainable Design Requirements		<input checked="" type="checkbox"/>
01 91 00	Commissioning		<input checked="" type="checkbox"/>



**VOLUME 1 of 1**  
**(continued)**

**TECHNICAL SPECIFICATIONS**

<b>DIVISION 02</b>	<b>EXISTING CONDITIONS</b>	<b>Not Used</b> <input checked="" type="checkbox"/>
--------------------	----------------------------	---

<b>Section No.</b>	<b>Title</b>	<b>Page Count</b>
--------------------	--------------	-------------------

<b>DIVISION 03</b>	<b>CONCRETE</b>	<b>Not Used</b> <input checked="" type="checkbox"/>
--------------------	-----------------	---

<b>Section No.</b>	<b>Title</b>	<b>Page Count</b>
--------------------	--------------	-------------------

<b>DIVISION 04</b>	<b>MASONRY</b>	<b>Not Used</b> <input checked="" type="checkbox"/>
--------------------	----------------	---

<b>Section No.</b>	<b>Title</b>	<b>Page Count</b>
--------------------	--------------	-------------------

<b>DIVISION 05</b>	<b>METALS</b>	<b>Not Used</b> <input checked="" type="checkbox"/>
--------------------	---------------	---

<b>Section No.</b>	<b>Title</b>	<b>Page Count</b>
--------------------	--------------	-------------------

<b>DIVISION 06</b>	<b>WOOD, PLASTICS AND COMPOSITES</b>	<b>Not Used</b> <input checked="" type="checkbox"/>
--------------------	--------------------------------------	---

<b>Section No.</b>	<b>Title</b>	<b>Page Count</b>
--------------------	--------------	-------------------

<b>DIVISION 07</b>	<b>THERMAL AND MOISTURE PROTECTION</b>	<b>Not Used</b> <input type="checkbox"/>
--------------------	--	--

<b>Section No.</b>	<b>Title</b>	<b>Page Count</b>
--------------------	--------------	-------------------

<b>07 84 13</b>	<b>PENETRATION FIRESTOPPING</b>	<b>6</b>
-----------------	---------------------------------	----------

<b>DIVISION 08</b>	<b>OPENINGS</b>	<b>Not Used</b> <input checked="" type="checkbox"/>
--------------------	-----------------	---

<b>Section No.</b>	<b>Title</b>	<b>Page Count</b>
--------------------	--------------	-------------------

<b>DIVISION 09</b>	<b>FINISHES</b>	<b>Not Used</b> <input checked="" type="checkbox"/>
--------------------	-----------------	---

<b>Section No.</b>	<b>Title</b>	<b>Page Count</b>
--------------------	--------------	-------------------

<b>DIVISION 10</b>	<b>SPECIALTIES</b>	<b>Not Used</b> <input checked="" type="checkbox"/>
--------------------	--------------------	---

<b>Section No.</b>	<b>Title</b>	<b>Page Count</b>
--------------------	--------------	-------------------

<b>DIVISION 11</b>	<b>EQUIPMENT</b>	<b>Not Used</b> <input checked="" type="checkbox"/>
--------------------	------------------	---

<b>Section No.</b>	<b>Title</b>	<b>Page Count</b>
--------------------	--------------	-------------------

**VOLUME 1 of 1**  
(continued)

<b>DIVISION 12</b>	<b>FURNISHINGS</b>	<b>Not Used</b> <input checked="" type="checkbox"/>
<b>Section No.</b>	<b>Title</b>	<b>Page Count</b>

<b>DIVISION 13</b>	<b>SPECIAL CONSTRUCTION</b>	<b>Not Used</b> <input checked="" type="checkbox"/>
<b>Section No.</b>	<b>Title</b>	<b>Page Count</b>

<b>DIVISION 14</b>	<b>CONVEYING SYSTEMS</b>	<b>Not Used</b> <input checked="" type="checkbox"/>
<b>Section No.</b>	<b>Title</b>	<b>Page Count</b>

<b>DIVISION 15</b>	<b>RESERVED</b>	
--------------------	-----------------	--

<b>DIVISION 16</b>	<b>RESERVED</b>	
--------------------	-----------------	--

<b>DIVISION 17</b>	<b>RESERVED</b>	
--------------------	-----------------	--

<b>DIVISION 18</b>	<b>RESERVED</b>	
--------------------	-----------------	--

<b>DIVISION 19</b>	<b>RESERVED</b>	
--------------------	-----------------	--

<b>DIVISION 20</b>	<b>RESERVED</b>	
--------------------	-----------------	--

<b>DIVISION 21</b>	<b>FIRE SUPPRESSION</b>	<b>Not Used</b> <input checked="" type="checkbox"/>
<b>Section No.</b>	<b>Title</b>	<b>Page Count</b>

<b>DIVISION 22</b>	<b>PLUMBING</b>	<b>Not Used</b> <input checked="" type="checkbox"/>
<b>Section No.</b>	<b>Title</b>	<b>Page Count</b>

<b>DIVISION 23</b>	<b>HEATING, VENTILATING AND AIR CONDITIONING</b>	<b>Not Used</b> <input type="checkbox"/>
<b>Section No.</b>	<b>Title</b>	<b>Page Count</b>
23 05 00	MECHANICAL GENERAL CONDITIONS	17
23 05 13	COMMON MOTOR REQUIREMENTS FOR HVAC EQUIPMENT	4
23 05 48	VIBRATION AND SEISMIC CONTROLS FOR HVAC	3
23 05 53	IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT	2
23 05 93	TESTING, ADJUSTING, AND BALANCING FOR HVAC	5
23 07 13	DUCT INSULATION	4
23 09 13	INSTRUMENTATION AND CONTROL DEVICES FOR HVAC	8
23 31 00	HVAC DUCTS AND CASINGS	3
23 33 00	AIR DUCT ACCESSORIES	2
23 33 19	DUCT SILENCERS	3
23 34 13	AXIAL HVAC FANS	2
23 37 00	AIR OUTLETS AND INLETS	2

**VOLUME 1 of 1**  
(continued)

**DIVISION 24** **RESERVED**

**DIVISION 25** **INTEGRATED AUTOMATION** **Not Used**

Section No.	Title	Page Count
-------------	-------	------------

**DIVISION 26** **ELECTRICAL** **Not Used**

Section No.	Title	Page Count
26 05 19	LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES	5
26 05 26	GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS	2
26 05 29	HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS	3
26 05 33.13	CONDUIT FOR ELECTRICAL SYSTEMS	5
26 05 33.16	BOXES FOR ELECTRICAL SYSTEMS	3
26 28 13	FUSES	2
26 29 13	ENCLOSED CONTROLLERS	5

**DIVISION 27** **COMMUNICATIONS** **Not Used**

Section No.	Title	Page Count
-------------	-------	------------

**DIVISION 28** **ELECTRONIC SAFETY AND SECURITY** **Not Used**

Section No.	Title	Page Count
-------------	-------	------------

**DIVISION 29** **RESERVED**

**DIVISION 30** **RESERVED**

**DIVISION 31** **EARTHWORK** **Not Used**

Section No.	Title	Page Count
-------------	-------	------------

**DIVISION 32** **EXTERIOR IMPROVEMENTS** **Not Used**

Section No.	Title	Page Count
-------------	-------	------------

**DIVISION 33** **UTILITIES** **Not Used**

Section No.	Title	Page Count
-------------	-------	------------

**DIVISION 34** **TRANSPORTATION** **Not Used**

Section No.	Title	Page Count
-------------	-------	------------

VOLUME 1 of 1 (continued)		
Section No.	Title	Page Count
DIVISION 35	WATERWAYS AND MARINE	Not Used ☒
DIVISION 36	RESERVED	
DIVISION 37	RESERVED	
DIVISION 38	RESERVED	
DIVISION 39	RESERVED	
DIVISION 40	PROCESS INTEGRATION	Not Used ☒
DIVISION 41	MATERIAL PROCESSING	Not Used ☒
DIVISION 42	PROCESS HEATING, COOLING, AND DRYING	Not Used ☒
DIVISION 43	PROCESS GAS AND LIQUID HANDLING, PURIFICATION, AND STORAGE EQUIPMENT	Not Used ☒
DIVISION 44	POLLUTION CONTROL EQUIPMENT	Not Used ☒
DIVISION 45	INDUSTRY SPECIFIC MANUFACTURING EQUIPMENT	Not Used ☒
DIVISION 46	RESERVED	
DIVISION 47	RESERVED	
DIVISION 48	RESERVED	
DIVISION 49	RESERVED	

DIVISION 50	PROJECT-SPECIFIC AVAILABLE INFORMATION	Page Count	Not Used <input type="checkbox"/>
Section No.	Title	Page Count	
50 10 00	Existing Conditions Information	3	

00 01 10 Table Of Contents





Advertisement No.:	20-04-I	Advertisement Date:	April 24, 2020
--------------------	---------	---------------------	----------------

<p><b>INVITATION TO BID</b></p> <p>Connecticut Department of Administrative Services (DAS) Construction Services (CS) Office of Legal Affairs, Policy and Procurement 450 Columbus Blvd, Suite 1302, Hartford, CT 06103-1835</p>
--

<b>Find Invitations to Bid on the State Contracting Portal:</b>	Go to the <b>DAS website</b> <a href="http://www.ct.gov/das">www.ct.gov/das</a> Click on “ <b>State Contracting Portal</b> ”; Select “ <b>Administrative Services, Construction Services</b> ”; Select the appropriate <b>Invitation to Bid</b> .
---	--

<b>Instructions for On-Line Bidding:</b>	Follow the instructions in <a href="http://portal.ct.gov/-/media/DAS/Construction-Services/DAS-CS-Library/6000-Series/6001-Construction-On-Line-Bidding-Instructions.pdf">6001 Construction On-line Bidding Instructions</a> . ( <a href="http://portal.ct.gov/-/media/DAS/Construction-Services/DAS-CS-Library/6000-Series/6001-Construction-On-Line-Bidding-Instructions.pdf">http://portal.ct.gov/-/media/DAS/Construction-Services/DAS-CS-Library/6000-Series/6001-Construction-On-Line-Bidding-Instructions.pdf</a> ) For questions, call 860-713-5794.
--	--

<b>Date and Time of Bid Opening:</b>	<table border="1"> <tr> <td style="padding: 2px;">June <i>(Month)</i></td> <td style="padding: 2px;">3 <i>(Day)</i></td> <td style="padding: 2px;">2020 <i>(Year)</i></td> </tr> </table>	June <i>(Month)</i>	3 <i>(Day)</i>	2020 <i>(Year)</i>	<b>Time:</b>	<table border="1"> <tr> <td style="padding: 2px;">1:00 <i>(ET)</i></td> <td style="padding: 2px;">PM</td> </tr> </table>	1:00 <i>(ET)</i>	PM
June <i>(Month)</i>	3 <i>(Day)</i>	2020 <i>(Year)</i>						
1:00 <i>(ET)</i>	PM							

<b>This Invitation to Bid is for the following Project:</b>
---

<b>Project Title:</b>	SCSU Lyman Center HVAC/Electrical Renovations		
<b>Project Location:</b>	501 Crescent Street New Haven, CT		
<b>Project Number:</b>	BI-RS-357BP1		
<b>Project Description:</b>	See <b>Specifications</b> Section 01 11 00 Summary of Work, Section 1.3		
<b>Construction Costs:</b>	Less Than or Equal To \$500,000		
<b>Bidding Limited To:</b>	<b>Current DAS Certified Connecticut Set-Aside Contractors Only</b>		
<b>Threshold Limits:</b> (C.G.S. §29-276b)	This Project DOES NOT exceed Threshold Limits.		
<b>Set Aside Requirements:</b>	SBE Subcontractors and/or Suppliers: None Required; MBE Subcontractors and/or Suppliers: Good Faith Effort		
<b>Date DAS/CS Began Planning Project:</b>	11-06-2018		
<b>Special Requirements:</b>	N/A		
<b>Cost Estimate Range:</b>	\$ 297,348.	<b>To</b> \$	328,646.
<b>Date Plans &amp; Specs Ready:</b>	April 29, 2020		
<b>Plans &amp; Specs Download:</b>	Plans & Specs are available for electronic download on the DAS State Contracting Portal.		
<b>Contract Time Allowed:</b>	<b>Calendar Days:</b>	120	
<b>Liquidated Damages:</b>	\$ 2,214.00	Per Calendar Day Beyond Substantial Completion.	
	\$ 1,602.00	Per Calendar Day Beyond 90 days After Substantial Completion	



Advertisement No.:	20-04-I	Advertisement Date:	April 24, 2020
--------------------	---------	---------------------	----------------

<b>Invitation to Bid (continued)</b>
--------------------------------------

<b>Pre-Bid Meeting Date:</b>	May 5, 2020		
	<input checked="" type="checkbox"/>	Bidders are <b>strongly encouraged</b> to attend the Pre-Bid Meeting.	
	<input type="checkbox"/>	Bidders are <b>required</b> to attend a <b>MANDATORY</b> Pre-Bid Meeting.	
<b>Pre-Bid Meeting Time:</b>	11:00	<input checked="" type="checkbox"/> AM	<input type="checkbox"/> PM
<b>Pre-Bid Meeting Location:</b>	Virtual Meeting: <a href="https://bit.ly/Lymanprebid">https://bit.ly/Lymanprebid</a>		
<b>Pre-Bid Meeting Contact:</b>	<b>DAS/CS Project Manager:</b>	Rahul Abraham	
	<b>Phone No.:</b>	860.805-3375	
<b>Bid Proposal Submission and Other Bid Submittal Requirements:</b>	See <b>Sections 00 21 13 Instructions to Bidders, 00 41 00 Bid Proposal Form, and 00 41 10 Bid Package Submittal Requirements</b> for Bid Proposal submission requirements, including requirements for Affidavits, Certifications, Addenda, Pre-Bid Equals and Substitution Requests, and other bidding documents.		
<b>Bid Upload and Bid Opening:</b>	Bids can be uploaded and edited electronically in BizNet <b>UNTIL 1:00 p.m.</b> on the <b>Bid Opening Date</b> and thereafter shall be locked down and publicly opened in the State Contracting Portal.		
<b>Bid Results:</b>	Within approximately two (2) days after the Bid Opening Date, the Bid Results will be posted on the State Contracting Portal.		
<b>Guide to the Code of Ethics For Current or Potential State Contractors (for contracts greater than \$500,000):</b>	Anyone seeking a contract with a value of more than \$500,000 shall electronically download the " <b>Guide to the Code of Ethics For Current or Potential State Contractors</b> " from the of Office of State Ethics (OSE) website <a href="http://www.ct.gov/ethics">www.ct.gov/ethics</a> , then click on the " <b>Publications</b> " link:		
<b>Prevailing Wage Rates:</b>	<p>Prevailing wages are required on this project, in accordance with the schedule provided in the bid documents, pursuant to Connecticut General Statutes (C.G.S.) Section 31-53 (a) through (h), as amended. See Section 00 73 44 Prevailing Wage Rates.</p> <p>Each contractor who is awarded a contract on or after October 1, 2002 shall be subject to provisions of C.G.S. § 31-55a concerning annual adjustments to prevailing wages.</p> <p>Wage Rates will be posted each July 1st on the Department of Labor website <a href="http://www.ctdol.state.ct.us">www.ctdol.state.ct.us</a>. Such prevailing wage adjustment shall <b>not</b> be considered a matter for any contract amendment.</p>		
<b>To access Executive Orders:</b>	Go to <a href="http://www.ct.gov">www.ct.gov</a> > Governor Ned Lamont > Executive Orders.		
<b>UPDATED DOCUMENTS:</b>	<p>Many <b>Division 00</b> and <b>Division 01</b> documents have been updated. Read all of the contents of the Project Manual <i>carefully!</i></p> <p>All Contractors are cautioned that any modifications or alterations made to either the Project Manual or any of the forms and documents contained herein may be just cause to <b>reject the bid!</b></p>		





Advertisement No.:	20-04-I	Advertisement Date:	April 24, 2020
--------------------	---------	---------------------	----------------

### Invitation to Bid (continued)

**NEW PROCESS FOR CONSTRUCTION STORMWATER GENERAL PERMIT:**

See Section 01 50 00 Temporary Facilities and Controls.

For all DAS/CS construction projects disturbing **one or more total acres of land area** on a site regardless of project phasing, the **Architect/Engineer** shall be responsible for filing a Department of Energy and Environmental Protection (DEEP) *General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (DEEP-WPED-GP-015)* registration and Stormwater Pollution Control Plan (SPCP) through the online DEEP ezFile Portal **prior** to bidding.

Once the **Contractor** is under contract with DAS/CS, and **prior** to the commencement of any construction activities, the Contractor (and all other contractors and subcontractors listed on the SPCP) shall assume responsibility for storm water pollution control and conform to the general permit obligations and requirements by **signing** the SPCP "Contractor Certification Statement" and License Transfer Form as directed by the Architect/Engineer.

At completion of the project, the Contractor shall file a Notice of Termination (DEP-PED-NOT-015) with the DEEP in order to terminate the Construction Stormwater General Permit. A project shall **only** be considered complete after all **post-construction** measures are installed, cleaned, and functioning and the site has been stabilized for at least **three (3) months** following the cessation of construction activities.

**NEW PROCESS FOR CONTRACTOR AND SUBCONTRACTOR PAYMENTS REPORTING:**

See Section 00 21 13 Instructions to Bidders (Subsection 3.13) and Section 0111 00 Summary of Work (Subsection 1.11).

For compliance with **C.G.S. § 4b-95 and 49-41**, DAS/CS requires every Contractor (and its Subcontractors) who has been awarded a DAS/CS construction contract to log on to the State of Connecticut web-based platform, BizNet, **each month** and **enter payments** they have received from the state, from the Contractor, or from a higher tier Subcontractor (as applicable).

The process is described as follows: The state will pay the Contractor on a monthly basis for work performed (and purchases made) by it and its Subcontractors. The Contractor will input the payment date and amount they receive from the state on a monthly basis. The Contractor's first-level Subcontractor (Tier 1 Subcontractor) will input the payment they receive from the Contractor. The second-level Subcontractor (Tier 2 Subcontractor) will input the payment they receive from the Tier 1 Subcontractor. And so on.

Contractors awarded a DAS/CS construction contract shall contain a **provision in their subcontract agreements** requiring their Subcontractors to enter payment receipt from the Contractor in the State of Connecticut web-based platform, BizNet, for work performed or purchases made in relation to state projects.

Detailed instructions can be found in the DAS/CS manual, "**6002 Instructions to Contractors/Subcontractors for Entering Payments in BizNet**", available for download by going to the DAS Homepage ([www.ct.gov/DAS](http://www.ct.gov/DAS)) and selecting Doing Business With The State > State Building Construction > Publications and Forms > DAS Construction Services Library > 6000 Series.

**IMPORTANT NOTE:**

*The Commissioner of the Connecticut Department of Administrative Services reserves the right to do any of the following without liability, including but not limited to: (a) waive technical defects in the bid proposal as he or she deems best for the interest of the State; (b) negotiate with a contractor in accordance with Connecticut General Statutes Section 4b-91; (c) reject any or all bids; (d) cancel the award or execution of any contract prior to the issuance of the "Notice To Proceed"; and (e) advertise for new bids.*

**All Project Questions, Bid Questions, and Pre-Bid Equals and Substitution Requests must be submitted fourteen (14) Calendar Days prior to the Bid Due Date.**

All **Project Questions** and **Pre-Bid Equals and Substitution Requests** must be emailed (not phoned) to the **Architect/Engineer** with a **copy** to the **Construction Administrator** and the **DAS/CS Project Manager** listed below.

<b>Architect/Engineer:</b>	Friar Architecture Inc.,	<b>Email:</b>	peh@friar.com
<b>Construction Administrator:</b>	STV Incorporated	<b>Email:</b>	James.Marquis@stvinc.com
<b>DAS/CS Project Manager:</b>	Rahul Abraham	<b>Email:</b>	Rahul.Abraham@ct.gov

All **Bid Questions** must be emailed to the **DAS/CS Associate Fiscal Administrative Officer** listed below.



**Section 00 11 16  
Invitation To Bid**

Page 4 of 4

<b>Advertisement No.:</b>	<b>20-04-I</b>	<b>Advertisement Date:</b>	<b>April 24, 2020</b>
<b>DAS/CS Associate Fiscal Administrative Officer:</b>	Mellanee Walton	<b>Email:</b>	Mellanee.Walton@ct.gov

List of Drawing Sheets	
Sheet No.	Title
A0.0	COVER SHEET
R1.1	REFERENCE SHEET/CODE INFORMATION
L1.1	SITE LOGISTICS PLAN
M0.00	ABBREVIATIONS, SYMBOLS & NOTES
M1.00	BASEMENT MECHANICAL PLAN
M1.01	GROUND FLOOR MECHANICAL PLAN
M1.02	ATTIC MECHANICAL PLAN
M1.03	ALTERNATE BASEMENT MECHANICAL PLAN
M2.00	CONTROL DIAGRAMS
M3.00	MECHANICAL DETAILS AND SCHEDULES
E0.00	ABBREVIATIONS, SYMBOLS & NOTES
ED1.00	ATTIC ELECTRICAL DEMOLITION PLAN
E1.00	ATTIC ELECTRICAL PLAN

**End of Section  
 00 01 15 List of Drawing Sheets**



## Instructions to Bidders

DAS | Construction Services | Office of Legal Affairs, Policy, and Procurement

### 1.0 General Bid Proposal Information

#### 1.1 On-Line Bidding:

**1.1.1** The Department of Administrative Services (DAS) Construction Services (CS) has streamlined the Bid process by allowing contractors to submit their **Bid Package Documents on line** through the **State Contracting Portal** and **BizNet**. Rather than submitting paper Bid Package Documents, contractors simply respond to an **Invitation to Bid** on the **State Contracting Portal** by retrieving and uploading their documents electronically through their **BizNet** account. Once completed, the Bid Proposal must be **electronically signed prior** to the date and time of the **Bid Opening**. See **Page 1** of the **Invitation to Bid** for the **Date and Time of the Bid Opening**.

**1.1.2** All Bidders shall **electronically** upload their **Bid Package Documents** to BizNet following the **instructions** in the DAS/CS publication, [6001 Construction On-line Bidding Instructions](#), available for download here: Go to the DAS Homepage ([www.ct.gov/DAS](http://www.ct.gov/DAS)), Doing Business With The State > State Building Construction > Publications and Forms > DAS Construction Services Library > 6000 Series > **6001 Construction On Line Bidding Instructions**. For questions, call 860-713-5794.

#### 1.2 Bid Opening:

All Bids shall be publicly opened in BizNet by the awarding authority as stated in **Section 00 11 16 Invitation to Bid**.

#### 1.3 Withdrawal of Bid:

Any **Bid** once uploaded into BizNet cannot be deleted. A Bid may only be **withdrawn** by uploading a written **Letter of Withdrawal** to BizNet using the "**Other Solicitation Document**" link **prior** to the date and time of the Bid Opening.

#### 1.4 Disqualification from Bidding:

Any contractor who violates any provision of **Connecticut General Statutes (C.G.S.) § 4b-95**, as revised, shall be **disqualified** from bidding on other contracts for a period not to exceed **twenty-four (24) months**, commencing from the date on which the violation is discovered, for each violation.

#### 1.5 Waive Minor Irregularities:

**1.5.1** The awarding authority **shall** be authorized to **waive minor irregularities** which he or she considers in the best interest of the State, provided the reasons for any such waiver are stated in writing by the awarding authority and made a part of the contract file.

**1.5.2** **No** such 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 bid form furnished by the awarding authority, but this sentence shall not be applicable to any failure to furnish prices or information required by **C.G.S. § 4b-95**, as revised, to be furnished in the bid form provided by the awarding authority.

#### 1.6 Minimum Percentage of Work:

The awarding authority **may** require in the **Bid Proposal Form** that the contractor agree to perform a stated, minimum percentage of work with its **own forces**, in accordance with **C.G.S. § 4b-95(b)**.

#### 1.7 Set-Aside Contracts:

The awarding authority **may also** require the contractor to set aside a portion of the contract for subcontractors who are eligible for **set-aside contracts**.

#### 1.8 Connecticut Sales And Use Taxes:

**1.8.1** **All Bidders shall** familiarize themselves with the current statutes and regulations of the **Connecticut Department of Revenue Services (DRS)**, including the Regulations of Connecticut State Agencies (R.C.S.A.) §12-426-18 and all relevant state statutes. The tax on materials or supplies exempted by such statutes and regulations shall not be included as part of a bid. See the **Sales and Use Tax Exemption for Purchases by Qualifying Governmental Agencies (CERT-134)**, available for download from the DRS website ([www.ct.gov/drs](http://www.ct.gov/drs)) under "Exemption Certificates".

**1.8.2** The State of Connecticut construction contract has the following tax exemptions: (1) Purchasing of materials which will be physically incorporated and become a permanent part of the project; and (2) Services that are resold by the contractor. For example, if a Contractor hires a plumber, carpenter or electrician, a resale certificate may be issued to the subcontractor because these services are considered to be integral and inseparable component parts of the building contract.

**1.8.3** The following items are **not** exempt from taxes when used to fulfill a State of Connecticut construction contract: Tools, supplies and equipment used in fulfilling the construction contract.

<b>1.9 Union Labor:</b>	
Attention is called to the fact that there may or could be construction work carried on at the site by union labor. This fact must be kept in mind by all Bidders.	
<b>1.10 Rejection of Bids:</b>	
The awarding authority <i>shall reject</i> every such <b>Bid Proposal</b> , including but not limited to, the following reasons:	
<b>1.10.1</b>	A <b>Bid Proposal Form</b> that does <i>not</i> contain the signature of the bidder or its authorized representative.
<b>1.10.2</b>	A <b>Bid Proposal Form</b> that is <i>not</i> accompanied by the following documents in BizNet: <ul style="list-style-type: none"> <li><b>.1</b> <b>Section 00 43 16 Standard Bid Bond</b>, completed for <i>either</i> the <b>Bid Bond</b> option <i>or</i> <b>Certified Check</b> option;</li> <li><b>.2</b> A <b>Certified Check</b> (if applicable) delivered to the DAS/CS Office of Legal Affairs, Policy, and Procurement <i>prior</i> to the date and time of the Bid Opening;</li> <li><b>.3</b> <b>Section 00 45 14 General Contractor Bidder’s Qualification Statement</b></li> <li><b>.4</b> A <b>DAS Contractor Prequalification Certificate</b> for the Bidder for Projects <i>greater</i> than <b>\$500,000</b>;</li> <li><b>.5</b> A <b>DAS Update (Bid) Statement</b> for the Bidder for Projects <i>greater</i> than <b>\$500,000</b>;</li> <li><b>.6</b> A <b>Gift and Campaign Contribution Certification – Office of Policy and Management (OPM) Ethics Form 1</b>;</li> <li><b>.7</b> A <b>Consulting Agreement Affidavit – OPM Ethics Form 5</b>. <b>NOTE: If the Bidder fails to submit or upload the Consulting Agreement Affidavit</b> required under C.G.S. § 4a-81, such bidder shall be <i>disqualified</i> and the award shall be made to the next lowest responsible qualified bidder or new bids or proposals shall be sought;</li> <li><b>.8</b> An <b>Ethics Affidavit (Regarding State Ethics) – OPM Ethics Form 6</b>;</li> <li><b>.9</b> An <b>Iran Certification – OPM Ethics Form 7</b>.</li> </ul>
<b>1.10.3</b>	A <b>Bid Proposal Form</b> that: <ul style="list-style-type: none"> <li><b>.1</b> Fails to <b>acknowledge</b> all <b>Addenda</b> in the space provided in the <b>Bid Proposal Form</b>;</li> <li><b>.2</b> Fails to <b>correctly list <u>ALL</u> of the Named Subcontractors within a particular Class of Work</b> on the <b>Bid Proposal Form for subcontracts in excess of \$100,000</b>;</li> <li><b>.3</b> Fails to <b>correctly state a Named Subcontractor’s price</b> on the <b>Bid Proposal Form</b>; and</li> <li><b>.4</b> Fails to list <b>Named Subcontractors</b> who are <b>DAS Prequalified at the time of the bid</b>.</li> </ul>
<b>1.10.4</b>	A <b>Bid Proposal Form</b> that is <i>not</i> submitted on the <b>forms furnished</b> for the specific project. <b>NOTE: In no</b> event will bids or changes in bids be made by telephone, telegraph, facsimile or other communication technology except through BizNet. <b>All</b> pages of the <b>Bid Proposal Form</b> <i>must</i> be uploaded to BizNet prior to the date and time of the Bid Opening.
<b>1.10.5</b>	A <b>Bid Proposal Form</b> that has omitted items, omitted pages, added items not called for, altered the form, contains conditional bids, contains alternative bids, or contains obscure bids.
<b>1.10.6</b>	A <i>paper Bid Package</i> sent to the DAS/CS Office of Legal Affairs, Policy, and Procurement. Such bids will be returned to the bidder unopened.
<b>1.10.7</b>	<b>Any Bidder</b> that does <i>not</i> make all required <b>pre-award submittals</b> <i>within</i> the designated time period. DAS/CS <i>may</i> reject such bids as <b>non-responsive</b> .
<b>1.11 Pre-Bid Meeting:</b>	
<b>1.11.1</b>	See <b>Section 00 11 16 Invitation to Bid</b> and <b>Section 00 25 13 Pre-Bid Meeting Agenda</b> for details.
<b>1.11.2</b>	When a <b>Pre-Bid Meeting</b> is “ <b>strongly encouraged</b> ”, all attendees shall sign his or her name to the official roster and list the name and address of the company he or she represents.
<b>1.11.3</b>	When a <b>Pre-Bid Meeting</b> is <b>MANDATORY</b> , all attendees will be required to register. <b>Proper registration</b> means that the attendee has signed his or her name to the official roster and listed the name and address of the company he or she represents on the official roster no later than the designated start time of the <b>MANDATORY Pre-Bid Meeting</b> . Bidders are advised to register early as <b>no</b> attendee will be allowed to register <i>after</i> the advertised start time of the <b>MANDATORY Pre-Bid Meeting</b> .  <b>All bids submitted by all contractors who have <i>not</i> properly registered and attended the MANDATORY Pre-Bid Meeting shall be rejected as non-responsive.</b>
<b>1.11.4</b>	<b>All Bidders Attending a Pre-Bid Meeting at a Connecticut Department of Corrections (DOC) Facility: Prior to the Pre-Bid Meeting</b> , download the “ <b>Security Background Questionnaire</b> ” from the <b>CT DOC website</b> ( <a href="http://www.ct.gov/doc">www.ct.gov/doc</a> under “ <b>Forms</b> ”), complete and submit the form as directed, and obtain approval, otherwise admission to the Pre-Bid Meeting <b>will be denied</b> . It is recommended that the approved form be brought as evidence of approval to attend the Pre-Bid Meeting.

<b>1.12 Pre-Bid Equals and Substitution Requests Procedures:</b>	
<b>1.12.1</b>	All submissions requesting "Equals and/or Substitutions" shall be made by the <b>Bidder</b> in accordance with <b>Section 01 25 00 Substitution Procedures</b> of the <b>Division 01 General Requirements and Article 15, Materials: Standards of Section 00 72 13 General Conditions</b> . Every submission shall contain all the information necessary for DAS/CS to evaluate the submission and the request. Failure to submit sufficient information to make a proper evaluation, including submittal of data for the first manufacturer listed as well as the data for the " <b>Equals and/or Substitutions</b> " proposed, shall result in a <b>rejection</b> of the submission and request. Upon receipt of the submission and request, DAS/CS shall notify the <b>Bidder</b> that the request has been received and as soon as possible shall render a decision on such submission and request.
<b>1.12.2</b>	<b>Pre-Bid-Opening Substitution of Materials and Equipment:</b> The Owner will consider requests for equals or substitutions <i>if received fourteen (14) Calendar Days prior</i> to the <b>Bid Opening Due Date</b> , as stated in the <b>Invitation To Bid</b> . The <b>Equal or Substitute Product Request (Form 7001)</b> must be used to submit requests. Download <b>Form 7001</b> from the DAS Homepage ( <a href="http://www.ct.gov/DAS">www.ct.gov/DAS</a> ) > Doing Business With The State > State Building Construction > Publications and Forms > DAS Construction Services Library > 7000 Series.
<b>1.12.3</b>	<b>Equals and/or Substitutions Requests Submittal:</b> Requests for Equals or Substitutions shall be submitted to the <b>DAS/CS Project Manager, Architect / Engineer, and Construction Administrator</b> .
<b>1.12.4</b>	<b>Substitution Request Deadline:</b> Any substitution request not complying with requirements will be denied. Substitution requests sent <b>after</b> the <b>Deadline</b> will be denied.
<b>1.12.5</b>	<b>Addendum:</b> An Addendum shall be issued to inform all prospective bidder of any accepted substitution in accordance with our addenda procedures.
<b>1.12.6</b>	<b>Time Extensions:</b> No extensions of time will be allowed for the time period required for consideration of any Substitution or Equal.
<b>1.12.7</b>	<b>Post Contract Award Substitution of Materials and Equipment:</b> All requests for "Equals and Substitutions" <b>after</b> the Award of the Contract shall be made <b>only</b> by the <b>Prime Contractor</b> for materials or systems specified that are no longer available. The requests will not be considered if the product was not purchased in a reasonable time after award, in accordance with <b>Article 15, Materials: Standards of Section 00 72 13 General Conditions</b> .
<b>1.13 Joint Ventures:</b>	
<b>1.13.1</b>	<b>Each entity</b> in a Joint Venture shall submit with the Venture's bid a <b>letter</b> on their respective company letterheads stating: <ul style="list-style-type: none"> <li>· Their <b>agreement to bid</b> as a Joint Venture with the other named Joint Venture, and set forth the <b>name and address</b> of the other Joint Venture(s).</li> <li>· The <b>respective percentage of the project work</b> that would be the responsibility of each of the Joint Ventures.</li> </ul>
<b>1.13.2</b>	<b>Prequalification: Each entity</b> in a Joint Venture shall submit its <b>Prequalification Certificate and Update (Bid Statement)</b> . <b>Each entity</b> in a Joint Venture shall be <b>prequalified</b> at the time of the bid and during the entire project construction. <b>Each entity</b> in a Joint Venture shall have the <b>prequalification single project limit</b> , and <b>remaining aggregate capacity balance</b> to meet the value of its respective percentage of the joint proposed bid.
<b>1.13.3</b>	<b>Each entity</b> in a Joint Venture shall submit <b>Section 00 45 14 General Contractor Bidder's Qualification Statement</b> .
<b>1.13.4</b>	<b>Bonding:</b> The Joint Venture shall obtain the required <b>bonding</b> from a surety for the <b>total amount</b> of the contract price.
<b>1.13.5</b>	<b>Insurance: Each entity</b> in a Joint Venture shall have the <b>required insurance coverages and limits</b> to meet the insurance requirements of the contract. The Joint Venture shall provide <b>Builder's Risk insurance</b> .
<b>1.13.6</b>	<b>Bid Submission and Contract Signing:</b> If a Joint Venture submits a bid proposal, it shall be considered to be a proposal by <b>each</b> of the Joint Ventures, jointly and severally, for the performance of the entire contract as a Joint Venture in accordance with the terms and conditions of the contract. <b>Each entity</b> in a Joint Venture is required to <b>sign the contract</b> acknowledging that each Joint Venture shall be jointly and severally liable for the performance of the entire contract.
<b>1.13.7</b>	<b>Certificate of Legal Existence: Each entity</b> in a Joint Venture shall obtain a <b>Certificate of Legal Existence</b> and submit it with the contract documents.
<b>1.14 Procedure for Alleged Violation(s) of Part II Chapter 60 of C.G.S. Bidding and Contracts:</b>	
<b>1.14.1</b>	The Regulations of Connecticut State Agencies establishes a procedure for promptly hearing and ruling on claims alleging a violation or violations of the contract bidding provisions of Part II of Chapter 60 of the Connecticut General Statutes (hereinafter "Chapter 60"). In view of the fact that time is normally of the essence in awarding construction contracts under Chapter 60, the grievance procedures are intended to be quick, informal and conclusive so as to avoid delays which can increase costs and jeopardize the very ability of the State to proceed with needed public works projects.
<b>1.14.2</b>	Download " <b>6510 Procedure for Alleged Violation(s)</b> " and " <b>6505 Petition for Alleged Violation(s)</b> " from the DAS Homepage ( <a href="http://www.ct.gov/DAS">www.ct.gov/DAS</a> ) > Doing Business With The State > State Building Construction > Publications and Forms > DAS Construction Services Library > 6000 Series > Scroll down to locate documents.



<b>1.15 Labor Market Area:</b>	
<b>1.15.1</b>	All Bidders <i>shall</i> have read <b>C.G.S. §§ 31-52 and 31-52a</b> , as revised. These sections relate to the <b>preference of State citizens</b> and the <b>preference of residents of the labor market area</b> in which the work under the contract is to be done and the <b>penalties for violations</b> thereof.
<b>1.15.2</b>	In order to avoid violations by the contractor and to cooperate with and assist the State in the implementation of the statutory mandates, any bidder awarded a contract with the State <b>shall</b> be required to provide the State with the following information: <ul style="list-style-type: none"> <li>.1 The names and addresses of employees utilized by the contractor and by its subcontractors and how long each such employee has resided in Connecticut.</li> <li>.2 How long each employee has resided in the labor market area, as established by the State Labor Commissioner, in which the work under the contract is to be done. Labor market areas are indicated on the end of this section.</li> <li>.3 Within thirty (30) days after the start of work, the contractor <b>shall</b> submit a signed statement setting forth the procedures the contractor and its subcontractors have taken to assure that they have sought out qualified residents of the labor market area. Also, the statement <b>shall</b> include information as to how many persons were considered for employment and how many were actually hired. Such procedures will include, but not be limited to, obtaining names of available persons from area Employment Security Offices.</li> <li>.4 In the same manner as <b>Subsection 1.15.2.3</b> above, the statement <b>shall</b> indicate the steps taken to assure that the contractor and its subcontractors have sought out qualified residents of this State.</li> </ul>
<b>1.15.3</b>	The contractor <b>shall</b> cooperate with and provide information to the DAS/CS Project Manager or their designee assigned to collect and verify the information required. The State may request that all such information be updated during the term of the contract at reasonable times.
<b>1.15.4</b>	All such information gathered and compiled by the State <b>shall</b> be forwarded to the Labor Commissioner.
<b>1.15.5</b>	<b>Pursuant to C.G.S. § 31-52b, as revised:</b> <p style="padding-left: 40px;">"The provisions of C.G.S. § 31-52 and 31-52a <b>shall not</b> apply where the State or any subdivision thereof may suffer the loss of revenue granted or to be granted from any agency or department of the federal government as a result of said sections or regulative procedures pursuant thereto."</p> <p>However, no exception shall be determined to be applicable unless stated in writing by the Commissioner of the Department of Administrative Services.</p>
<b>1.15.6</b>	<b>Website Link:</b> For guidance on the CT DOL Labor Market Areas (LMA) go to the CT DOL website <a href="http://www.ctdol.state.ct.us/">http://www.ctdol.state.ct.us/</a> , under "Program Services", click on "Labor Market information".
<b>1.16 Executive Orders:</b>	
<b>1.16.1</b>	All Executive Orders 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 is subject to the provisions of the following: <ul style="list-style-type: none"> <li>.1 <b>Executive Order No. 3:</b> Governor Thomas J. Meskill, promulgated 06/16/71, concerning labor employment practices;</li> <li>.2 <b>Executive Order No. 17:</b> Governor Thomas J. Meskill promulgated 02/15/73, concerning the listing of employment openings;</li> <li>.3 <b>Executive Order No. 16:</b> Governor John G. Rowland promulgated 08/04/99, concerning violence in the workplace;</li> <li>.4 <b>Executive Order No. 14:</b> Governor M. Jodi Rell, promulgated 04/17/06, concerning procurement of cleaning products and services; and</li> <li>.5 <b>Executive Order No. 49:</b> Governor Dannel P. Malloy, promulgated 05/22/15, concerning the requirement for certain state contractors to disclosure campaign contributions to candidates for statewide public office or The General Assembly and to ensure convenient public access to information related to gifts and campaign contribution disclosure affidavits by state contractors.</li> </ul>
<b>1.16.2</b>	All Executive Orders are available for download from the State of Connecticut website. Go to <a href="http://www.ct.gov">www.ct.gov</a> , click on "Governor Ned Lamont" and scroll down to "Executive Orders".
<b>1.17 Retaliation For Disclosure of Information:</b>	
<b>1.17.1</b>	Each contract between a state or quasi-public agency and a large state contractor shall provide that, if an officer, employee, or appointing authority of a large state contractor takes or threatens to take any personnel action against any employee of the contractor in <b>retaliation</b> for such employee's <b>disclosure</b> of information to the Auditors of Public Accounts or the Attorney General under the provisions of <b>C.G.S. § 4-61dd (a)</b> , 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 the 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 executive head of the state or quasi-public agency may request the Attorney General to bring a civil action in the Superior Court for the judicial district of Hartford to seek imposition and recovery of such civil penalty.
<b>1.17.2</b>	Each large state contractor shall post a <b>notice</b> of the provisions of <b>C.G.S. § 4-61dd</b> relating to large state contractors in a conspicuous place that is readily available for viewing by the employees of the contractor.



**1.18 Laws of the State of Connecticut:**

Forum and Choice of Law. The Bidder agrees that in the event it is awarded a Contract, the Bidder and the State deem the Contract to have been made in the City of Hartford, State of Connecticut. Both parties agree that it is fair and reasonable for the validity and construction of the Contract to be, and it shall be, governed by the laws and court decisions of the State of Connecticut, without giving effect to its principles of conflicts of laws. To the extent that any immunities provided by Federal law or the laws of the State of Connecticut do not bar an action against the State, and to the extent that these courts are courts of competent jurisdiction, for the purpose of venue, the complaint shall be made returnable to the Judicial District of Hartford only or shall be brought in the United States District Court for the District of Connecticut only, and shall not be transferred to any other court, provided, however, that nothing here constitutes a waiver or compromise of the sovereign immunity of the State of Connecticut. The Bidder waives any objection which it may now have or will have to the laying of venue of any claims in any forum and further irrevocably submits to such jurisdiction in any suit, action or proceeding.

**1.19 State's Sovereign Immunity:**

Nothing in this Agreement shall be construed as a waiver or limitation upon the **State's sovereign immunity**. To the extent this Section is found to be inconsistent with any other part of this Agreement, this Section shall control. This Section of the Agreement shall survive the completion and/or termination of this Agreement.

**2.0 Bid Proposal Form Instructions:**

**2.1 Bid Proposal Form:**

**2.1.1 All Bidders** shall upload **ALL** pages of **Section 00 41 00 Bid Proposal Form** to BizNet, prior to the date and time of the Bid Opening.

**2.2 Threshold Projects:**

**2.2.1** See **page 1** of the **Bid Proposal Form** to determine if this Project exceeds the **Threshold Limits**.

**2.2.2** If this Project exceeds Threshold Limits, **all Bidders** shall list their Firm's **Major Contractor Registration License Number** in the **Bid Proposal Form**.

**2.2.3** The **Apparent Low Bidder** shall also provide the Subcontractor(s) **Major Contractor Registration License** number(s) to the DAS/CS Office of Legal Affairs, Policy, and Procurement within **ten (10) business days after** receipt of the Letter of Intent from DAS/CS.

**2.2.4 Summary of Registration Requirements for Major Contractors:** Any person engaged in the business of construction, structural repair, structural alteration, dismantling or demolition of a structure or addition that exceeds the threshold limits provided in **C.G.S §29-276b**, or any person who, under the direction of a general contractor, performs or offers to perform any work that impacts upon the structural integrity of a structure or addition, including repair, alteration, dismantling or demolition of a structure or addition that exceeds the threshold limits shall engage in or offer to perform the work of a Major Contractor unless such person has first obtained a license or certificate of registration from the Connecticut Department of Consumer Protection (DCP). Individuals must be licensed under the requirements of **C.G.S §20-341gg "Registration of Major Contractors"**. DCP shall issue a certificate of registration to any person who is prequalified pursuant to section 4a-100 who applies for registration in accordance with this section.

**2.2.5** The Bidder and all Subcontractors that engage in work that impacts upon the structural integrity of a structure or addition must register as a **Major Contractor** with DCP and obtain a **Major Contractor License** issued by DCP **PRIOR** to the date and time of the Bid Opening for this Project.

**2.2.6** For further information go to the DCP Website: [www.ct.gov/dcp](http://www.ct.gov/dcp).

**2.3 Proposed Lump Sum Base Bid, Allowances, and Contingent Work:**

**2.3.1** The proposed **Lump Sum Base Bid** shall be set forth in the space **provided on Section 00 41 00 Bid Proposal Form**.

**2.3.2** The **Proposed Lump Sum Base Bid** shall *include* all **Allowances**, all work indicated on the drawings and/or described in the specifications *except* for **Contingent Work**. See the **Bid Proposal Form, Section 01 20 00 Contract Considerations, and Section 01 23 13 Supplemental Bids** of Division 01 General Requirements for details regarding **Contingent Work**.

**2.3.3** "**Contingent Work**" includes **Unit Prices** (for Earth and Rock Excavation, Environmental Remediation, and/or Hazardous Building Materials Abatement) and **Supplemental Bids**. See **Section 01 20 00 Contract Considerations and Section 01 23 13 Supplemental Bids**, respectively, for applicability.

**2.3.4** The **Proposed Lump Sum Base Bid** shall be shown in *both numerical figures* and "**printed**" **words dollar amount**. In the event of any discrepancy the "**printed**" **words dollar amount** shall govern.

<b>2.4 Addenda and Interpretations:</b>	
2.4.1	The <b>Number of Addenda</b> issued by the State of Connecticut shall be set forth in the space provided on the <b>Bid Proposal Form</b> . It shall be the Bidder's responsibility to make inquiry as to, and to obtain, the Addenda issued, if any.
2.4.2	<b>Addenda</b> , if issued, will be posted on the State Contracting Portal.
2.4.3	<b>Failure to acknowledge</b> all <b>Addenda</b> in the space provided in the Bid Proposal Form <b>shall</b> be cause for <b>rejection</b> of the bid.
2.4.4	Attaching <b>Addenda</b> to the <b>Bid Proposal Form</b> does <b>not</b> constitute an acknowledgement of all Addenda and does not relieve the Bidder from the requirement for the Bidder to acknowledge all Addenda in the space provided on the Bid Proposal Form.
2.4.5	<b>No interpretations</b> of the meaning of the plans, specifications or other contract documents will be made <b>orally</b> at any time. Every <b>request</b> for such interpretation <b>shall</b> be in <b>writing</b> to the awarding authority and to be given consideration <b>shall</b> be received at least <b>fourteen (14)</b> Calendar Days <i>prior</i> to the date fixed for the opening of bids. Any and all such <b>interpretations</b> and any <b>supplemental instructions</b> will be in the form of written <b>Addenda</b> to the specifications which, if issued, will be posted on the State Contracting Portal.
2.4.6	Contractors who have subscribed through BizNet to receive daily e-mail alert notices when new Bids/RFPs are issued will be notified via a daily CT DAS " <b>Connecticut Procurement Portal Daily Notice</b> ".
<b>2.5 Bidder's Qualification Statement and Objective Criteria for Evaluating Bidders:</b>	
2.5.1	<b>All Bidders</b> shall download, complete, and upload <b>Section 00 45 14 General Contractor Bidder's Qualification Statement</b> to BizNet prior to the date and time of the Bid Opening. See BizNet for a template. This information shall be considered as part of the <b>Bid Proposal Form</b> . Failure of a Bidder to answer any question or provide required information <b>may</b> be grounds for the awarding authority to <b>disqualify</b> and <b>reject</b> the bid.
2.5.2	<b>All Bidders</b> shall comply with <b>Section 00 45 15 Objective Criteria Established for Evaluating Qualifications of Bidders</b> . The <b>Objective Criteria Established for Evaluating Qualifications of Bidders</b> are to assure that the State of Connecticut will secure the "lowest responsible and qualified bidder" who has the ability and capacity to successfully complete the Bid Proposal Form and the Work. Failure to comply with any portion of this requirement <b>may</b> cause <b>rejection</b> of the bid. <b>Note:</b> Individual Specification Sections <b>may</b> contain General Contractor and/or Subcontractor Qualification requirements that <i>exceed</i> those in <b>Section 00 45 15 Objective Criteria Established for Evaluating Qualifications of Bidders</b> .
<b>2.6 Bidder's Prequalification Requirements for Projects exceeding \$500,000:</b>	
2.6.1	<b>All Bidders</b> for Projects with estimated Construction Costs <b>greater</b> than <b>\$500,000</b> shall upload a current copy of their " <b>DAS Prequalification Certificate</b> " and " <b>DAS Update (Bid) Statement</b> " for the applicable <b>Class of Work</b> on <b>page 1</b> of <b>Section 00 11 16 Invitation to Bid</b> to Biznet <i>prior</i> to the date and time of the Bid Opening.
2.6.2	Pursuant to <b>C.G.S. § 4b-91(a)(2)</b> and <b>C.G.S. §4a-100</b> , as revised, every contract for the construction, reconstruction, alteration, remodeling, repair or demolition of any public building or any other public work by the state that is <b>estimated</b> to exceed <b>five hundred thousand dollars (\$500,000)</b> shall be awarded <b>only</b> to the lowest responsible and qualified Bidder who is " <b>prequalified</b> " by DAS in the <b>Class of Work for this Project</b> , as specified in <b>Section 00 11 16 Invitation to Bid</b> . No person who's <b>Contract or Subcontract</b> exceeds <b>\$500,000</b> in value may perform work as a Contractor or Subcontractor, unless the person is <b>prequalified</b> , <i>at the time of bid submission</i> , in accordance with <b>C.G.S. § 4a-100</b> , as amended, <b>C.G.S. § 4b-91(a)(2)</b> , and <b>C.G.S. §4b-91(j)</b> . "Prequalified" includes the contractor's or substantial subcontractor's prequalification classifications, aggregate work capacity ratings and single project limits.
2.6.3	The State may waive minor irregularities that otherwise may cause rejection of a Bid only when waiving such minor irregularities is in the best interests of the State and the minor irregularities have been corrected by the Bidder within seven (7) Calendar Days after the Bid Due Date. Failure to properly <u>complete</u> , <u>sign</u> and <u>upload</u> either the " <b>DAS Prequalification Certificate</b> " or " <b>DAS Update (Bid) Statement</b> " to Biznet prior to the date and time of the Bid Opening <b>shall</b> cause <b>rejection</b> of the bid and shall <b>not</b> be considered a minor irregularity under <b>C.G.S. § 4b-95</b> .
2.6.4	See <b>Section 00 40 15 CT DAS Prequalification Forms</b> for instructions on preparing and/or downloading your Firm's " <b>DAS Contractor Prequalification Certificate</b> " and " <b>DAS Update (Bid) Statement</b> ".
2.6.5	<b>Bidder's Certification:</b> Within <b>ten (10) business days after</b> receipt of the Letter of Intent from DAS/CS, the <b>Apparent Low Bidder shall</b> submit a <b>Bidder's Certification</b> certifying that the information in the bid is true, that there has been no substantial change in the Bidder's financial position or corporate structure since its most recent <b>DAS Prequalification Certificate</b> and <b>DAS Update (Bid) Statement</b> and that the bid was made without fraud or collusion with any person. See <b>Section 00 92 10 Additional Forms</b> of this Project Manual for a sample form.

<b>2.7 Named Subcontractor Requirements:</b>	
2.7.1	All Bid Proposals <b>shall</b> be for the complete work as specified and <b>shall</b> include the names of <b>ALL Subcontractors</b> for the <b>four (4) Classes of Work</b> specified in <b>C.G.S. § 4b-93(a)</b> , as revised, and for each other class of work for which the awarding authority has required a separate section pursuant to said subsection, together with the dollar amounts of their subcontracts, <i>if the subcontracts are in excess of \$100,000</i> . The contractor shall be selected on the basis of such bids.
2.7.2	The <b>Named Subcontractor Bid Price</b> shall be the price set forth in the space provided on the <b>Bid Proposal Form</b> .
2.7.3	No bid shall be rejected because of an error in setting forth the Name of a Subcontractor as long as the Subcontractor or Subcontractors designated are clearly identifiable.
2.7.4	No bid shall be rejected because the <b>Named Subcontractor's</b> plans and specifications do not accompany the bid or are not submitted with the bid.
2.7.5	Failure to correctly state <b>ALL of the Named Subcontractor's prices within a particular Class of Work</b> on the Bid Proposal Form <b>shall</b> be cause for <b>rejection</b> of the Bid.
2.7.6	<b>Named Subcontractor Replacement:</b> The awarding authority may require the <b>Bidder</b> to replace a <b>Named Subcontractor</b> whenever the awarding authority determines in their sole discretion that such <b>replacement</b> is in the <b>best interest of the State</b> .
2.7.7	<b>Named Subcontractor Substitution:</b>
.1	The awarding authority <b>shall not</b> permit <b>substitution</b> of a subcontractor for one <b>Named</b> in accordance with the provisions of <b>C.G.S. § 4b-95</b> , as revised, <b>except</b> for <b>“Good Cause”</b> .
.2	The awarding authority <b>shall not</b> permit <b>substitution</b> of a subcontractor for any designated sub-trade work bid to be performed by the Bidder's own forces in accordance with the provisions of <b>C.G.S. § 4b-95</b> <b>except</b> for <b>“Good Cause”</b> .
.3	<b>“Good Cause”:</b> The term "good cause" includes but is not limited to, a subcontractor's or, <b>where appropriate, a Bidder's:</b> (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 bid form; (5) inability to obtain, or loss of, a license necessary for the performance of the particular category of work; (6) failure or inability to comply with a requirement of law applicable to contractors, subcontractors, or construction, alteration, or repair projects; and (7) failure to perform its agreement to execute a subcontract under C.G.S. § 4b-96, as revised.
2.7.8	<b>Named Subcontractor DAS Prequalification Requirement for Subcontracts exceeding \$500,000:</b>
.1	The <b>Three (3) Apparent Lowest Bidders</b> shall receive <i>VIA EMAIL</i> a "Set-Aside Contractor Schedule Request" ("Request") from the DAS/CS Office of Legal Affairs, Policy, and Procurement. For <b>Subcontracts greater than \$500,000</b> , the <b>Three (3) Apparent Lowest Bidders</b> shall submit within <b>ten (10) Calendar Days</b> after receipt of the Request current <b>DAS Prequalification Certificate(s) and Update (Bid) Statement(s)</b> for <b>each Named Subcontractor</b> in <b>Table 2.7</b> of the <b>Bid Proposal Form</b> , to the extent the <b>Class of Work for the Named Subcontractor is a Prequalification Classification</b> . This information shall be considered as part of the <b>Bid Proposal Form</b> and failure to comply with any portion of this requirement <b>shall</b> cause <b>rejection</b> of the bid.
.2	Instructions for downloading <b>“DAS Contractor Prequalification Certificates”</b> and <b>“DAS Update (Bid) Statement”</b> can be found in <b>Section 00 40 15 CT DAS Prequalification Forms</b> .
.3	<b>In accordance C.G.S. §4b-91(j)</b> , no person whose subcontract <i>exceeds</i> five hundred thousand dollars in value may perform work as a subcontractor on a project, which project is estimated to cost more than five hundred thousand dollars and is paid for, in whole or in part, with state funds, <i>unless, at the time of bid submission</i> , the person is prequalified in accordance with <b>C.G.S. §4a-100</b> , as amended. "Prequalified" includes the contractor's or substantial subcontractor's prequalification classifications, aggregate work capacity ratings and single project limits. For <b>Subcontracts</b> estimated to <b>exceed \$500,000</b> , the <b>Named Subcontractor must</b> be <b>“prequalified”</b> by DAS in the <b>Class of Work</b> specified in <b>Table 2.7 of Section 00 41 00 Bid Proposal Form</b> <i>at the time of bid submission</i> , pursuant to <b>C.G.S. §4b-91(j)</b> and <b>C.G.S. § 4a-100</b> , as amended. This requirement also applies to the Bidder, if the Bidder is a Named Subcontractor.
2.7.9	<b>Named Subcontractor Bidder's Qualification Statements (Section 00 45 17)</b>
.1	The <b>Three (3) Apparent Lowest Bidders</b> shall receive <i>VIA EMAIL</i> a "Set-Aside Contractor Schedule Request" ("Request") from the DAS/CS Office of Legal Affairs, Policy, and Procurement. For Projects with <b>estimated Construction Costs greater than \$500,000</b> , the <b>Three (3) Apparent Lowest Bidders</b> shall submit within <b>ten (10) Calendar Days</b> after receipt of the Request completed <b>Section 00 45 17 Named Subcontractor Bidder's Qualification Statement(s)</b> of this Project Manual for <b>each Named Subcontractor</b> in <b>Table 2.7</b> of the <b>Bid Proposal Form</b> . This information shall be considered as part of the <b>Bid Proposal Form</b> and failure to comply with any portion of this requirement <b>may</b> cause <b>rejection</b> of the bid.
.2	<b>Important Note:</b> Individual Technical Specification Sections <b>may</b> contain qualification requirements that <b>exceed</b> those from <b>Section 00 45 17 Named Subcontractor Bidder's Qualification Statement</b> .

<b>2.7 Named Subcontractor Requirements (continued):</b>	
<b>2.7.10 Bidder Performing Work as Named Subcontractor:</b>	
.1	In accordance with <b>C.G.S. § 4b-95(c)</b> , it shall be presumed that the <b>Bidder</b> intends to perform, with its own employees, all work in such <b>four (4) Classes of Work</b> and such other classes, for which <b>no</b> Subcontractor is named in <b>Table 2.7 of the Bid Proposal Form</b> . In accordance with <b>C.G.S. § 4b-92</b> , as revised, the <b>Bidder's</b> qualifications for performing such work shall be subject to review.
.2	In the event that the Bidder names a Subcontractor to perform some, but not all, of the separate section of the specifications for a particular Class of Work, then it will be presumed, in addition, that the Bidder intends to perform the balance of the Class of Work. Post-bid, the Bidder cannot substitute a Subcontractor for one named in the Bid Proposal Form or bring in a Subcontractor for any designated subtrade work presumed to be performed by the General Contractor's own forces, except for "Good Cause" as determined by the awarding authority.
.3	If the Bidder has listed itself as a <b>Named Subcontractor(s)</b> for a <b>Class(es) of Work</b> in <b>Table 2.7 of the Bid Proposal Form</b> and the proposed dollar value of the Subcontract(s) is greater than \$500,000, then <b>to the extent the Class(es) of Work is a Prequalification Classification</b> , the Bidder shall provide a current <b>DAS Prequalification Certificate</b> and <b>Update (Bid) Statement</b> for each of the applicable <b>Class(es) of Work</b> within ten (10) Calendar Days after receipt of the "Set-Aside Contractor Schedule Request" from DAS/CS. <b>Failure to comply with this requirement shall cause rejection of the bid and shall not be considered a minor irregularity under C.G.S. § 4b-95.</b>
<b>2.8 Set-Aside Requirements:</b>	
<b>2.8.1 Bidder's DAS Set-Aside Certificate For Projects With Construction Costs Estimated To Be Less Than \$500,000: All Small Business Enterprise (SBE) / Minority Business Enterprise (MBE) Bidders</b>	shall upload a copy of their Firm's current "DAS Set-Aside Certificate" to BizNet prior to the date and time of the Bid Opening.
<b>2.8.2 Bidder Contract Compliance Monitoring Report For Projects With Construction Costs Estimated To Be Less Than \$500,000:</b>	All Firm's shall upload a completed copy of the CHRO Employment Information Form, " <b>Bidder Contract Compliance Monitoring Report</b> " <i>with</i> their <b>Bid Proposal Form</b> prior to the date and time of the Bid Opening. The report is posted on the <b>CHRO Webpage</b> : <a href="http://www.ct.gov/chro/cwp/view.asp?a=2525&amp;Q=315900&amp;chroPNavCtr= 45679">http://www.ct.gov/chro/cwp/view.asp?a=2525&amp;Q=315900&amp;chroPNavCtr= 45679</a> .
<b>2.8.3 All Bidders shall be required</b>	to award not less than the percentage(s) stated on <b>page 1 of Section 00 41 00 Bid Proposal Form</b> to Subcontractors who are currently certified and eligible to participate under the State of Connecticut Set-Aside Program for <b>SBE and/or MBE</b> contractors, in accordance with C.G.S. § 4a-60g. <b>Failure</b> to meet these requirements <b>shall</b> cause <b>rejection</b> of the bid. The MBE participation <b>does</b> count as part of the SBE participation.
<b>2.8.4 Set-Aside Contractor Schedule Request:</b>	The SBE/MBE participation requirement <i>must be met</i> even if the Bidder is <i>certified</i> and <i>eligible</i> to participate in the <b>Small Business Set-Aside Program</b> . To facilitate compliance with this requirement for set-aside subcontractors, the <b>Three (3) Apparent Lowest Bidders</b> shall receive <b>VIA EMAIL</b> a "Set-Aside Contractor Schedule Request" ("Request") from the DAS/CS Office of Legal Affairs, Policy, and Procurement. As directed in the Request, the <b>Three (3) Apparent Lowest Bidders</b> shall submit within <b>ten (10) Calendar Days</b> after receipt of the Request, a <b>list of certified set-aside contractors</b> to be used on this project along with the <b>dollar amounts</b> to be paid to each. (See Section 00 73 27 Set-Aside Contractor Schedule for a sample Request.) A copy of the <b>current DAS Set-Aside Certificate</b> for <b>each Subcontracted SBE and/or MBE firm(s)</b> listed in the " <b>Set-Aside Contractor Schedule</b> " must be attached to the Request. This information will be considered as part of your Bid Proposal Form and <b>failure</b> to comply with any portion of this requirement within the ten (10) days, including but not limited to <b>failure</b> to list or meet the necessary dollar amount or percentage of the bid price, will be cause to <b>reject</b> your bid.
<b>2.8.5 Percentage of Work Performed by SBE/MBE Contractors and Subcontractors:</b>	The percentage of the work performed by the SBE/MBE Contractors and Subcontractors on this project shall not be less than the percentage noted in <b>Subsection 5.1 Amount of Work Required to Be Done by "Set-Aside" Contractors of Section 00 73 38 Commission on Human Rights (CHRO) Contract Compliance Regulations</b> .
<b>2.8.6 To view and/or download a Set-Aside Certificate:</b>	Go to the DAS Homepage ( <a href="http://www.ct.gov/DAS">www.ct.gov/DAS</a> ) > Small and Minority Businesses > Apply for Small Business Enterprise or Minority Business Enterprise Certification (SBE or MBE) > View/Search SBE/MBE Directory.
<b>2.9 Insurance Coverages:</b>	
<b>2.9.1</b>	The Insurance coverages required for this project shall be those listed in <b>Article 35 Contractors Insurance of Section 00 73 13 General Conditions</b> of this Project Manual. See <b>Section 00 41 00 Bid Proposal Form</b> and <b>Section 00 62 16 Certificate of Insurance</b> of this Project Manual for additional details.
<b>2.9.2</b>	The <b>Apparent Low Bidder shall</b> submit the Firm's <b>Certificate of Liability Insurance Acord®</b> form within <b>ten (10) business days after</b> receipt of the Letter of Intent from DAS/CS.

**3.0 All Other Required Bid Documents, Affidavits, and Certifications:**

**3.1 Affidavits and Certifications:**

**Important Note:** *The State may waive minor irregularities that otherwise may cause rejection of a Bid only when waiving such minor irregularities is in the best interests of the State and the minor irregularities have been corrected by the Bidder within seven (7) Calendar Days after the Bid Due Date. Failure to properly complete, sign and upload **all** of the following Affidavits and Certifications to Biznet prior to the date and time of the Bid Opening **shall** cause **rejection** of the bid and shall **not** be considered a minor irregularity under C.G.S. § 4b-95.*

**3.1.1 Gift and Campaign Contribution Certification – OPM Ethics Form 1: All Bidders**

- .1 All Bidders:** In accordance with Executive Order No. 49, and pursuant to C.G.S. §§ 4-250, 4-252(c) and 9-612(f)(2), as revised, any principal or key personnel of the person, firm or corporation submitting a bid or proposal for a contract that has a value of **\$50,000** or more, shall be required to upload to BizNet a **Gift and Campaign Contribution Certification** prior to the date and time of the Bid Opening.
- .2** Any bidder or proposer that **does not** upload the **Gift and Campaign Contribution Certification** to BizNet prior to the date and time of the Bid Opening as required under this section shall be **disqualified** and DAS shall award the contract to the next highest ranked proposer or the next lowest responsible qualified bidder or seek new bids or proposals. Failure to upload this form to BizNet **prior** to the date and time of the Bid Opening shall not be considered a minor irregularity under CGS 4b-95.
- .3** Once uploaded, an updated **Gift and Campaign Contribution Certification** shall be uploaded within **30 days** of any changes to the submitted information.
- .4** **Annually**, on or within **two (2)** weeks of the **anniversary** date of the execution of this contract, the Contractor shall upload a completed **Annual Certification** with authorizing resolution. For the purposes of this paragraph, the execution date of the contract will be the date the DAS Commissioner signs the contract.

**3.1.2 Consulting Agreement Affidavit – OPM Ethics Form 5: All Bidders**

- .1 All Bidders:** Pursuant to C.G.S. §§ 4a -81a and 4a -81b, as revised, a **Consulting Agreement Affidavit** must be completed and uploaded to BizNet prior to the date and time of the Bid Opening for contracts with a value of **\$50,000** or more.
- .2** In the event that a Bidder or vendor fails or refuses to upload the **Consulting Agreement Affidavit** to BizNet prior to the date and time of the Bid Opening, as required under C.G.S. § 4a-81, such bidder shall be **disqualified** and the award shall be made to the next lowest responsible qualified bidder or new bids or proposals shall be sought. Failure to upload this form to BizNet **prior** to the date and time of the Bid Opening shall not be considered a minor irregularity under CGS 4b-95.
- .3** Once uploaded, an updated **Consulting Agreement Affidavit** **shall** be amended and uploaded not later than (1) **thirty (30) days** after the effective date of any such change or (2) upon the submittal of any new bid or proposal, whichever is earlier. For the purposes of this paragraph, the **execution date** of the contract will be the date the DAS Commissioner signs the contract.
- .4** Other Contributions by Individuals. Principals of Investment Services Firms, State Contractors, Principals Of State Contractors, Prospective State Contractors Or Principals Of Prospective State Contractors. Lists. Subcontracts Study. State Officials or Employees: All acquisitions, agreements and contracts are subject to the provisions of the C.G.S. § 9-612 regarding **Campaign Contribution or Contributions**.



### 3.1 Affidavits and Certifications Forms (continued):

#### 3.1.3 Ethics Affidavit – OPM Ethics Form 6: All Bidders and Apparent Low Bidder

- .1 **All Bidders:** Pursuant to C.G.S. §§ 1-101mm and 1-101qq, as revised, when DAS/CS is seeking a contract for a large state construction or procurement contract having a cost of more than **\$500,000**, DAS shall inform all potential consultant and contractor firms of the summary of state ethics laws developed by the Office of State Ethics (OSE) pursuant to C.G.S. § 1-81b. “Large State Contract” means an agreement or a combination or series of agreements between a state agency and a person, firm or corporation, having a total value of more than **\$500,000** in a calendar or fiscal year a project for the construction, alteration or repair of any public building or public work. For a **Guide to the Code of Ethics For Current or Potential State Contractors** go to the Office of State Ethics (OSE) website ([www.ct.gov/ethics](http://www.ct.gov/ethics)), then click on the “**Publications**” link.
- .2 **All Bidders:** Pursuant to C.G.S. § 1-101qq, as revised, DAS is also required to notify all potential consultant and contractor firms or a large state construction or procurement contract that they must upload an **Affirmation of Receipt of State Ethics Laws Summary** to BizNet prior to the date and time of the Bid Opening affirming that their key employees have read and understand the summary and agree to comply with the provisions of state ethics law.
- .3 Failure to upload this affidavit to BizNet prior to the date and time of the Bid Opening **shall** result in **rejection** of the bid and shall not be considered a minor irregularity under CGS 4b-95.
- .4 **Apparent Low Bidder:** Furthermore, the **Apparent Low Bidder** shall provide the **Summary of the State Ethics Laws** to each **Named Subcontractor** and any other **Subcontractor** or **Subconsultant** with a contract valued over **\$500,000** and obtain a **Subcontractor and Subconsultant State Ethics Affidavit** stating that the key personnel of the subcontractor have read, understand, and agree to comply with provisions of the state ethics laws. The **Apparent Low Bidder** shall submit such subcontractor(s) affidavits to the DAS/CS Office of Legal Affairs, Policy, and Procurement within **ten (10) business days** after receipt of the Letter of Intent from DAS/CS.

#### 3.1.4 Iran Certification – OPM Ethics Form 7: All Bidders

- .1 **All Bidders:** Pursuant to C.G.S. § 4-252a, when DAS/CS is seeking a contract for a large state construction or procurement contract having a cost of more than **\$500,000**, an **Iran Certification** must be completed and uploaded to BizNet **prior to the date and time of the Bid Opening**.
- .2 Pursuant to C.G.S. § 4-252a, *“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. Entities whose principal place of business is located outside of the United States are required to complete the entire form, including the certification portion of the form. United States subsidiaries of foreign corporations are exempt from having to complete the certification portion of the form. Those entities whose principal place of business is located inside of the United States must also fill out the form, but do not have to complete the certification portion of the form.”*

#### 3.1.5 Nondiscrimination Certification – Form A, B, C, D, or E: All Bidders

- .1 **All Bidders:** Pursuant to C.G.S. §§ 4a-60 and 4a-60a, as amended, a contractor must provide an awarding State agency with written representation or documentation that certifies the contractor complies with the State's nondiscrimination agreements and warranties prior to the award of any contract with the State. A **Nondiscrimination Certification** is required for all State contracts, regardless of type, term, cost or value. The **appropriate form** must be uploaded to BizNet prior to the date and time of the Bid Opening.
- .2 Once uploaded, an updated **Nondiscrimination Certification** shall be uploaded within **30 days** of any changes to the submitted information.
- .3 **Annually**, on or within **two (2) weeks** of the **anniversary** date of the execution of this contract, the Contractor shall upload a completed **Annual Certification** with authorizing resolution. For the purposes of this paragraph, the execution date of the contract will be the date the DAS Commissioner signs the contract.

- 3.1.6 For instructions on how to electronically download and upload **Affidavits and Non-Discrimination Forms**, go to the DAS Homepage ([www.ct.gov/DAS](http://www.ct.gov/DAS)) > Doing Business with the State > Create a BizNet Account for Doing Business with the State > Documents/Forms > Vendor Guide to Uploading Affidavits and Nondiscrimination Forms Online.

<b>3.2 Security For Faithful Performance:</b>	
<b>3.2.1 Certified Check or Bid Bond: All Bidders</b>	
.1	<b>All Bidders for bids in excess of \$50,000 shall submit either a Certified Check or a Bid Bond</b> , in the form required by the awarding authority. See <b>Section 00 43 16 Standard Bid Bond</b> in BizNet for a template and important instructions regarding submitting the Bid Bond or Certified Check. Complete and upload <b>Section 00 43 16 Standard Bid Bond</b> to Biznet <b>prior</b> to the date and time of the Bid Opening for <b>either</b> the Bid Bond option <b>or</b> the Certified Check option.
.2	<b>Certified Check Option:</b> The <b>Certified Check</b> shall be drawn to the order of <b>"Treasurer, State of Connecticut"</b> , in which it 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 the Bidder's failure to file the required Bonds and execute the required contract if this proposal is accepted by the Awarding Authority.
.3	<b>Bid Bond Option:</b> The <b>Bid Bond</b> shall be in the form required by the awarding authority, having as <b>surety</b> thereto such surety company or companies acceptable to the DAS Commissioner and as are authorized to do business in this State, for an amount not less than 10 percent of the bid.
.4	<b>Return of Certified Check:</b> All <b>checks</b> submitted by <b>unsuccessful</b> Bidders shall be returned to them <i>after</i> the contract has been awarded.
.5	Failure to submit the Bid Bond <b>or</b> Certified Check <b>prior</b> to the date and time of the Bid Opening <b>shall</b> cause <b>rejection</b> of the bid and shall not be considered a minor irregularity under CGS 4b-95.
.6	<b>Forfeiture of Certified Check or Bid Bond:</b> <b>Failure</b> of the successful bidder to execute a contract awarded as specified and bid shall result in the <b>forfeiture</b> of the certified check or bid bond.
<b>3.2.2 Performance Bond: Apparent Low Bidder:</b>	Within <b>ten (10) business days after</b> receipt of the Letter of Intent from DAS/CS, the <b>Apparent Low Bidder shall</b> substitute for the <b>certified check or bid bond</b> accompanying its bid an executed <b>performance bond</b> , in the amount not less than 100 percent of the contract price, conditioned upon the faithful performance of the contract, and having as surety thereto such surety company or companies satisfactory to the Commissioner and as are authorized to transact business in this State. This bond is to be furnished pursuant to <b>C.G.S. § 49-41</b> , as revised. See <b>Section 00 92 10 Additional Forms</b> of this Project Manual for a template.
<b>3.2.3 Labor and Material Bond: Apparent Low Bidder:</b>	Within <b>ten (10) business days after</b> receipt of the Letter of Intent from DAS/CS, the <b>Apparent Low Bidder shall</b> submit a labor and material bond in the amount not less than 100 percent of the contract price which <b>shall</b> be binding upon the award of the contract to such bidder, with surety or sureties satisfactory to the Commissioner and as are authorized to transact business in this State, for the protection of persons supplying labor or materials in the prosecution of the work provided for in the contract for the use of each such person. Any such bond furnished <b>shall</b> have as principal the name of the successful Bidder. This bond is to be furnished pursuant to <b>C.G.S. § 49-41</b> , as revised. See <b>Section 00 92 10 Additional Forms</b> of this Project Manual for a template.
<b>3.2.4</b>	<b>The following section of the General Statutes of Connecticut, as revised, is inserted as information concerning this bond and will be incorporated into the Contract for the Work:</b> <b>C.G.S. § 49-41a. Enforcement of payment by general contractor to subcontractor and by subcontractor to his subcontractors. (a)</b> When any public work is awarded by a contract for which a payment bond is required by section 49-41, the contract for the public work shall contain the following provisions: (1) A requirement that the general contractor, within thirty days after payment to the contractor by the State or a municipality, 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 State or a municipality; (2) a requirement that the general contractor shall include in each of its <b>subcontracts</b> a <b>provision</b> requiring each <b>subcontractor</b> to pay any amounts due any of its subcontractors, whether for labor performed or materials furnished, within thirty days after such subcontractor receives a payment from the general contractor which encompasses labor or materials furnished by such subcontractor. <b>(b)</b> If payment is not made by the general contractor or any of its subcontractors in accordance with such requirements, the subcontractor shall set forth his claim against the general contractor and the subcontractor of a subcontractor shall set forth its claim against the subcontractor through notice by registered or certified mail. Ten days after the receipt of that notice, the general contractor shall be liable to its subcontractor, and the subcontractor shall be liable to its subcontractor, for interest on the amount due and owing at the rate of one percent per month. In addition, the general contractor, upon written demand of its subcontractor, or the subcontractor, upon written demand of its subcontractor, shall be required to place funds in the amount of the claim, plus interest of one per cent, in an interest-bearing escrow account in a bank in this State, provided the general contractor or subcontractor may refuse to place the funds in escrow on the grounds that the subcontractor has not substantially performed the work according to the terms of his or its employment. In the event that such general contractor or subcontractor refuses to place such funds in escrow, and the party making a claim against it under this section is found to have substantially performed its work in accordance with the terms of its employment in any arbitration or litigation to determine the validity of such claim, then such general contractor or subcontractor shall pay the attorney's fees of such party. <b>(c)</b> No payment may be withheld from a subcontractor for work performed because of a dispute between the general contractor and another contractor or subcontractor. <b>(d)</b> This section shall not be construed to prohibit progress payments prior to final payment of the contract and is applicable to all subcontractors for material or labor whether they have contracted directly with the general contractor or with some other subcontractor on the work.
<b>3.2.5</b>	<b>Surety Sheet: Apparent Low Bidder:</b> Within <b>ten (10) business days after</b> receipt of the Letter of Intent from DAS/CS, the <b>Apparent Low Bidder shall</b> submit a Surety Sheet that provides information regarding the Surety Company and Agent. See <b>Section 00 92 10 Additional Forms</b> of this Project Manual for a template.

<b>3.3 Certificate (of Authority):</b>	
3.3.1	All Bidders for bids in excess of \$50,000 shall upload a signed and scanned <b>Section 00 40 14 Certificate (of Authority)</b> to BizNet prior to the date and time of the Bid Opening. See BizNet for a template.
3.3.2	The <b>Apparent Low Bidder</b> shall submit a <b>second Certificate (of Authority)</b> within <b>ten (10) business days after</b> receipt of the Letter of Intent from DAS/CS.
<b>3.4 Security Requirements for CT Department of Correction (CT DOC) Facilities:</b>	
3.4.1	All Bidders for Projects at a CT DOC Facility shall read and comply with <b>Section 00 73 63 CT DOC Security Requirements</b> for Contract Forces on CT DOC Facilities.
3.4.2	<b>NEW:</b> All Bidders for Projects at a CT DOC Facility: Prior to the Pre-Bid Meeting, all Bidders shall download the “ <b>Security Background Questionnaire</b> ” from the CT DOC website ( <a href="http://www.ct.gov/doc">www.ct.gov/doc</a> ), under “Forms”, complete and submit the form as directed, and obtain approval, otherwise admission to the Pre-Bid Meeting <b>will be denied</b> . It is recommended that the approved form be brought as evidence of approval to attend the Pre-Bid Meeting.
<b>3.5 Affirmative Action Plan &amp; Employment Information Form (DAS-45): Apparent Low Bidder</b>	
3.5.1	For Projects greater than \$500,000 and/or Firms with 50 or more employees, the <b>Apparent Low Bidder shall</b> submit the Firm’s <b>Affirmative Action Plan</b> and <b>Employment Information Form (DAS-45)</b> to CHRO within <b>fifteen (15) calendar days after</b> receipt of the “Request for the <i>Affirmative Action Plan</i> and <i>Employment Information Form</i> Letter” from DAS/CS. See <b>Section 00 73 38 Commission on Human Rights and Opportunities/ Contract Compliance Regulations</b> .
3.5.2	The Apparent Low Bidder <b>shall</b> submit a copy of the Transmittal Letter to the DAS/CS Office of Legal Affairs, Policy, and Procurement within <b>fifteen (15) calendar days after</b> receipt of the “Request for the <i>Affirmative Action Plan</i> and <i>Employment Information Form</i> Letter” from DAS/CS.
<b>3.6 Prevailing Wage: Apparent Low Bidder</b>	
3.6.1	The <b>Apparent Low Bidder shall</b> submit the “ <b>Contractor’s Wage Certification Form</b> ” to CT Department of Labor (CT DOL) within <b>fifteen (15) calendar days after</b> receipt of the “Request for the <i>Affirmative Action Plan</i> and <i>Employment Information Form</i> Letter” from DAS/CS. See <b>Section 00 73 44 Prevailing Wage Rates/Contractor’s Wage Certification/Payroll Certification</b> of this Project Manual.
3.6.2	Each contractor who is awarded a contract on or after October 1, 2002 shall be subject to provisions of <b>C.G.S. § 31-53, as revised</b> . See <b>Section 00 73 44 Prevailing Wage Rates/Contractor’s Wage Certification/Payroll Certification</b> of this Project Manual.
3.6.3	<b>Annual Adjustment Of Prevailing Wage Rates:</b> In determining bid price, consideration should be given to <b>C.G.S. § 31-53 and 31-55a, as revised</b> , regarding <b>annual adjustment of prevailing wage rates</b> . Annual adjustments of prevailing wage rates will <b>not</b> be considered a matter for a contract amendment.
<b>3.7 NEW PROCESS: General Permit for the Discharge of Stormwater &amp; Dewatering Wastewaters from Construction Activities: Apparent Low Bidder</b>	
3.7.1	All DAS/CS construction projects disturbing <b>one or more total acres of land area</b> on a site <b>regardless of project phasing</b> must file a Department of Energy and Environmental Protection (DEEP) <a href="#">General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (DEEP-WPED-GP-015)</a> (“Construction Stormwater General Permit”) registration and Stormwater Pollution Control Plan (SPCP) with the DEEP. <b>The DAS/CS Architect/Engineer (A/E) shall be responsible for registering the Construction Stormwater General Permit and SPCP through the online DEEP ezFile Portal prior to bidding.</b>
3.7.2	Once the Apparent Low Bidder is under contract with DAS/CS, and prior to the commencement of any construction activities, the Apparent Low Bidder (“Contractor”) shall be required to provide the necessary information from all applicable contractors and/or subcontractors working on the Project to the DAS/CS A/E in order to finalize the SPCP and transfer the Construction Stormwater General Permit obligations to the Contractor.
3.7.3	All Contractors and Subcontractors listed on the SPCP shall be required to sign the SPCP “Contractor Certification Statement” and License Transfer Form <b>prior</b> to commencement of any construction activity.



**3.8 Section 00 52 73 Subcontract Agreement Forms: Apparent Low Bidder**

**3.8.1** The **Apparent Low Bidder** shall submit a completed **Section 00 52 73 Subcontract Agreement Form** of this Project Manual for *each* Named Subcontractor within **ten (10) Business Days** after receipt of the "Letter of Intent" from DAS/CS. This information *shall* be considered as part of the **Bid Proposal Form** and failure to comply with any portion of this requirement *may* cause **rejection** of the bid.

**3.8.2** Each **Named Subcontractor** shall be the matter of a **Subcontract** as required by **C.G.S. § 4b-96**.

**3.9 Non-Resident Contractors and Taxation: Apparent Low Bidder**

**3.9.1** **Nonresident contractors** must comply with the **provisions C.G.S. § 12-430 (7), Procedures for Nonresident Contractors**, and the regulations established pursuant to that section. See **Section 00 92 30 Procedures Regarding Taxation for Nonresident General/Prime Contractor and Subcontractors** of this Project Manual for additional details.

**3.9.2** **Apparent Low Bidder who is a Nonresident Contractor:** Within **ten (10) business days after** receipt of the "**Letter of Intent**" from DAS/CS, a certificate(s) from DRS must be provided which evidences that C.G.S. §12-430 for non-resident contractors has been met. As described in Section 00 92 30 "Procedures Regarding Taxation for Nonresident General/Prime Contractor and Subcontractors", **Verified Nonresident** General/Prime Contractors must submit a copy of their "**Notice of Verified Status**" (Verification Letter) from DRS. **Unverified Nonresident** General/Prime Contractors must submit a copy of **Form AU-965 "Acceptance of Surety Bond"** from DRS.

**3.10 Certificate of Legal Existence: Apparent Low Bidder**

**3.10.1** A **corporation** that is awarded the contract must comply with the laws of this State regarding the procurement of a certificate of authority to transact business in this State from the **Secretary of the State**. A "**Certificate of Legal Existence**" which is not older than **ninety (90) calendar days** from the date of the contract signing must be filed with the DAS/CS Office of Legal Affairs, Policy, and Procurement within **ten (10) business days after** receipt of the "Letter of Intent" from DAS/CS.

**3.11 State Election Enforcement Commission (SEEC) Form 10: Apparent Low Bidder**

**3.11.1** The **Apparent Low Bidder** shall submit a **State Election Enforcement Commission's (SEEC) Form 10** "Notice to Executive Branch State Contractors and Prospective State Contractors of Campaign Contribution and Solicitation Limitations" within **ten (10) business days after** receipt of the "Letter of Intent" from DAS/CS for contracts with a value of \$50,000 or more.

**3.11.2** Pursuant to C.G.S. § 9-612, as revised, a State Contract means an agreement or contract with the state or any state agency or any quasi-public agency 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 **submission** in response to the State's solicitation expressly **acknowledges receipt** of, and must submit **in writing**, the **SEEC Form 10 notice** advising prospective state contractors of the state campaign contribution and solicitation prohibitions, and will inform its principals of the contents of the **notice**.

**3.11.3** For instructions on how to download "**SEEC Form 10**", go to the SEEC Homepage ([www.ct.gov/seec](http://www.ct.gov/seec)); click on "Forms" at the top of the page; click on "Contractor Reporting Forms"; click on "SEEC Form 10" and follow the directions.

**3.12 OSHA Training Course: Successful Bidder**

**3.12.1** Pursuant to **C.G.S. §. 31-53b (a)**, as revised, each contract entered into for the construction, remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public building project by the state or any of its agents, or by any political subdivision of the state or any of its agents, where the total cost of all work to be performed by all contractors and subcontractors in connection with the contract is at least **one hundred thousand dollars (\$100,000)**, shall contain a provision requiring that, not later than **thirty (30) days** after the date such contract is awarded, **each contractor furnish proof to the Labor Commissioner** that all employees performing manual labor on or in such public building, pursuant to such contract, have completed a **course** of at least **ten (10) hours** in duration in **construction safety and health** approved by the federal Occupational Safety and Health Administration or, in the case of telecommunications employees, have completed at least **ten (10) hours** of training in accordance with 29 CFR 1910.268.

**3.13 NEW PROCESS: Contractor and Subcontractor Payments Reporting: Successful Bidder**

**3.13.1** For compliance with **C.G.S. §. 4b-95 and 49-41**, DAS/CS requires every Contractor (and its Subcontractors and their Subcontractors) who has been awarded a DAS/CS construction contract to log on to the State of Connecticut web-based platform, BizNet, **each month** and **enter payments** they have received from the state, from the Contractor, or from a higher tier Subcontractor (as applicable).

The process is described as follows: The state will pay the Contractor on a monthly basis for work performed (and purchases made) by it and its Subcontractors. The Contractor will input the payment date and amount they receive from the state on a monthly basis. The Contractor's first-level Subcontractor (Tier 1 Subcontractor) will input the payment they receive from the Contractor. The second-level Subcontractor (Tier 2 Subcontractor) will input the payment they receive from the Tier 1 Subcontractor. And so on.

Contractors awarded a DAS/CS construction contract shall contain a **provision in their subcontract agreements** requiring their Subcontractors to enter payment receipt from the Contractor in the State of Connecticut web-based platform, BizNet, for work performed or purchases made in relation to state projects.

Detailed instructions can be found in the DAS/CS publication, "**6002 Instructions to Contractors/Subcontractors for Entering Payments Online**", available for download by going to the DAS Homepage ([www.ct.gov/DAS](http://www.ct.gov/DAS)) and selecting Doing Business With The State > State Building Construction > Publications and Forms > DAS Construction Services Library > 6000 Series.

**4.0 Nondiscrimination and Affirmative Action**

This contract is subject to Federal and state laws, including Title VII of the 1964 Civil Rights Act, 42 U.S.C. § 2000e-2(a)(1), and the Connecticut Fair Employment Practices Act, C.G.S. §46a-60 et seq., prohibit various forms of discrimination and illegal harassment in employment.

**4.1 Nondiscrimination and Affirmative Action Provisions:**

**4.1.1 This section is inserted in connection with C.G.S. § 4a-60, as revised.**

**4.1.2** References in this section to "contract" **shall** mean this Contract and references to "contractor" **shall** mean the Contractor/Bidder.

**4.1.3 C.G.S. § 4a-60, as revised:**

- (a) Every contract to which the state or any political subdivision of the state other than a municipality is a party shall contain the following provisions:
- (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, 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 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, gender identity or expression, 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;
  - (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; 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 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) (1) Any contractor who has one or more contracts with the state or a political subdivision of the state that is valued at less than fifty thousand dollars for each year of the contract shall provide the state or such political subdivision of the state with a written or electronic representation that complies with the nondiscrimination agreement and warranty under subdivision (1) of subsection (a) of this section, provided if there is any change in such representation, the contractor shall provide the updated representation to the state or such political subdivision not later than thirty days after such change.
- (2) Any contractor who has one or more contracts with the state or a political subdivision of the state that is valued at fifty thousand dollars or more for any year of the contract shall provide the state or such political subdivision of the state with any one of the following:
- (A) Documentation in the form of a company or corporate policy adopted by resolution of the board of directors, shareholders, managers, members or other governing body of such contractor that complies with the nondiscrimination agreement and warranty under subdivision (1) of subsection (a) of this section;
- (B) Documentation in the form of a company or corporate policy adopted by a prior resolution of the board of directors, shareholders, managers, members or other governing body of such contractor if (i) the prior resolution is certified by a duly authorized corporate officer of such contractor to be in effect on the date the documentation is submitted, and (ii) the head of the agency of the state or such political subdivision, or a designee, certifies that the prior resolution complies with the nondiscrimination agreement and warranty under subdivision (1) of subsection (a) of this section; or
- (C) Documentation in the form of an affidavit signed under penalty of false statement by a chief executive officer, president, chairperson or other corporate officer duly authorized to adopt company or corporate policy that certifies that the company or corporate policy of the contractor complies with the nondiscrimination agreement and warranty under subdivision (1) of subsection (a) of this section and is in effect on the date the affidavit is signed.
- (3) Neither the state nor any political subdivision shall award a contract to a contractor who has not provided the representation or documentation required under subdivisions (1) and (2) of this subsection, as applicable. After the initial submission of such representation or documentation, the contractor shall not be required to resubmit such representation or documentation unless there is a change in the information contained in such representation or documentation. If there is any change in the information contained in the most recently filed representation or updated documentation, the contractor shall submit an updated representation or documentation, as applicable, either (A) not later than thirty days after the effective date of such change, or (B) upon the execution of a new contract with the state or a political subdivision of the state, whichever is earlier. Such contractor shall also certify, in accordance with subparagraph (B) or (C) of subdivision (2) of this subsection, to the state or political subdivision, not later than fourteen days after the twelve-month anniversary of the most recently filed representation, documentation or updated representation or documentation, that the representation on file with the state or political subdivision is current and accurate.
- (d) For the purposes of this section, "contract" includes any extension or modification of the contract, "contractor" includes any successors or assigns of the 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 section 1-120, (3) any other state, as defined in section 1-267, (4) the federal government, (5) a foreign government, or (6) an agency of a subdivision, agency, state or government described in subparagraph (1), (2), (3), (4) or (5) of this subsection.
- (e) For the purposes of this section, "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.
- (f) 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.
- (g) The contractor shall develop and maintain adequate documentation, in a manner prescribed by the commission, of its good faith efforts.
- (h) The contractor shall include the provisions of subsections (a) and (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 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.

**4.2 Nondiscrimination Provisions Regarding Sexual Orientation:**

**4.2.1 This section is inserted in connection with C.G.S. § 4a-60a, as revised.**

**4.2.2** References in this section to "contract" shall mean this Contract and references to "contractor" shall mean the Contractor/Bidder.

**4.2.3 C.G.S. § 4a-60a, as revised:**

- (a) Every contract to which the state or any political subdivision of the state other than a municipality is a party shall contain the following provisions:
- (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.
- (b) (1) Any contractor who has one or more contracts with the state or a political subdivision of the state that is valued at less than fifty thousand dollars for each year of the contract shall provide the state or such political subdivision of the state with a written representation that complies with the nondiscrimination agreement and warranty under subdivision (1) of subsection (a) of this section.
- (2) Any contractor who has one or more contracts with the state or a political subdivision of the state that is valued at fifty thousand dollars or more for any year of the contract shall provide the state or such political subdivision of the state with any of the following:
- (A) Documentation in the form of a company or corporate policy adopted by resolution of the board of directors, shareholders, managers, members or other governing body of such contractor that complies with the nondiscrimination agreement and warranty under subdivision (1) of subsection (a) of this section;
  - (B) Documentation in the form of a company or corporate policy adopted by a prior resolution of the board of directors, shareholders, managers, members or other governing body of such contractor if (i) the prior resolution is certified by a duly authorized corporate officer of such contractor to be in effect on the date the documentation is submitted, and (ii) the head of the agency of the state or such political subdivision, or a designee, certifies that the prior resolution complies with the nondiscrimination agreement and warranty under subdivision (1) of subsection (a) of this section; or
  - (C) Documentation in the form of an affidavit signed under penalty of false statement by a chief executive officer, president, chairperson or other corporate officer duly authorized to adopt company or corporate policy that certifies that the company or corporate policy of the contractor complies with the nondiscrimination agreement and warranty under subdivision (1) of subsection (a) of this section and is in effect on the date the affidavit is signed.
- (3) Neither the state nor any political subdivision shall award a contract to a contractor who has not provided the representation or documentation required under subdivisions (1) and (2) of this subsection, as applicable. After the initial submission of such representation or documentation, the contractor shall not be required to resubmit such representation or documentation unless there is a change in the information contained in such representation or documentation. If there is any change in the information contained in the most recently filed representation or updated documentation, the contractor shall submit an updated representation or documentation, as applicable, either (A) not later than thirty days after the effective date of such change, or (B) upon the execution of a new contract with the state or a political subdivision of the state, whichever is earlier. Such contractor shall also certify, in accordance with subparagraph (B) or (C) of subdivision (2) of this subsection, to the state or political subdivision, not later than fourteen days after the twelve-month anniversary of the most recently filed representation, documentation or updated representation or documentation, that the representation on file with the state or political subdivision is current and accurate.
- 4) For the purposes of this section, "contract" includes any extension or modification of the contract, and "contractor" includes any successors or assigns of the contractor. For the purposes of this section, "contract" does not include a contract where each contractor is (A) a political subdivision of the state, including, but not limited to, a municipality, (B) a quasi-public agency, as defined in section 1-120, (C) any other state, as defined in section 1-267, (D) the federal government, (E) a foreign government, or (F) an agency of a subdivision, agency, state or government described in subparagraph (A), (B), (C), (D) or (E) of this subdivision.

(c) The contractor shall include the provisions of subsection (a) of this section 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.

**End of Section**  
**00 21 13 Instructions to Bidders**



## Pre-Bid Meeting Agenda:

**DAS ● Construction Services ● Office of Legal Affairs, Policy, and Procurement**

### 1.0 Pre-Bid Meeting:

**1.1** The Owner or Construction Administrator will conduct a Pre-Bid Meeting.  
For the Pre-Bid Meeting Date, Time, and Location see Section 00 11 16 Invitation To Bid for this Specific Bid.

**1.2 Attendance:**

<b>1.2.1</b>	<b>General Contractor:</b>	Attendance at the Pre-Bid Meeting is <b>strongly encouraged</b> .
<b>1.2.2</b>	<b>Subcontractors:</b>	Attendance at the Pre-Bid Meeting is recommended.
<b>1.2.3</b>	<b>Pre-Bid Meeting Sign-in Sheet:</b>	It is encouraged that all attendees sign the <b>Pre-Bid Meeting Sign-in Sheet</b> .

**1.3 Site/Facility Visit or Walkthrough:** Please **do not** make any Site/Facility Visits without notifying the DAS/CS Project Manager prior to your visit.

- |              |   |
|--------------|---|
| <b>1.3.1</b> | <input checked="" type="checkbox"/> <b>Virtual Meeting:</b> <a href="https://bit.ly/Lymanprebid">https://bit.ly/Lymanprebid</a> |
| <b>1.3.2</b> | <input type="checkbox"/> <b>A Site/Facility Visit or Walkthrough is <u>NOT</u> scheduled for the Pre-Bid Meeting</b>            |

**1.4 Bidder Questions:**

**1.4.1** Submit **written** questions to be discussed at the **Pre-Bid Meeting** a **minimum of two (2) Calendar Days prior** to **Pre-Bid Meeting date**. See the **Invitation to Bid** for instructions on submitting questions.  
**IMPORTANT NOTE:** In accordance with DAS Regulations, **no** participants in any Selection, Proposal, or Bidding process, including User Agency representative(s), shall communicate with any potential Offeror prior to, during, or upon conclusion of the entire Selection, Proposal, or Bidding procedure, with the exception of information necessary to complete the administrative steps of the Selection process.

### 2.0 Pre-Bid Meeting Agenda:

The Pre-Bid Meeting Agenda will include a review of topics, **as applicable to the Project**, which may affect proper preparation and submittal of bids, including, but not limited to, the following:

**2.1 Introduction of Participants:**

<b>2.1.1</b>	<b>Architect/Engineer:</b> Richard W. Camara, PE RZ Design Associates, Inc.
<b>2.1.2</b>	<b>CA:</b> Scott Pinckney, STV Incorporated
<b>2.1.3</b>	<b>DAS Representative:</b> Rahul Abraham
<b>2.1.4</b>	<b>Agency Representative:</b> Peter Visentin

**2.0 Pre-Bid Meeting Agenda (continued):**

<b>2.2</b>	<b>Project Summary:</b>
2.2.1	<b>Summary of Work:</b> See General Requirements Section 01 11 00
2.2.2	<b>Temporary Facilities and Controls:</b> See General Requirements Section 01 50 00
2.2.3	<b>Work Sequence:</b> See General Requirements Section 01 11 00
2.2.4	<b>Contractor Use of Premises:</b> See General Requirements Section 01 11 00
2.2.5	<b>Project Schedule</b>
2.2.6	<b>Contract Time</b>
2.2.7	<b>Liquidated Damages:</b> See General Conditions Section 00 73 13, Articles 1 and 8, and 00 41 00 Bid Proposal Form.
<b>2.3</b>	<b>Procurement and Contracting Requirements:</b>
2.3.1	<b>Section 00 11 16 – Invitation to Bid</b>
2.3.2	<b>Section 00 21 13 – Instructions to Bidders</b>
2.3.3	<b>Section 00 41 00 – Bid Proposal Form</b>
2.3.4	<b>Section 00 41 10 – Bid Package Submittal Requirements</b>
2.3.5	<b>Section 00 30 00 – General Statements for Available information</b>
2.3.6	<b>Division 50 – Project-Specific Available Information</b>
2.3.7	<b>Bonding</b>
2.3.8	<b>Insurance</b>
2.3.9	<b>Bid Security</b>
2.3.10	<b>Notice of Award</b>
<b>2.4</b>	<b>Communication During Bidding Period:</b>
2.4.1	<b>Obtaining Bid Documents</b>
2.4.2	<b>Access to DAS Website, BizNet, and State Contracting Portal</b>
2.4.3	<b>Bidder's Requests for Information:</b> See General Requirements Sections 01 26 00
2.4.4	<p><b>Substitution Procedures (Prior to Bid):</b> See General Requirements Section 01 25 00 &amp; General Conditions Section 00 73 13, Article 15.</p> <p>The Owner will consider Pre-Bid Equals or Substitutions Requests, if made <b>fourteen (14)</b> Calendar Days <b>prior</b> to the <b>Bid Due Date</b>. The information on all materials shall be consistent with the information herein.</p>
2.4.5	<p><b>Substitutions following Contract Award:</b> See General Requirements Section 01 25 00 &amp; General Conditions Section 00 73 13, Article 15.</p> <p>Subject to the Architect or Engineer's determination, if the material or equipment is Equal to the one specified or pre-qualified and the DAS/CS Project Manager's approval of such determination, Substitution of Material or Equipment may be allowed after the Letter of Award is issued, as specified in the Conditions Section 00 73 13, Article 15.</p>
2.4.6	<b>Addenda Procedures:</b> See Item No. 2.7 of this form



**2.0 Pre-Bid Meeting Agenda (continued):**

<b>2.5</b>	<b>Contract Considerations:</b>
2.5.1	Allowances: N/A
2.5.2	Unit Prices: N/A
2.5.3	Supplemental Bid: N/A.
<b>2.6</b>	<b>Separate Contracts:</b>
2.6.1	Work by Owner: Reupholstery of Auditorium seating
2.6.2	Work of Other Contracts: Re-Roof and Interior Renovations.
<b>2.7</b>	<b>Post Pre-Bid Meeting Addendum:</b>
2.7.1	<u>No Interpretations</u> of the meaning of the plans, specifications or other contract documents will be made orally at any time. Every bidder <b>request</b> for such interpretation <b>shall</b> be in writing to the awarding authority and to be given consideration <b>shall</b> be received at least <b>fourteen (14)</b> Calendar Days <b>prior</b> to the Bid Due Date. Any and all such <b>interpretations</b> and any <b>supplemental instructions</b> will be in the form of written <b>addenda</b> to the specifications which, <i>if</i> issued, will be posted on the State Contracting Portal.
2.7.2	Other Bidder Questions
<b>2.8</b>	<b>Other Agenda Topics and Notes:</b>
2.8.1	
2.8.2	

**3.0 Pre-Bid Meeting Minutes:**

<b>3.1</b>	<b>Recording and Distribution of Pre-Bid Meeting Minutes:</b>
3.1.1	The <b>Owner or Construction Administrator</b> is responsible for conducting the Pre-Bid Meeting and will record and distribute meeting minutes to attendees and others known by the issuing office to have received a complete set of Procurement and Contracting Documents.
<b>3.2</b>	<b>Pre-Bid Meeting Minutes as “Available Information”</b>
3.2.1	Minutes of the Pre-Bid Meeting are issued as “Available Information” and <b>do not</b> constitute a modification to the Procurement and Contracting Documents. <b><u>Modifications to the Procurement and Contracting Documents are issued by written Addendum only.</u></b>
<b>3.3</b>	<b>Pre-Bid Meeting Sign-in Sheet:</b>
3.3.1	Minutes will include the list of meeting attendees.
<b>3.4</b>	<b>List of Planholders:</b>
3.4.1	Minutes will include the list of planholders.

**00 25 13 Pre-Bid Meeting Agenda**



**00 30 00 GENERAL STATEMENTS FOR AVAILABLE INFORMATION NOT USED**

- A. **Summary:** This Section is not a Bidding Document, but directs Bidders to **Division 50 00 00 Project-Specific Available Information** that provides project-specific information available for review by Bidders.
- B. **Bidder Responsibility:** The Bidder is responsible for information, including but not limited to, any interpretations and opinions of information contained in any plans, reports, evaluations, and logs, or shown on any drawings, or indicated on any drawings. **Division 50 00 00 Project-Specific Available Information** is provided to Bidders for their use in the preparation of a Bid.
- C. **Measurement:** **Division 50 00 00 Project-Specific Available Information** shall be utilized for determination of payment for the Work during construction of the project.
- D. **Payment:** **No** separate payment will be made for any Work under **Division 50 00 00 Project-Specific Available Information**.
- E. **Related Sections:** Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section. **See Division 50 00 00 Project-Specific Available Information** for information that is available for this Project.
- F. Please read the following **General Statement(s)** that describe the type of project-specific information that is available in **Division 50 00 00 Project-Specific Available Information**:

00 30 00	General Statements For Available Information Table Of Contents	Not Used
00 30 10	General Statement for Existing Conditions Information	<input type="checkbox"/>
00 30 20	General Statement for Environmental Assessment Information	<input checked="" type="checkbox"/>
00 30 30	General Statement for Hazardous Building Materials Inspection and Inventory	<input type="checkbox"/>
00 30 40	General Statement for Subsurface Geotechnical Report	<input checked="" type="checkbox"/>
00 30 50	General Statement for Elevator Agreement	<input checked="" type="checkbox"/>
00 30 60	General Statement for FM Global Checklist for Roofing Systems	<input checked="" type="checkbox"/>
00 30 70	General Statement for "Statement of Special Inspections"	<input checked="" type="checkbox"/>
00 30 80	General Statement for Other Information	<input checked="" type="checkbox"/>

---

<b>00 30 10</b>	<b>GENERAL STATEMENT FOR EXISTING CONDITIONS INFORMATION</b>	Not Used <input type="checkbox"/>
-----------------	--	-----------------------------------

---

- A. “Existing Conditions Information”** for this project is located in **Division 50 00 00 Project-Specific Available Information, Section 50 10 00 Existing Conditions Information** at the end of the Technical Specification Sections.
1. The information is made available for the convenience of all Bidders and is not a part of the Contract.
  2. All Bidders must interpret this information according to their own judgment and acknowledge that they are not relying upon the information shown as accurately describing the conditions which may be found to exist.
  3. Other components of the information, including but not limited to recommendations, may not be relied upon by the Bidders. The Owner shall not be responsible for any interpretation.
  4. All Bidders further acknowledge that they assume all risk contingents upon the nature of the existing conditions which shall be actually be encountered by them.
  5. All Bidders should visit the site and become acquainted with all existing conditions in relationship to this information and may make their own investigations to satisfy themselves as to the existing conditions. Such investigations shall be conducted only under time schedules and arrangements approved in advance by the Owner.
- B. Test Report: Asbestos Analysis of Bulk Materials:** Includes testing summary of existing conditions in plenum under Auditorium at Project site.

---

<b>00 30 20</b>	<b>GENERAL STATEMENT FOR ENVIRONMENTAL ASSESSMENT INFORMATION</b>	Not Used <input checked="" type="checkbox"/>
-----------------	---	--

---

---

<b>00 30 30</b>	<b>GENERAL STATEMENT FOR HAZARDOUS BUILDING MATERIALS INSPECTION AND INVENTORY</b>	Not Used <input checked="" type="checkbox"/>
-----------------	--	--

---

- A. “General Statement For Hazardous Building Materials Inspection And Inventory”** for this project is located in **Division 50 00 00 Project-Specific Available Information, Section 50 10 00 Existing Conditions Information** at the end of the Technical Specification Sections.
1. The information is made available for the convenience of all Bidders and is not a part of the Contract.
  2. All Bidders must interpret this information according to their own judgment and acknowledge that they are not relying upon the information shown as accurately describing the conditions which may be found to exist.
  3. Other components of the information, including but not limited to recommendations, may not be relied upon by the Bidders. The Owner shall not be responsible for any interpretation.
  4. All Bidders further acknowledge that they assume all risk contingents upon the nature of the existing conditions which shall be actually be encountered by them.
  5. All Bidders should visit the site and become acquainted with all existing conditions in relationship to this information and may make their own investigations to satisfy themselves as to the existing conditions. Such investigations shall be conducted only under time schedules and arrangements approved in advance by the Owner.
- B. Test Report: Asbestos Analysis of Bulk Materials:** Includes testing summary of existing conditions in plenum under Auditorium at Project site.

---

<b>00 30 40</b>	<b>GENERAL STATEMENT FOR SUBSURFACE GEOTECHNICAL REPORT</b>	Not Used <input checked="" type="checkbox"/>
-----------------	---	--

---

---

<b>00 30 50</b>	<b>GENERAL STATEMENT FOR ELEVATOR AGREEMENT</b>	Not Used <input checked="" type="checkbox"/>
-----------------	---	--

---

---

<b>00 30 60</b>	<b>GENERAL STATEMENT FOR FM GLOBAL CHECKLIST FOR ROOFING SYSTEMS</b>	Not Used <input checked="" type="checkbox"/>
-----------------	--	--

---

---

<b>00 30 70</b>	<b>GENERAL STATEMENT FOR "STATEMENT OF SPECIAL INSPECTIONS"</b>	<b>Not Used</b> <input checked="" type="checkbox"/>
-----------------	---	---

---

- A. The "Statement of Special Inspections" for this project is located in **Division 50 00 00 Project-Specific Available Information, Section 50 70 00 Statement of Special Inspections** at the end of the Technical Specification Sections.

---

<b>00 30 80</b>	<b>GENERAL STATEMENT FOR OTHER INFORMATION</b>	<b>Not Used</b> <input checked="" type="checkbox"/>
-----------------	--	---

---

**End of Section**  
**00 30 00 General Statements for Available Information**



**Certificate (of Authority)**

**DAS Construction Services Project No.:**

I  ,   
 (Signer's Name)<sup>1</sup> (Signer's Title)

of  , an entity lawfully organized and existing under the laws  
 (Name of Entity)

of  , do hereby certify that the following is a true and correct  
 (Name of State or Commonwealth)

copy of a resolution adopted on the  day of  , 20  by the governing body of  
 (Day)<sup>2</sup> (Month)<sup>2</sup> (Year)<sup>2</sup>

, in accordance with all of its documents of governance and  
 (Name Of Entity)

management and the laws of  and further certify that such resolution has not  
 (Name of State or Commonwealth)

been modified, rescinded or revoked, and is at present in full force and effect.

**RESOLVED:** that  ,   
 (Name of Signer of Contract Documents)<sup>3</sup> (Title of Signer of Contract Documents)<sup>3</sup>

of  is empowered and authorized, on behalf of the entity,  
 (Name of Entity)

to execute and deliver contracts and amendments thereto, and all documents required by the Governor, the Connecticut Department of Administrative Services, the Connecticut State Properties Review Board and the Office of the Attorney General associated with such contracts and amendments.

IN WITNESS WHEREOF, the undersigned has executed this certificate this  day of  , 20  .  
 (Day)<sup>4</sup> (Month)<sup>4</sup> (Year)<sup>4</sup>

(Signature)

(Print Name)

(Title)

**Reference Notes:**

- 1 The signer of this certificate must be someone *other than* the signer of the contract documents *except for* a sole managing member of an LLC or the sole officer or sole principal of a corporation. *If* the signer is a sole managing member of an LLC, *then* along with this certificate the signer must provide a letter on company letterhead that indicates the signer is a sole member and managing member. If the signer is the sole officer or sole principal of a corporation, then the signer must provide with the certificate a letter on company letterhead setting forth this fact.
- 2 This date must be on or before the **date of signing** of the Bid Proposal (or Contract).
- 3 This person shall sign the Contract and other required documents.
- 4 This date must be on or after the **date of signing** of the Bid Proposal (or Contract).

**For Your Information:**

**Certificate (of Authority)**

**All Bidders:**

**Complete page 1, print, sign, and scan to PDF. Upload the PDF form to BizNet.**

What the **Certificate** is saying is that the organization authorized the signatory to sign the pertinent **documents other than** the Certificate (of Authority) and that, as of the date of **execution** of the CERTIFICATE (i.e., the date set forth in the "In Witness Whereof" blanks) there has been no change in that authorization.

**Instructions For Completing The Certificate (of Authority)**

**The Certificate (of Authority) to Accompany the Bid Proposal Form:**

**1. 1<sup>st</sup> Paragraph:**

- 1.1 First, enter the name and title of the individual signing the Certificate (of Authority).
- 1.2 Second, enter the legal name of the entity (exactly as it is shown on the Secretary of State registry).
- 1.3 Third, enter the name of the state or commonwealth the entity is registered in.
- 1.4 Fourth, enter the date the resolution was adopted by the governing body. This **date** is **on or before** the date the **Bid Proposal** is signed.
- 1.5 Fifth, enter the name of the state or commonwealth the entity is registered in.

**2. 2<sup>nd</sup> Paragraph:**

- 2.1 First, enter the name and title of the individual signing bid documents for the entity.
- 2.2 Second, enter the legal name of the entity (exactly as it is shown on the Secretary of State registry).

**3. Last Paragraph:**

- 3.1 Enter the **Witness Date**<sup>1</sup>. This date will likely be the date of execution of the **Bid Proposal form**.

<sup>1</sup> ***This Witness Date Should Not Be Before The Date Of Execution Of The Bid Proposal.***

**The Certificate (of Authority) to Accompany the Contract:**

**1. 1<sup>st</sup> Paragraph:**

- 1.1 First, enter the name and title of the individual signing the Certificate (of Authority).
- 1.2 Second, enter the legal name of the entity (exactly as it is shown on the Secretary of State registry).
- 1.3 Third, enter the name of the state or commonwealth the entity is registered in.
- 1.4 Fourth, enter the date the resolution was adopted by the governing body. This **date** is **on or before** the date the **Contract** is signed.
- 1.5 Fifth, enter the name of the state or commonwealth the entity is registered in.

**2. 2<sup>nd</sup> Paragraph:**

- 2.1 First, enter the name and title of the individual signing contract documents for the entity.
- 2.2 Second, enter the legal name of the entity (exactly as it is shown on the Secretary of State registry).

**3. Last Paragraph:**

- 3.1 Enter the **Witness Date**<sup>1</sup>. This date will likely be the date of execution of the **Contract**.

<sup>1</sup> ***This Witness Date Should Not Be Before The Date Of Execution Of The Contract.***

**End of Section 00 40 14 Certificate (of Authority)**



**Bid Proposal Form**

**DAS ● Construction Services ● Office of Legal Affairs, Policy, and Procurement**  
**450 Columbus Boulevard, Suite 1302 ● Hartford, CT 06103**

**Date and Time of Bid Opening:** See page 1 of Section 00 11 16 Invitation To Bid.

**Instructions for On-Line Bidding:** Follow the instructions in [6001 Construction On-line Bidding Instructions](#), available for download from the DAS/CS Library (<http://portal.ct.gov/DASCSLibrary>) > 6000 Series – Bid Phase Forms. For questions, call 860-713-5794 or 860-713-5783.

**Instructions for Completing This Bid Proposal Form:**

- **Download** and **save** the Bid Proposal Form to your computer. Close the form. Open your *saved* Bid Proposal Form and type required information in blue boxes. (Remember to keep saving to your computer.)
- On your Word Toolbar, **click “View” then “Edit Document” or “Print Layout”** in order to edit the form.
- When your Bid Proposal Form is complete, perform a final “save” to your computer! **Print ALL pages and sign** your Bid Proposal Form. **Scan ALL** pages of your Bid Proposal Form to **PDF**. Upload the **PDF** Bid Proposal Form to BizNet.
- **Duly Authorized Signature:** A duly authorized representative of the Bidder or Bidder’s partnership, firm, corporation or business organization must sign the Bid Proposal Form.
- **No Facsimile Signature** is permitted. **All information below** is to be filled in by the **Bidder**.
- *If an Addendum is issued that **changes** the **Bid Proposal Form** then the **Revised Bid Proposal Form** (issued with the Addendum) **must** be uploaded instead.*
- Upload to BizNet **only** the additional **Bid Package Documents** as described in **Table 1** of **Section 00 41 10 Bid Package Submittal Requirements**.
- A signed and scanned **Certificate (of Authority)**, **Section 00 40 14**, **must** be uploaded to Biznet **prior** to the date and time of the Bid Opening.
- *Any **Bid Proposal Form** that has omitted or added items, altered the form, contains conditional, alternative, or obscure bids, or is submitted *without* the signature of the bidder or its authorized representative, **will be rejected**.*
- See **Section 00 21 13 Instructions to Bidders** for additional information.

**1.0 General Bid Proposal Information:**

<b>Project Title:</b>	SCSU Lyman Center HVAC/Electrical Renovations
<b>Project Location:</b>	501 Crescent Street New Haven, CT
<b>Project Number:</b>	<b>BI-RS-357BP1</b>
<b>Construction Costs:</b>	Less Than or Equal To \$500,000
<b>Bidding Limited To :</b>	Current DAS Certified Connecticut Set-Aside Contractors Only
<b>Threshold Limits: (C.G.S. §29-276b)</b>	This Project DOES NOT exceed Threshold Limits.
<b>Set Aside Requirements:</b>	SBE Subcontractors and/or Suppliers: None Required; MBE Subcontractors and/or Suppliers: Good Faith Effort
<b>Pre-Bid Meeting:</b>	See <b>Section 00 11 16 Invitation to Bid</b> and <b>Section 00 25 13 Pre-Bid Meeting</b> .
<b>Plans and Specifications prepared by A/E:</b>	Friar Architecture Inc., 21 Talcott Notch Road, Farmington, CT 06032

**1.1 Commencement and Acceptance:** (See Section 00 73 13 General Conditions, Article 4 - Commencement and Progress of Work and Article 1 - Definitions)

The Selected Bidder shall commence Work within **fourteen (14) Calendar Days** after receiving a “**Construction Start Date and Notice to Proceed**” by the Commissioner or authorized representative and continue for 

120
90

**Calendar Days** for “**Substantial Completion**” of the project; and then continue 

90
----

**Calendar Days** for “**Acceptance**” of the Work.

**1.2 Liquidated Damages:** (See Section 00 73 13 General Conditions, Article 8 – Damages & Article 1 - Definitions)

**1.2.1 Liquidated Damages – Substantial Completion:**

The Selected Bidder shall be assessed \$ 

2,214.00
----------

 per **Calendar Day** beyond the date established for Substantial Completion of the Contract according to the **Contract Time** as defined in **Article 1.28 of Section 00 73 13 General Conditions**, and not otherwise excused or waived pursuant to the Contract Documents, as defined in **Article 1.23 of Section 00 73 13 General Conditions**.

**1.2.2 Liquidated Damages – Acceptance:**

The Selected Bidder shall be assessed \$ 

1,602.00
----------

 per **Calendar Day** beyond ninety (90) days after the date of said Substantial Completion that the Selected Bidder fails to achieve **Acceptance**, as defined in **Article 1.1 of Section 00 73 13 General Conditions** and not otherwise excused or waived as described above.

**1.3 Bid Proposal Statements and Conditions:** This **Bid Proposal Form** shall be submitted according to, and in compliance with, the foregoing and following statements, conditions, and/or information:

**1.3.1** This Bid Proposal Form is submitted in accordance with Chapter 60 Construction And Alterations Of State Buildings, Part II Bidding And Contracts of the Connecticut General Statutes (C.G.S.), as amended, particularly C.G.S. § 4b-91(a)(5)(A) – (C), and pursuant to, and in compliance with, the **Invitation to Bid** (Section 00 11 16), the **Instructions to Bidders** (Section 00 21 13), the **Bid Package Submittal Requirements** (Section 00 41 10), and the **Contract** (Section 00 52 03).

**1.3.2** The Bidder proposes to furnish the labor and/or materials, installed as required for the Project named and numbered on this **Bid Proposal Form**, 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, but not limited to, the specifications and/or drawings together with all **Addenda** issued by the Awarding Authority and received by the Bidder, prior to the scheduled **Date and Time of the Bid Opening** as stated on **page 1** of the **Invitation To Bid**, and in conformity with requirements of the Awarding Authority 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 this **Bid Proposal Form**, hereof.

**1.3.3** The Bidder acknowledges that the **Proposed Lump Sum Base Bid** submitted on this **Bid Proposal Form** includes all work indicated on the drawings and/or described in the specifications, except for the **Contingent Work** described in **Subsection 2.4**.

**1.3.4** The Bidder acknowledges and agrees to furnish all labor and materials required for this **Project**, in accordance with the accompanying **Plans and Specifications** prepared by the **Architect/Engineer** listed on **page 1** of this Bid Proposal Form, for the **Contract Sum** specified in the **Proposed Lump Sum Base Bid** in **Subsection 2.1** of this Bid Proposal Form, subject to **additions** and **deductions** according to the terms of the specifications, and including the number of **Addenda** stated in **Subsection 2.2** of this Bid Proposal Form.

**1.4 Award:**

**1.4.1** All Bid Proposals shall be subject to the provisions of **Section 00 21 13 Instructions to Bidders** and for purpose of award, consideration shall be given only to Bid Proposals submitted by qualified and responsible Bidders.

**1.4.2** The award shall be made on the **lowest Lump Sum Bid** and any or all **Supplemental Bid(s)** as stated in **Subsection 2.4.2** of this **Bid Proposal Form**, taken sequentially, as applicable, provided funds are available.

**1.4.4** In the event of any **discrepancy** between the amount written in words and the amount written in numerical figures, the amount written in words shall be controlling.

**2.0 Bid Proposal Requirements:**

**Bidder Information:**

**Bid Uploaded On:**     
 (Month) (Day) (Year)

**Proposal Of:**   
 (Complete Bidder's Legal Company Name As Registered With the CT Secretary of State)

**Firm Address:**  ,  ,    
 (Avenue / Street) (Town / City) (State) (Zip Code)

**Contact Person:**    
 (Name) (Title)

**Contact Information:**     
 (Phone Number) (Fax Number) (Email Address)

**Threshold Project: Major Contractor Registration License No.:**

All Bidders for Projects that exceed Threshold Limits (see page 1 of this Bid Proposal Form): Insert your Firm's Major Contractor Registration License Number in the space provided above. **NOTE: If this Project does NOT exceed Threshold Limits, insert "Not Applicable" in the blue box above. Delete this note by pressing the spacebar.**

**2.1 Proposed Lump Sum Base Bid:**

**2.1.1 All Bidders:** Insert the **Proposed Lump Sum Base Bid** in the spaces provided below, including **both numerical figures** and **"printed words" dollar amount**. The **Proposed Lump Sum Base Bid** shall include all Allowances, all work indicated on the drawings and/or described in the specifications except for **Contingent Work**.

**2.1.2** The **Proposed Lump Sum Base Bid** shall be shown in **both numerical figures** and **"printed words" dollar amount**. In the event of any discrepancy the **"printed" words dollar amount** shall govern.

**2.1.3** The **Proposed Lump Sum Base Bid** is:

\$   
 (Place Numerical Figures in the Box Above)

**Dollars**  
 (Insert "Printed Words" Dollar Amount in the Box Above)

**2.2 Number of Addenda:**

**2.2.1 All Bidders:** Insert the **Number of Addenda** issued by the State of Connecticut in the space provided below.

**2.2.2** Failure to acknowledge the **correct number** of all **Addenda** in **the box below** in this **Bid Proposal Form** shall cause **rejection** of the bid.

**2.2.3** The Bidder acknowledges that their **Proposed Lump Sum Base Bid Proposal** includes:

**Number of Addenda. If none, enter "0".**

**2.3 Allowances:**

See Section 01 20 00 Contract Considerations in Division 01 General Requirements for Allowances for applicability.

**2.4 Contingent Work:**

**2.4.1 Base Bid Quantities and Defined Unit Prices:** See **Section 01 20 00 Contract Considerations** in Division 01 General Requirements for **applicability** regarding Base Bid Quantities and Defined Unit Prices for Earth and Rock Excavation, Miscellaneous Items, Alterations Items, Environmental Remediation, and/or Hazardous Building Materials Abatement.

**2.4.2 Supplemental Bids:**

.1 See **Section 01 23 13 Supplemental Bids** in Division 01 General Requirements for **applicability**.

.2 **All Bidders: If Supplemental Bids are applicable** to this Project, insert the **Supplemental Bids** in the spaces provided below. Any **Supplemental Bids** listed below, *if* accepted by the Owner, will be taken cumulatively and in numerical order as scheduled. No Supplemental Bid will be skipped or taken out of numerical order as scheduled.

<b>Supplemental Bid No. 1: NOT APPLICABLE</b>		
ADD: \$	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
	<i>(Insert Numerical Figures)</i>	<i>(Insert "Printed Words" Dollar Amount)</i>
<b>Supplemental Bid No. 2: NOT APPLICABLE</b>		
ADD: \$	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
	<i>(Insert Numerical Figures)</i>	<i>(Insert "Printed Words" Dollar Amount)</i>
<b>Supplemental Bid No. 3: NOT APPLICABLE</b>		
ADD: \$	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
	<i>(Insert Numerical Figures)</i>	<i>(Insert "Printed Words" Dollar Amount)</i>
<b>Supplemental Bid No. 4: NOT APPLICABLE</b>		
ADD: \$	<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>
	<i>(Insert Numerical Figures)</i>	<i>(Insert "Printed Words" Dollar Amount)</i>

**2.5 Bidder's Qualification Statement and Objective Criteria for Evaluating Bidders:**

**2.5.1 All Bidders:** Download **Section 00 45 14 General Contractor Bidder's Qualification Statement** from BizNet for a template and instructions. Complete and upload **Section 00 45 14 General Contractor Bidder's Qualification Statement** to Biznet **prior** to the date and time of the Bid Opening. Information with regards to the **General Contractor's Bidder's Qualification Statement** is submitted and is made part of this **Bid Proposal Form**. Failure of a Bidder to answer any question or provide required information **shall** be grounds for the awarding authority to **disqualify** and **reject** the bid, pursuant to Connecticut General Statutes §4b-92.

**2.5.2 All Bidders** shall comply with **Section 00 45 15 Objective Criteria Established for Evaluating Qualifications of Bidders**. **Note:** Individual Specification Sections may contain General Contractor and/or Subcontractor Qualification requirements that exceed those in **Section 00 45 15 Objective Criteria Established for Evaluating Qualifications of Bidders**.

**2.6 Prequalification Requirements for Projects Exceeding \$500,000:**

**2.6.1 All Bidders for Projects with estimated Construction Costs greater than \$500,000:** Upload to BizNet a current copy of your Firm's "**DAS Contractor Prequalification Certificate**" and "**Update (Bid) Statement**" for the applicable **Class of Work** on **page 1** of this **Bid Proposal Form** **prior** to the date and time of the Bid Opening. Failure to comply with this requirement **shall** cause rejection of the bid and shall not be considered a minor irregularity under **C.G.S. § 4b-95**. See **Section 00 40 15 CT DAS Prequalification Forms** for instructions on preparing and/or downloading your Firm's "**DAS Contractor Prequalification Certificate**" and "**DAS Update (Bid) Statement**".

**2.6.2 Named Subcontractor(s) for Subcontracts exceeding \$500,000:** The **Named Subcontractor(s)** **must** be "**prequalified**" by DAS in the **Class of Work** specified in **Table 2.7** of this **Bid Proposal Form** *at the time of bid submission*, pursuant to **C.G.S. §4b-91(j)** and **C.G.S. § 4a-100**, as amended, to the extent the Class of Work for the Named Subcontractor is a Prequalification Classification. This requirement also applies to the Bidder, if the Bidder is a

Named Subcontractor. Failure to comply with this requirement **shall** cause rejection of the bid and shall not be considered a minor irregularity under **C.G.S. § 4b-95**.

**2.7 Named Subcontractors and Classes of Work:**

**2.7.1 All Bidders for Projects with one or more Classes of Work checked in Table 2.7 below:** Complete **Table 2.7** according to the instructions below. Failure to properly provide **all** of the **required information** in **Table 2.7** may cause **rejection** of the bid.

**Table 2.7: Named Subcontractors and Classes of Work:**

<input type="checkbox"/>	<b>Electrical Work: NOT APPLICABLE</b>	Complete Subcontractor Name:	
		Proposed Dollar Value of Subcontract:	\$
<input type="checkbox"/>	<b>HVAC Work: NOT APPLICABLE</b>	Complete Subcontractor Name:	
		Proposed Dollar Value of Subcontract:	\$
<input type="checkbox"/>	<b>Masonry Work: NOT APPLICABLE</b>	Complete Subcontractor Name:	
		Proposed Dollar Value of Subcontract:	\$
<input type="checkbox"/>	<b>Plumbing Work: NOT APPLICABLE</b>	Complete Subcontractor Name:	
		Proposed Dollar Value of Subcontract:	\$
<input type="checkbox"/>	<b>Environmental Remediation: NOT APPLICABLE</b>	Complete Subcontractor Name:	
		Proposed Dollar Value of Subcontract:	\$
<input type="checkbox"/>	<b>Hazardous Materials Abatement: NOT APPLICABLE</b>	Complete Subcontractor Name:	
		Proposed Dollar Value of Subcontract:	\$

**2.7.2 Instructions For Table 2.7:**

- .1 Each **Class of Work** set forth in a separate section of the specifications pursuant to this Section shall be a **subtrade** designated in **Table 2.7** of this **Bid Proposal Form** and shall be the matter of a **subcontract**.
- .2 For each **Class of Work** checked in **Table 2.7**, the Bidder shall insert the name of each **Subcontractor** with their **Proposed Dollar Value of Subcontract**; this is known as the **“Named Subcontractor”**. If the Bidder intends to use **more than one** Subcontractor to perform a Class of Work, then it shall provide **ALL** of the Subcontractor Names and Proposed Dollar Values of **each Subcontract in excess of \$100,000**.
- .3 If a Bidder intends to use **one or more Subcontractors** to perform **any portion** of the Named **Classes of Work**, including circumstances where the Subcontractor is a Small Business Enterprise (SBE) or a Minority Business Enterprise (MBE), **then** it must list **ALL** of the Subcontractors or SBE/MBE Subcontractors as the case may be, for such Class of Work. A Bidder may **not** substitute itself for any of the Named Classes of Work. The Bidder **should not list itself** as the **Named Subcontractor** if it intends to use a **Subcontractor** to perform any portion of the Classes of Work listed in **Table 2.7**. The Bidder should name the Subcontractor.
- .4 If a Bidder customarily performs any of the specified Classes of Work and is Prequalified by DAS for the Class of Work at *the time of the Bid Opening Date* if the work is greater than \$500,000, the Bidder may list **itself** as a Subcontractor together with its **price** in the space provided in **Table 2.7**. Failure to properly provide **all** of the **required information** in **Table 2.7** **shall** cause **rejection** of the bid.
- .5 If the Bidder does **not** name **itself** or a **Subcontractor** for a specified Class of Work, it shall be presumed that the Bidder intends to perform with its own employees **all work** in such specified classes. The Bidder shall be required to perform with its own employees **all** of the work of the specified class. Subcontracting any portion of such specified class of work subsequently, will be considered a violation of **C.G.S. § 4b-95** and subject the Bidder to disqualification under **C.G.S. § 4b-95(e)**.
- .6 In the event that the Bidder names a Subcontractor to perform some, but not all, of the separate section of the specifications for a particular Class of Work, then it will be presumed, in addition, that the Bidder intends to perform the balance of the Class of Work. Post-bid, the Bidder cannot substitute a Subcontractor for one named in the Bid Proposal Form or bring in a Subcontractor for any designated subtrade work presumed to be performed by the General Contractor's own forces, except for "Good Cause" as determined by the awarding authority.

.7 In the event the Bidder either lists itself or is presumed to perform with its own employees all work in a specified class, no such sub-bid by a Bidder shall be considered unless the Bidder can show to the satisfaction of the awarding authority, based on objective criteria established for such purpose, that it customarily performs such subtrade work and is qualified to do the character of work required by the applicable section of the specifications.

**2.8 Set Aside Requirements:** (see Section 00 73 38 "CHRO Contract Compliance Regulations")

**2.8.1 For Projects Less Than \$500,000:** Submit a current copy of your Firm's "DAS Set-Aside Certificate" *with* your Bid Proposal Form *prior* to the date and time of the Bid Opening.

**2.8.2 For Projects Less Than \$500,000:** Upload a completed copy of the CHRO Employment Information Form, "Bidder Contract Compliance Monitoring Report" *with* your Bid Proposal Form *prior* to the date and time of the Bid Opening. The report is on the CHRO Webpage (<http://www.ct.gov/chro/cwp/view.asp?a=2525&Q=315900&chroPNavCtr=#45679>).

**2.8.3 All Bidders shall be required** to award not less than the percentage(s) stated on **page 1 of this Bid Proposal Form** to Subcontractors who are currently certified and eligible to participate under the State of Connecticut Set-Aside Program for **SBE and/or MBE** contractors, in accordance with C.G.S.§ 4a-60g. **Failure** to meet these requirements **shall** cause **rejection** of the bid.

**2.9 Insurance Coverages:** The **limits of liability** for the Insurance required for this project shall be those listed in **Article 35 Contractors Insurance of Section 00 73 13 General Conditions**. Also see Section 00 62 16 Certificate of Insurance.

**2.9.1 Commercial General Liability Insurance:** The Bidder **shall** maintain Commercial General Liability Insurance. **NOTE:** All selected firms are required to provide an endorsement to the CGL insurance stating that the State of Connecticut, the Department of Administrative Services, and their respective officers, agents, and employees shall be named as an Additional Insured. Please be advised that a blanket endorsement **may not** be acceptable. Products/Completed Operations insurance shall be maintained for the duration of the Project and shall be maintained for a minimum of **three (3) years** after certification by the Owner that all Work has been completed and accepted by the Owner in accordance with the Contract Documents. CGL coverage may include **Special Hazards Insurance**, as described below.

**2.9.2 Special Hazards Insurance:**

- None is Required.
- The Bidder **shall** maintain Special Hazards Insurance, including coverage for **explosion, collapse or underground damage (X-C-U)**.
- The Bidder **shall** maintain Special Hazards Insurance, including coverage for **Asbestos Abatement and Lead Liability**.

**2.9.3 Owner's and Contractor's Protective Liability Insurance:** The Bidder **shall** maintain Owner's and Contractor's Protective Liability Insurance. This coverage shall be for and in the name of the State of Connecticut.

**2.9.4 Automobile Liability Insurance:** The Bidder **shall** maintain Automobile Liability Insurance for the operation of all motor vehicles including those owned, non-owned and hired or used in connection with the Contract. Should the Bidder not own any automobiles, the automobile & liability requirement shall be amended to allow the Bidder to maintain only hired and non-owned liability coverage.

**2.9.5 Umbrella Liability Insurance:** The Bidder **shall** maintain Umbrella Liability Insurance. The Bidder shall provide an endorsement to the Umbrella Liability Insurance stating that the State of Connecticut is an additional insured.

**2.9.6 Workers Compensation/Employer Liability Insurance:** The Bidder **shall** maintain Workers Compensation/Employer Liability Insurance.

**2.9.7 Builder's Risk Insurance:**

- None is Required.
- The Bidder **shall** maintain Builder's Risk Insurance providing coverage for the entire Work at the project site, portions of the Work located away from the site but intended for use at the site, and portions of the Work in transit. Coverage shall be written on an All-Risk, Replacement Cost, and completed Value Form basis in an amount at least equal to the projected completed value of the Work. Prior to the Owner's issuance of a Notice to Proceed, the Contractor shall provide coverage for the entire Work in an amount equal to the total contract amount and any additional modifications. The Owner and its officers, agents and employees shall be listed as loss payee subject to the prior review of the Owner, and not as an additional insured for these coverages. The Builder's Risk Insurance policy shall state it is for the benefit of and payable to the State of Connecticut. The **Period of Coverage** shall be the number of Calendar Days from Construction Start Date to Substantial Completion as stated in the Bid Proposal Form of the Project Manual, plus ninety (90) Calendar Days to Acceptance of the Work.

**2.9.8 Inland Marine/Transit Insurance (Transportation Insurance):**

- None is Required.



- The Bidder **shall** maintain Inland Marine/Transit Insurance (Transportation Insurance) provided the coverage is not afforded by a Builder's Risk policy. The Inland Marine/Transit Insurance policy shall endorse the State of Connecticut as a Loss Payee and the policy shall state it is for the benefit of and payable to the State of Connecticut.

### 3.0 Bid Proposal Acknowledgements:

The Bidder *acknowledges and agrees to the following:*

#### 3.1 To Upload to BizNet Submit the Bid Proposal Form (all pages), All Other Bid Documents, Affidavits, and Certifications:

- 3.1.1 The Bidder acknowledges and agrees to electronically upload to DAS BizNet **all pages** of the **Bid Proposal Form**, and all other **Bid Documents, Affidavits, and Certifications** as directed in **Section 00 11 16 Invitation to Bid, Section 00 21 13 Instructions to Bidders**, and **Section 00 41 10 Bid Package Submittal Requirements**.
- 3.1.2 The State may waive minor irregularities which it considers in the best interest of the State and, when applicable, are corrected by the Bidder within seven (7) Calendar Days after the Bid Due Date. Failure to properly complete, sign and upload any of the items marked with an asterisk (\*) in **Table 1 of Section 00 41 10 Bid Package Submittal Requirements** **shall** cause rejection of the bid and **shall not** be considered a minor irregularity under **C.G.S. § 4b-95**.
- 3.1.3 If there are any delays in the receipt of other documents then the Bid shall remain valid for the same additional number of days. For example, if the documents are submitted four (4) Calendar Days later; then the bid shall remain valid for ninety-four (94) Calendar Days.
- 3.1.4 Failure to submit the documents before the stated deadline **may** result in rejection of the bid at the sole discretion of the Commissioner of Administrative Services.

#### 3.2 To Hold Bid Price:

The Bidder acknowledges and agrees to hold the **Proposed Lump Sum Base Bid** in **Subsection 2.1** of this Bid Proposal Form for **ninety (90) Calendar Days** and any extensions caused by the Bidder's delays in required submissions. The Bidder and the State may mutually agree to extend this period. The agreement to extend the **ninety (90) Calendar Day** period may occur after the expiration of the original **ninety (90) Calendar Day** period.

#### 3.3 To Use and Accept Allowances:

When applicable to this Project, the Bidder **acknowledges and agrees** to accept and use the **Allowances** as shown in **Section 01 20 00 Contract Considerations** of Division 01 General Requirements as part of the **Proposed Lump Sum Base Bid** listed in **Subsection 2.1** of this Bid Proposal Form.

#### 3.4 To Use and Accept the Following Contingent Work:

- 3.4.1 **Unit Prices:** When applicable to this Project, the Bidder **acknowledges and agrees** to accept and use the **Units, Add Unit Prices, and Deduct Unit Prices** as shown in **Section 01 20 00 Contract Considerations** of Division 01 General Requirements in evaluating either additions to or deductions from the Work.
- 3.4.2 **Supplemental Bid:** When applicable to this Project and if accepted by the Owner, the Bidder **acknowledges and agrees** to provide all labor, material and equipment to complete the Work in accordance with the **Supplemental Bid** described in **Section 01 23 13 Supplemental Bids** of Division 01 General Requirements and provided by the **Bidder** in **Subsection 2.4.2** of this Bid Proposal Form.

#### 3.5 To Use the Named Subcontractors Listed in Table 2.7:

- 3.5.1 The Bidder **agrees** that each of the **Named Subcontractors** stated in **Table 2.7** of this Bid Proposal Form will be used for the **Class of Work** indicated, for the **Proposed Total Subcontract Value dollar amount stated**, **unless** a **substitution** is permitted by the awarding authority as provided for in and in accordance with C.G.S. § 4b-96, as amended.
- 3.5.2 **For Named Subcontractor(s) with Subcontracts exceeding \$500,000**, the Bidder acknowledges that the **Named Subcontractor(s)** **must** be "prequalified" by DAS in the **Class of Work** specified in **Table 2.7** of this **Bid Proposal Form** *at the time of bid submission*, pursuant to **C.G.S. §4b-91(j)** and **C.G.S. § 4a-100**, as amended, to the extent the Class of Work for the Named Subcontractor is a Prequalification Classification. In addition, the Bidder agrees to submit within *ten (10) Calendar Days* after receipt of the "Set-Aside Contractor Schedule Request" the current DAS Prequalification Certificate(s) and Update (Bid) Statement(s) for each Named Subcontractor in Table 2.7 of this Bid Proposal Form.

**3.0 Bid Proposal Acknowledgements (continued):****3.6 To Make Good Faith Efforts to Employ MBEs:**

The Bidder acknowledges and agrees to make **good faith efforts** to employ **Minority Business Enterprises (MBEs)** as **Subcontractors** and **Suppliers** of materials under such Contract.

**3.7 To Submit a Certified Check or Bid Bond (if required):**

The Bidder acknowledges and agrees to submit a **Certified Check** or **Standard Bid Bond** *prior* to the due date and time of the Bid Opening (if required). Download **Section 00 43 16 Standard Bid Bond** from BizNet for a template and instructions.

**3.8 To Accept the Current Prevailing Wage Rate Schedule:**

The U. S. Secretary of Labor's latest decision and the State of Connecticut Department of Labor (DOL) Prevailing Wage Rate Schedule are all incorporated in the documents. The higher rate (Federal or State) for any given occupation shall prevail. At the time of bidding, the Bidder agrees to accept the current Prevailing Wage Rate Schedule, as well as the annual adjustment to the prevailing wage rate that is in effect each July 1st, as provided by DOL. See **Section 00 73 44 Prevailing Wage Rates/Contractor's Wage Certification/Payroll Certification**. Annual adjustments of prevailing wage rates will **not** be considered a matter for a contract amendment with DAS/CS.

**3.9 To Comply With CHRO Requirements:**

If applicable, the Apparent Low Bidder acknowledges and agrees to provide the Commission on Human Rights and Opportunities with such information as is requested by the Commission concerning their **employment practices and procedures** as they relate to the current provisions of the Connecticut General Statutes governing Contract requirements within **fifteen (15) calendar days after** receipt of the "Request for the *Affirmative Action Plan and Employment Information Form Letter*" from the DAS/CS Office of Legal Affairs, Policy, and Procurement.

**3.10 To Ensure Executive Order No. 11246 for Equal Employment Opportunity & Non-Segregated Facilities Has Been Met:**

The Apparent Low Bidder acknowledges and agrees to ensure that Executive Order No. 11246 for Equal Employment Opportunity & Non-Segregated Facilities has been met for their firm and their Subcontractors. The Apparent Low Bidder also agrees to certify (if required) to the compliance of non-segregated facilities.

**3.11 To Obtain and Maintain Required Insurance Coverages:**

The Bidder acknowledges and agrees to obtain and maintain the required Insurance Coverages and submit the Firm's "**Certificate of Liability Insurance Acord® form**" within **ten (10) business days after** receipt of the "Letter of Intent" from the DAS/CS Office of Legal Affairs, Policy, and Procurement, as discussed in **Section 00 62 16 Certificate of Insurance** and **Article 35, "Contractors Insurance"** in **Section 00 73 13 General Conditions**.

**3.12 To Comply With Security Requirements for CT Department of Correction Facilities:**

When applicable to this Project, the Bidder acknowledges and agrees to comply with **Section 00 73 63 CT Department of Correction (CT DOC) Security Requirements** for Contract Forces on CT DOC Facilities.

**3.13 To Ensure C.G.S. § 12-430 for Non-Resident Contractors Has Been Met:**

If applicable, the Apparent Low Bidder acknowledges and agrees to provide either a copy of the "**Notice of Verified Status**" (Verification Letter) from the Connecticut Department of Revenue Services (DRS) (for **Verified Nonresident** General/Prime Contractors) or a copy of **Form AU-965 "Acceptance of Surety Bond"** from DRS (for **Unverified Nonresident** General/Prime Contractors) within **ten (10) business days after** receipt of the "Letter of Intent" from the DAS/CS Office of Legal Affairs, Policy, and Procurement which evidences that **C.G.S. § 12-430** for non-resident contractors has been met, as described in **Section 00 92 30 Procedures Regarding Taxation for Nonresident General/Prime Contractor and Subcontractors**.

**3.14 To Execute Contract:**

If selected as the Prime Contractor, the Bidder acknowledges and agrees to **execute a Contract** in accordance with the terms of this **Bid Proposal Form** and the **Contract** within **ten (10) Calendar Days** (legal State holidays excluded) **after** notification thereof by the awarding authority. See **Section 00 52 03 Contract** for a sample.



**4.0 Confidentiality of Documents:**

- 4.1** The **undersigned** agrees that if not selected as the Prime Contractor for this project, all plans and specifications in their possession for the project shall be destroyed.
- 4.2** The **undersigned** agrees that if selected as the Prime Contractor for this project:
- 4.2.1** The **plans and specifications** shall not be disseminated to anyone except for construction of this project.
- 4.2.2** The **following provision** shall be included in all of its contracts with subcontractors and sub-consultants:
- “Any and all drawings, specifications, maps, reports, records or other documents associated with the contract shall only be utilized to the extent necessary for the performance of the work and duties under this contract. Said drawings, specifications, maps, reports, records and other documents may not be released to any other entity or person except for the sole purpose of the work described in this contract. No other disclosure shall be permitted without the prior written consent of DAS Construction Services. When any such drawings, specifications, maps, reports, records or other documents are no longer needed, they shall be destroyed.”*
- 4.2.3** Upon completion of the construction and the issuance of a certificate of occupancy, the plans and specifications shall be returned to DAS Construction Services, or destroyed, or retained in a secure location and not released to anyone without first obtaining the permission of DAS Construction Services.

**5.0 Bid Proposal Declarations:**

I (we), the undersigned, hereby declare that I am (we are) the only person(s) interested in the Bid Proposal and that it is made without any connection with any other person making any Bid Proposal for the same work. No person acting for, or employed by, the State of Connecticut is directly or indirectly interested in this Bid Proposal, or in any Contract which may be made under it, or in expected profits to arise therefrom. This Bid 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 Proposal of any other person or corporation. This Bid 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 Bid Proposal is based solely on my (our) own investigation and research and not in reliance upon any representations of any employee, officer or agent of the State.

**6.0 Duly Authorized Signature:**

**Type of Business:** *(Check Applicable Box)*

<input type="checkbox"/> <b>Limited Liability Corporation (LLC)</b>  <input type="checkbox"/> <b>Partnership</b>  <input type="checkbox"/> <b>Sole Proprietor</b>  <input type="checkbox"/> <b>Doing Business As (d/b/a)</b> <i>(If d/b/a box is checked provide complete name below)</i> <input style="width: 100%;" type="text"/> <i>(Doing Business As Name)</i>	<input type="checkbox"/> <b>Corporation</b> <i>(If Checked, Provide Corporate Seal Below)</i>  <div style="border: 1px solid black; width: 100px; height: 100px; margin: 0 auto;"></div> <i>(Provide <u>exact</u> corporate name from corporate seal below)</i> <input style="width: 100%;" type="text"/> <i>(Name On Corporate Seal)</i>
--	---

<b>Signed:</b>	<input style="width: 90%;" type="text"/> <i>(Month)</i>	<input style="width: 90%;" type="text"/> <i>(Day)</i>	<input style="width: 90%;" type="text"/> <i>(Year)</i>
<b>Bidder's Signature:</b>	<input style="width: 100%;" type="text"/> <i>(Duly Authorized)</i>		<input style="width: 100%;" type="text"/> <i>(Title)</i>
	<input style="width: 100%;" type="text"/> <i>(Print Named)</i>		<input style="width: 100%;" type="text"/> <i>(Date)</i>



## Bid Package Submittal Requirements:

**DAS | Construction Services | Office of Legal Affairs, Policy, and Procurement  
 450 Columbus Boulevard, Suite 1302 | Hartford, CT 06103**

<b>1.1</b>	<b>On-Line Bidding:</b>
1.1.1	All Bidders shall <b>electronically</b> upload their <b>Bid Package Documents</b> to BizNet following the <b>instructions</b> in the DAS/CS publication, <a href="#">6001 Construction On-line Bidding Instructions</a> , available for download here: Go to the DAS Homepage ( <a href="http://www.ct.gov/DAS">www.ct.gov/DAS</a> ) > Doing Business With The State > State Building Construction > Publications and Forms > DAS Construction Services Library > 6000 Series > <b>6001 Construction On Line Bidding Instructions</b> .
1.1.2	For questions, call 860-713-5794.

<b>1.2</b>	<b>Bid Package Submittal Requirements:</b>
	All Bidders are required to <b>electronically upload Bid Package Documents</b> to BizNet <i>prior</i> to the date and time of the Bid Opening. Additional documents must be either <b>electronically uploaded</b> to BizNet or submitted as <b>paper copies</b> to the <b>appropriate Agency</b> . See Tables 1, 2, and 3 for specific submittal requirements.
1.2.1	<b>All Bidders:</b> See Table 1. <b>All Documents in Table 1 <u>must be electronically uploaded to BizNet.</u></b>
1.2.2	<b>Three (3) Apparent Lowest Bidders:</b> See Table 2.
1.2.3	<b>Apparent Low Bidder:</b> See Table 3.

<b>1.3</b>	<b>Deadlines for Receipt of Bid Package Documents:</b>
1.3.1	<b>Table 1:</b> Bid Package Documents must be uploaded to BizNet <i>prior</i> to the date and time of the Bid Opening. The State may waive minor irregularities that otherwise may cause rejection of a Bid only when waiving such minor irregularities is in the best interests of the State and the minor irregularities have been corrected by the Bidder within seven (7) Calendar Days after the Bid Due Date. Failure to properly <u>complete, sign and upload</u> to BizNet any of the items <b>marked with an asterisk (*)</b> in <b>Table 1 prior</b> to the date and time of the Bid Opening <b>shall cause rejection</b> of the bid and shall <b>not</b> be considered a minor irregularity under <b>Connecticut General Statutes (C.G.S.) § 4b-95</b> .
1.3.2	<b>Tables 2 and 3:</b> See the tables for additional deadlines. Failure to submit the documents before the stated deadlines <b>may</b> result in rejection of the bid at the sole discretion of the Commissioner of Administrative Services.

<b>1.4</b>	<b>Delays in Receipt of Supportive Documents from the Three Apparent Lowest Bidders:</b>		
1.4.1	If there are any delays in the receipt of the supportive documents specified in Tables 2 and 3, then the Bids shall remain valid for the same additional number of days. <table style="margin-left: 20px; border: none;"> <tr> <td style="width: 20px;">.1</td> <td>For example, since the <b>Three (3) Apparent Lowest Bidders</b> are required to <b>Hold The Bid Price</b> for <b>ninety (90) calendar days</b>, if supportive documents are submitted <b>four (4) calendar days later</b>, then the bid shall remain valid for <b>ninety-four (94) calendar days</b>.</td> </tr> </table>	.1	For example, since the <b>Three (3) Apparent Lowest Bidders</b> are required to <b>Hold The Bid Price</b> for <b>ninety (90) calendar days</b> , if supportive documents are submitted <b>four (4) calendar days later</b> , then the bid shall remain valid for <b>ninety-four (94) calendar days</b> .
.1	For example, since the <b>Three (3) Apparent Lowest Bidders</b> are required to <b>Hold The Bid Price</b> for <b>ninety (90) calendar days</b> , if supportive documents are submitted <b>four (4) calendar days later</b> , then the bid shall remain valid for <b>ninety-four (94) calendar days</b> .		
1.4.2	Failure to submit the documents before the stated deadline <b>may</b> result in rejection of the bid at the sole discretion of the Commissioner of Administrative Services.		

TABLE 1 ALL BIDDERS			
Construction Costs:		The Bid Proposal Form, Other Bid Package Documents, Affidavits, and Certifications <u>shall</u> be electronically uploaded to BizNet by <u>all</u> Bidders prior to the Date and Time of the Bid Opening.	Form Location
Less Than \$500,000	Greater Than \$500,000		
Bid Proposal Form and Other Bid Package Documents			
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	* Section 00 41 00 Bid Proposal Form	BizNet
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	* Section 00 43 16 Standard Bid Bond or Certified Check	BizNet
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	* Section 00 45 14 General Contractor Bidder's Qualification Statement	BizNet
	<input checked="" type="checkbox"/>	* DAS Prequalification Certificate	BizNet
	<input checked="" type="checkbox"/>	* DAS Update (Bid) Statement	BizNet
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Section 00 40 14 Certificate (of authority)	BizNet
<input checked="" type="checkbox"/>		DAS Set-Aside Certificate	BizNet
<input checked="" type="checkbox"/>		Bidder Contract Compliance Monitoring Report	CHRO Website
Affidavits and Certifications			
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	* Gift and Campaign Contribution Certification – OPM Ethics Form 1	BizNet
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	* Consulting Agreement Affidavit – OPM Ethics Form 5	BizNet
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	* Ethics Affidavit (Regarding State Ethics) – OPM Ethics Form 6	BizNet
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	* Iran Certification – OPM Ethics Form 7	BizNet
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Nondiscrimination Certification – Form A, B, C, D, or E	BizNet

**\* NOTE:** The State may waive minor irregularities that otherwise may cause rejection of a Bid only when waiving such minor irregularities is in the best interests of the State and the minor irregularities have been corrected by the Bidder within seven (7) Calendar Days after the Bid Due Date. Failure to properly complete, sign and upload to BizNet any of the items marked with an **asterisk (\*)** in **Table 1** prior to the date and time of the Bid Opening shall cause rejection of the bid and shall not be considered a minor irregularity under C.G.S. § 4b-95.

TABLE 2 THREE (3) APPARENT LOWEST BIDDERS			
Construction Costs:		WHEN APPLICABLE:	Form Location
Less Than \$500,000	Greater Than \$500,000	Submit within <b>ten (10) Calendar Days</b> <i>after</i> receipt of the “ <b>Set-Aside Contractor Schedule Request</b> ” from the DAS/CS Procurement Unit:	
	<input checked="" type="checkbox"/>	<b>Set-Aside Contractor Schedule</b> for each subcontracted SBE and/or MBE firm(s) (See Section 00 73 27 Set-Aside Contractor Schedule for a sample Request.)	<b>Email From DAS/CS Procurement Unit</b>
	<input checked="" type="checkbox"/>	<b>DAS Set-Aside Certificate(s)</b> for each subcontracted SBE and/or MBE firm(s) listed in the Set-Aside Contractor Schedule.	<b>Download from BizNet</b>
	<input checked="" type="checkbox"/>	<b>Section 00 45 17 Named Subcontractor Bidder’s Qualification Statements</b> for each Named Subcontractor listed in the Bid Proposal Form.	<b>Copy from Project Manual</b>
	<input checked="" type="checkbox"/>	<b>DAS Prequalification Certificate(s) and Update (Bid) Statement(s)</b> for each Named Subcontractor listed in the Bid Proposal Form <b>with Subcontracts greater than \$500,000.</b>	<b>Download from BizNet</b>

TABLE 3 APPARENT LOW BIDDER			
Construction Costs:		When Applicable, submit the following documents as noted:	Form Location
Less Than \$500,000	Greater Than \$500,000		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>If Contractor has 50 or more employees and/or the Project is equal to or greater than \$500,000, submit to CHRO:</b> Affirmative Action Plan and Employment Information Form (DAS-45).	<b>CHRO Website &amp; BizNet</b>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>Submit to DAS/CS Procurement Unit:</b> Copy of Transmittal Letter to confirm the Affirmative Action Plan was filed with CHRO.	<b>(copy of transmittal letter)</b>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>Submit to CT Department of Labor:</b> Contractors Wage Certification Form. See Section 00 73 44 Prevailing Wage Rates/Contractor’s Wage Certification/Payroll Certification.	<b>Copy from Project Manual</b>

Submit within <b>fifteen (15) calendar days</b> <i>after</i> receipt of the “ <b>Request for the Affirmative Action Plan and Employment Information Form Letter</b> ” from the DAS/CS Procurement Unit:			
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>If Contractor has 50 or more employees and/or the Project is equal to or greater than \$500,000, submit to CHRO:</b> Affirmative Action Plan and Employment Information Form (DAS-45).	<b>CHRO Website &amp; BizNet</b>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>Submit to DAS/CS Procurement Unit:</b> Copy of Transmittal Letter to confirm the Affirmative Action Plan was filed with CHRO.	<b>(copy of transmittal letter)</b>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>Submit to CT Department of Labor:</b> Contractors Wage Certification Form. See Section 00 73 44 Prevailing Wage Rates/Contractor’s Wage Certification/Payroll Certification.	<b>Copy from Project Manual</b>

TABLE 3 APPARENT LOW BIDDER (continued)			
Construction Costs:		Submit within <b>ten (10) business days</b> <i>after</i> receipt of the “Letter of Intent” from the DAS/CS Procurement Unit:	Form Location
Less Than \$500,000	Greater Than \$500,000		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>Section 00 40 14 Certificate (of authority)</b>	Email From DAS/CS Procurement Unit
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>Section 00 52 03 Contract</b>	Email From DAS/CS Procurement Unit
	<input checked="" type="checkbox"/>	<b>Section 00 52 73 Subcontract Agreement Form (Named &amp; Listed)</b>	Email From DAS/CS Procurement Unit
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>Certificate of Liability Insurance Acord® form</b> (See Section 00 62 16 Insurance Certificate Form for details)	Email From DAS/CS Procurement Unit
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>Certificate of Asbestos Abatement Liability Insurance</b> (for asbestos abatement only; see Section 00 62 16.1 Asbestos Abatement Liability Insurance for details)	Email From DAS/CS Procurement Unit
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>Section 00 92 10: Additional Forms</b>	<b>Performance Bond</b>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<b>Labor &amp; Material Bond</b>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<b>Surety Sheet</b>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<b>Bidder’s Certification: Financial Position &amp; Corporate Structure</b>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>Power of Attorney from the Surety Company</b>	Surety Company
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>Nonresident (Out of State) Contractors:</b> <u>Verified Nonresident</u> General/Prime Contractors must submit a copy of their “ <b>Notice of Verified Status</b> ” (Verification Letter) from the CT Department of Revenue Services (DRS). <u>Unverified Nonresident</u> General/Prime Contractors must submit a copy of <b>Form AU-965 “Acceptance of Surety Bond”</b> from the DRS. (See Section 00 92 30 Procedures Regarding Taxation for Nonresident General/Prime Contractor and Subcontractors for additional details.)	CT Department of Revenue Services
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>NEW: General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities:</b> For projects disturbing <b>one or more total acres of land area</b> , submit a copy of the signed <b>Stormwater Pollution Control Plan “Contractor Certification Statement”</b> and <b>License Transfer Form</b> , as directed by the DAS/CS Architect/Engineer, prior to commencement of any construction activities.	DAS/CS Architect/Engineer
	<input checked="" type="checkbox"/>	<b>Ethics Affidavit (Regarding State Ethics) OPM Ethics Form 6</b> for each Named Subcontractor	BizNet
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>Threshold Projects Only: Submit Major Contractor Registration License Number(s)</b> for Subcontractors	CT Department of Consumer Protection
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>SEEC Form 10</b>	SEEC Website
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>Certificate of Legal Existence from Corporations</b>	Secretary of the State
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>NEW: Contractor and Subcontractor Payments Reporting:</b> Every Contractor (and its Subcontractors) shall log on to BizNet <b>each month</b> and <b>enter payments</b> they have received from the state, from the Contractor, or from a higher tier Subcontractor (as applicable).	BizNet

End of Section  
 00 41 10 Bid Package Submittal Requirements

**INSTRUCTIONS FOR CERTIFIED CHECK OR BID BOND (select one):**  
**All Bidders:**  
**Edit this page, print, sign, and scan to PDF. Upload the PDF form to BizNet.**

- CERTIFIED CHECK OPTION:** *Prior* to the Date and Time of the Bid Opening:
  - (1) Check the box for "Certified Check Option";
  - (2) Print, scan to PDF, and upload the PDF form to Biznet; and
  - (3) Deliver the Certified Check, made payable to "Treasurer, State of Connecticut", to the following address:  
 State of Connecticut  
 Department of Administrative Services, Construction Services  
 Office of Legal Affairs, Policy, and Procurement  
 450 Columbus Boulevard, North Tower, Suite 1302  
 Hartford, CT 06103-1835
- BID BOND OPTION** (see template below): *Prior* to the Date and Time of the Bid Opening:
  - (1) Check the box for "Bid Bond Option";
  - (2) Complete the **Standard Bid Bond** (below), print, sign, scan to PDF, and upload the PDF Bid Bond to Biznet.

**Standard Bid Bond**

**DAS | Construction Services | Office of Legal Affairs, Policy, and Procurement**

KNOW ALL MEN BY THESE PRESENTS, That we, [Redacted],  
 [Redacted], hereinafter called the Principal,  
 of [Redacted], as Principal,  
 and [Redacted], hereinafter  
 called the Surety, a corporation organized and existing under the laws of the  
 State of [Redacted], 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, [Redacted]  
 [Redacted],  
 lawful money of the United States of America, for the payment of which, 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 to the Obligee related to a contract for Project No.: [Redacted]  
 NOW, THEREFORE, if the said contract be awarded to the Principal and the Principal shall, within such time as  
 may be specified, enter into 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 the Obligee the  
 damages which the Obligee may suffer by reason of such failure not exceeding the penalty of this bond, then  
 this obligation shall be void, otherwise to remain in full force and effect.

SIGNED, SEALED AND DELIVERED this [Redacted] day of [Redacted], 20 [Redacted]

[Redacted] <i>(Principal's Signature)</i>	[Redacted] Surety
[Redacted] <i>(Print Name)</i>	[Redacted] Its attorney in fact Signature
[Redacted] Company Name	[Redacted] <i>(Print Name)</i>





## General Contractor Bidder's Qualification Statement

DAS | Construction Services | Office of Legal Affairs, Policy, and Procurement

**Instructions:**

- All Bidders are **required** to **upload this form to BizNet**, properly completed, **prior to the date and time of the Bid Opening**.
- Failure of a Bidder to answer any question or provide required information **shall** be grounds for the awarding authority to disqualify and reject the bid, pursuant to Connecticut General Statutes §4b-92.
- If a question or request for information does not pertain to your organization in any way, use the symbol "NA" (Not Applicable).
- Attach additional information on 8 ½" x 11" sheets with your letterhead as necessary and reference specific section and subsection numbers.
- **NOTE:** The Department reserves the right to request any additional or supplemental information necessary to complete its evaluation of a Bidder's qualification.

**1.0 Project Information:**

1.1 DAS/CS Project Number:

1.2 Project Name:

1.3 Project Location:

**2.0 Projects with Construction Costs Estimated To Be Greater than \$500,000:**

- Select the applicable **Class of Work** as stated in the **00 11 16 Invitation to Bid**.
- Select **YES** if your Firm has the applicable the **DAS Prequalification Certificate and Update (Bid) Statement** or **NO** if it does not.
- If **YES**, upload the applicable **DAS Prequalification Certificate and Update (Bid) Statement** to BizNet **prior** to the date and time of the Bid Opening.

**Not Applicable - Construction Costs Less than \$500,000**

	Class of Work:	Does your Firm have the applicable DAS Prequalification Certificate and Update (Bid) Statement?
2.1	<input type="checkbox"/> General Building Construction (Group A):	YES <input type="checkbox"/> NO <input type="checkbox"/>
2.2	<input type="checkbox"/> General Building Construction (Group B):	YES <input type="checkbox"/> NO <input type="checkbox"/>
2.3	<input type="checkbox"/> General Building Construction (Group C):	YES <input type="checkbox"/> NO <input type="checkbox"/>
2.4	<input type="checkbox"/> General Trades (Interior Work Only):	YES <input type="checkbox"/> NO <input type="checkbox"/>
2.5	<input type="checkbox"/> CPS Projects ONLY: Insert Class of Work	YES <input type="checkbox"/> NO <input type="checkbox"/>

**3.0 Firm's Present Legal Name:** (the *complete legal name exactly* as it appears with the **Secretary of State registry**. The appropriate **title** must be used throughout the documents, for example: General Partner, Member, Manager, Sole Member, etc.)

**Name:**

**4.0** How many years has your Firm been in business under its **Present Legal Name**?

**Years:**

**5.0** How many years has your Firm been in business as a General Contractor?

**Years:**

**6.0** Indicate **all** other **names** by which your Firm has been known and the **length of time** known by each name:

**6.1**

<input style="width: 100%; height: 100%;" type="text"/>	<input style="width: 100%; height: 100%;" type="text"/>
<i>Years</i>	<i>Months</i>

**6.2**

<input style="width: 100%; height: 100%;" type="text"/>	<input style="width: 100%; height: 100%;" type="text"/>
<i>Years</i>	<i>Months</i>

**6.3**

<input style="width: 100%; height: 100%;" type="text"/>	<input style="width: 100%; height: 100%;" type="text"/>
<i>Years</i>	<i>Months</i>

**7.0** This Firm's **Certification** with the CT Secretary of State:

**Check Box**

**Type of Business Entity:**

**Certification Year**

**Corporation**

**Partnership**

**Sole Proprietorship**

**Limited Liability Company (LLC)**

**Other:**

**8.0** Attach resumes of all **supervisory personnel**, such as **Principals, Project Managers, and Superintendents**, who will be directly involved with the project on which you are now a bidder. Indicate their construction related training, certifications and licenses and the number of years of actual construction experience. Indicate the number of years of this actual construction experience which were in a Supervisory capacity.

**9.0 Named Subcontractor – Bidder Intends to Self-Perform:**

Check **YES** or **NO** for each “Named Subcontractor” **Class of Work** which your firm intends to perform with its own employees for this Contract; see **Section 2.7** of **Section 00 41 00 Bid Proposal Form**.

**NOTE:** For Projects with Construction Costs estimated to be greater than \$500,000, complete **Section 00 45 17 Named Subcontractor Bidder's Qualification Statement** for each **Named Subcontractor Class of Work** checked **YES** and submit within ten (10) calendar days *after* receipt of the “Set-Aside Contractor Schedule Request” from DAS/CS Office of Legal Affairs, Policy, and Procurement.

<input type="checkbox"/>	<b>Not Applicable – No Named Subcontractors &amp;/or Not Self-Performing</b>	
	Named Subcontractor Class of Work	Does your Firm intend to self-perform this Named Subcontractor Class of Work?
9.1	Electrical:	YES <input type="checkbox"/> NO <input type="checkbox"/>
9.2	HVAC:	YES <input type="checkbox"/> NO <input type="checkbox"/>
9.3	Masonry:	YES <input type="checkbox"/> NO <input type="checkbox"/>
9.4	Plumbing:	YES <input type="checkbox"/> NO <input type="checkbox"/>
9.5	Environmental Remediation:	YES <input type="checkbox"/> NO <input type="checkbox"/>
9.6	Hazardous Materials Abatement:	YES <input type="checkbox"/> NO <input type="checkbox"/>

**10.0 Named Subcontractor - Class of Work Greater than \$500,000 and Self-Performing:**

- Select the applicable **Named Subcontractor Class of Work** which your firm intends to perform with its own employees for this Contract.
- Select **YES** if your Firm has the applicable the **DAS Prequalification Certificate and Update (Bid) Statement** or **NO** if it does not.
- If **YES**, submit the applicable **DAS Prequalification Certificate and Update (Bid) Statement** within ten (10) calendar days *after* receipt of the “Set-Aside Contractor Schedule Request” from DAS/CS Office of Legal Affairs, Policy, and Procurement.

<input type="checkbox"/>	<b>Not Applicable – No Class of Work Greater \$500,000 &amp;/or Not Self-Performing</b>	
	Named Subcontractor Class of Work Greater Than \$500,000	Does your Firm have the applicable DAS Prequalification Certificate and Update (Bid) Statement?
10.1	<input type="checkbox"/> Electrical:	YES <input type="checkbox"/> NO <input type="checkbox"/>
10.2	<input type="checkbox"/> HVAC:	YES <input type="checkbox"/> NO <input type="checkbox"/>
10.3	<input type="checkbox"/> Masonry:	YES <input type="checkbox"/> NO <input type="checkbox"/>
10.4	<input type="checkbox"/> Plumbing:	YES <input type="checkbox"/> NO <input type="checkbox"/>

**11.0 List all construction projects your Firm has completed in the past five (5) years.** Provide all of the information listed below. DAS/CS *may* reject a bid as **non-responsive** if the bidder does not make **all** required pre-award submittals within the designated time period. Attach additional sheets as necessary **using the following format**:

**IMPORTANT NOTE:** **Two (2)** of the construction projects completed in the past five (5) years shall be (1) single project contracts that have reached substantial completion, not aggregate projects; (2) of commercial and/or institutional construction work (this includes compliance with general requirements); (3) within the Cost Estimate Range stated in Section 00 11 16 Invitation to Bid for this project; and (4) of the size and complexity of this Project. Failure to identify to **two** such projects **shall** result in rejection of the bid.

<b>11.1 Project Title:</b>		
<b>11.2 Project Location:</b>		
<b>11.3 Construction Start Date:</b>		
<b>11.4 Construction Finish Date:</b>		
<b>11.5 Describe the Scope of Work your Firm performed:</b>		
<b>11.6 Original Contract Amount:</b>		
<b>11.7 Final Contract Amount:</b>		
<b>11.8 Original Contract Duration (Calendar Days):</b>		
<b>11.9 Final Contract Duration (Calendar Days):</b>		
<b>11.10 Owner:</b>		
<b>11.11 Owner's Representative:</b>		
	<i>(Name)</i>	<i>(Phone Number)</i>
<b>11.12 Design Firm:</b>		
<b>11.13 Design Firm's Representative:</b>		
	<i>(Name)</i>	<i>(Phone Number)</i>

**12.0 References:**  
Furnish references from **architects, engineers or owners** indicating that your Firm has satisfactorily completed in a timely manner contract work for projects within the cost estimate range, size and complexity of this project. Provide explanations where delays have occurred. This information should cover work done over the past five years.

**13.0 Construction Scheduler:**  
**For Projects greater than \$5 Million:** Submit the **name, resume and references** of the **Construction Scheduler** in accordance with the requirements called for in Section **01 32 16.13 Critical Path Method Schedules** of the General Requirements.  
 Not Applicable – Project Less Than \$5 Million

**14.0** List and explain if your Firm has ever failed to complete a contract or if any officer or partner of your Firm has ever been an officer or partner of another organization that failed to complete a contract. Indicate below the circumstances leading to the project failure and the name of the company which provided the bonding for the failed contract(s):

Not Applicable

**15.0** List and explain if your Firm has ever had a contract terminated, indicating the circumstances leading to the project termination of contract(s):

Not Applicable

**16.0** List and explain all legal or administrative proceedings against your Firm or any officers, principals, partners, members, or employees of the organization currently pending or concluded adversely within the last five years, and any judicial or administrative sanctions that are still in effect against such organization, and any of its officers, principals, partners, members, or employees. (Exclude Occupational Safety and Health Act [OSHA] violations which are called for elsewhere in this statement). Add attachments as necessary.

Not Applicable

**17.0** List and explain any disbarments or suspensions that have been imposed on your Firm in the past five years or that were still in effect during the five year period or that are still in effect. Such list must include disbarments and suspensions of officers, principals, partners, members, and employees of your Firm:

Not Applicable

**18.0** List and explain any other reason(s) that precludes your Firm or any officer, principal, partner, member, or employees thereof from bidding on a contract in Connecticut or any other jurisdiction:

Not Applicable

**19.0** List and explain all willful or serious violations your Firm has had of any OSHA or of any standard, order or regulation promulgated pursuant to such act, during the three year period preceding the bid, provided such violations were cited in accordance with the provisions of any State Occupational Safety and Health Act or Occupational Safety and Health Act of 1970. Indicate whether these were abated within the time fixed by the citation or whether the citation was appealed. If appealed what is the status or disposition. Add attachments as necessary.

Not Applicable

**20.0** List and explain any criminal convictions your Firm has had related to the injury or death of any employee in the three-year period preceding the bid: Add attachments as necessary.

Not Applicable

**21.0** List and explain any changes in your Firm's financial condition or business organization, which might affect your Firm's ability to successfully complete this contract:

Not Applicable

**22.0** **NEW:** List and explain if your Firm has ever failed to submit an Affirmative Action Plan to the Commission on Human Rights and Opportunities (CHRO). Indicate below the circumstances leading to the failure to submit the Affirmative Action Plan to CHRO:

Not Applicable

**23.0** **NEW:** List and explain if your Firm's Affirmative Action Plan has ever been disapproved by CHRO or determined to be noncompliant. Indicate below the circumstances leading to the disapproval or finding of noncompliance of your Affirmative Action Plan by CHRO:

Not Applicable

### 24. Signature

Dated at

Signed this

 day of , 20 

Name of Firm:

Firm Address:

Signature:

Print or Type Name:

Title:

### 25. Notary Statement

Mr./Mrs./Ms.  being duly sworn

deposes and says that he/she is the  of  
*(Position or Title)*

, and that the answers to the foregoing  
*(Firm Name)*

questions and all statements therein contained are true and correct.

Subscribed and sworn before me this  day of , 20

Notary Public

My Commission Expires , 20

00 45 14 General Contractor Bidder's Qualification Statement





## Objective Criteria Established for Evaluating Qualifications of Bidders:

CT DAS | Construction Services | Office of Legal Affairs, Policy, and Procurement

The following items are established pursuant to Sections 4b-92, 4b-94 and 4b-95a of the Connecticut General Statutes (C.G.S.) as amended.

The **Objective Criteria Established for Evaluating Qualifications of Bidders** (Section 00 45 15) are to assure that the State of Connecticut will secure the "lowest responsible and qualified bidder" who has the ability and capacity to successfully complete the Bid Proposal Form and the Work. Failure to comply with any portion of this requirement **may** cause **rejection** of the bid. **Note:** Individual Specification Sections **may** contain General Contractor and/or Subcontractor Qualification requirements that **exceed** those in **Section 00 45 15 Objective Criteria Established for Evaluating Qualifications of Bidders**.

**THE BIDDER MUST HAVE OR HAVE COMPLETED THE FOLLOWING:**

### 1.1 DAS Prequalification Requirements:

For Projects with Construction Costs greater than \$500,000, **all Bidders** shall upload to BizNet a valid Department of Administrative Services (DAS) **Prequalification Certificate** and **Update (Bid) Statement** *prior* to the date and time of the Bid Opening.

### 1.2 Evaluation:

1.2.1 **All Bidders** shall upload to BizNet **Section 00 45 14 General Contractor's Bidder Qualifications Statement** *prior* to the date and time of the Bid Opening.

1.2.2 If applicable, the **Three (3) Lowest Bidders** shall submit **Section 00 45 17 Named Subcontractor's Bidder Qualification Statement(s)** to DAS Construction Services (DAS/CS) Office of Legal Affairs, Policy, and Procurement within **ten (10)** calendar days **after** receipt of the "Set-Aside Contractor Schedule Request" *from* DAS/CS.

1.2.3 The Bidder must demonstrate that the Bidder and, if applicable, its Named Subcontractors, meet the **objective criteria** for this specific project.

1.2.4 The **responses** to the Statement(s) must identify two (2) **projects completed** – single project contracts that have reached substantial completion, not aggregate projects – of commercial and/or institutional construction work (this includes compliance with general requirements) during the past five (5) years within the Cost Estimate Range stated in Section 00 11 16 **Invitation to Bid** for this project, and of the size and complexity of this project. The failure to identify to such projects shall result in rejection of the bid.

1.2.5 If the Bidder identifies two projects that meet the above criteria, the **State's evaluation** shall be based on the **performance record** of the prospective Bidder as a general, prime contractor and its named subcontractors during the course of the two (2) comparable projects, and not just the end result. The state will conduct the evaluation based on its interpretation of its objective criteria. **Evaluation criteria** shall include: Faithful and efficient performance; fulfilment of contract obligations; financial, managerial and technical abilities; and integrity and the absence of any conflicts of interest. Any one or all of the factors noted in this paragraph as well as in the other criteria set forth in this **Section 00 45 15** may be grounds for the determination by the State, in its sole discretion, of the Bidder's responsibility and qualifications necessary for the faithful performance of the work required of this project.

### 1.3 References:

Furnished **references from architects, engineers or owners** indicating that it has satisfactorily completed in a timely manner contract work for projects and provide explanations where delays have occurred. This information should cover work done over the **past five years**. Review of DAS/CS projects shall be included in the evaluation of the bidder's qualifications and anticipated future performance.

<b>1.4</b>	<b>Qualified Personnel:</b>
1.4.1	Shown that it customarily employs or has on its payroll <b>supervisory personnel, qualified</b> to perform the work required for this project and to coordinate the work called for in the Bid Specifications.
1.4.2	If the project is for \$5 Million or more, submit the <b>name, resume and references</b> of the <b>Construction Scheduler</b> in accordance with the requirements called for in <b>Section 01 32 16.13 Critical Path Method Schedules</b> of the General Requirements.
<b>1.5</b>	<b>Past Performance:</b>
	Demonstrated a good track record of <b>past performance</b> on State or other projects relative to quantity, quality, timeliness, cost, cooperation and harmonious working relationships with subcontractors, suppliers and client agencies. DAS/CS will review the Bidders past performance ratings prepared by DAS/CS or prepared as part of the DAS Contractor Prequalification Program. This review may focus on the comments relative to: Quality of Supervision, Adherence to Contract Documents, On Time Project Completion, Subcontractor performance, and the handling of Change Orders. Unacceptable ratings for several criteria shall be sufficient cause to deem a bidder not responsible.
<b>1.6</b>	<b>Financial Responsibility:</b>
	Shown that it is <b>financially responsible</b> to perform the work as bid. If requested, additional financial information shall be provided. Prompt and proper payments to its subcontractors and material suppliers is a critical factor to be considered by DAS/CS.
<b>1.7</b>	[Left Blank]
<b>1.8</b>	<b>Equipment Requirements:</b>
	Shown that it owns or possesses, rented, or leased <b>equipment</b> of the type customarily required by contractors in the performance of contract work and that such equipment, if needed, is available for this project.
<b>1.9</b>	<b>Materials and Suppliers:</b>
	Purchased <b>materials</b> over the past three years from suppliers who customarily sell such materials in quantity to contractors.
<b>1.10</b>	<b>Physical Facilities:</b>
	Control of adequate <b>physical facilities</b> from which the work can be performed.
<b>1.11</b>	<b>Compliance with Subcontractor Requirements:</b>
	Demonstrated that on <b>previous state projects</b> the bidder complied in good faith with the requirements of listing subcontractors as outlined in C.G.S. Sections 4b-93 and 4b-95.
<b>1.12</b>	<b>Threshold Building and Major Contractor Requirements:</b>
	Demonstrated that <b>all major subcontractors</b> are in compliance with the provisions of C.G.S. Section 20-341gg, as revised, concerning licensure requirements to perform work on any structure that exceeds the threshold limits contained in C.G.S. Section 29-276b, as revised.
<b>1.13</b>	<b>OSHA Requirements:</b>
	Proven that the Bidder has not been found to be in violation of three or more willful or serious violations of Occupational Safety and Health Administration (OSHA) regulations in the past three years.

**1.14 Criminal Convictions and Injuries or Death of Employees:**

Not received a **criminal conviction** related to the injury or death of any employee in the three-year period preceding the bid.

**1.15 Legal or Administrative Proceedings:**

Listed all **legal** (court and/or arbitration) or **administrative proceedings** currently pending as well as any legal (court and/or arbitration) or administrative proceeding related to procurement or performance of any public or private construction contracts which has concluded adversely within the last three years.

**1.16 Contract Performance and Surety:**

Identified any situations where: (1) the bidder failed to complete a construction contract; or (2) bonds were called during the past three years. If applicable, attach a sheet providing explanation including date(s) and location(s).

**1.17 State Tax Requirements:**

Not been found to be in violation of any **state tax** requirements of the Connecticut Department of Revenue Services in the five (5)-year period preceding the bid.

**1.18 State and Federal Labor Requirements:**

Not been found to be in violation of any State or Federal **labor laws** as required through the Department of Labor including violations of prevailing wage laws in the five (5)-year period preceding the bid.

**1.19 Change Order Pricing and State Ethics:**

Been found to be in compliance with all statutory and regulatory requirements. This Item shall include, but not be limited to, any DAS/CS determinations related to improper Change Order pricing relative to C.G.S. Section 1-101nn of The State Ethics Statutes.

**1.20 Internal Revenue Services (IRS) Requirements:**

Not been found in violation of any of the **Internal Revenue Service Tax Requirements** regarding classification of employees and independent contractors in the five (5)-year period preceding the bid.

**1.21 Workers Compensation and Insurance Requirements:**

Not been found to be in any violation of C.G.S. Section 31-288 relating to employee classification for purposes of Workers' Compensation insurance premiums in the five (5)-year period preceding the bid.

**NOTE:** The foregoing Item Numbers **1.13** and **1.14** are meant to comport with C.G.S. Section 31-57b.

**End of Section**  
**00 45 15 Objective Criteria Established for Evaluating Qualifications of Bidders**



## Contract

DAS | Construction Services | Office of Legal Affairs, Policy, and Procurement

Contract For:

Dated as of  by and between the **State of Connecticut** (herein called the  
*(Month, Day, Year)*

“State”) acting herein by its Commissioner, Department of Administrative Services under the provisions of the Connecticut General Statutes (C.G.S.) Sections 4-8, 4a-1, 4a-2, 4b-1, and 4b-3, as revised, and  (herein called the “Contractor”).

*(Print Name of Contractor)*

WITNESSETH, that the State and the Contractor in consideration of the hereinafter contained mutual promises and covenants, do hereby agree as follows:

### 1. CONTRACT AND CONTRACT DOCUMENTS:

The **Invitation for Bids**, the enumerated **Plans**, the **Specifications** and **Amendments** thereto, the **Addenda**, the **Bid Proposal** as accepted by the Commissioner, Department of Administrative Services, **Order of Award**, which Order is made a part of this **Contract**, the **General Conditions**, the **Supplementary Conditions**, the **General Requirements**, the **Contract** and the **Bonds** shall form part of this **Contract** and the **provisions** thereof shall be as binding upon the parties as if they were fully set forth herein. The tables of contents, titles, headings, running headlines and marginal notes contained herein and in said Documents, are solely to facilitate to various provisions of the Contract Documents and in no way affect, limit, or cast light upon the interpretations of the provisions to which they refer. Whenever the term “**Contract Documents**” is used, it shall mean and include this **Contract**, the **Invitation for Bids**, the enumerated **Plans**, **Specifications** and **Amendments** thereto, the **Addenda**, the **Bid Proposal** as accepted by the Commissioner, Department of Administrative Services, the **General Conditions**, the **General Requirements**, the **Bonds**, the **Instructions to Bidders**, the **Wage Scales**, the **Supplementary Conditions**, and the **Insurance Certificates**.

### 2. SCOPE OF THE WORK:

The Contractor shall furnish all plant, labor, materials, supplies, equipment, and other facilities and things necessary or proper for or incidental to the work contemplated by this Contract as required by and in strict accordance with applicable Plans, Specifications and Amendments thereto, and Addenda (hereinafter enumerated), and as required by and in strict accordance with such changes as are ordered and approved pursuant to this Contract, and will perform all other obligations imposed on him by this Contract.

**3. ENUMERATION OF PLANS, SPECIFICATIONS AND ADDENDA:**

The following is an enumeration of the Plans, Specifications, and Addenda:

<b>Prepared By:</b>	<input type="text"/> <i>(Print Name of Architect/Engineer Firm)</i>
<b>Plans and Specifications:</b>	<input type="text"/>
<b>Addenda:</b>	<input type="text"/>

**4. COMPENSATION TO BE PAID THE CONTRACTOR**

The State will pay and the Contractor will accept in full consideration for the performance of the Contractor's obligation hereunder the sum of:

<input type="text"/>	Dollars and 00/100 (\$	<input type="text"/>	)
----------------------	------------------------	----------------------	---

**5. PROVISIONS REQUIRED BY LAW DEEMED INSERTED**


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 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.

For all State contracts as defined in the **C.G.S. §9-612(f)(1)(C)**, 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 Agreement expressly acknowledges receipt of the State Elections Enforcement Commission's notice advising state contractors of campaign contribution and solicitation prohibitions, and will inform its principals of the contents of the notice. See **SEEC Form 10**.

Contractor hereby irrevocably assigns to the State of Connecticut all rights, title and interest in and to all **Claims\* associated with this Contract** that Contractor now has or may or will have and that arise under the antitrust laws of the United States, **15 USC Section 1, et seq.** and the antitrust laws of the State of Connecticut, **C.G.S. §35-24, et seq.**, including but not limited to any and all Claims for overcharges. This assignment shall become valid and effective immediately upon the accrual of a Claim without any further action or acknowledgment by the parties.

**\*Definition of Claims associated with this Contract:** "All actions, suits, claims, demands, investigations and proceedings of any kind, open, pending or threatened, whether mature, unmaturing, contingent, known or unknown, at law or in equity, in any forum."

IN WITNESS WHEREOF, the Commissioner, Department of Administrative Services for and on behalf of the State of Connecticut, and the Contractor have executed this contract on the day and year first written.

<b>State Of Connecticut Attested By:</b>	<b>State Of Connecticut:</b>
WITNESS: <input type="text"/> <i>(Signature)</i>	By: <input type="text"/> <i>(Signature)</i>
Print Name: <input type="text"/>	Print Name: Noel Petra
WITNESS: <input type="text"/> <i>(Signature)</i>	Its: Deputy Commissioner
Print Name: <input type="text"/>	Department of Administrative Services
<b>Contractor Attested By:</b>	<b>Contractor:</b>
WITNESS: <input type="text"/> <i>(Signature)</i>	Firm Name: <input type="text"/>
Print Name: <input type="text"/>	By: <input type="text"/> <i>(Signature)</i>
WITNESS: <input type="text"/> <i>(Signature)</i>	Print Name: <input type="text"/>
Print Name: <input type="text"/>	Its: <input type="text"/> , Duly Authorized
<b>Office of the Attorney General:</b>	Date Signed: <input type="text"/>
Approved as to form:	
By: <input type="text"/> <i>(Signature)</i>	
Print Name: <input type="text"/>	
Its: Attorney General / Assistant Deputy Attorney General / Associate Attorney General / Assistant Attorney General	
Date Signed: <input type="text"/>	SEAL

End of Section  
00 52 03 Contract







# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
	PHONE (A.C. No. Ext):	FAX (A.C. No.):
INSURED Contractor's Legal Name and Address	E-MAIL ADDRESS:	
	INSURER(S) AFFORDING COVERAGE	
	INSURER A:	NAIC#
	INSURER B:	
	INSURER C:	
	INSURER E:	

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADD. SUIN INSR. W/O	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	<b>GENERAL LIABILITY</b> <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-WIDE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC		Policy Number must be provided	Policy Effective Date must be provided	Policy Expiration Date must be provided	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADY INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMPYOP AGG \$ 2,000,000
	<b>AUTOMOBILE LIABILITY</b> <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS		Policy Number must be provided	Policy Effective Date must be provided	Policy Expiration Date must be provided	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
	<input type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED: RETENTION \$					EACH OCCURRENCE \$ AGGREGATE \$
	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N <input type="checkbox"/> N/A If yes, describe under DESCRIPTION OF OPERATIONS below		Policy Number must be provided	Policy Effective Date must be provided	Policy Expiration Date must be provided	<input checked="" type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$ 100,000 E.L. DISEASE - EA EMPLOYEE \$ 100,000 E.L. DISEASE - POLICY LIMIT \$ 500,000
	Owner's and Contractor's Protective Liability Builder's Risk (include here when applicable)					Bodily Injury or Death (per occ.) Total \$ 1,000,000 Property Damages Total (aggregate) \$ 2,000,000 Completed Value

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Indicate Project Number and Title here

The State of Connecticut is an Additional Insured with respect to General Liability and Umbrella/Excess Liability Insurance coverage.

If Builder's Risk and or Inland Marine/Transit Insurance is required then the State is endorsed as a Loss Payee.

<b>CERTIFICATE HOLDER</b> State of Connecticut Department of Administrative Services, Construction Services Office of Legal Affairs, Policy and Procurement 450 Columbus Boulevard, Suite 1302 Hartford, CT 06103-1838	<b>CANCELLATION</b> SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE Agent of Producer
---	---

© 1988-2010 ACORD CORPORATION. All rights reserved.

ACORD 25 (2010/05)

The ACORD name and logo are registered marks of ACORD

End of Section  
 00 62 16 Certificate of Insurance



**General Conditions of the Contract for Construction  
 For Design-Bid-Build  
 Connecticut Department of Administrative Services**

<b>TABLE OF CONTENTS</b>		
<b>ARTICLE</b>	<b>TITLE</b>	<b>PAGE</b>
1	Definitions	2
2	Conditions of Work	6
3	Correlation of Contract Documents	6
4	Commencement and Progress of Work	7
5	Submittals, Product Data, Shop Drawings and Samples	8
6	Separate Contracts	8
7	Cooperation of Trades	9
8	Damages	9
9	Minimum Wage Rates	10
10	Posting Minimum Wage Rates	10
11	Construction Schedules	10
12	Preference in Employment	11
13	Compensation for Changes in the Work	11
14	Deleted Work	14
15	Materials: Standards	14
16	Inspection and Tests	16
17	Royalties and Patents	16
18	Surveys, Permits, and Regulations	17
19	Protection of the Work, Persons and Property	17
20	Temporary Utilities	18
21	Correction of Work	18
22	Guarantees and Warranties	18
23	Cutting, Fitting, Patching, and Digging	18
24	Cleaning Up	19
25	All Work Subject to Control of the Commissioner	19
26	Authority of the Construction Administrator	19
27	Schedule of Values: Application for Payment	20
28	Partial Payments	20
29	Delivery of Statement Showing Amounts Due for Wages, Materials, and Supplies	21
30	Substantial Completion and Acceptance	21
31	Final Payment	22
32	Owner's Right to Withhold Payments	23
33	Owner's Right to Stop Work or Terminate Contract	23
34	Subletting or Assigning of Contract	25
35	Contractor's Insurance	25
36	Foreign Materials	27
37	Hours of Work	27
38	Claims	28
39	Diesel Vehicle Emissions Control	31
40	Disclosure of Records	32
41	Audit and Inspection of Plants, Places of Business, and Records	32
Appendix 1 – CT DAS 7048 General Contractor Retainage Reduction Request Form		33

**ARTICLE 1  
DEFINITIONS**

WHENEVER THE FOLLOWING TERMS, OR PRONOUNS IN PLACE OF THEM, ARE USED THE INTENT AND MEANING SHALL BE AS FOLLOWS:

**1.1 ACCEPTANCE:** The Owner's acknowledgement of the Work from the Contractor upon certification by the Construction Administrator and Architect or Engineer that all Work has been completed.

**1.2 ADDITIONAL OR DELETED WORK:** Work required by the Department that, in the judgment of the Commissioner, involves any addition to, deduction from, or modification of the Work required by the Contract Documents.

**1.3 AGENCY:** The (User) Agency of the State of Connecticut having administrative authority of the facility in which the Work is being performed.

**1.4 APPLICATION FOR PAYMENT, PARTIAL PAYMENT OR REQUISITION:** Contractor's certified request for payment for completed portions of the Work and, if the Contract so provides, for materials or equipment suitably stored pending their incorporation into the Work.

**1.5 ARCHITECT OR ENGINEER:** A sole proprietor, partnership, firm, corporation or other business organization under Contract with the Owner, commissioned to prepare Contract Drawings and Specifications, to advise the Owner and in certain cases, to perform regular inspections during construction and when authorized to perform the duties of the Construction Administrator.

**1.6 AS-BUILT DRAWINGS:** Construction Drawings revised by the Contractor to show all significant Modifications made during the construction process.

**1.7 BASE BID:** Monetary value stated in the Bid Proposal Form as the sum for which the Bidder offers to perform the Work described in the Bidding Documents, exclusive of adjustments for Supplemental Bids.

**1.8 BID BOND:** Form of Bid Security executed by the Bidder as Principal and by a Surety to guarantee that the Bidder will enter into a Contract within a specified time and furnish any required bond as mandated by Connecticut General Statute Section 4b-92.

**1.9 BIDDER:** A sole proprietor, partnership, firm, corporation or other business organization submitting a Bid on the Bid Proposal Form for the Work contemplated.

**1.10 BIDDING DOCUMENTS:** Collectively, the Bidding Requirements and the proposed Contract Documents, including any addenda issued prior to receipt of Bids.

**1.11 BID OR BID PROPOSAL FORM:** A complete and duly signed proposal to perform Work (or a designated portion thereof) for a stipulated sum submitted in accordance with the Bidding Documents.

**1.12 BID SECURITY:** Certified check or Bid Bond submitted with Bid Proposal Form, which provides that the Bidder, if awarded the Contract, will execute such Contract in accordance with the requirements of the Bidding Documents.

**1.13 BUILDER'S RISK INSURANCE:** A specialized form of property insurance which provides coverage for loss or damage to the Work pursuant to the Contract Documents.

**1.14 CASH 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.

**1.15 CERTIFICATE OF ACCEPTANCE:** A document issued by the Owner to the Contractor stating that all Work specified in the Certificate of Acceptance has been completed and accepted by the Owner.

**1.16 CERTIFICATE OF COMPLIANCE:** A document stating that for the portion of the Project completed, either the design portion or the construction portion, has been performed in substantial compliance with all applicable building codes.

**1.17 CERTIFICATE OF OCCUPANCY:** Document issued by the authority having jurisdiction certifying that all or a designated portion of a building is approved for its designated use.

**1.18 CERTIFICATE OF SUBSTANTIAL COMPLETION:** A document prepared by the Architect or Engineer and approved by the Owner on the basis of an inspection stating:

1.18.1 that the Work, or a designated portion thereof, is determined to be Substantially Complete;

1.18.2 the date of Substantial Completion;

1.18.3 the responsibilities of the Owner and the Contractor for security maintenance, heat, utilities, damage to the Work and insurance; and

1.18.4 the time within which the Contractor shall complete the remaining Work.

**1.19 CHANGE ORDER:** Written authorization signed by the Owner, authorizing a modification in the Work, an adjustment in the Contract Sum, or an adjustment in the Contract Time.

**1.20 COMMISSIONER:** The State of Connecticut, Department of Construction Services (CT DCS) Commissioner acting directly or through specifically authorized CT DCS personnel or agent(s) having authority to perform duties defined in Article 25.

**1.21 COMMISSIONING AGENT (CxA):** An independent entity under contract directly with the Owner or Owner's Representative responsible for performing the specified commissioning procedures.

**1.22 CONSTRUCTION ADMINISTRATOR:** A sole proprietor, partnership, firm, corporation or other business organization, under Contract or employed by the Owner commissioned and/or authorized to oversee the fulfillment of all requirements of the Contract Documents. The authorized Construction Administrator may be a Department of Construction Services Assistant Project Manager, Department of Construction Services Project Manager, a Clerk of the Works, an Architect, a Consulting Architect, a Consulting Construction Administrator, a Consulting Engineer etc. or any other designee as authorized and identified by the Owner.

**1.23 CONSTRUCTION CHANGE DIRECTIVE:** A written authorization signed by the Owner, directing a modification in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum, Contract Time or both. Any Construction Change Directive effecting an adjustment to the Contract Sum or Contract Time shall result in a Change Order.

**1.24 CONTRACT DOCUMENTS OR CONTRACT:** The Agreement between Owner and Contractor, Conditions of the Contract (General Conditions, Supplementary Conditions, General Requirements and other Conditions), Drawings, Specifications, and Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract, all of which shall constitute the Contract.

**1.25 CONTRACTOR OR GENERAL CONTRACTOR:** A sole proprietor, partnership, firm or Corporation, under direct Contract with the Department of Construction Services, responsible for performing the Work under the Contract Documents. Whenever the words "Contractor" or "General Contractor" are used it shall be understood to mean Contractor.

**1.26 CONTRACTOR'S LIABILITY INSURANCE:** Insurance purchased and maintained by the Contractor that insures the Contractor for claims for property damage, bodily injury or death.

**1.27 CONTRACT START DATE OR DATE OF COMMENCEMENT OF THE WORK:** The date, specified by the Owner in the Notice to Proceed, on which the Contractor is required to start the Work.

**1.28 CONTRACT SUM:** The sum stated in the Contract, which is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

**1.29 CONTRACT TIME:** The period of time allotted in the Contract Documents for Substantial Completion of the Work, including authorized adjustments thereto. The Contract Time is the sum of all Working Days and Non-Working Days as further defined herein and specified in the Contract Documents.

**1.30 DAY:** Whenever the word Day is used it shall be understood to mean calendar day stated on the Bidding Documents, unless stated otherwise.

**1.31 DEPARTMENT OF CONSTRUCTION SERVICES (CT DCS) PROJECT MANAGER:** The individual employed by the Owner, designated and authorized by the Commissioner, to be responsible for the overall management and oversight of the Project, and to represent the (User) Agency.

**1.32 DIESEL VEHICLE EMISSIONS CONTROL:** The reduction of air pollution emissions from diesel powered vehicles through the use of diesel engine emission control technologies.

**1.33 EQUAL(S):** Any deviation from the Specification which is defined as follows: A replacement for the specified material, device, procedure, equipment, etc., which is recognized and accepted as substantially equal to the first listed manufacturer or first listed procedure specified after review by the Architect/Engineer, and may be rejected or approved at the sole discretion of the Owner. All equals must be substantially equivalent to the first manufacturer or first procedure listed in the Specifications with reference to all of the following areas: the substance and function considering quality, workmanship, economy of operation, durability, and suitability for purposes intended; size, rating, and cost. The equal does not constitute a modification in the scope of Work, the Schedule, or Architect/Engineer's design intent of the specified material, device, procedure, equipment, etc.

**1.34 FINAL INSPECTION:** Review of the Work by the Architect or Engineer and Owner to determine whether Acceptance has been achieved.

**1.35 FINAL PAYMENT:** The last payment made by the Owner to the Contractor, made after notice of the Acceptance. Payment shall include the entire unpaid balance of the Contract Sum as adjusted by modifications.

**1.36 GENERAL CONDITIONS:** The General Conditions of the Contract for Construction, part of Division 00 of the Specifications.

**1.37 GENERAL REQUIREMENTS:** That part of the Contract Documents entitled General Requirements, which is Division 01 of the Specifications.

**1.38 GUARANTEE:** See Warranty.

**1.39 LIQUIDATED DAMAGES:** A sum established in a Contract, usually as a fixed sum per Day, as the predetermined measure of damages to be paid to the Owner due to the Contractor's failure to complete the Work within the Contract Time.

**1.40 LUMP SUM:** An item or category priced as a whole rather than broken down into its elements.

**1.41 MOBILE SOURCE:** A source designed or constructed to move from one location to another during normal operation except portable equipment and includes, but is not limited to, automobiles, buses, trucks, tractors, earth moving equipment, hoists, cranes, aircraft, locomotives operating on rails, vessels for transportation on water, lawnmowers, and other small home appliances.

**1.42 NON-WORKING DAYS:** All Saturdays, Sundays, Legal State Holidays (12), and any other Days identified in the Contract Documents that the Contractor is not permitted to execute the Work. The restriction of Non-Working Days may be suspended upon the approval or direction of the Commissioner.

**1.43 NOTICE TO BIDDER:** A notice contained in the Bidding Document informing prospective Bidders of the opportunity to submit Bids on a Project.

**1.44 NOTICE TO PROCEED:** Written notice, issued by the Commissioner or the Commissioner's authorized representative, to the Contractor authorizing the Contractor to proceed with the Work and establishing the date for commencement of the Contract Time.

**1.45 OWNER OR DEPARTMENT:** The State of Connecticut, Department of Construction Services acting through its Commissioner or specifically authorized Department personnel or agent.

**1.46 OVERHEAD:** Indirect costs including: supervision (any position over the foreman), field and home office expense, insurance, and small tools and consumables.

**1.47 PAYMENT, BOND, LABOR BOND OR MATERIAL BOND:** A bond in which the Contractor and the Contractor's surety guarantee to the Owner that the Contractor will pay for labor and materials furnished for use in the performance of the Contract, as required by Connecticut General Statutes Section 49-41.

**1.48 PERFORMANCE BOND OR SURETY BOND:** A bond in which the Contractor and the Contractor's surety guarantee to the Owner that the Work will be performed in accordance with the Contract Documents, as required by Connecticut General Statutes Section 49-41.

**1.49 PERFORMANCE SPECIFICATION:** A description of the desired results or performance of a product, material, assembly, procedure, or a piece of equipment with criteria for identifying the standard.

**1.50 PLANS OR DRAWINGS:** All Drawings or reproductions of Drawings pertaining to the construction of the Work contemplated and its appurtenances.

**1.51 PROJECT:** The total construction of which the Work performed under the Contract Documents may be the whole or a part.

**1.52 PROJECT MANUAL:** The set of documents assembled for the Work which includes, but is not limited to, Contract Documents, Bidding Requirements, Sample Forms, General Conditions of the Contract for Construction, General Requirements, and the Specifications.

**1.53 PROPRIETARY SPECIFICATION:** A specification that describes a product, procedure, function, material, assembly, or piece of equipment by trade name and/or by naming the manufacturer(s) or manufacturer's procedure, exact model number, item, etc., of those products acceptable to the Owner.

**1.54 RETAINAGE:** A percentage of each Application for Payment and a percentage of the total Contract Sum retained by the Owner.

**1.55 SCHEDULE:** A Critical Path Method (CPM) or Construction Schedule as required by the Contract Documents which shall be a diagram, graph or other pictorial or written Schedule showing all events expected to occur and operations to be performed and indicating the Contract Time, start dates, durations and finish dates as well as Substantial Completion and Acceptance of the Work, rendered in a form permitting determination of the optimum sequence and duration of each operation.

**1.56 SCHEDULE OF VALUES:** A document furnished by the Contractor to the Architect or Engineer and Owner stating the portions of the Contract Sum allocated to the various portions of the Work, which is to be used for reviewing the Contractor's Applications for Payment.

**1.57 SECONDARY SUBCONTRACTOR:** A sole proprietor, partnership, firm or Corporation under direct Contract with the Subcontractor to the General Contractor.

**1.58 SENSITIVE RECEPTOR SITES:** Areas where concentrations of diesel emissions may be harmful to sensitive populations, including, but not limited to, hospitals, school and university buildings being occupied during a student semester, residential structures, daycare facilities, elderly housing, and convalescent facilities.

**1.59 SHOP DRAWINGS:** Drawings provided to Architect or Engineer and Owner by a Contractor that illustrate construction, materials, dimensions, installation, and other pertinent information for the incorporation of an element or item into the construction as detailed Contract Documents.

**1.60 SPECIFICATIONS:** The description, provisions and other requirements pertaining to the method and manner of performing the Work and/or to the quantities and quality of materials to be furnished under the Contract.

**1.61 SUBCONTRACTOR:** A sole proprietor, partnership, corporation or other business organization under direct Contract with the Contractor supplying labor and/or materials for the Work at the site of the Project.

**1.62 SUBMITTALS:** Documents including, but not limited to, samples, manufacturer's data, Shop Drawing, or other such items submitted to the Owner and Architect or Engineer by the Contractor for the purpose of approval or other action, as required by the Contract Documents.

**1.63 SUBSTANTIAL COMPLETION:** The stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents.

**1.64 SUBSTITUTION:** Any deviation from the specified requirements, which is defined as follows: A replacement for the specified material, device, procedure, equipment, etc., which is not recognized or accepted as equal to the first manufacturer or procedure listed in the Specification after review by the Architect/Engineer, and may be rejected or approved by the Owner. The Substitution is not equal to the specified requirement in comparison to the first manufacturer or first procedure listed in the Specifications in one or more of the following areas: the substance and function considering quality, workmanship, economy of operation, durability, and suitability for purposes intended; size, cost, and rating. The Substitution constitutes a modification in the scope of Work, the Schedule, or the Architect/Engineer's design intent of the specified material, device, procedure, equipment, etc.

**1.65 SUPERINTENDENT:** The Contractor's representative at the site who is responsible for continuous field supervision, coordination, in, completion of the Work, and, unless another person is designated in writing by the Contractor to the Owner and the Construction Administrator, for the prevention of accidents.

**1.66 SUPPLEMENTAL BID:** The monetary value stated in the Bid to be added to the amount of the Base Bid if the corresponding Work, as described in the Bidding Documents, is accepted.

**1.67 SUPPLEMENTARY CONDITIONS:** An extension in the Bid to be added to the amount of the Base Bid if the corresponding Work, as described in the Bidding Documents, is accepted.

**1.68 THRESHOLD LIMIT BUILDING:** Any proposed (new) structures or additions as defined by the Connecticut General Statutes Section 29-276b.

**1.69 UNIT PRICE:** The monetary value stated by the Owner or the Contractor, as a price per unit of measurement for materials or services as described in the Contract Documents and/or Bidding Documents.

**1.70 WARRANTY:** A written, legally enforceable assurance of specified quality or performance of a product or Work or of the duration of satisfactory performance.

**1.71 WORK:** The construction and services required by the Contract Documents, and including all labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project and "Work Phase".

**1.72 WORK PHASE:** Construction of the Project by sequence or time intervals, which may include but not be limited to separate Construction Start Dates, Substantial Completion Dates, Application for Payments, Change Orders, Liquidated Damages, Retainage, and Subcontractors for each Work Phase.

## **ARTICLE 2 CONDITIONS OF WORK**

**2.1** The Contractor shall carefully examine and study the conditions under which the Work is to be performed and the site of the Work, and compare the Contract Documents with each other and to information furnished by the Owner including but not limited to the Plans and Specifications, the form of the Contract, General Conditions, Supplementary Conditions, General Requirements, Bonds and all other Contract Documents associated with the Work.

**2.2** The Contractor shall report to the Construction Administrator all errors, inconsistencies or omissions discovered. The Contractor shall not be liable to the Owner for damage resulting from errors, inconsistencies or omissions in the Contract Documents unless the Contractor recognized such errors, inconsistencies or omission and failed to report it to the Construction Administrator. If the Contractor performs any actions or construction activity knowing it involves an error, inconsistency or omission in the Contract Documents without notice to the Construction Administrator, the Contractor shall assume responsibility for such performance and related costs for the correction and shall not be allowed to submit any claim related to error, inconsistencies or omission.

**2.3** The Contractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the Contractor with the Contract Documents before commencing activities. Errors, inconsistencies or omissions discovered shall be reported to the Construction Administrator at once; and it will be assumed that the Contractor has been satisfied as to all requirements of the Contract Documents. Any deterrent conditions at the site of the Work which are obvious and apparent upon examination of the site but are not indicated on the Plans shall be corrected by the Contractor without additional compensation.

**2.4** In performing the Work, the Contractor must employ such methods or means as will not cause any interruption of or interference with the Work of any other Contractor, nor any inordinate disruption with the normal routine of the Owner, institution or Agency operating at the site.

**2.5** No claims for additional compensation will be considered when additional costs result from conditions made known to, discovered by, or which should have been discovered by, the Contractor prior to Contract signing.

**2.6** All Communications from the Contractor concerning proposed changes to the Contract Sum, Contract Time, or Work shall be in writing.

**2.7** The Contractor shall perform the Work in accordance with the Contract Documents and approved Submittals pursuant to Article 5.

## **ARTICLE 3 CORRELATION OF CONTRACT DOCUMENTS**

**3.1** The Contract Documents are complementary, and what is called for by any one shall be as binding as if called for by all. Where discrepancies or conflict occur in the Contract Documents the following order of precedence shall be utilized:

**3.1.1** Amendments and addenda shall take precedence over previously issued Contract Documents.



**3.1.2** The Supplementary Conditions take precedence over the General Conditions.

**3.1.3** The General Conditions take precedence over the General Requirements.

**3.1.4** The Specifications shall take precedence over the Plans.

**3.1.5** Stated dimensions shall take precedence over scaled dimensions.

**3.1.6** Large-scale detail Drawings shall take precedence over small-scale Drawings.

**3.1.7** The Schedules contained in the Contract Documents shall take precedence over other data on the Plans.

**3.2** Neither party to the Contract shall take advantage of any obvious error or apparent discrepancy in the Contract Documents. The Contractor shall give immediate written notification of any error or discrepancy discovered to the Construction Administrator, who shall take the necessary actions to obtain such corrections and interpretations as may be deemed necessary for the completion of the Work in a satisfactory and acceptable manner. The Contractor shall then promptly proceed under the direction of the Owner and the provisions of Article 13. The Contractor's failure to provide immediate notice shall mean the Contractor will not be entitled to any additional compensation, either monetary or Contract Time adjustment, with respect to any discrepancy.

**3.3** Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

**3.4** 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.

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

**3.6** In accordance with C.G.S. Section 4a-1, wherever the term "Commissioner of Construction Services" is used in the "Bidding Documents" or "Project Manual" the term "Commissioner of Administrative Services" shall be substituted in lieu thereof; and wherever the term "Department of Construction Services" is used in "Bidding Documents" or "Project Manual", the term "Department of Administrative Services" shall be substituted in lieu thereof.

#### **ARTICLE 4**

#### **COMMENCEMENT AND PROGRESS OF WORK**

**4.1** The Work shall start upon the date given in the Notice to Proceed. The Contractor shall complete all the Work necessary for Final Payment, including but not limited to Substantial Completion, Contract close-out, testing and demonstration of all systems as required for Acceptance, punchlist Work, training and submission of Record Documents, manuals, Guarantees and Warranties as stated in the Contract Document.

**4.2** Time is of the essence with respect to the Contract Time. By executing the Contract, the Contractor confirms and agrees that the Contract Time is a reasonable period to perform the Work. The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time. The Contractor may, at his discretion, plan to complete the Work and achieve Substantial Completion in less time than the Contract Time.

**4.3** The Contractor's early completion Schedule notwithstanding, the Owner reserves the right to order Modifications to the Work in accordance with Article 13 at any time during the Contract Time.

**4.4** The Contractor shall not be entitled to costs for delay due to Owner ordered Modifications or any other circumstances for the period of time between the Contractor's elected early completion and the end of the Contract Time. Such costs include, but are not limited to, extended home office costs, field office costs, or supervisory and management costs incurred in performance of the Work. Early completion of the Work shall not merit additional compensation.

**4.5** If the Contractor is delayed at any time in the progress of Work by acts of God, such as fire or flood or any action, injunction or stop order issued by any court, judge or officer of the court or any other court action beyond the Owner's control, then the Contract Time may be extended by Change Order for such reasonable time as demonstrated by the Contractor's Schedule and as the Owner may determine that such event has delayed the Work. In any event, the granting of an extension of time shall be solely within the discretion of the Owner.

**4.6** Except as otherwise may be provided herein, extensions of time shall be the Contractor's sole remedy for such delay. No payment or compensation of any kind shall be made to the Contractor for damages because of hindrance in the orderly progress of Work caused by the aforesaid causes.

**4.7** The Contractor acknowledges that the Contract amount includes and anticipates any and all delays, whether avoidable or unavoidable, from said orders, which may issue from any court, judge, court officer, or act of God, and that such delays shall not, under any circumstances, be construed as compensable delays.

**4.8** Any extension of the Contract Time shall be by Change Order pursuant to Article 13.

**4.9** The Contractor shall employ a competent project manager who shall represent the Contractor. Communications given to the project manager shall be binding as if given to the Contractor. The project manager will be employed full time on the Project and be located and assigned to the Project site during and for the duration of the Work.

**4.10** The Contractor shall employ a competent Superintendent and necessary assistants who will be in attendance at the project site during the performance of the Work.

**4.11** Upon execution of the Contract, materials may be purchased. No material escalation costs will be valid or compensable unless the Owner directs, in writing, a delay in the procurement.

**ARTICLE 5**  
**SUBMITTALS, PRODUCT DATA, SHOP DRAWINGS AND SAMPLES**

**5.1** Contractor shall review, approve, and submit to the Construction Administrator all Submittals including but not limited to, product data, Shop Drawings, and samples, with such promptness as to cause no delay in the Work.

**5.2** Correction or approval of such Submittals, Shop Drawings, product data and samples will be made with reasonable promptness by the Architect or Engineer. Approval will be general only and shall not relieve the Contractor from responsibility for errors in dimensions, for construction and field coordination of the Work or for any departure from the Contract Documents, unless such departure has received the Owner's written approval.

**5.3** No Work governed by such Shop Drawings, Schedules or samples shall be fabricated, delivered or installed until approved by the Architect or Engineer.

**5.4** No damages for delays or time extensions will be granted, even if approvals deviate from the approved Schedule.

**ARTICLE 6**  
**SEPARATE CONTRACTS**

**6.1** The Owner reserves the right to perform Work in connection with the Contract with the Owner's own forces, or to let separate contracts relating to the Contract (Project) site or in connection with Work on adjoining sites. In such cases, the Contractor shall afford such parties reasonable opportunity for storage of materials and equipment and coordinate and connect the Work with the work on adjoining sites or other Projects, and shall fully cooperate with such parties in the matter required under Article 7 herein.

**6.2** Contractors working in the same vicinity shall cooperate with one another and, in case of dispute, decision of the Owner shall be final and binding to all Contractors involved, including Contractors under separate Contracts.

**6.3** The Contractor shall assume all liability, financial or otherwise, in connection with this Contract and shall protect and hold harmless the Owner from any and all damages or claims that may arise because of inconvenience or delay which the Contractor may cause other Contractors. If the Contractor experiences a loss because of the presence and operations of other Contractors working adjacent to or within the limits of the same Project, then as between the Owner and the Contractor, the Contractor shall bear such loss.

**6.4** Insofar as possible, the Contractor shall arrange the Work and shall place and dispose of the materials being used so as not to interfere with the operations of other Contractors adjacent to or within the limits of the same Project. The Contractor shall join its Work with that of others in an acceptable manner, and perform the Work in proper accordance with that of the others.

**6.5** In no event shall the Owner be responsible for any claim or damages that are the result of the Contractor's failure to coordinate the Work with any other Contractor or Subcontractor.

**ARTICLE 7  
COOPERATION OF TRADES**

**7.1** The Contractor shall be responsible for and shall control all activities of their Subcontractors. The Subcontractors shall consult and cooperate with one another. Each Subcontractor shall furnish all necessary information to other Subcontractors and shall lay out and install their own Work so as to avoid any delays or interference with the Work of others.

**7.2** Any cost or changes, cutting and/or repairing, made necessary by the failure to observe the above requirements shall be borne by the party or parties responsible for such failure or neglect or their faulty Work installed.

**ARTICLE 8  
DAMAGES**

**8.1** The Liquidated Damages, provided in the Bidding Documents, will be assessed at two distinct times, as follows:

**8.1.1 Liquidated Damages – Substantial Completion:**

If the Contractor fails to achieve Substantial Completion of the Work by the Substantial Completion Date, and such delay is not otherwise excused under this Contract, then the Contractor agrees to pay to the Owner Liquidated Damages for the dollar amount specified in the Bid Proposal Form for this Project, for each Day beyond Substantial Completion that the Contractor fails to achieve Substantial Completion. The parties to this Contract acknowledge and agree that the actual damages that are to be anticipated as a result of the neglect, failure, or refusal of the Contractor to substantially complete the Project by the established Substantial Completion Date are uncertain in amount or extremely difficult to determine. Accordingly, the parties to this Contract do intend and in fact now agree to liquidate damages in advance and stipulate that the amount set forth in this subparagraph is reasonable and an appropriate remedy and is intended to constitute compensatory damages and does not constitute a penalty of any kind. The parties understand and agree that, by including a provision for Liquidated Damages in this Contract, or in pursuing any relief pursuant to such provision:

- .1 the parties do not intend to set a price for the privilege not to perform;
- .2 the availability of Liquidated Damages may not be relied upon as a basis for argument that the Owner has an adequate remedy at law; and
- .3 the remedies available to the Owner under this Agreement are cumulative and not exclusive.

**8.1.2 Liquidated Damages – Acceptance:**

If the Contractor fails to complete all of the Work required for Acceptance of the Work within ninety (90) Days of Substantial Completion then the Contractor agrees to pay to the Owner Liquidated Damages for the dollar amount specified in the Bid Proposal Form for each Day in excess of ninety (90) Days beyond the Substantial Completion Date that the Contractor fails achieve Acceptance. The parties to this Contract acknowledge and agree that the actual damages that are to be anticipated as a result of the failure of the Contractor to complete all of the Work required for Acceptance within ninety (90) Days of the established Substantial Completion Date are uncertain in amount or extremely difficult to determine. Accordingly, the parties to this Contract do intend and in fact now agree to liquidate damages in advance and stipulate that the amount set forth in this subparagraph is reasonable and an appropriate remedy and is intended to constitute compensatory damages and does not constitute a penalty of any kind. The parties understand and agree that, by including a provision for Liquidated Damages in this Contract, or in pursuing any relief pursuant to such provision:

- .1 the parties do not intend to set a price for the privilege not to perform;
- .2 the availability of Liquidated Damages may not be relied upon as a basis for argument that the Owner has an adequate remedy at law; and
- .3 the remedies available to the Owner under this Agreement are cumulative and not exclusive.

**8.2** The Liquidated Damages or any portion thereof may be waived at the sole discretion of the Commissioner.

**8.3** No payment by the Owner, either partial or final, shall be construed to waive the Owner's right to seek Liquidated Damages.

**8.4** In the event a court determines that the Contract herein is null and void for any reason, Contractor agrees that Contractor will not seek or pursue any lawsuit or claim for damages, including, but not limited to, claims for loss of Overhead or anticipated profits, against the Owner and the Owner shall not be liable for any damages which Contractor may incur as a result of such decision. In addition, if the court enjoins the Owner from entering into or proceeding with the Contract herein, the Owner shall not be liable for any damages arising out of or relating to the award of such Contract which Contractor may have incurred as a result of the injunction.

**ARTICLE 9**  
**MINIMUM WAGE RATES**

**9.1** In accordance with the provisions of the Connecticut General Statutes Section 31-53, the following applies:

"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 (h) of this section, 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 payday."

**9.2** 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." No wage adjustment will be made to the Contract for any wage increase under this Article.

**ARTICLE 10**  
**POSTING MINIMUM WAGE RATES**

**10.1** The Contractor shall post at conspicuous points on the site of the Contract a Schedule showing all determined wage rates for all trades and all authorized deductions, if any, from wages to be paid.

**10.2** The Contractor shall provide weekly certified payrolls to the Owner for all persons working on the site.

**ARTICLE 11**  
**CONSTRUCTION SCHEDULES**

**11.1** Unless otherwise specified in the Contract Documents, within twenty-one (21) Days from the Contract Start Date, the Contractor shall submit the following to the Owner for approval:

**11.1.1** A comprehensive Schedule of Submittals required by the Specifications. Said Schedule shall include Submittal dates, required approval dates and date material must be on site.

**11.1.2** The Contractor shall allow a minimum of 14 Days for the Owner and its agents' review of Submittals. No extension of the Contract Time shall be granted for revisions and resubmission. Further, the Contractor shall allow a minimum of eight weeks for testing and Acceptance of the Work by the Owner.

**11.1.3** When the Contract Documents specify a "CPM Schedule" a detailed Critical Path Method Schedule is required using software approved by the Owner and/or Construction Administrator with as many activities as necessary to make the Schedule an effective tool for planning and monitoring the progress of the Work. The Contractor shall show all pertinent activities requiring coordination between trades.

**11.1.4** When the Contract Documents specify a "Construction Schedule" a detailed Construction Schedule is required using software approved by the Owner as a horizontal bar chart with a separate bar for each major portion of the Work or operation to make the Schedule an effective tool for planning and monitoring the progress of the Work.

**11.2** Unless otherwise specified under the Contract Documents, the Contractor shall provide a monthly update of the CPM Schedule or Construction Schedule in the format required by the Owner as well as a disk of the updated Schedule and program. If, in the opinion of the Owner, the Work is falling behind Schedule, the Contractor shall submit a revised Schedule demonstrating a recovery plan to ensure Substantial Completion of the Work within the Contract Time.

**11.3** Overtime, increased manpower, and additional shifts: If ordered by the Owner in writing, the Contractor shall work overtime, and/or add additional manpower and/or shifts:

**11.3.1** If the Contractor is not behind Schedule, 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, but the Contractor shall not be entitled to Overhead and Profit.

**11.3.2** If the Contractor, through its sole or partial fault or neglect is behind Schedule, the Owner may order the Contractor, at the Contractor's expense, to 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.

**11.3.3** If the Schedule is shown to be more than 21 Days behind in any critical activity, overtime, increase manpower and/or additional shifts shall be implemented immediately regardless of who is at fault. A disagreement over the cause of the impact will not relieve the Contractor from the obligation of complying with this Article. Once liability for the impact is determined, compensation will be determined in accordance with 11.3.1 or 11.3.2.

**11.3.4** The Owner reserves the right to suspend activity under Paragraph 11.3. Suspension shall be in writing and at the sole discretion of the Commissioner.

**11.4** Requisitions for partial payment will not be processed until the Contractor has complied with this requirement.

## **ARTICLE 12** **PREFERENCE IN EMPLOYMENT**

**12.1** Should this Contract be for the construction or repair of any building, then 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 at least three (3) months prior to the date hereof, have been residents of the labor market area, as established by the State of Connecticut Labor Commissioner, in which such Work is to be done, and if no such qualified person is available, then to citizens who have continuously resided in the county in which the Work is to be performed for at least three (3) 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.

**12.2** Should this Contract be for a public works project other than for the construction, remodeling or repairing of public buildings covered by Connecticut General Statutes 31-52, then in the employment of mechanics, laborers or workmen to perform the Work specified herein, preference will be given to residents of the state who are, and continuously for at least six (6) months prior to the date hereof have been residents of this State, and if no such person is available then to residents of other states.

**12.3** The provisions of this Article shall not apply where the state or any subdivision thereof may suffer the loss of revenue granted or to be granted from any Agency or Department of the federal government as a result of this Article or regulations related thereto.

## **ARTICLE 13** **COMPENSATION FOR CHANGES IN THE WORK**

**13.1** At any time, without invalidating the Contract and by a written order and without notice to the sureties, the Owner, through the Construction Administrator, may order modifications in the Work consisting of additions, deletions or other revisions. Upon request, the Contractor shall supply the Construction Administrator promptly with a detailed proposal for the same, showing quantities of and Unit Prices for the Work and that of any Subcontractor involved.

**13.2** Modifications to the Work will be authorized by a written Change Order, or if necessary to expedite the Work, a written Construction Change Directive, issued by the Owner as provided for in Article 25. Change Orders and Construction Change Directives shall be processed in accordance with the terms of the Contract Documents. Upon receipt of the written Change Order, the Contractor shall proceed with the Work when and as directed.

**13.3** If a Change Order makes the Work less expensive for the Contractor, the proper deductions shall be made from the Contract Sum, said deductions to be computed in accordance with the provisions listed in this Article 13.

**13.4** The Contractor shall not be entitled to an extension of time if in the opinion of the Owner the Additional Work in conjunction with the Work can be performed without impact on the Contract Time.

**13.5** The Contractor may request, and the Owner may grant additional Contract Time when, in the opinion of the Owner, the Contractor has demonstrated that the Additional Work cannot be performed in conjunction with the Work without impact on the original Substantial Completion and/or Acceptance (if applicable) date.

**13.6** The amount of compensation to be paid to the Contractor for any Additional or Deleted Work that results in a Change Order shall be determined in one of the following manners:

**13.6.1 AMOUNT OF COMPENSATION FOR CHANGE ORDER COSTS: LABOR, EQUIPMENT, BENEFITS AND MATERIAL:**

**13.6.1.1 Unit Price:** As stated in the Contract Documents.

**13.6.1.2 Unit Price:** As subsequently agreed upon by the Contractor and Owner

**13.6.1.3 Lump Sum:** Agreed upon sum by the Owner and the Contractor. The Owner may rely on costs, prices, and documentation provided by the Contractor or Subcontractor in agreeing to a Lump Sum. 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 Lump Sum must be based upon the following itemized costs:

**13.6.1.3.1 Labor:** (Contractor's or Subcontractor's own forces) No Change Order Proposal shall be negotiated if the request is solely for the increased labor rate over those originally carried by the Contractor in its original bid. Additional foreman hours shall not be included unless additional crews are added and/or a compensable time extension is granted. Project Executive time shall not be included as a direct cost as it is part of the overhead mark-up allowed. Project manager hours shall not be included unless a compensable time extension is granted.

**13.6.1.3.2 Material:** (Actual cost to the Contractor or Subcontractor) Cost shall not be based upon list pricing unless it reflects the actual prices being paid and no discounts or other offsets are being received by the Contractor or Subcontractor. No Change Order Proposal shall be negotiated if the request is solely for the escalation of material prices over those originally carried by the Contractor in its original bid.

**13.6.1.3.3 Benefits:** (The established rates of the following benefit costs inherent to the particular labor involved):

**13.6.1.3.3.1** Workers Compensation.

**13.6.1.3.3.2** Federal Social Security.

**13.6.1.3.3.3** Connecticut Unemployment Compensation.

**13.6.1.3.3.4** Fringe Benefits.

**13.6.1.4 Rented Equipment:** (Used directly on the Work and by the Contractor's or Subcontractor's own forces).

**13.6.1.5 Owned Equipment:** (Used directly on the Work and by the Contractor's or Subcontractor's own forces). Daily rate is not to exceed 3% of the monthly rental rate as identified by a nationally recognized construction cost estimating guide or service.

**13.6.1.6 Small Tools:**

Include 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 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.

**13.6.2 OVERHEAD AND PROFIT PERCENTAGES:** (Maximum allowable percentages applied to labor, equipment, and material)

**13.6.2.1** Contractor's mark-up for Work performed by its own forces:

Change Order Amount	Overhead and Profit
\$0 to \$5,000	20%
\$5,001 to \$15,000	17%
\$15,001 to \$25,000	15%
\$25,000 and greater	12%

**13.6.3 OVERHEAD AND PROFIT PERCENTAGES:** (Maximum allowable percentages applied to labor, equipment, benefits and material)

**13.6.3.1** Contractor's mark-up for Work performed by its Subcontractor's forces and not allowable for any subsidiary in which the Contractor has a majority ownership:

Change Order Amount	Overhead and Profit
\$0 and greater	6%

**13.6.4 OVERHEAD AND PROFIT PERCENTAGES:** (Maximum allowable percentages applied to labor, equipment, benefits and material) Subcontractor's mark-up for Work performed by its own forces:

Change Order Amount	Overhead and Profit
\$0 to \$5,000	20%
\$5,001 to \$15,000	17%
\$15,001 to \$25,000	15%
\$25,000 and greater	12%

**13.6.5 OVERHEAD AND PROFIT PERCENTAGES:** (Maximum allowable percentages applied to labor, equipment, benefits and material)

**13.6.5.1** Subcontractor's mark-up for Work performed by its Secondary Subcontractor's forces. Limited to one level (tier) below the Subcontractor and not allowable for any subsidiary in which the Subcontractor has a majority ownership.

Change Order Amount	Overhead and Profit
\$0 and greater	6%

### 13.7 BOND COSTS

**13.7.1** Actual additional bonding costs associated with the value of the Change Order will be compensable only when supported by written documentation by the bonding company that the Change Order requires an increase to the original Performance, Payment, Labor or Material Bond.

**13.7.2** The Contractor shall notify the bonding company at each \$500,000 increase to the contract value as the cumulative result of change orders. A copy of the Consent of Surety must be provided to the Owner prior to the execution of any change order which exceeds each cumulative \$500,000.

**13.8** Trade discounts, rebates, and amounts received from the sales by the Contractor of surplus materials and equipment shall accrue to the Owner.

**13.9** If the parties cannot agree upon a Lump Sum, then the Commissioner, through the Project Manager, may at the option of the Commissioner take the following action(s):

**13.9.1** Issue a Construction Change Directive for the Additional or Deleted Work. The amount of compensation shall be computed by the actual net costs to the Contractor determined by time and material or Unit Prices based upon the same information required in Subparagraphs 13.6.1.3.3.1 through 13.6.1.5:

**13.9.1.1 Labor:** (Contractor's or Subcontractor's own forces).

**13.9.1.2 Material:** (Used by Contractor's or Sub- contractor's own forces).

**13.9.1.3 Benefits:** (The established rates of the following benefit costs inherent to the particular labor involved):

**13.9.1.3.1 Workers Compensation.**

**13.9.1.3.2 Federal Social Security.**

**13.9.1.3.3 Connecticut Unemployment Compensation.**

**13.9.1.3.4 Fringe Benefits.**

**13.9.1.4 Rented Equipment:** (Used directly on the Work and by the Contractor's or Subcontractor's own forces).

**13.9.1.5 Owned Equipment:** (Used directly on the Work and by the Contractor's or Subcontractor's own forces). Daily rate is not to exceed 3% of the monthly rental rate that can be identified by a nationally recognized construction cost estimating guide or service.

**13.9.2** Issue a Change Order adjusting the Contract Sum in the amount as determined by the Commissioner.

**13.10** For any Change Order or Construction Change Directive the Contractor shall, when requested, promptly furnish in a form satisfactory to the Construction Administrator and the Owner a complete detailed accounting of all costs relating to the Additional Work, including but not limited to certified payrolls and copies of accounts, bills and vouchers to substantiate actual costs. Further, the Owner reserves the right to access and make copies of the Contractor's records at any time upon written request from the Commissioner.

**13.11** Failure of the Contractor to negotiate in good faith issues of time and costs or failure to provide requested documentation within fourteen (14) Days, or a time period accepted by the Commissioner, shall constitute a waiver by the Contractor of any claim. In such cases the Owner may elect to issue a unilateral Change Order in an amount deemed to be fair and equitable by the Commissioner. The provisions hereof shall not affect the power of the Contractor to act in case of emergency, threatened injury to persons, or damage to Work on any adjoining property. In this case the Commissioner, through the Project Manager, shall issue a Change Order for such amount as the Commissioner finds to be reasonable cost of such Work.

## **ARTICLE 14** **DELETED WORK**

**14.1** Without invalidating any of the terms of the Contract, the Commissioner may order deleted from the Contract any items or portions of the Work deemed necessary by the Commissioner.

**14.2** The compensation to be deducted from the Contract Sum for such deletions shall be determined in the manner provided for under the provisions of Article 13 or in the event none of the provisions of Article 13 are applicable then by the value as estimated by the Owner.

## **ARTICLE 15** **MATERIALS: STANDARDS**

**15.1** Unless otherwise specifically provided for in the Specifications, all equipment, materials and articles incorporated in the Work are to be new and of the best grade of their respective kinds for the purposes. Wherever in the Contract Documents a particular brand, make of material, device, or equipment is shown or specified, the first manufacturer listed in the specification section is to be regarded as the standard. When the specification is proprietary and only one manufacturer is listed, the Contractor shall use the named manufacturer and no Substitutions or Equals will be allowed.



**15.2** Any other brand, make of material, device, equipment, procedure, etc. which is a deviation from the specified requirement is prohibited from use, but may be considered by the Owner for approval as an Equal or Substitution. The Contractor is to adhere to the specific requirements of the Contract Documents. Substitutions are discouraged and are only approved by the Commissioner as an exception.

**15.3 Submittals – Equals and Substitution Requests:**

**15.3.1 Substitution of Materials and Equipment before Bid Opening.** The Owner will consider requests for Equals or Substitutions, if made prior to the receipt of the Bid. The information on all materials shall be consistent with the information herein.

**15.3.1.1 Statement of Variances –** a statement of variances must list all features of the proposed Substitution which differ from the Drawings, Specifications and/or product(s) specified and must further certify that the Substitution has no other variant features. A request will be denied if submitted without sufficient evidence.

**15.3.1.2 Substitution Denial –** any Substitution request not complying with the above requirements will be denied. Substitution request sent after the deadline established in the Notice to Bidder will be denied.

**15.3.1.3** An addendum shall be issued to inform all prospective Bidders of any accepted Substitution in accordance with Owner's addenda procedures.

**15.3.2 Substitution of Materials and Equipment After Bid Opening:** Subject to the Architect or Engineer's determination, if the material or equipment is Equal to the one specified or pre-qualified and the CT DCS Project Manager's approval of such determination, Substitution of Material or Equipment may be allowed after the Letter of Award is issued only:

**15.3.2.1** If the specified or pre-qualified item is delayed by unforeseeable contingencies beyond the control of the Contractor which would cause a delay in the Project completion;

**15.3.2.2** If any specified or pre-qualified item is found to be unusable or unavailable due to a change by the manufacturer or other circumstances; or

**15.3.2.3** If the Contractor desires to provide a more recently developed material, equipment, or manufactured model from the same named manufacturer than the one specified or pre-qualified; or

**15.3.2.4** If the specified material and/or equipment inadvertently lists only a single manufacturer.

**15.4** Contractor shall submit each request for Equal or Substitution to the Architect or Engineer who shall review each request and make the following recommendations to the Owner:

**15.4.1** Acceptance or non-acceptance of the adequacy of the submission and required back-up,

**15.4.2** Determination of the category of the request for Substitution or Equal, and

**15.4.3** Overall recommendation for approval or rejection of the Substitution or Equal. The determination of the category as a Substitution may be grounds for an immediate rejection by the Owner.

**15.5** Approval of the Owner for each Equal or Substitution shall be obtained before the Contractor proceeds with the Work. The decision of the Commissioner, in this regard, shall be final and binding on the Contractor.

**15.6** No extension of time will be allowed for the time period required for consideration of any Substitution or Equal. No extension of time will be allowed and no responsibility will be assumed by the Owner when a Contractor submits a request for Substitution or Equal, whether such request be approved or denied, and the Contractor shall not be entitled to any claim for damages for delay.

**15.7** If the Contractor submits any request for an Equal or a Substitution, he shall bear the burden of proof that such requested Equal or Substitution meets the requirements of the Plans and Specifications.

**15.8** The Contractor shall purchase no materials or supplies for the Work which is subject to any chattel mortgage or which are under a conditional sale or other agreement by which an interest is retained by the seller. The Contractor warrants that the Contractor has good title to all materials and supplies used by him in the Work.

**15.9** All products and systems supplied to the State as a result of a purchase by a Contractor shall be certified that, to the best of the supplier's knowledge, there are no materials that are classified as hazardous materials being used within the assembly. Hazardous materials include, but are not limited to, products such as asbestos, lead, and other materials that have proven to cause a health risk by their presence.

## **ARTICLE 16 INSPECTION AND TESTS**

**16.1** The purpose of the inspections will be to assure that the Work is performed in accordance with the Contract Documents. These inspections shall include, but not be limited to, all inspections and testing as required by the Owner, and any authorities have jurisdiction.

**16.2** All material and workmanship, if not otherwise designated by the Specifications, shall be subject to inspection, examination and test by the Commissioner at any and all times during manufacture and/or construction and at any and all places where such manufacture and/or construction is carried on. The Contract Documents additionally identify the parties responsible for performing and paying for the required testing and inspections. All required tests performed in a laboratory will be obtained and paid for by the Owner, except when the tests show the Work to be defective. The Contractor shall pay for all the costs associated with re-tests and re-inspections for all tests and inspections which fail. The Owner will issue a deduct Change Order to recover said retesting costs from the Contractor. All other tests, unless otherwise specified, shall be made at the Contractor's expense. Notice of the time of all tests to be made at the site shall be given to all interested parties, including the Owner.

**16.3** Without additional cost to the Owner, the Contractor shall promptly furnish facilities, labor and materials necessary to coordinate and perform operational tests and checkout of the Work. The Contractor shall furnish promptly all reasonable facilities, labor, and materials necessary to make all such testing safe and convenient.

**16.4** If, at any time before final payment and Acceptance of the Work, the Commissioner considers it necessary or advisable to examine of any portion of the Work already completed by removing or tearing out the same, the Contractor shall, upon request, furnish promptly all necessary facilities, labor, and materials. If such Work is found to be defective in any material respect, as determined by the Owner, because of a fault of the Contractor or any of the Contractor's Subcontractors, or if any Work shall have been covered without the approval or consent of the Commissioner (whether or not it is found to be defective), the Contractor shall be liable for testing costs and all costs of correction, including removal and/or demolition of the defective Work, including labor, material, and testing, including labor, material, re-testing or re-inspecting, services of required consultants, additional supervision, the Commissioner's and the Construction Administrator's administrative costs, and other costs for services of other consultants.

**16.5 Cost of Systems Commissioning Retesting:** The cost to retest a pre-functional or functional test, if the Contractor is responsible for the deficiency, shall be the Contractor's. If the Contractor is not responsible, any cost recovery for retesting costs shall be negotiated with the Contractor.

**16.5.1** For a deficiency identified, not related to any pre-functional checklist or start-up fault, the following shall apply: The Commissioning Agent (CxA) and Construction Administrator will direct the retesting of the equipment once at no "charge" to the Contractor for their time. However, the Commissioning Agent's and Construction Administrator's time for additional testing will be charged to the Contractor.

**16.5.2** The time for the Systems Commissioning Agent and Construction Administrator to direct any retesting required because a specific pre-functional checklist or start-up test item, reported to have been successfully completed, but determined during functional testing to be faulty, will be back charged to the Contractor.

**16.5.3** Any required retesting by any Subcontractor shall not be considered a justified reason for a claim of delay or for a time extension by the Contractor.

## **ARTICLE 17 ROYALTIES AND PATENTS**

**17.1** If the Contractor desires to use any design, device, material or process covered by a patent or copyright, the Contractor shall provide for such use by suitable legal agreement with the holder of said patent or copyright. The Contractor shall furnish a copy of this legal agreement to the Owner.

**17.2** The Contractor shall indemnify and hold harmless the Owner and Construction Administrator for any costs, expenses and damage which it may be obliged to pay by reason of any infringement of a patent or a copyright, at any time during the prosecution or after the Final payment of the Work.

**ARTICLE 18**  
**SURVEYS, PERMITS AND REGULATIONS**

**18.1** Unless otherwise provided for, the Contractor shall furnish surveys necessary for the execution of the Work. The Owner will furnish the Contractor with two base lines and a benchmark.

**18.2** The Contractor shall obtain and pay for permits and licenses necessary for the execution of the Work and the occupancy and use of the completed Work.

**18.3** The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations including building and fire safety codes relating to the performance of the Work.

**18.4** If underground utilities may be involved in part of the Work the Contractor is required to request "Call-Before-You-Dig" to verify the location of underground utilities at least (3) Working Days, as further defined under Paragraph 1.71 herein, prior to the start of any excavation. The Contractor shall also notify the Owner and Agency at least (3) Working Days prior to the start of any excavation. If "Call-Before-You-Dig" fails or refuses to respond to the Contractor's request, then the Contractor shall obtain the services of a qualified underground utility locating firm, at no additional cost to the Owner, to verify locations of underground utilities prior to the start of any excavation. The Contractor shall be held responsible for providing safety, protecting the Work and protecting workmen as necessary to perform the Work. The Contractor shall be responsible for maintaining and protecting all original utility mark-out at no additional cost to the Owner.

**ARTICLE 19**  
**PROTECTION OF THE WORK, PERSONS AND PROPERTY**

**19.1** The Contractor shall continuously and adequately protect the Work against damage from any cause, and shall protect materials and supplies furnished by the Contractor or Subcontractors, whether or not incorporated in the Work, and shall make good any damage unless it be due directly to errors in the Contract Documents or is caused by agents or employees of the Owner.

**19.2** To the extent required by law, by public authority, or made necessary in order to safeguard the health and welfare of the personnel or occupants of any of the state institutions, the Contractor shall adequately protect adjacent property and persons, and provide and maintain all facilities, including but not limited, to passageways, guard fences, lights, and barricades necessary for such protection.

**19.3** The Contractor shall take all necessary precautions for the safety of employees on the Work and shall comply with applicable provisions of federal and state safety laws and building codes to prevent accidents or injury to persons on, about, or adjacent to the premises where the Work is being performed. The Contractor shall also comply with the applicable provisions of the Associated General Contractors' "Manual of Accident Prevention in Construction", the standards of the Connecticut Labor Department and Occupational Safety and Hazard Association (OSHA).

**19.4** The Contractor shall erect and properly maintain at all times, as required by the conditions and progress of the Work, all necessary safeguards for the protection of employees of the State and the public, and shall post danger signs warning against any dangerous condition or hazard created by such things as protruding nails, well holes, elevator hatchways, scaffolding, window openings, excavations, tripping hazards or slipping, stairways and falling materials.

**19.5** The Contractor shall designate a qualified and responsible on-site staff person, whose duty shall be the prevention of accidents. The name and position of the designated person shall be reported to the Owner by the Contractor at the commencement of the Contract.

**19.6** The Contractor shall at all times protect excavations, trenches, buildings, and all items of Work from damage by rain, water from melted snow or ice, surface water run off and subsurface water usual for the vicinity at the time of operations; and provide all pumps and equipment and enclosures to insure such protection.

**19.7** The Contractor shall construct and maintain all necessary temporary drainage and provide all pumping necessary to keep excavation, basements, footings and foundations free of water.

**19.8** The Contractor shall remove all snow and ice as may be required for access to the site and proper protection and prosecution of the Work.

**19.9** The Contractor shall install bracing, shoring, sheathing, sheet piling, caissons and any other underground facilities as required for safety and proper execution of the Work, and shall remove this portion of the Work when no longer necessary.

**19.10** During cold weather the Contractor shall protect all Work from damage. If low temperature makes it impossible to continue operations safely in spite of cold weather precautions, the Contractor may cease Work upon the written approval of the Commissioner.

**ARTICLE 20  
TEMPORARY UTILITIES**

**20.1** Unless expressly provided for otherwise in the Contract Documents, the Contractor shall include in the proposed contract bid price as stated on the Bid Proposal Form, the costs of all temporary utilities required for Project completion and protection of the Work. Said temporary utilities include, but are not limited to, lighting, heating, cooling, electrical power, water, telephone, sanitary facilities, and potable water.

**ARTICLE 21  
CORRECTION OF WORK**

**21.1** The Contractor shall promptly and without expense to the Owner remove from the premises all materials rejected by or unacceptable to the Commissioner as failing to conform to the Contract Documents, whether incorporated in the Work or not.

**21.2** The Contractor shall promptly and without expense to the Owner replace any such materials, which do not conform to the Contract Documents, and shall bear the expense of making good all Work of other Contractors or Subcontractors destroyed or damaged by such removal or replacement.

**21.3** If the Contractor, after receipt of notice from the Owner, shall fail to remove such rejected or unacceptable materials within a reasonable time as fixed in said notice, the Owner may remove and store such materials at the expense of the Contractor.

**21.4** Such action shall not affect the obligation of the Contractor to replace and complete assembly and installation of the Work and to bear the expenses referred to above. Prior to the correction of rejected or unacceptable Work or if the Commissioner deems it inexpedient or undesirable to correct any portion of the Work which was rejected, deemed unacceptable, or not done in accordance with the Contract Documents, the Contract Sum shall be reduced by such amount as, in the judgment of the Commissioner, shall be equitable.

**21.5** No extension of time will be given to the Contractor for correction of rejected or unacceptable Work. All significant punchlist Work shall be completed before Substantial Completion is determined. The remaining minor punchlist Work, as determined by the Commissioner, shall be completed within **ninety (90) Days** of established Substantial Completion date.

**21.6** Final Payment shall not relieve the Contractor of responsibility for the defects in material or workmanship.

**21.7** Unless expressly provided for otherwise in the Contract Documents, the Contractor shall remedy any rejected or unacceptable Work, and any Work found to be not conforming to the Contract Documents which is discovered within 18 Months after the date of Substantial Completion. The Contractor shall pay for any damage to other Work caused by such nonconforming Work or any damage created in correcting the nonconforming Work.

**ARTICLE 22  
GUARANTEES and WARRANTIES**

**22.1** Unless expressly provided for otherwise in the Contract Documents, the Contractor shall provide a Warranty on the Work for an **18-Month** period from the date of Substantial Completion. The Contractor shall warrant that the equipment, materials and workmanship are of good quality and new, unless permitted elsewhere by the Contract Documents, and that the Work shall be free from defects not inherent in the quality required or permitted and that the Work conforms to the Contract Documents.

**22.2** Disclaimers and limitations from manufactures, Subcontractors, suppliers or installers to the Contractor shall not relieve the Contractor of the Warranty on the Work. The Contract Documents detail the related damages, reinstatement of Warranty, replacement cost and Owner's recourse.

**ARTICLE 23  
CUTTING, FITTING, PATCHING, AND DIGGING**

**23.1** The Contractor will perform or will cause the Subcontractors to perform all cutting, fitting, or patching of the portion(s) of the Work that may be required to make the several parts thereof joined and coordinated in a manner satisfactory to the Commissioner and in accordance with the Plans and Specifications.

**23.2** The responsibility for defective or ill-timed Work shall be with the Contractor, but such responsibility shall not in any way relieve the Subcontractor who performed such Work. Except with the consent of the Commissioner, neither the Contractor nor any of its Subcontractors shall cut or alter the Work of any other Contractor or Subcontractor.

**ARTICLE 24**  
**CLEANING UP**

**24.1** The Contractor shall, on a daily basis, keep the premises free from accumulations of waste material or rubbish.

**24.2** Prior to Acceptance of the Work, the Contractor shall remove from and about the site of the Work, all rubbish, all temporary structures, tools, scaffolding, and surplus materials, supplies, and equipment which may have been used in the performance of the Work. If the Commissioner in his sole discretion determines that the Contractor has failed to clean the work site, the Owner may remove the rubbish and charge the cost of such removal to the Contractor. A deduct Change Order will be issued by the Owner to recover such cost.

**ARTICLE 25**  
**ALL WORK SUBJECT TO CONTROL OF THE COMMISSIONER**

**25.1** The Commissioner hereby declares that the CT DCS Project Manager is the Commissioner's only authorized representative to act in matters involving the Owner's, and/or Architect's or Engineer's, ability to revoke, alter, enlarge or relax any requirement of the Contract Documents; to settle disputes between the Contractor and the Construction Administrator; and act on behalf of the Commissioner. In all such matters, the provisions of Articles 13 and 14 herein shall guide the CT DCS Project Manager.

**25.2** In no event may the Contractor act on any instruction of the Agency without written consent of the Owner. In the event the Contractor acts without such consent, he does so at his own risk and at his own expense, not only for the Work performed, but for the removal of such Work as determined necessary by the Commissioner.

**25.3** In the performance of the Work, The Contractor shall abide by all orders, directions, and requirements of the Commissioner at such time and places and by such methods and in such manner and sequence as the Commissioner may require.

**25.4** The Commissioner shall determine the amount, quality, acceptability and fitness of all parts of the Work, shall interpret the plans, Specifications, Contract Documents and extra work orders and shall decide all other questions in connection with the Work.

**25.5** The Contractor shall employ no plant, equipment, materials, methods, or persons to which the Commissioner objects and shall remove no plant materials, equipment, or other facilities from the site of the Work without the permission of the Commissioner. Upon request, the Commissioner shall confirm in writing any oral order, direction, requirement or determination.

**25.6** In accordance with Section 4b-24 of the Connecticut General Statutes, the public auditors of the State of Connecticut and the auditors or accountants of the Commissioner of Construction Services shall have the right to audit and make copies of the books of any Contractor employed by the Commissioner.

**ARTICLE 26**  
**AUTHORITY OF THE CONSTRUCTION ADMINISTRATOR**

**26.1** The Construction Administrator employed by the Commissioner is authorized to inspect all Work for conformance to the Contract Documents. The Construction Administrator is authorized to reject all Work found to be defective, unacceptable and nonconforming to the Contract Documents. Such inspections and rejections may extend to all or any part of the Work, and to the preparation or manufacture of the material to be used.

**26.2** The Construction Administrator is not empowered to revoke, alter, enlarge, or relax any requirements of the Contract Documents, or to issue instructions contrary to the Contract Documents. The Construction Administrator shall in no case act as foreman or perform other duties for the Contractor, nor shall the Construction Administrator interfere with the management of the Work by the Contractor. Any advice, which the Construction Administrator may give the Contractor, shall in no way be construed as binding the Commissioner or Owner in any way, nor releasing the Contractor from the fulfillment of the terms of the Contract.

**26.3** In any dispute arising between the Contractor and the Construction Administrator with reference to inspection and rejection of the Work, the Construction Administrator may suspend Work on the non-compliant portion of the Work until the dispute can be referred to and decided by the Commissioner.

**ARTICLE 27**  
**SCHEDULE OF VALUES, APPLICATION FOR PAYMENT**

**27.1** Immediately after the signing of the Contract, the Contractor shall furnish for the use of the Commissioner, as a basis for estimating partial payments, a certified Schedule of Values, totaling the Contract Sum and broken down into quantities and unit costs, as outlined in the Contract Documents and as directed by the Owner. The Schedule of Values must reflect true costs and be in sufficient detail to be an effective tool for monitoring the progress of the Work. Upon request of the Commissioner; the Contractor shall supply copies of signed Contracts, vendor quotations, etc. as back up to the Schedule of Values.

**27.2** Approval of the Schedule of Values by the Commissioner is required prior to any payment by the Owner.

**27.3** The Schedule of Values shall include a breakdown of the Contractor's general condition costs.

**27.3.1** Non-recurring costs, (i.e. Mobilization costs, utility hook-ups, temporary heat) will be paid at the time of occurrence.

**27.3.2** Reoccurring costs will be paid in proportion to the percent of completion of the Project.

**27.3.3** Further detail can be found in the General Requirements 01.29.76; paragraphs 1.3.B.4 for this project.

**27.4** The Schedule of Values shall include a breakdown of Contract closeout costs including systems certification testing and acceptance, training, Warranties, Guarantees, As-Built Drawings and attic stock.

**27.5** The Contractor shall make periodic applications for payment, which shall be subdivided into categories corresponding with the approved Schedule of Values and shall be in such numbers of copies as may be designated by the Commissioner.

**ARTICLE 28**  
**PARTIAL PAYMENTS**

**28.1** Commissioner will examine the Contractor's Applications For Payments to determine, in the opinion of the Commissioner, the amounts that properly represent the value of the Work completed and the materials suitably stored on the site.

**28.2** In making such Application For Payment for the Work, there shall not be more than **seven and five-tenths percent (7.5%)** deducted from the amount of each Application for Payment to be retained by the Owner as Retainage until Acceptance of the Work.

**28.2.1** The following criteria shall be utilized in the reduction of Retainage withheld: At fifty percent (50%) completion of the Work the Retainage shall be reduced to **five percent (5%)**. All subsequent Applications for Payment shall be subject to **five percent (5%)** Retainage. Upon Substantial Completion, and in the Commissioner's sole discretion and based upon the factors set forth in **Section 28.3**, the Retainage may be reduced upon the request of the Contractor and recommendation of the DAS Project Manager. In the event of a reduction in Retainage to **below five percent (5%)**, the minimum Retainage withheld shall not be less than the DAS Project Manager's estimate of the remaining Work or **two and five-tenths percent (2.5%)**, whichever is greater. All requests for Retainage Reduction shall be done on **CT DAS Form 7048 General Contractor Retainage Reduction Request**, a sample of which can be found at the end of these General Conditions.

**28.2.2** Subsequent to Substantial Completion, in limited circumstances, at the sole discretion of the Commissioner and based upon factors set forth in Section 28.3, a reduction of Retainage below **two and five-tenths percent (2.5%)** may be considered.

**28.2.3** A "Good" Contractor's Performance Evaluation score shall be defined as a minimum total score of sixty percent (60%).

**28.3** The decision of the Commissioner to reduce the Retainage rate will be based upon the **Contractor's Performance Evaluation** score for completed portions of the Work as set out above and other factors that the Commissioner may find appropriate as follows:

**28.3.1** The Contractor's timely submission of an appropriate and complete CPM Schedule or Construction Schedule and Schedule of Values, in compliance with the Contract requirements and the prompt resolution of the Owner's and/or Architect's or Engineer's comments on the submitted material resulting in an appropriate basis for progress of the Work.

**28.3.2** The Contractor's timely and proper submission of all Contract Document required submissions: including, but not limited to, Shop Drawings, material certificates and material samples and the prompt resolution of the Owners and/or Architect's or Engineer's comments on the submitted material, resulting in an appropriate progress of the Work.

**28.3.3** The Contractor's provision of proper and adequate supervision and home office support of the Project.

**28.3.4** The Work completed to date has been installed or finished in a manner acceptable to the Owner.

**28.3.5** The progress of the Work is consistent with the approved CPM Schedule or Construction Schedule.

**28.3.6** All approved credit change orders have been invoiced.

**28.3.7** All Change Order requests for pricing are current.

**28.3.8** The Contractor has and is maintaining a clean worksite in accordance with the Contract Documents.

**28.3.9** All Subcontractor payments are current at the time of reduction request.

**28.3.10** Contractor is compliant with set-aside provisions of the contract.

**28.3.11** Pursuant to C.G.S. Sec. 4a-101, the General Contractor shall compile evaluation information during the performance of the contract on each of its subcontractors who are performing work with a value in excess of five hundred thousand dollars (\$500,000.00). The General Contractor shall complete and submit to the State of Connecticut Department of Construction Services (CT DCS) evaluations of each such subcontractor upon fifty percent (50%) completion of the project and upon Substantial Completion of the project. The General Contractor acknowledges that its failure to complete and submit these evaluations in a timely manner may, by statute; result in a delay in project funding and, consequently, payment to the General Contractor.

**28.4** No payments will be made for improperly stored or protected materials or unacceptable Work.

**28.5** At his or her sole discretion, the Commissioner may allow to be included in the monthly requisitions payment requests for materials and equipment stored off the site.

**28.5.1** In the event the Commissioner allows the Contractor to include in its requisitions payment requests for materials and equipment stored off the site, the Contractor shall also submit any additional bonds and/or insurance certificates relating to off-site stored materials and equipment, and follow such other procedures as may be required by the State to obtain the Commissioner's approval of such requests.

**28.5.2** The Architect or Engineer, or Construction Administrator shall have inspected said materials and equipment and recommended payment therefore. The Contractor shall pay for the cost of the Architect's or Engineer's, or Construction Administrator's time and expense in performing these inspection services.

**ARTICLE 29**  
**DELIVERY OF STATEMENT SHOWING**  
**AMOUNTS DUE FOR WAGES, MATERIALS, AND SUPPLIES**

**29.1** For each Application for Payment under this Contract, the Owner reserves the right to require the Contractor and every Subcontractor to submit a written verified statement, in a form satisfactory to the Owner, showing in detail all amounts then due and unpaid by such Contractor or Subcontractor for daily or weekly wages to all laborers employed by it for the performance of the Work or to other persons for materials, equipment or supplies delivered at the site.

**29.2** The term "laborers" as used herein shall include workmen, workwomen, and mechanics.

**29.3** Failure to comply with this requirement may result in the Owner withholding the Application for Payment pursuant to Article 28.

**ARTICLE 30**  
**SUBSTANTIAL COMPLETION AND ACCEPTANCE**

**30.1 Substantial Completion:**

**30.1.1** When the Contractor considers that the Work or a portion thereof is Substantially Complete, the Contractor shall request an inspection of said Work in writing to the Construction Administrator. The request shall certify that the Contractor has completed its own inspection prior to the request and that the Contractor is compliant with all requirements of Section 01 77 00 of the General Requirements. The request must also include a statement that a principal or senior executive of the Contractor is ready, willing and able to attend a walk through inspection with the Architect or Engineer.

**30.1.2** Upon receipt of the request, the Architect or Engineer, Construction Administrator and Owner, will make an inspection to determine if the Work or designated portion thereof is Substantially Complete. A principal or senior executive of the Contractor shall accompany the Architect or Engineer during each inspection/re-inspection. If the inspection discloses any item, whether or not included on the inspection list, which is not in accordance with the requirements of the Contract Documents, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item.

**30.1.3** The Contractor shall then submit a request for another inspection. The determination of Substantial Completion is solely within the discretion of the Owner. Any costs for re-inspection beyond one, shall be at the expense of the Contractor and such costs will be recovered by issuance of a credit Change Order. When the Work or designated portion thereof is determined to be Substantially Complete, the Contractor will be provided a Certificate of Substantial Completion from the Owner. The Certificate of Substantial Completion shall establish the date when the responsibilities of the Contractor for security, maintenance, heat, utilities, damage to the Work, and insurance, are transferred to the Owner and shall fix the time within which the Contractor shall finish all items on the inspection list accompanying the Certificate. If the punch list is not complete in **90 Days**, the Owner reserves the right to complete the outstanding punch list items with their own forces or by awarding separate contracts and to deduct the cost thereof from the amounts remaining due to the Contractor.

**30.1.4** The Certificate of Substantial Completion shall be signed by the Construction Administrator, Owner, and Architect or Engineer. Upon Substantial Completion of the Work or designated portion thereof and upon application by the Contractor and certification by the Construction Administrator and Architect or Engineer, the Owner shall make payment reflecting adjustment in Retainage, if any, for such Work or portion thereof as provided in the Contract Documents.

**30.2 Acceptance:**

**30.2.1** Upon completion of the Work, the Contractor shall forward to the Construction Administrator a written notice that the Work is ready for inspection and Acceptance.

**30.2.2** When the Work has been completed in accordance with terms and conditions of the Contract Documents as determined by the Owner a Certificate of Acceptance shall be issued by the Owner.

**ARTICLE 31**  
**FINAL PAYMENT**

**31.1** The Owner reserves the right to retain for a period of thirty (30) Days after filing of the Certificate of Acceptance the amount therein stated less all prior payments and advances whatsoever to or for the account of the Contractor.

**31.2** All prior estimates and payments, including those relating to extra or additional Work, shall be subject to correction by the Final Payment.

**31.3** No Application for Payment, Final or Partial, shall act as a release to the Contractor or the Contractor's sureties from any obligations under this Contract.

**31.4** The Architect or Engineer and Construction Administrator will promptly issue the Certificate for Payment, stating that to the best of their knowledge, information and belief, and on the basis of their observations and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in said Final Payment is due and payable.

**31.5** Final Payment shall not be released until a Certificate of Acceptance and a Certificate of Compliance have been issued.

**31.6** Neither Final Payment nor any Retainage shall become due until the Contractor submits to the Owner the following:

**31.6.1** 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.

**31.6.2** A certificate evidencing that insurance required by the Contract Documents to remain in force after Final Payment is currently in effect and will not be canceled or allowed to expire without at least 30 Days prior written notice to the Owner.

**31.6.3** A written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents.



**31.6.4** Written consent of surety, if any, to Final Payment.

**31.6.5** If required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, 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. 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. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorney's fees.

**ARTICLE 32**  
**OWNER'S RIGHT TO WITHHOLD PAYMENTS**

**32.1** The Commissioner may withhold a portion of any Payment due the Contractor that may, in the judgment of the Commissioner, be necessary:

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

**32.1.2** To protect Owner from loss due to defective, unacceptable or non-conforming Work not remedied by the Contractor.

**32.1.3** To protect the Owner from loss due to injury to persons or damage to the Work or property of other Contractors, Subcontractors, or others caused by the act or neglect of the Contractor or any of its Subcontractors.

**32.2** The Owner shall have the right to apply any amount withheld under this Article as the Owner may deem proper to satisfy protection from claims. The amount withheld shall be considered a payment to the Contractor.

**32.3** The Owner has the right to withhold payment if the Contractor fails to provide accurate submissions of Submittals, up date the status including but not limited to the following: As-Built Drawings, request for information (RFI) log, Schedule, submittal log, Change Order log, certified payrolls and daily reports and all other requirement of the Contract Documents.

**32.4** 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. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorney's fees.

**ARTICLE 33**  
**OWNER'S RIGHT TO STOP WORK OR TERMINATE CONTRACT**

**33.1** The Commissioner shall have the authority to suspend the Work wholly or in part, for such period or periods as the Commissioner considers being in the best interests of the State, or in the interests of public necessity, convenience or safety. During such periods the Contractor shall store all materials and equipment, in such a manner to prevent the materials and equipment from being damaged in any way, and the Contractor shall take precautions to protect the Work from damage.

**33.1.1** If the Commissioner, in writing, orders the performance of all or any portion of the Work to be suspended or delayed for an unreasonable period of time (i.e. not originally anticipated, customary, or inherent in the construction industry) and the Contractor believes that additional compensation and/or Contract Time is due as a result of such suspension or delay, the Contractor shall submit to the Commissioner in writing a request for a Contract adjustment within 7 Days of receipt of the notice to resume Work. The request shall set forth the specific reasons and support for said adjustment.

**33.1.2** The Commissioner shall evaluate any such requests received. If the Commissioner agrees that the cost and/or time required for the performance of the Contract has increased as a result of such suspension and that the suspension was caused by conditions beyond the control of and not the fault of the Contractor, its suppliers, or Subcontractors, and was not caused by weather, then the Commissioner will make a reasonable adjustment, excluding profit, of the Contract terms. The Commissioner will notify the Contractor of the determination as to what adjustments of the Contract, if any, that the Commissioner deems warranted.

**33.1.3** No Contract adjustment will be made unless the Contractor has submitted the request for adjustment within the time prescribed.

**33.1.4** No Contract adjustment will be made under this Article to the extent that performance would have been suspended or delayed by any other cause within the Contractor's control or by any factor for which the Contractor is responsible under the Contract; or that such an adjustment is provided for or excluded under other term or condition of this Contract.

**33.2 Termination for Convenience:** Notwithstanding any provision or language in the Contract to the contrary, the State may terminate the Contract for convenience whenever the Commissioner determines at his sole discretion that such termination is in the best interests of the State. Any such termination shall be effected by delivery to the Contractor of a written Notice of Termination for Convenience specifying the extent to which performance of Work under the Contract is terminated, and the date upon which such termination shall be effective.

**33.2.1** In the event of such termination, the Contractor shall be entitled to reasonable compensation as determined by the Commissioner, however, no claim for lost Overhead or Profits shall be allowed.

**33.2.2** All Work and materials obtained by the Contractor for the Work, that have been incorporated into the Work, inspected, tested as required, accepted by the Commissioner, and paid for by the State, shall become the property of the State.

**33.2.3** Materials obtained by the Contractor for the Work that have been inspected, tested as required, and accepted by the Commissioner, and that are not incorporated into the Work, shall, at the option of the Commissioner, be purchased from the Contractor at actual cost as shown by receipted bills. To this cost shall be added all actual costs for delivery at such points of delivery as may be designated by the Commissioner, as shown by actual cost records.

**33.2.4** Termination of the Contract for convenience shall not relieve the Contractor or its surety of their responsibilities for the completed Work, nor shall it relieve the Contractor's surety of its obligations to ensure completion of the Work and to pay legitimate claims arising out of the Work.

**33.3 Termination for Cause:**

**33.3.1** The Commissioner may give notice in writing to the Contractor and its surety of any particular delay, neglect, or default of the Contractor due to one or more of the following:

**33.3.1.1** Failure to begin the Work within the time specified for same in the Contract Documents.

**33.3.1.2** Failure to perform the Work with sufficient workmen, equipment or materials to ensure the prompt completion of the Work within the time specified in the Contract.

**33.3.1.3** Unsuitable performance of the Work or failure to remedy or redo such work as DAS Project Manager shall reject as defective, unsuitable, or noncompliant with Contract requirements.

**33.3.1.4** Failure or refusal to remove material rejected as defective, unsuitable, or noncompliant with Contract requirements.

**33.3.1.5** Discontinuance of the suitable prosecution of the Work for a period of seventy-two (72) hours, excluding Saturdays, Sundays and holidays, without written authorization to do so from the DAS Project Manager.

**33.3.1.6** Failure to recommence discontinued Work within forty-eight (48) hours (excluding Saturdays, Sundays and holidays) after being ordered to do so by the DAS Project Manager.

**33.3.1.7** Insolvency, filing for bankruptcy or any act or occurrence that may render the Contractor financially incapable of completing the Work.

**33.3.1.8** Failure to satisfy any final judgment against it for a period of thirty (30) days.

**33.3.1.9** Making of any assignment for the benefit of creditors.

**33.3.1.10** Violation of any provisions of the Contract Documents.

**33.3.2** If the Contractor or its surety within a period of ten (10) days after the issuance of such notice does not proceed in conformance with the directions set forth therein, or fails to present a remedial plan of operation, satisfactory to the Commissioner, for remedying the acts or failures complained of in the notice, then the Commissioner may, at his discretion, order the surety to complete the Work or, without violating the Contract, take the right to control and prosecute the Work out of the hands of said Contractor and surety, terminating the Contract.

**33.3.3** The Commissioner may appropriate or use any or all stockpiled materials and any and all equipment required by the Contract as may be suitable and necessary for completion of the Work and may enter into an agreement, either by negotiation or public letting, for the completion of said Contract by a party other than the Contractor, according to the terms and provisions thereof, or use such other methods or combinations thereof as in his or her opinion shall be required or desirable for the completion of the Work.

**33.3.4** All costs and charges incurred by the Owner in connection with completing the Work, or as a result of the Contractor's default, shall be deducted from any monies due to or which may become due to the Contractor. In case such expense exceeds the sum that would have been payable under the Contract, then the Contractor and the surety shall be liable for, and shall pay to the State, the amount of the excess. Termination of the Contract shall not relieve the Contractor or its surety of their responsibilities for the completed Work, nor shall it relieve the Contractor's surety of its obligations to ensure completion of the Work and to pay legitimate claims arising out of the Work.

**ARTICLE 34**  
**SUBLETTING OR ASSIGNING OF CONTRACT**

**34.1** The Contract or any portion thereof, or the Work provided for therein, or the right, title, or interest of the Contractor therein may not be sublet, sold, transferred, assigned, or otherwise disposed of to any person, firm, or corporation without the written consent of the Commissioner.

**34.2** No person, firm, or corporation other than the Contractor to whom the Contract was awarded shall be permitted to commence Work at the site of the Contract until such consent has been granted.

**ARTICLE 35**  
**CONTRACTOR'S INSURANCE**

**35.1** The Contractor shall not start Work under the Contract until they have obtained insurance as stated in SECTIONS 00 62 16 CERTIFICATE OF INSURANCE and 00 41 00 BID PROPOSAL FORM of the Project Manual and until the insurance has been approved by the Owner. The Contractor shall not allow any Subcontractor to start Work until the same insurance has been obtained by the Subcontractor and approved by the Owner or the Contractor's insurance provides coverage on behalf of the Subcontractor. The Contractor shall send Certificates of Liability Insurance to the Connecticut Department of Administrative Services/Construction Services, Office of Legal Affairs, Policy and Procurement, 450 Columbus Blvd, Suite 1302, Hartford, CT 06103-1835 unless otherwise directed in writing. For insurance definitions see Article 1 herein. Presented below is a narrative summary of the insurance required.

**35.1.1 Commercial General Liability Insurance:** Insurance including contractual liability, products/completed operations, broad form property damage and independent Contractors. The limits shall be no less than \$1,000,000 each occurrence and \$2,000,000 annual aggregate. Coverage for hazards of explosion, collapse and underground (X-C-U) and for asbestos abatement when applicable to this Contract, must also be included when applicable to the Work to be performed. The State of Connecticut, the Department of Administrative Services, and their respective officers, agents, and employees shall be named as an Additional Insured. This coverage shall be provided on a primary basis.

**35.1.2 Owner's and Contractor's Protective Liability Insurance:** Insurance providing a total limit of \$1,000,000 for all damages arising out of bodily injury or death of persons in any one accident or occurrence and for all damages arising out of injury or destruction of property in any one accident or occurrence and subject to a total (aggregate) limit of \$2,000,000 for all damages arising out of bodily injury to or death of persons in all accidents or occurrences and out of injury to or destruction of property during the policy period. This coverage shall be for and in the name of the State of Connecticut.

**35.1.3 Automobile Liability Insurance:** The operation of all motor vehicles including those owned, non-owned and hired or used in connection with the Contract shall be covered by Automobile Liability Insurance providing for a total limit of \$1,000,000 for all damages arising out of bodily injuries to or death of all persons in any one accident or occurrence and for all damages arising out of injury to or destruction of property in any one accident or occurrence. In cases where an insurance policy shows an aggregate limit as part of the automobile liability coverage, the aggregate limit must be at least \$2,000,000. This coverage shall be provided on a primary basis. Should the Contractor not own any automobiles, the automobile & liability requirement shall be amended to allow the Contractor to maintain only hired and non-owned liability coverage.

**35.1.4 Umbrella Liability Insurance:** Umbrella Liability Insurance, including a drop down provision covering any exhausted underlying aggregate limits in the specified amount shown below of combined single limit each occurrence in excess of the coverages described in subsections 35.1.1 Commercial General Liability Insurance, 35.1.3 Automobile Liability, and 35.1.5 Workers' Compensation and Employer's Liability. The State of Connecticut shall be named as an additional insured. The Umbrella Liability Insurance Limits for the Contractor are based on the Contract Value as specified in the following table.

<b>Umbrella Liability Insurance Table:</b>			
<b>Contract Value</b>			<b>Umbrella Limit</b>
\$1.00	to	\$500,000.00	\$1,000,000.00
\$500,000.01	to	\$1,000,000.00	\$2,000,000.00
\$1,000,000.01	to	\$10,000,000	\$5,000,000.00
\$10,000,000.01	to	\$30,000,000	\$10,000,000.00
\$30,000,000.01	to	\$80,000,000	\$15,000,000.00
\$80,000,000.01	to	\$150,000,000	\$20,000,000.00
\$150,000,000.01	to	\$300,000,000	\$25,000,000.00

**35.1.5 Workers' Compensation and Employer's Liability:** As required by Connecticut Law and **Employers' Liability** with a limit of not less than \$100,000 per occurrence, \$500,000 disease policy limit and \$100,000 disease each employee. When Work is on or contiguous to navigable bodies of waterways and ways adjoining, the Contractor shall include the Federal Act endorsement for the U.S. Longshoremen's and Harbor Workers Act.

**35.1.6 Special Hazards Insurance:** If required, will be stated in the BID PROPOSAL FORM of this Project Manual. This includes coverage for explosion, collapse or underground damage and for asbestos abatement when applicable to this Contract and shall be no less than \$1,000,000 each occurrence.

**35.1.7 Builder's Risk Insurance:** If required, will be stated in the BID PROPOSAL FORM of this Project Manual.

**35.1.8 Inland Marine/Transit Insurance:** With respect to property with values in excess of \$100,000 which is rigged, hauled or situated at the site pending installation, the Contractor shall maintain inland marine/transit insurance provided the coverage is not afforded by a Builder's Risk policy.

**35.1.9** When required to be maintained, the Builder's Risk and/or Inland Marine/Transit Insurance policy shall endorse the State of Connecticut as a Loss Payee and the policy shall state it is for the benefit of and payable to the State of Connecticut.

**35.2 Satisfying Limits Under an Umbrella Policy:** If necessary, the Contractor may satisfy the minimum limits required above for either Commercial General Liability, Automobile Liability, and Employer's Liability coverage under an Umbrella or Excess Liability policy. The underlying limits may be set at the minimum amounts required by the Umbrella or Excess Liability policy provided the combined limits meet at least the minimum limit for each required policy. The Umbrella or Excess Liability policy shall have an Annual Aggregate at a limit not less than two (2) times the highest per occurrence minimum limit required above for any of the required coverages. The State of Connecticut shall be specifically endorsed as an Additional Insured on the Umbrella or Excess Liability policy, unless the Umbrella or Excess Liability policy provides continuous coverage to the underlying policies on a complete "Follow-Form" basis.

**35.3** The Contractor shall, at its sole expense, maintain in full force and effect at all times during the life of the Contract or the performance of Work hereunder, insurance coverage as described herein. Certificates shall include a minimum thirty (30)-day endeavor to notify requirement to the Owner prior to any cancellation or non-renewal.

**35.4** The Contractor shall be fully and solely responsible for any costs or expenses as a result of a coverage deductible, coinsurance penalty, or self-insured retention, including any loss not covered because of the operation of such deductible, coinsurance penalty, or self-insured retention.

**35.5** The requirement contained herein as to types and limits of insurance coverage to be maintained by the Contractor are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the Contractor.

**35.6 Indemnification and Hold Harmless Provisions:**

**35.6.1** The Contractor shall indemnify, defend and hold harmless the State and its officers, representatives, agents, servants, employees, successors and assigns from and against any and all (1) Claims arising, directly or indirectly, in connection with the Contract, including the acts of commission or omission (collectively, the "Acts") of the Contractor or Contractor Parties; and (2) liabilities, damages, losses, costs and expenses, including but not limited to, attorneys' and other professionals' fees, arising, directly or indirectly, in connection with Claims, Acts or the Contract. The Contractor shall use counsel reasonably acceptable to the State in carrying out its obligations under this section. The Contractor's obligations under this section to indemnify, defend and hold harmless against Claims includes Claims concerning confidentiality of any part of or all of the Contractor's bid, proposal or any Records, any intellectual property rights, other proprietary rights of any person or entity, copyrighted or uncopyrighted compositions, secret processes, patented or unpatented inventions, articles or appliances furnished or used in the Performance.

**35.6.2** The Contractor shall not be responsible for indemnifying or holding the State harmless from any liability arising due to the negligence of the State or any third party acting under the direct control or supervision of the State.

**35.6.3** The Contractor shall reimburse the State for any and all damages to the real or personal property of the State caused by the Acts of the Contractor or any Contractor Parties. The State shall give the Contractor reasonable notice of any such Claims.

**35.6.4** The Contractor's duties under this section shall remain fully in effect and binding in accordance with the terms and conditions of the Contract, without being lessened or compromised in any way, even where the Contractor is alleged or is found to have merely contributed in part to the Acts giving rise to the Claims and/or where the State is alleged or is found to have contributed to the Acts giving rise to the Claims.

**35.6.5** The Contractor shall carry and maintain at all times during the term of the Contract, and during the time that any provisions survive the term of the Contract, sufficient general liability insurance to satisfy its obligations under this Contract. The Contractor shall name the State as an additional insured on the policy and shall provide a copy of the policy to the Agency prior to the effective date of the Contract. The Contractor shall not begin Performance until the delivery of the policy to the Agency. The Agency shall be entitled to recover under the insurance policy even if a body of competent jurisdiction determines that the Agency or the State is contributorily negligent.

**35.6.6** Such obligations shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to any party or person described in General Conditions Article 35.

**35.6.7** This section shall survive the Termination of the Contract and shall not be limited by reason of any insurance coverage.

**ARTICLE 36**  
**FOREIGN MATERIALS**

**36.1** Preference shall be given to articles or materials manufactured or produced in the United States, Canada, and Mexico, (the members of the North American Free Trade Agreement (NAFTA)); and the products shall meet all of the referenced standards and Specifications for conditions of performance, quality, and price with duty being equal.

**36.2** Only articles or materials manufactured or produced in the United States, Canada, and Mexico, (the members of the North American Free Trade Agreement (NAFTA)), will be allowed. The foregoing provisions shall not apply to foreign articles or materials required by the Contract Documents.

**36.3 Buy American Act (BAA):** Any "public building" or "public work" project funded by the American Recovery and Reinvestment Act of 2009 ("ARRA") requires that "all of the iron, steel, and manufactured goods used in the project" must be "produced in the United States" in accordance with the requirements of the Buy American Act (BAA).

**ARTICLE 37**  
**HOURS OF WORK**

**37.1** No person shall be employed to work or be permitted to work more than eight (8) hours in any Day or more than forty (40) hours in any week for any Work provided in the Contract, in accordance with Connecticut General Statute Section 31-57.

**37.2** The operation of such limitation of hours of work may be suspended during an emergency, upon the approval of the Commissioner, in accordance with Connecticut General Statute Section 31-57.

**ARTICLE 38**  
**CLAIMS**

**38.1 General:** When filing a formal claim under Section 4-61 (referred to as "Section 4-61" below) of the Connecticut General Statutes (as revised), either as a lawsuit in the Superior Court or as a demand for arbitration, the Contractor must follow the procedures and comply with the requirements set forth in this Article. This Section does not, unless so specified, govern informal claims for additional compensation which the Contractor may bring before the Department. The Contractor should understand, however, that the Department may need, before the Department can resolve such a claim, the same kinds of documentation and other substantiation that it requires under this Article. It is the intent of the Department to compensate the Contractor for actual increased costs caused by or arising from acts or omissions on the part of the Department that violate legal or contractual duties owed to the Contractor by the Department.

**38.2 Notice of Claim:** Whenever the Contractor intends to file a formal claim against the Department under Section 4-61, seeking compensation for additional costs, the Contractor shall notify the Commissioner in writing (in strict compliance with Section 4-61) of the details of said claim. Such written notice shall contain all pertinent information described in Paragraph 38.5 below. Once formal notice of a claim under Section 4-61(b) (as revised) has been given to the Commissioner, the claimant may not change the claim in any way, in either concept or monetary amount, (1) without filing a new notice of claim and demand for arbitration to reflect any such change, and (2) without the minimum period of six months after filing of the new demand commencing again and running before any hearing on the merits of the claim may be held. The only exception to this limitation will be for damages that continue to accrue after submission of the notice, in ways described and anticipated in the notice.

**38.3 Record Keeping:** The Contractor shall keep daily records of all costs incurred in connection with its Work on behalf of the Department. The daily records shall identify each aspect of the Project affected by matters related to any claim for additional compensation that the Contractor has filed, intends to file, or has reason to believe that it may file against the Department; the specific Project locations where Project work has been so affected; the number of people working on the affected aspects of the Project at the pertinent time(s); and the types and number of pieces of equipment on the Project site at the pertinent time(s). Any potential or anticipated effect on the Project's progress or Schedule which may result in a claim by the Contractor shall be noted contemporaneously with the cause of the effect, or as soon thereafter as possible.

**38.4 Claim Compensation:** The payment of any claim, or any portion thereof, that is deemed valid by the Department shall be made in accordance with the following provisions of this Article:

**38.4.1 Compensable Items:** The liability of the Department for claims will be limited to the following specifically identified items of cost, insofar as they have not otherwise been paid for by the Department, and insofar as they were caused solely by the actions or omissions of the Department or its agents (except that with regard to payment for extra work, the Department will pay to the Contractor the Overhead and profit percentages provided for in Article 13.):

**38.4.1.1** Additional Project-site labor expenses.

**38.4.1.2** Additional costs for materials.

**38.4.1.3** Additional, unabsorbed Project-site Overhead (e.g., for mobilization and demobilization).

**38.4.1.4** Additional costs for active equipment.

**38.4.1.5** For each Day of Project delay or suspension caused solely by actions or omissions of the Department either:

**38.4.1.5.1** an additional ten percent (10%) of the total amount of the costs identified in Subparagraphs 38.4.1.1 through 38.4.1.4 above; except that if the delay or suspension period prevented the Contractor from incurring enough Project costs under Subparagraphs 38.4.1.1 through 38.4.1.4 during that period to require a payment by the Department that would be greater than the payment described in Subparagraph 38.4.1.5.2 below, then the payment for affected home office Overhead and profit shall instead be made in the following *per diem* amount:

**38.4.1.5.2** six percent (6%) of the original total Contract amount divided by the original number of Days of Contract Time. Payment under either 38.4.1.5.1 or 38.4.1.5.2 hereof shall be deemed to be complete and mutually satisfactory compensation for any unabsorbed home office overhead and any profit related to the period of delay or suspension.

**38.4.1.6** Additional equipment costs. Only actual equipment costs shall be used in the calculation of any compensation to be made in response to claims for additional Project compensation. Actual equipment costs shall be based upon records kept in the normal course of business and in accordance with generally accepted accounting principles. Under no circumstances shall Blue Book or other guide or rental rates be used for this purpose (unless the Contractor had to rent the equipment from an unrelated party, in which case the actual rental charges paid by the Contractor, so long as they are reasonable, shall be used). Idle equipment, for instance, shall be paid for based only on its actual cost to the Contractor.

**38.4.1.7** Subcontractor costs limited to, and determined in accordance with, Subparagraphs 38.4.1.1 through 38.4.1.5 above and applicable statutory and case law. Such Subcontractor costs may be paid for by the Department only: (a) in the context of an informal claims settlement; or (b) if the Contractor has itself paid or legally assumed, present unconditional liability for those Subcontractor costs.

**38.4.2 Excusable But Not Compensable Items:** The Contractor may be allowed Days but the Department will have no liability for the following non-compensable items:

**38.4.2.1** Abnormal or unusually severe weather

**38.4.2.2** Acts of God

**38.4.2.3** Force Majeure

**38.4.2.4** Concurrent Delay

**38.4.3 Non-Compensable Items:** The Department will have no liability for the following specifically-identified non-compensable items:

**38.4.3.1** Profit, in excess of that provided for herein.

**38.4.3.2** Loss of anticipated profit.

**38.4.3.3** Loss of bidding opportunities.

**38.4.3.4** Reduction of bidding capacity.

**38.4.3.5** Home office overhead in excess of that provided for in Subparagraph 38.4.1.5 hereof.

**38.4.3.6** Attorneys fees, claims preparation expenses, or other costs of claims proceedings or resolution.

**38.4.3.7** Subcontractor failure to perform

**38.4.3.8** Any other consequential or indirect expenses or costs, such as tort damages, or any other form of expense or damages not provided for in these specifications or elsewhere in the Contract.

**38.5 Required Claim Documentation:** All claims shall be submitted in writing to the Commissioner, and shall be sufficient in detail to enable the Department to ascertain the basis and the amount of each claim, and to investigate and evaluate each claim in detail. As a minimum, the Contractor must provide the following information for each and every claim and sub-claim asserted:

**38.5.1** A detailed factual statement of the claim, with all dates, locations and items of Work pertinent to the claim.

**38.5.2** A statement of whether each requested additional amount of compensation or extension of time is based on provisions of the Contract or on an alleged breach of the Contract. Each supporting or breached Contract provision and a statement of the reasons why each such provision supports the claim must be specifically identified or explained.

**38.5.3** Excerpts from manuals or other texts which are standard in the industry, if available, that support the Contractor's claim.

**38.5.4** The details of the circumstances that gave rise to the claim.

**38.5.5** The date(s) on which any and all events resulting in the claim occurred, and the date(s) on which conditions resulting in the claim first became evident to the Contractor.

**38.5.6** Specific identification of any pertinent document, and detailed description of the substance of any material oral communication, relating to the substance of such claim.

**38.5.7** If an extension of time is sought, the specific dates and number of Days for which it is sought, and the basis or bases for the extension sought. A critical path method, bar chart, or other type of graphical schedule that supports the extension must be submitted.

**38.5.8** When submitting any claim over \$50,000, the Contractor shall certify in writing, under oath and in accordance with the formalities required by the contract, as to the following:

**38.5.8.1** That supporting data is accurate and complete to the Contractor's best knowledge and belief;

**38.5.8.2** That the amount of the dispute and the dispute itself accurately reflects what the Contractor in good faith believes to be the Department's liability;

**38.5.8.3** The certification shall be executed by:

**38.5.8.3.1** If the Contractor is an individual, the certification shall be executed by that individual.

**38.5.8.3.2** If the Contractor is not an individual, the certification shall be executed by a senior company official in charge at the Contractor's plant or location involved or an officer or general partner of the Contractor having overall responsibility for the conduct of the Contractor's affairs.

**38.6 Auditing of Claims:** All claims filed against the Department shall be subject to audit by the Department or its agents at any time following the filing of such claim. The Contractor and its Subcontractors and suppliers shall cooperate fully with the Department's auditors. Failure of the Contractor, its Subcontractors, or its suppliers to maintain and retain sufficient records to allow the Department or its agents to fully evaluate the claim shall constitute a waiver of any portion of such claim that cannot be verified by specific, adequate, contemporaneous records, and shall bar recovery on any claim or any portion of a claim for which such verification is not produced. Without limiting the foregoing requirements, and as a minimum, the Contractor shall make available to the Department and its agents the following documents in connection with any claim that the Contractor submits:

**38.6.1** Daily time sheets and foreman's daily reports.

**38.6.2** Union agreements, if any.

**38.6.3** Insurance, welfare, and benefits records.

**38.6.4** Payroll register.

**38.6.5** Earnings records.

**38.6.6** Payroll tax returns.

**38.6.7** Records of property tax payments.

**38.6.8** Material invoices, purchase orders, and all material and supply acquisition contracts.

**38.6.9** Materials cost distribution worksheets.

**38.6.10** Equipment records (list of company equipment, rates, etc.).

**38.6.11** Vendor rental agreements.

**38.6.12** Subcontractor invoices to the Contractor, and the Contractor's certificates of payments to Subcontractors.

**38.6.13** Subcontractor payment certificates.

**38.6.14** Canceled checks (payroll and vendors).

**38.6.15** Job cost reports.

**38.6.16** Job payroll ledger.



**38.6.17** General ledger, general journal (if used), and all subsidiary ledgers and journals, together with all supporting documentation pertinent to entries made in these ledgers and journals.

**38.6.18** Cash disbursements journals.

**38.6.19** Financial statements for all years reflecting the operations on the Project.

**38.6.20** Income tax returns for all years reflecting the operations on the Project.

**38.6.21** Depreciation records on all company equipment, whether such records are maintained by the company involved, its accountant, or others.

**38.6.22** If a source other than depreciation records is used to develop costs for the Contractor's internal purposes in establishing the actual cost of owning and operating equipment, all such other source documents.

**38.6.23** All documents which reflect the Contractor's actual profit and overhead during the years that the Project was being performed, and for each of the five years prior to the commencement of the Project.

**38.6.24** All documents related to the preparation of the Contractor's bid, including the final calculations on which the total proposed Contract bid price as stated in the Bid Proposal Form was based.

**38.6.25** All documents which relate to the claim or to any sub-claim, together with all documents that support the amount of damages as to each claim or sub-claim.

**38.6.26** Worksheets used to prepare the claim, which indicate the cost components of each item of the claim, including but not limited to the pertinent costs of labor, benefits and insurance, materials, equipment, and Subcontractors' damages, as well as all documents which establish the relevant time periods, individuals involved, and the Project hours and the rates for the individuals.

**38.6.27** The name, function, and pertinent activity of each Contractor's or Subcontractor's official, or employee, involved in or knowledgeable about events that give rise to, or facts that relate to, the claim.

**38.6.28** The amount(s) of additional compensation sought and a break-down of the amount(s) into the categories specified as payable under Paragraph 38.4 above.

**38.6.29** The name, function, and pertinent activity of each Department official, employee, or agent involved in or knowledgeable about events that give rise to, or facts that relate to, the claim.

### **ARTICLE 39** **DIESEL VEHICLE EMISSIONS CONTROL**

**39.1** The Contractor shall be responsible for compliance with the following provisions:

**39.1.1** All Contractor and Subcontractor diesel powered non-road construction equipment with engine horsepower (HP) ratings of 60 HP and above, that are on the Project or are assigned to the Contract for a period in excess of 30 consecutive Days, shall be retrofitted with emission control devices in order to reduce diesel emissions. In addition, all motor vehicles and/or construction equipment (both on-highway and non-road) shall comply with all pertinent State and Federal regulations relative to exhaust emission controls and safety.

**39.1.2** Retrofit emission control devices shall consist of oxidation catalysts, or similar retrofit equipment control technology that is:

**39.1.2.1** Included on the U.S. Environmental Protection Agency (EPA) "Verified Technology List," as may be amended from time to time <http://www.epa.gov/otaq/retrofit/retroverifiedlist.htm> and

**39.1.2.2** Verified by EPA to provide a minimum emissions reduction of 20% particulate matter (PM<sub>10</sub>), 40% carbon monoxide (CO), and 50% hydrocarbons (HC).

**39.1.3** Construction shall not proceed until all diesel powered non-road construction equipment meeting the criteria in provision 39.1.1 have been retrofitted, unless the Commissioner grants a waiver under provision 39.2.

**39.1.4** The Contractor shall at least monthly, assess which diesel powered non-road construction equipment are subject to these provisions. The Contractor shall notify the CT DCS Project Manager of any violations of these provisions.

**39.1.5** Idling of delivery and/or dump trucks, or other diesel powered equipment shall be limited to three (3) minutes during non-active use in accordance with the Regulations of Connecticut State Agencies Section 22a-74-18(b)(3)(C), which states, in part:

*"[N]o person shall cause or allow a Mobile Source to operate for more than three (3) consecutive minutes when such Mobile Source is not in motion, except as follows:*

- *When a Mobile Source is forced to remain motionless because of traffic conditions or mechanical difficulties over which the operator has no control,*
- *When it is necessary to operate defrosting, heating or cooling equipment to ensure the safety or health of the driver or passengers,*
- *When it is necessary to operate auxiliary equipment that is located in or on the Mobile Source to accomplish the intended use of the Mobile Source, (To bring the Mobile Source to the manufacturer's recommended)*
- *When a Mobile Source is in queue to be inspected by U.S. military personnel prior to gaining access to a U.S. military installation."*

**39.1.6** All Work shall be conducted to ensure that no harmful effects are caused to adjacent Sensitive Receptor Sites. Diesel powered engines shall be located away from fresh air intakes, air conditioners, and windows.

**39.1.7** If any diesel powered non-road construction equipment is found to be in non-compliance with these provisions by the CT DCS Project Manager, the Contractor will be issued a Non-Conformance Notice and given a 24 hour period in which to bring the equipment into compliance or remove it from the Project. The Contractor's failure to comply with these provisions shall be reason to withhold payment as described in Article 33.

**39.1.8** 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 for compliance with these provisions. The Contractor's compliance with these provisions and any associated regulations shall not be grounds for a Change Order.

**39.2** The Commissioner reserves the right to waive all or portions of these provisions at his/her discretion. The Contractor may request a waiver to all or portions of these provisions with written justification to the Commissioner as to why the Contractor cannot comply with these provisions. A waiver, to be effective, must be granted in writing by the Commissioner.

#### **ARTICLE 40** **DISCLOSURE OF RECORDS**

**40.1** This Contract may be subject to the provisions of C.G.S. Section 1-218. In accordance with this statute, each contract in excess of two million five hundred thousand dollars (\$2,500,000.00) between a public agency and a person for the performance of a governmental function shall (a) provide that the public agency is entitled to receive a copy of records and files related to the performance of the governmental function, and (b) indicate that such records and files are subject to the Freedom of Information Act (FOIA) and may be disclosed by the public agency pursuant to FOIA. No request to inspect or copy such records or files shall be valid unless the request is made to the public agency in accordance with FOIA. Any complaint by a person who is denied the right to inspect or copy such records or files shall be brought to the Freedom of Information Commission in accordance with the provisions of C.G.S. Sections 1-205 and 1-206.

#### **ARTICLE 41** **AUDIT AND INSPECTION OF PLANTS, PLACES OF BUSINESS, AND RECORDS**

**41.1** The State and its agents, including, but not limited to, the Connecticut Auditors of Public Accounts, Attorney General and State's Attorney and their respective agents, may, at reasonable hours, inspect and examine all of the parts of the Contractor's and Contractor Parties' plants and places of business which, in any way, are related to, or involved in, the performance of this Contract.

**41.2** The Contractor shall maintain, and shall require each of the Contractor Parties to maintain, accurate and complete Records. The Contractor shall make all of its and the Contractor Parties' Records available at all reasonable hours for audit and inspection by the State and its agents.

**41.3** The State shall make all requests for any audit or inspection in writing and shall provide the Contractor with at least twenty-four (24) hours' notice prior to the requested audit and inspection date. If the State suspects fraud or other abuse, or in the event of an emergency, the State is not obligated to provide any prior notice.

41.4 All audits and inspections shall be at the State's expense.


41.5 The Contractor shall keep and preserve or cause to be kept and preserved all of its and Contractor Parties' Records until three (3) years after the latter of (i) final payment under this Agreement, or (ii) the expiration or earlier termination of this Agreement, as the same may be modified for any reason. The State may request an audit or inspection at any time during this period. If any Claim or audit is started before the expiration of this period, the Contractor shall retain or cause to be retained all Records until all Claims or audit findings have been resolved.

41.6 The Contractor shall cooperate fully with the State and its agents in connection with an audit or inspection. Following any audit or inspection, the State may conduct and the Contractor shall cooperate with an exit conference.

41.7 The Contractor shall incorporate this entire Section verbatim into any contract or other agreement that it enters into with any Contractor Party.

**END**

**Appendix 1**



**7048**  
**General Contractor (GC)**  
**Retainage Reduction Request**  
 Page 1 of 1

<b>To:</b>	Department of Administrative Services (DAS) Construction Services Office of Legal Affairs, Policy and Procurement 450 Columbus Blvd, Suite 1302 – North Tower Hartford, CT 06103		
<b>From:</b>	<input type="text" value="General Contractor Name"/>	General Contractor (GC)	
<b>Subject:</b>	DAS Project Number: <input type="text" value="DAS Project Number"/>		
	DAS Project Name: <input type="text" value="DAS Project Name"/>		
	Reduction of Retainage at: <input type="text" value="Written Percent"/>	Percent ( <input type="text" value="##"/> )	Project Completion
<b>Date:</b>	<input type="text" value="Insert Date"/>		

In accordance with the General Conditions, Article 28 Progress Payments,  
 hereby requests a reduction of retainage from  % to  %.

The following list of items required under the General Conditions is in compliance with the terms of the contract and has been verified by the General Contractor (GC).

<input type="checkbox"/>	DAS Construction Services Contractor Performance Evaluation Score is a minimum of <b>(60%)</b> Percent.
<input type="checkbox"/>	Timely submission of an appropriate and complete CPM Schedule / Schedule of Values, in compliance with the Contract requirements and the prompt resolution of the Owner's and/or A/E's comments on the submitted material resulting in an appropriate basis for payment of the Work.
<input type="checkbox"/>	Timely and proper submission of all required Contract Documents submissions including but not limited to Shop Drawings, material certificates, material samples and the prompt resolution of the Owner's and/or A/E's comments on the submitted material resulting in an appropriate process of the Work.
<input type="checkbox"/>	Proper and adequate supervision on site appropriate to the Project.
<input type="checkbox"/>	The Work completed to date has been installed or finished in a manner acceptable to the Owner.
<input type="checkbox"/>	The progress of the Work is consistent with the approved CPM Schedule.
<input type="checkbox"/>	All approved change orders have been invoiced.
<input type="checkbox"/>	All Change Order requests for payment are current.
<input type="checkbox"/>	The Contractor is maintaining a clean worksite in accordance with the Contract Documents.
<input type="checkbox"/>	Subcontractor payments are current at the time of reduction request.
<input type="checkbox"/>	GC is in compliance with all other provisions of the contract.

<b>General Contractor Certification:</b>	<input type="text" value="Written Name"/>	<input type="text" value="Signature"/>	<input type="text" value="Date"/>
<b>Project Manager Recommendation:</b>	<input type="text" value="Written Name"/>	<input type="text" value="Signature"/>	<input type="text" value="Date"/>
<b>ADPM Approval:</b>	<input type="text" value="Written Name"/>	<input type="text" value="Signature"/>	<input type="text" value="Date"/>
<b>DAS Chief Architect or Authorized Representative:</b>	<input type="text" value="Written Name"/>	<input type="text" value="Signature"/>	<input type="text" value="Date"/>

**END**



**State Of Connecticut  
Department of Administrative Services  
Construction Services**

February 1, 2019

**To:** All Department of Administrative Services, Construction Services Contractors

**Subject:** Set-Aside Contract Laws

Dear Sir/Madam:

The administration of Governor Ned Lamont is committed to supporting the subject programs by encouraging all contractors on State projects to improve their efforts in these areas.

State law requires contractors doing business with the State to demonstrate non-discrimination by making "good faith efforts" in both hiring and in sub-contracting practices (Connecticut General Statutes Section [C.G.S. §] 4a-60).

What does "good faith efforts" mean? It means that you, as contractors, must act affirmatively. It is not good enough to say you can't find minorities and women. You must seek them out. That is the law, and the Department of Administrative Services (DAS) / Construction Services (CS) is committed to enforcing the law. At the same time, we are ready to assist you in making "good faith efforts."

DAS is required by C.G.S. § 4a-60g (b) and (c) to set aside projects (amounting to **twenty-five percent (25%)** of its annual contract awards) for small business and **twenty-five percent (25%)** of that amount for minority business enterprises. DAS may require any general contractor to set aside a portion of the contract for subcontractors who are small businesses or minority business enterprises in lieu of setting aside a project or in addition to setting aside a project.

Therefore, unless otherwise specified in the **Bid Proposal Form**, DAS will require contractors to subcontract **twenty-five percent (25%)** of the total contract value to small businesses certified by DAS and further will require contractors to subcontract 25% of that 25% to minority and women small contractors certified as minority business enterprises by DAS. These statutory goals represent the minimum values expected to be achieved by this program.

Together, we can meet the challenge of providing equal opportunity for minority and women-owned businesses and workers in our State. We expect superior results in the areas of affirmative action, equal employment opportunity, and set-aside contracts. The DAS standard in these areas is not just minimal effort. Our goal is to uphold the letter and the spirit of the law.

For more information on Non-Discrimination and Affirmative Action Provisions for State Contracts please visit the Commission on Human Rights and Opportunities (**CHRO**) Website at [www.ct.gov/chro](http://www.ct.gov/chro).

Sincerely yours,

Josh Geballe  
Commissioner

PB:pb

## Non-Discrimination and Affirmative Action Provisions for State Contracts

Section 1	CHRO – Contract Compliance Regulations Notification to Bidders:
1.1	<p>The contract to be awarded is subject to contract compliance requirements mandated by:</p> <ul style="list-style-type: none"><li>1.1.1 The <b>Connecticut General Statutes (C.G.S.) § 4a-60</b> and <b>4a-60a</b>;</li><li>1.1.2 <b>C.G.S. § 46a-71(d)</b> and <b>46a-81i (d)</b> when the awarding agency is the State; and</li><li>1.1.3 The <b>Contract Compliance Regulations</b> codified in the <b>Regulations of Connecticut State Agencies (RSCA) §46a-68j-21 through 43</b>, which establish a procedure for awarding all contracts covered by <b>C.G.S. §4a-60</b> and <b>46a-71(d)</b>.</li></ul>
1.2	<p>According to the <b>Contract Compliance Regulations §46a-68j-30(9)</b>, 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.”</p> <p>“<b>Minority business enterprise</b>” is defined in <b>C.G.S §4a-60</b>-as a small contractor or supplier of materials fifty-one (51%) percent or more of the capital stock or assets of which is owned by a person or persons:</p> <ul style="list-style-type: none"><li>1.2.1 who are active in the daily affairs of the enterprise;</li><li>1.2.2 who have the power to direct the management and policies of the enterprise; and</li><li>1.2.3 who are members of a minority, as such term is defined in subsection (a) of <b>C.G.S. §32-9n.</b>”</li></ul>
1.3	<p>“<b>Minority</b>” groups are defined in <b>C.G.S. §32-9n</b> as:</p> <ul style="list-style-type: none"><li>1.3.1 Black Americans, including all persons having origins in any of the Black African racial groups not of Hispanic origin;</li><li>1.3.2 Hispanic Americans, including all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race;</li><li>1.3.3 Persons who have origins in the Iberian Peninsula, including Portugal, regardless of race;</li><li>1.3.4 Women;</li><li>1.3.5 Asian Pacific Americans and Pacific Islanders; or</li><li>1.3.6 American Indians and persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification.</li><li>1.3.7 “<b>Individuals with a disability</b>” is also a minority business enterprise as provided by C.G.S. § 4a-60g (4).</li></ul>
1.4	<p>The above “<b>Minority business enterprise</b>” definitions apply to the contract compliance requirements by virtue of <b>Contract Compliance Regulations §46a-68j-21(11)</b>.</p> <p>The awarding agency will consider the following factors when reviewing the bidder’s qualifications under the contract compliance requirements:</p> <ul style="list-style-type: none"><li>1.4.1 the bidder’s success in implementing an affirmative action plan;</li><li>1.4.2 the bidder’s success in developing an apprenticeship program complying with <b>RSCA §46a-68-1 to 46a-68-17</b>, inclusive;</li><li>1.4.3 the bidder’s promise to develop and implement a successful affirmative action plan;</li><li>1.4.4 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</li><li>1.4.5 the bidder’s promise to set aside a portion of the contract for legitimate minority business enterprises. See <b>Contract Compliance Regulations § 46a-68j-30(10) (E)</b>.</li></ul>

**Note:** The Commission on Human Rights and Opportunities (CHRO) “Employment Information Form” shall be submitted to the DAS/CS Office of Legal Affairs, Policy, and Procurement on behalf of the awarding agency, the Department of Administrative Services (DAS).

<b>Section 2</b>	<b>Non-Discrimination and other Contract Compliance Requirements:</b>
------------------	---

Pursuant to **C.G.S. §4a-60** and **§4a-60a** and **RSCA §46a-68j-21 to §46a-68j-43**, a contractor agrees to the following:

- 2.1** Not to 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, sexual orientation, mental retardation, or physical disability including, but not limited to, blindness (unless it is shown that such disability prevents performance of the work involved) in the performance of a contract, in any manner prohibited by the federal and Connecticut anti-discrimination and contract compliance laws;
- 2.2** To undertake affirmative action which will insure that applicants with job-related qualifications are employed and that employees are treated, when employed, without regard to whether they belong to any of the groups identified in Paragraph # 1) above;
- 2.3** To include a statement that the contractor is an “affirmative action-equal opportunity employer”, in all solicitations or advertisements for employees placed by or on behalf of the contractor;
- 2.4** To provide each labor union or representative of workers with which such contractor has a collective bargaining agreement and each vendor with which such contractor has a contract, a notice advising them of the contractor’s commitments under **C.G.S. §4a-60** and **§4a-60a**. The notice is available by contacting **CHRO**;
- 2.5** To post copies of the notice referred to in item 4) in conspicuous places available to employees and applicants;
- 2.6** To provide **CHRO** with such information requested by said agency, permit access to pertinent books, records, and accounts, concerning the employment practices and procedures of the contractor as relate to the provisions of **C.G.S. §4a-60, §4a-60a** and **§46a-56** and, cooperate fully with **CHRO**; and,
- 2.7** To include the language of **C.G.S. §4a-60 (a)** and **§4a-60a (a)** in every subcontract or purchase order executed to fulfill any obligation of the contract with DAS.

<b>Section 3</b>	<b>Affirmative Action Requirements for Certain Public Works Contracts for Construction:</b>
------------------	---

Pursuant to **C.G.S. §46a-68c** and **§46a-68d** and **RSCA §46a-68j-21 to §46a-68j-29**, the following must file an affirmative action plan with the Commission:

- 3.1** A successful bidder on a <sup>1</sup> “**public works contract**” with a value of **\$500,000** or more. The plan must be filed within **thirty (30)** days after a bid has been accepted by an awarding agency but before a contract is awarded. A plan may be filed in advance of, or at the same time as, a bid is submitted.
- 3.2** A contractor with **fifty (50)** or more employees who has been awarded a “**public works contract**” in excess of **\$50,000** in any fiscal year. A plan must be filed within **thirty (30) days** of the date a contract is awarded.

**CHRO** must review a plan within **sixty (60) days** of receipt and must either approve or reject a plan. Should **CHRO** approve an affirmative action plan, **CHRO** will issue a certificate of compliance. This certificate of compliance shall be proof of a successful bidder’s or a contractor’s eligibility to bid or be awarded contracts for a period of **two (2)** years from the date of the certificate. This certificate does not excuse a successful bidder or contractor from being monitored by the **CHRO** for implementation of its affirmative action plan or, from its reporting requirements under **C.G.S. 46a-68e** and **§ 46a-68f**. (Refer to Section 6) Also, **CHRO** may revoke the certificate if a successful bidder or contractor does not implement its affirmative action plan.

Should **CHRO** opt to disapprove an affirmative action plan, **CHRO** must notify the successful bidder or contractor in writing within **ten (10) days** of the disapproval. The notice will state the reason for disapproval and may provide necessary proposals to bring the plan into compliance. The successful bidder or contractor must then submit a new or amended plan, within **thirty (30) days** of the date the notice of disapproval is mailed by **CHRO**.

**Section 3**

(Continued):

In addition, **CHRO** may conditionally approve an affirmative action plan for a successful bidder on a public works contract valued at **\$500,000** or more. **CHRO** must notify the successful bidder in writing within **ten (10) days** of the conditional disapproval and state the reason for conditional approval and, may provide necessary proposals to bring the plan into compliance. The successful bidder must then submit a new or amended plan or, provide written assurances that it will amend its plan to conform to affirmative action requirements, within **thirty (30) days** of the date the notice is mailed by **CHRO**.

**Note:** The awarding agency (DAS) will provide a successful bidder or contractor with a copy of **CHRO**'s Affirmative Action Plan format. All sections of this Affirmative Action Plan format must be completed by the successful bidder or contractor and forwarded to **CHRO**. Also, the awarding agency (DAS) shall withhold **2%** of the total contract price per month from any payment made to a contractor until such time as the contractor has developed an affirmative action plan, which has been approved by **CHRO**.

<sup>1</sup> **“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.-**C.G.S. §46a-68b**.

**Section 4**

**“Good Faith Efforts” to Include Minority Business Enterprises as Subcontractors”:**

In addition to, or in the absence of, any other subcontractor requirements included in this project, contractors are required to make <sup>2</sup> **“good faith efforts”** to include minority business enterprises in the work of this project as subcontractors (for services and/or material suppliers). For the purpose of identifying minority business enterprises, a minority business enterprise shall be a subcontractor which has a valid certification as such from DAS and/or a subcontractor for which an affidavit has been submitted by the contractor attesting that the subcontractor named as a minority business enterprise meets the minority business enterprise criteria set out in **C.G.S. §4a-60(b)**.

<sup>2</sup> **“Good faith efforts”** means *“that **degree of diligence** which a reasonable person would exercise in the performance of legal duties and obligations”* and includes, but is not limited to, the following **factors**: the contractor’s employment and subcontracting policies and practices; affirmative advertising, recruitment, training, technical assistance activities and such other reasonable activities or efforts as **CHRO** may recommend to ensure the participation of minority business enterprises in state projects.



Section 5

Set-Aside Program:

This contract may be subject to the provisions the **Set-Aside Program for Small Contractors** found at **C.G.S. § 4a-60g** and may be awarded only to a contractor certified as a small and/or minority business enterprise by DAS. The notification as to this special provision will be found in the **Bid Proposal Form** for this contract. The listing of eligible "Set-Aside" contractors is found on the [DAS Website for SBE or MBE Certification](#). In the event that the **Set-Aside Program for Small Contractors** applies to this contract, the following special provisions will also apply:

**5.1 Amount of Work Required to Be Done by "Set-Aside" Contractors**

A contractor awarded a contract on a project pursuant to the provisions of **C.G.S. §4a-60g**, as amended, shall be required to perform not less than **thirty (30)** per cent of the work with his/her own forces and shall ensure that not less than **fifty (50)** per cent of the work be performed by contractors or subcontractors who are certified as small contractors or minority business enterprises pursuant to **C.G.S. §4a-60g**.

The primary product/service performed by contractors working on a contract awarded under **C.G.S. §4a-60g** must be the same as the primary product/service described for the contractors on their "Certificate of Eligibility" which is provided to them by DAS.

**5.2 Alternate Bonding Available to "Set Aside" Contractors**

In lieu of a performance, bid, labor and materials or other required bond, a contractor or subcontractor awarded a contract under **C.G.S. §4a-60g** may provide to the awarding authority (DAS) and the awarding authority shall accept a "Letter of Credit". Any such "Letter of Credit" shall be in an amount equal to **ten per cent (10%)** of the contract for any contract that is less than **one hundred thousand (\$100,000) dollars**, and in the amount of **twenty-five per cent (25%)** for any contract that is **one hundred thousand (\$100,000) dollars** or more.

**5.3 Procedures to Follow Regarding Substitution of Named Project "Set-Aside" Subcontractors.**

The awarding authority (DAS) may also require the contractor to set aside a portion of the contract for subcontractors who are eligible for set aside contracts. The awarding authority shall not permit substitution of a subcontractor for one named in accordance with the provisions of **C.G.S. § 4b-95** or substitution of a subcontractor for any designated sub-trade work bid to be performed by the contractor's own forces, except for good cause.

Pursuant to **C.G.S. § 4b-95**, the term "**good cause**" includes but is not limited to a subcontractor's or, where appropriate, a general contractor's:

**5.3.1** Death or physical disability, if the listed subcontractor is an individual;

**5.3.2** Dissolution, if a corporation or partnership;

**5.3.3** Bankruptcy;

**5.3.4** Inability to furnish any performance and payment bond shown on the bid form;

**5.3.5** Inability to obtain, or loss of, a license necessary for the performance of the particular category of work;

**5.3.6** Failure or inability to comply with a requirement of law applicable to contractors and subcontractors, or to subcontracts for construction, alteration, or repair projects;

**5.3.7** Failure to perform his/her agreement to execute a subcontract under **C.G.S. § 4b-96**.

Any general contractor who violates any provision of **C.G.S. § 4b-95** shall be disqualified from bidding on other contracts that are subject to the provisions of **Chapter 60 - Construction and Alterations of State Buildings of the C.G.S**, for a period **not to exceed twenty-four (24) months**, commencing from the date on which the violation is discovered, for each violation.

<b>Section 6</b>	<b>Contract Monitoring and Reporting:</b>
------------------	---

- 6.1 CHRO** has the authority to monitor state contractors pursuant to **C.G.S. § 46a-68e** and **46a-68f** and **RSCA-§46a-68j-23(3)**. In addition, under the **RSCA §46a-68j-25(e)** and **46a-68j-26 (g)**, **CHRO** has the authority to monitor the implementation of an affirmative action plan regarding:
- 6.1.1** a successful bidder who has been awarded a public works contract valued at **\$500,000 or more** and;
  - 6.1.2** a contractor with **fifty (50)** or more employees who has been awarded a public works contract **in excess of \$50,000 in any fiscal year**.
- 6.2** In order to monitor the implementation of these plans **CHRO** requires that the following contract monitoring reports be compiled and submitted:
- 6.2.1 Monthly Employment Utilization Report (Form CHRO: 257):** A contractor, on behalf of itself and all subcontractors who perform work on the project during a given month, is required to report on the work hour participation of minority male and female workers in each trade category on the project. The report must be submitted to the contract awarding agency (**DAS**) and to the Commission by the 15<sup>th</sup> day following the end of each calendar month during the term of the on-site construction work of the project.  
**Website page:** <http://www.ct.gov/chro>, then click on **Forms**, then click on **Contract Compliance Forms and Reports**.
  - 6.2.2 Quarterly Small Contractor and Minority Business Enterprise Payment Status Report (Form CHRO: 258):** A contractor is required to report on the participation of small contractors or minority business enterprises identified to participate on the project. The report must be submitted to the contract awarding agency (**DAS**) and to the Commission by the 15<sup>th</sup> day following the end of each calendar quarter during the term of the on-site construction work of the project.  
**Website page:** <http://www.ct.gov/chro>, then click on **Forms**, then click on **Contract Compliance Forms and Reports**.
  - 6.2.3** In addition, the Commission expects that a contractor will designate an Equal Opportunity/Contract Compliance Officer for its public works project who will compile the above monthly and quarterly reports, as well as, undertake the following responsibilities for implementation of its project Affirmative Action Plan (AAP):
    - .1** Maintain a project Equal Employment Opportunity (EEO) file to include all records, correspondence and other documentation relate to the project AAP.
    - .2** Communicate to and inform all project subcontractors, regardless of tier, and labor referral organizations (if applicable) about project equal employment and AAP commitments and performance requirements.
    - .3** Participate in project job meetings to inform project subcontractors about project equal employment and AAP performance requirements.
    - .4** Track the use of employment recruitment sources identified in the project AAP regarding all employment opportunities with all subcontractors on the project. Also, maintain documentation of all contacts with these recruitment sources and their responses.

The Commission will forward a copy of the monthly and quarterly report to each contractor on a public works project.

<b>NOTES:</b>	Bidders and state contractors may review the full text of the before referenced Connecticut General Statutes by accessing either the State Law Library's web site ( <a href="http://www.cslib.org/psaindex.htm">http://www.cslib.org/psaindex.htm</a> ) or the State Legislatures' web site ( <a href="http://www.cga.ct.gov">http://www.cga.ct.gov</a> ).
	The full text of the RSCA 46a-68j-21 through 46a-68j-43 may be reviewed by accessing the Commission's web site: <a href="http://www.ct.gov/chro/cwp/view.asp?a=2525&amp;Q=315900&amp;chroPNavCtr=#45679">http://www.ct.gov/chro/cwp/view.asp?a=2525&amp;Q=315900&amp;chroPNavCtr=#45679</a> In the alternative, bidders or state contractors may request a copy of these state statutes and regulations by contacting the Commission at (860) 541-3400 (in Hartford) or 1 (800) 477-5737.

<b>Section 7</b>	<b>CHRO Contract Compliance Forms:</b>
------------------	--

The following CHRO Contract Compliance Forms are available on the CHRO Website:

- 7.1 **Monthly Employment Utilization Report (Form CHRO-257 and CHRO-257a):**
  - <http://www.ct.gov/chro/lib/chro/257s.pdf>
- 7.2 **Cumulative Utilization Report (Form CHRO-257b):**
  - <http://www.ct.gov/chro/lib/chro/257b.pdf>
- 7.3 **Monthly Small Contractor & MBE Payment Status Report (Form CHRO-258a) and Quarterly Small Contractor & MBE Payment Status Report (Form CHRO-258):**
  - <http://www.ct.gov/chro/lib/chro/258s.pdf>

**End of Section**  
**00 73 38 CHRO / Contract Compliance Regulations**



**Minimum Rates and Classifications  
 for Building Construction**

**Connecticut Department of Labor  
 Wage and Workplace Standards Division**

By virtue of the authority vested in the Labor Commissioner under provisions of Section 31-53 of the General Statutes of Connecticut, as amended, the following pages are declared to be the prevailing rates and welfare payments and will apply only where the contract is advertised for bid within 20 days of the date on which the rates are established. Any contractor or sub-contractor not obligated by agreement to pay to the welfare and pension fund shall pay this amount to each employee as part of his hourly wage.

<b>Project Number:</b>	BI-RS-357BP1	<b>Project Town:</b>	New Haven, CT
<b>Project:</b> SCSU Lyman Center			
HVAC/Electrical Renovations			
501 Crescent Street			
New Haven, CT			

The following pages contain:

Contractors Wage Certification Form	1 page
Notice to all Mason Contractors reference Section 31-53 of C.G.S. (Prevailing Wages)	1 page
Prevailing Wage Rates - English	7 pages
Informational Bulletin - <b>Occupational Classifications</b>	6 pages
Informational Bulletin – <b>The 10-Hour OSHA Construction Safety and Health Course</b>	2 pages
Footnotes	2 pages
Special Notice re: Wage Rate Adjustments	1 pages
Weekly Payroll Certification Form (WWS-CP1)	1 page
Fringe Benefits Explanation (P)	1 page
Weekly Payroll Certification Form (WWS-CP2)	1 page

**As of: April 16, 2020**





**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.





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):* \_\_\_\_\_



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.

**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.



Minimum Rates and Classifications for  
Building Construction

ID#: 20-12085

Connecticut Department of Labor  
Wage and Workplace Standards Division

By virtue of the authority vested in the Labor Commissioner under provisions of Section 31-53 of the General Statutes of Connecticut, as amended, the following are declared to be the prevailing rates and welfare payments and will apply only where the contract is advertised for bid within 20 days of the date on which the rates are established. Any contractor or subcontractor not obligated by agreement to pay to the welfare and pension fund shall pay this amount to each employee as part of his/her hourly wages.

Project Number: #BI-RS-357

Project Town: New Haven

State#: SCSU

FAP#: SCSU Lyman

Project: SCSU Lyman Center HVAC Renovation

CLASSIFICATION	Hourly Rate	Benefits
1b) Asbestos/Toxic Waste Removal Laborers: Asbestos removal and encapsulation (except its removal from mechanical systems which are not to be scrapped), toxic waste removers, blasters. **See Laborers Group 7**		
1c) Asbestos Worker/Heat and Frost Insulator	40.21	30.99
2) Boilermaker	38.34	26.01
3a) Bricklayer, Cement Mason, Concrete Finisher (including caulking), Stone Masons	35.71	33.31 + a
3b) Tile Setter	34.9	25.87
3c) Terrazzo Mechanics and Marble Setters	31.69	22.35
3d) Tile, Marble & Terrazzo Finishers	26.7	21.75
3e) Plasterer	33.48	32.06
-----LABORERS-----		
4) Group 1: Laborers (common or general), acetylene burners, carpenter tenders, concrete specialists, wrecking laborers, fire watchers.	30.75	20.84
4a) Group 2: Mortar mixers, plaster tender, power buggy operators, powdermen, fireproofers/mixer/nozzleman (Person running mixer and spraying fireproof only).	31.0	20.84

Project: SCSU Lyman Center HVAC Renovation

4b) Group 3: Jackhammer operators/pavement breaker, mason tender (brick), mason tender (cement/concrete), forklift operators and forklift operators (masonry).	31.25	20.84
4c) **Group 4: Pipelayers (Installation of water, storm drainage or sewage lines outside of the building line with P6, P7 license) (the pipelayer rate shall apply only to one or two employees of the total crew who primary task is to actually perform the mating of pipe sections) P6 and P7 rate is \$26.80.	31.75	20.84
4d) Group 5: Air track operator, sand blaster and hydraulic drills.	31.5	20.84
4e) Group 6: Blasters, nuclear and toxic waste removal.	33.75	20.84
4f) Group 7: Asbestos/lead removal and encapsulation (except it's removal from mechanical systems which are not to be scrapped).	31.75	20.84
4g) Group 8: Bottom men on open air caisson, cylindrical work and boring crew.	29.03	20.84
4h) Group 9: Top men on open air caisson, cylindrical work and boring crew.	28.49	20.84
4i) Group 10: Traffic Control Signalman	18.0	20.84
5) Carpenter, Acoustical Ceiling Installation, Soft Floor/Carpet Laying, Metal Stud Installation, Form Work and Scaffold Building, Drywall Hanging, Modular-Furniture Systems Installers, Lathers, Piledrivers, Resilient Floor Layers.	33.53	25.66
5a) Millwrights	34.94	26.19
6) Electrical Worker (including low voltage wiring) (Trade License required: E1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)	38.5	28.61+3% of gross wage
7a) Elevator Mechanic (Trade License required: R-1,2,5,6)	55.12	34.765+a+b
-----LINE CONSTRUCTION-----		
Groundman	26.5	6.5% + 9.00
Linemen/Cable Splicer	48.19	6.5% + 22.00
8) Glazier (Trade License required: FG-1,2)	38.18	21.80 + a

As of: April 16, 2020



9) Ironworker, Ornamental, Reinforcing, Structural, and Precast Concrete Erection	36.67	35.77
-----OPERATORS-----		
Group 1: Crane handling or erecting structural steel or stone, hoisting engineer 2 drums or over, front end loader (7 cubic yards or over), work boat 26 ft. and over and Tunnel Boring Machines. (Trade License Required)	40.97	24.80 + a
Group 2: Cranes (100 ton rate capacity and over); Excavator over 2 cubic yards; Piledriver (\$3.00 premium when operator controls hammer); Bauer Drill/Caisson. (Trade License Required)	40.64	24.80 + a
Group 3: Excavator; Backhoe/Excavator under 2 cubic yards; Cranes (under 100 ton rated capacity), Grader/Blade; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power of operation), Rubber Tire Excavator (Drott-1085 or similar); Grader Operator; Bulldozer Fine Grade. (slopes, shaping, laser or GPS, etc.). (Trade License Required)	39.88	24.80 + a
Group 4: Trenching Machines; Lighter Derrick; Concrete Finishing Machine; CMI Machine or Similar; Koehring Loader (Skooper).	39.48	24.80 + a
Group 5: Specialty Railroad Equipment; Asphalt Paver; Asphalt Reclaiming Machine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24	38.87	24.80 + a
Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller; Pile Testing Machine.	38.87	24.80 + a
Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	38.55	24.80 + a
Group 7: Asphalt roller, concrete saws and cutters (ride on types), vermeer concrete cutter, Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24	38.2	24.80 + a
Group 8: Mechanic, grease truck operator, hydroblaster; barrier mover; power stone spreader; welding; work boat under 26 ft.; transfer machine.	37.79	24.80 + a
Group 9: Front end loader (under 3 cubic yards), skid steer loader regardless of attachments, (Bobcat or Similar): forklift, power chipper; landscape equipment (including Hydroseeder).	37.34	24.80 + a
Group 10: Vibratory hammer; ice machine; diesel and air, hammer, etc.	35.24	24.80 + a
Group 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment.	35.24	24.80 + a

Project: SCSU Lyman Center HVAC Renovation

Group 12: Wellpoint operator.	35.18	24.80 + a
Group 13: Compressor battery operator.	34.58	24.80 + a
Group 14: Elevator operator; tow motor operator (solid tire no rough terrain).	33.41	24.80 + a
Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	32.99	24.80 + a
Group 16: Maintenance Engineer/Oiler.	32.32	24.80 + a
Group 17: Portable asphalt plant operator; portable crusher plant operator; portable concrete plant operator.	36.76	24.80 + a
Group 18: Power safety boat; vacuum truck; zim mixer; sweeper; (Minimum for any job requiring a CDL license).	34.26	24.80 + a
-----PAINTERS (Including Drywall Finishing)-----		
10a) Brush and Roller	34.62	21.80
10b) Taping Only/Drywall Finishing	35.37	21.80
10c) Paperhanger and Red Label	34.12	21.05
10e) Blast and Spray	36.62	21.05
11) Plumber (excluding HVAC pipe installation) (Trade License required: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2)	43.62	32.06
12) Well Digger, Pile Testing Machine	37.26	24.05 + a
Roofer: Cole Tar Pitch	41.5	17.00 + a
Roofer: Slate, Tile, Composition, Shingles, Singly Ply and Damp/Waterproofing	40.0	17.00 + a
15) Sheetmetal Worker (Trade License required for HVAC and Ductwork: SM-1,SM-2,SM-3,SM-4,SM-5,SM-6)	37.98	38.31
16) Pipefitter (Including HVAC work) (Trade License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4, G-1, G-2, G-8 & G-9)	43.62	32.06

-----TRUCK DRIVERS-----

17a) 2 Axle	29.51	24.52 + a
17b) 3 Axle, 2 Axle Ready Mix	29.62	24.52 + a
17c) 3 Axle Ready Mix	29.67	24.52 + a
17d) 4 Axle, Heavy Duty Trailer up to 40 tons	29.72	24.52 + a
17e) 4 Axle Ready Mix	29.77	24.52 + a
17f) Heavy Duty Trailer (40 Tons and Over)	29.98	24.52 + a
17g) Specialized Earth Moving Equipment (Other Than Conventional Type on-the-Road Trucks and Semi-Trailers, Including Euclids)	29.77	24.52 + a
18) Sprinkler Fitter (Trade License required: F-1,2,3,4)	45.57	24.33 + a
19) Theatrical Stage Journeyman	25.76	7.34

*Welders: Rate for craft to which welding is incidental.*

*\*Note: Hazardous waste removal work receives additional \$1.25 per hour for truck drivers.*

*\*\*Note: Hazardous waste premium \$3.00 per hour over classified rate*

*ALL Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra \$4.00 premium in addition to the hourly wage rate and benefit contributions:*

- 1) Crane handling or erecting structural steel or stone; hoisting engineer (2 drums or over)*
- 2) Cranes (100 ton rate capacity and over) Bauer Drill/Caisson*
- 3) Cranes (under 100 ton rated capacity)*

*Crane with 150 ft. boom (including jib) - \$1.50 extra*

*Crane with 200 ft. boom (including jib) - \$2.50 extra*

*Crane with 250 ft. boom (including jib) - \$5.00 extra*

*Crane with 300 ft. boom (including jib) - \$7.00 extra*

*Crane with 400 ft. boom (including jib) - \$10.00 extra*

All classifications that indicate a percentage of the fringe benefits must be calculated at the percentage rate times the "base hourly rate".

Apprentices duly registered under the Commissioner of Labor's regulations on "Work Training Standards for Apprenticeship and Training Programs" Section 31-51-d-1 to 12, are allowed to be paid the appropriate percentage of the prevailing journeymen hourly base and the full fringe benefit rate, providing the work site ratio shall not be less than one full-time journeyman instructing and supervising the work of each apprentice in a specific trade.

*The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.*

*Each contractor 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 website.*

*The annual adjustments will be posted on the Department of Labor's Web page: [www.ct.gov/dol](http://www.ct.gov/dol). 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.*

*Contracting Agencies are under no obligation pursuant to State labor law to pay any increase due to the annual adjustment provision.*

*Effective October 1, 2005 - Public Act 05-50: any person performing the work of any mechanic, laborer, or worker shall be paid prevailing wage*

All Person who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.

All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)

Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.

Project: SCSU Lyman Center HVAC Renovation

~~Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clause (29 CFR 5.5 (a) (1) (ii)).

Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.

As of: April 16, 2020



## **Information Bulletin** ***Occupational Classifications***

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(d).

***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. If unsure, the employer should seek guidelines for CTDOL.***

**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.

- **LABORER, CLEANING**

- The clean up of any construction debris and the general (heavy/light) cleaning, including sweeping, wash down, mopping, wiping of the construction facility and its furniture, washing, polishing, and dusting.

- **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 or 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 require 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 require equal composite workforce.

- **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.

- **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), decorative security fence (non-metal)).

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 hhg 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**

Operates 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. (demolition 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, fascia, louvers, partitions, 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. 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. To include testing and air –balancing ancillary to installation and construction.

- **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**

~How to pay truck drivers delivering asphalt is under REVISION~

Truck Drivers are requires to be paid prevailing wage for time spent "working" directly on the site. These drivers remain covered by the prevailing wage for any time spent transporting between the actual construction location and facilities (such as fabrication, plants, mobile factories, batch plant, borrow pits, job headquarters, tool yards, etc.) dedicated exclusively, or nearly so, to performance of the contract or project, which are so located in proximity to the actual construction location that it is reasonable to include them. ***\*License required, drivers only, per Connecticut General Statutes.***

***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.*



# **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](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/wgmenu.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 ULTIMATELY ARISE CONCERNING THE CONSTRUCTION OF THE STATUTE OR THE REGULATIONS.**

**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 4<sup>th</sup>, 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.

## 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](http://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.**



[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**

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

**WEEKLY PAYROLL**

CONTRACTOR NAME AND ADDRESS:										SUBCONTRACTOR NAME & ADDRESS				WORKER'S COMPENSATION INSURANCE CARRIER						
PAYROLL NUMBER	Week-Ending Date	PROJECT NAME & ADDRESS								POLICY #				EFFECTIVE DATE: EXPIRATION DATE:						
PERSON/WORKER, ADDRESS and SECTION	APPR RATE %	MALE/ FEMALE AND RACE*	WORK CLASSIFICATION  Trade License Type & Number - OSHA 10 Certification Number	DAY AND DATE						Total ST 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				GROSS PAY FOR THIS PREVAILING RATE JOB	CHECK # AND NET PAY
				S	M	T	W	TH	F	S					Total O/T Hours	FICA	FEDERAL WITH- HOLDING	STATE WITH- HOLDING		
				HOURS WORKED EACH DAY																
											\$ Base Rate	1. \$ 2. \$ 3. \$								
											\$ Cash Fringe	4. \$ 5. \$ 6. \$								
											\$ Base Rate	1. \$ 2. \$ 3. \$								
											\$ Cash Fringe	4. \$ 5. \$ 6. \$								
											\$ Base Rate	1. \$ 2. \$ 3. \$								
											\$ Cash Fringe	4. \$ 5. \$ 6. \$								
											\$ Base Rate	1. \$ 2. \$ 3. \$								
											\$ Cash Fringe	4. \$ 5. \$ 6. \$								

12/9/2013 \*IF REQUIRED

WWS-CPI

\*SEE REVERSE SIDE

PAGE NUMBER \_\_\_\_ OF



**\*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)









## Additional Forms to Be Submitted After Bond Commission Funding Approval

DAS | Construction Services | Office of Legal Affairs, Policy, and Procurement

<b>Table of Contents</b>	<b>No. of Pages</b>
<b>Performance Bond</b>	<b>2</b>
<b>Labor And Material Bond</b>	<b>2</b>
<b>Surety Sheet</b>	<b>1</b>
<b>Bidder's Certification: Financial Position and Corporate Structure</b>	<b>1</b>

**PERFORMANCE BOND**  
**Know All Men by These Presents**

**THAT** [ ] of the  
Town of [ ], County [ ] and  
State of [ ], as Principal (hereinafter called the Principal),  
and [ ], [ ]

*(Insert place of Business)*

(a surety company authorized to transact business in the State Of Connecticut) as Surety(ies) (hereinafter called the Surety) are held and firmly bound unto the State of Connecticut (hereinafter called the Obligee) in the full penal sum of

[ ]

(\$ [ ] ) Dollars, lawful money of the United States, to be paid to said State of Connecticut, to the which payment well and truly to be made and done, the said Principal binds himself, his heirs, executors, administrators and assigns (or itself, its successors and assigns), and the said Surety (ies) binds itself, its successors and assigns jointly and severally firmly by these presents.

Signed, sealed and delivered this [ ] day of [ ] 20 [ ] .

**THE CONDITION OF THIS OBLIGATION IS SUCH THAT**

**WHEREAS** said Principal will enter into a certain written contract with said Obligee, to be dated-the

[ ] day of [ ] 20 [ ] , which written , as amended, contract shall provide for the following:

- Project Title:** [ ]
- Project Location:** [ ]
- Contract Number:** [ ]
- Project Number:** [ ]

which contract, including any hereafter made extension, modification or alteration thereof, together with all plans and specifications now made or which may hereafter be made in extension, modification or alteration thereof, is hereby referred to, incorporated in, and made a part of this bond as though herein fully set forth.

**NOW, THEREFORE**, if the said Principal shall well and truly keep, perform and execute all the undertaking, covenants, terms, conditions, and agreements of said contract, as it may be extended, modified or altered, and during the *period* of any guaranty required under the contract, according to its provisions on his or its part to be kept and performed or shall indemnify and reimburse the Obligee for any loss that it may suffer through the failure of the Principal to faithfully observe and perform each and every obligation and duty imposed upon the Principal by the said contract, as it may be extended, modified or altered, at the time and in the manner therein specified, then this obligation shall be null and void, otherwise it shall remain and be in full force and effect.

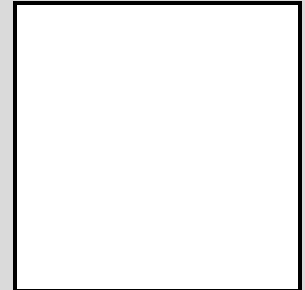
Any alterations which may be made in the terms of the contract, or in the work done or to be done under it, or the giving by the Obligee of any extension of time for the performance of the contract or any other forbearance on the part of either the Obligee or the Principal, one to the other, shall not in any way release the Principal, and/or the Surety(ies) or either of them, their representatives, heirs, executors, administrators, successors or assigns from liability hereunder, and notice to the Surety(ies) of any such alteration, modification, extension or forbearance is hereby specifically and absolutely waived.

In the event that the Surety(ies) assumes the contract or obtains a bid or bids for completion of the contract, the Surety(ies) 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.

**IN TESTIMONY WHEREOF**, the said Principal has hereunto set his / its hand and seal, and the said Surety(ies) has/have caused this instrument to be signed by its/their attorney in fact and its corporate seal to be hereunto affixed, the day and year first written.

**Witness as to Principle**

**SEAL**



(Print Name)

, Its

Duly Authorized

(Print Name)

**Witness as to Surety**

**SEAL**



(Print Name)

by

Its attorney in fact

(Print Name)

**Note:** If more than one surety, add additional lines for additional surety name and address, person signing and title, and two witnesses. Obtain Power of Attorney for each surety.

**End Performance Bond**

**LABOR AND MATERIAL BOND  
Know All Men by These Presents**

**THAT** [ ] of the  
Town of [ ] , County [ ] and  
State of [ ] , as Principal (hereinafter called the Principal),  
and [ ] , [ ]  
*(Insert place of Business)*

(a surety company authorized to transact business in the State Of Connecticut) as Surety(ies) (hereinafter called the Surety) are held and firmly bound unto the State of Connecticut (hereinafter called the Obligee) in the full penal sum of

[ ]  
(\$ [ ] ) Dollars, lawful money of the United States, to be paid to said State of Connecticut, to the which payment well and truly to be made and done, the said Principal binds himself, his heirs, executors, administrators and assigns (or itself, its successors and assigns), and the said Surety (ies) binds itself, its successors and assigns jointly and severally firmly by these presents.

Signed, sealed and delivered this [ ] day of [ ] 20 [ ] .

**THE CONDITION OF THIS OBLIGATION IS SUCH THAT**

**WHEREAS** said Principal will enter into a certain written contract with said Obligee, to be dated the

[ ] day of [ ] 20 [ ] , which written, as amended, contract shall provide for the following:

- Project Title:** [ ]
- Project Location:** [ ]
- Contract Number:** [ ]
- Project Number:** [ ]

which contract, including any hereafter made extension, modification or alteration thereof, together with all plans and specifications now made or which may hereafter be made in extension, modification or alteration thereof, is hereby referred to, incorporated in, and made a part of this bond as though herein fully set forth.

**NOW, THEREFORE**, if the said Principal shall promptly pay for all materials furnished and labor supplied or performed in the prosecution of the work included in and under the aforesaid contract, as it may be extended, modified or altered, and/or required by the General Statutes of Connecticut, as amended, whether or not the material or labor enters into and becomes a component part of the real asset, then this obligation shall be null and void, otherwise it shall remain and be in full force and effect. This bond is provided pursuant to Section 49-41 et seq. of the General Statutes of Connecticut and shall be governed thereby.

Any party, whether a subcontractor or otherwise, who furnishes materials or supplies or performs labor or services in the prosecution of the work under said contract, as it may be extended, modified or altered, and who is not paid therefor, may bring a suit on this bond in the name of the person suing and prosecute the same to final execution and judgment for such sum or sums as may be justly due.

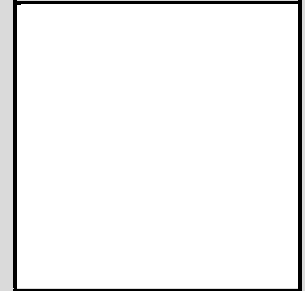
Any alterations which may be made in the terms of the contract, or in the work done or to be done under it, or the giving by the Obligee of any extension of time for the performance of the contract or any other forbearance on the part of either the Obligee or the Principal, one to the other, shall not in any way release the Principal, and/or the Surety(ies) or either of them, their representatives, heirs, executors, administrators, successors or assigns from liability hereunder, and notice to the Surety(ies) of any such alteration, modification, extension or forbearance is hereby specifically and absolutely waived.

In the event that the Surety(ies) assumes the contract or obtains a bid or bids for completion of the contract, the Surety(ies) 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.

**IN TESTIMONY WHEREOF**, the said Principal has hereunto set his / its hand and seal, and the said Surety(ies) has/have caused this instrument to be signed by its/their attorney in fact and its corporate seal to be hereunto affixed, the day and year first written.

**Witness as to Principle**

**SEAL**



(Print Name)

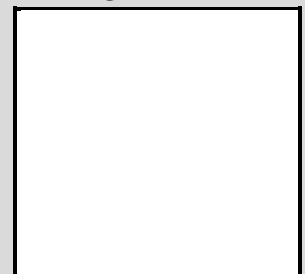
, Its

Duly Authorized

(Print Name)

**Witness as to Surety**

**SEAL**



(Print Name)

by

Its attorney in fact

(Print Name)

**Note:** If more than one surety, add additional lines for additional surety name and address, person signing and title, and two witnesses. Obtain Power of Attorney for each surety.

**End Labor and Material Bond**

## Surety Sheet

State Of Connecticut  
Department of Administrative Services, Construction Services  
Office of Legal Affairs, Policy, and Procurement  
450 Columbus Boulevard, Suite 1302  
Hartford, CT 06103

### 1. Surety Company

Name of Surety Co.:

Address of Home Office:

Telephone Number:

### 2. Agent

Name of Surety Co.:

Address of Agency:

Telephone Number:

Attorney-In-Fact:

Telephone Number:

DAS Project Number:

Contractor's Name:

*End Surety Sheet*

**Bidder's Certification:  
Financial Position and Corporate Structure**

*(Your Name)*

*(Name Of Company)*

Pursuant to C.G.S. § 4b-91(e), as amended, the bidder for this contract (hereinafter "bidder"), certifies under penalty of false statement that the information in the bid is true, that there has been no substantial change in the bidder's financial position or corporate structure since its most recent prequalification certificate was issued or renewed, other than those changes noted in the update statement, and that the bid was made without fraud or collusion with any person.

*(Signature)*

*(Print Name)*

*(Date)*

*(DAS Project Number)*

***End Bidder's Certification: Financial Position and Corporate Structure***

**End of Section 00 92 10  
Additional Forms To Be Submitted After Bond Commission Funding Approval**





## Procedures Regarding Taxation For Nonresident General / Prime Contractor and Subcontractors

**DAS | Construction Services | Office of Legal Affairs, Policy, and Procurement**

According to [Connecticut General Statutes § 12-430\(7\)](#), there are two types of Nonresident Contractors and Subcontractors (*Verified* or *Unverified*) who are required to furnish security for Connecticut taxes arising from jobs performed in Connecticut.

Detailed information can be found by visiting the Connecticut Department of Revenue Services (DRS) website at [www.ct.gov/drs](http://www.ct.gov/drs):

- Under the “**For Businesses**” title, click on “**Withholding Tax**”;
- Click on “**Registering**”;
- Click on “**5. What tax types do I need to register for with DRS**”;
- Read the information for “**Out-of-State**” contractors.
- Click on “[SN 2012\(2\)](#)” for the “Procedure Governing Nonresident Contractors”.

Forms can be downloaded from the DRS website ([www.ct.gov/drs](http://www.ct.gov/drs)) as follows:

- Click on “**Forms**” at the top of the page;
- Under “**Current Year Forms**”:
  - o Click on “**Miscellaneous Tax Forms**”;
  - o Click on “**Bond Forms**”
- Download the appropriate form.

For questions regarding the nonresident contractor bond law, call **DRS** at **860-541-7538**.

### 1.0 Verified Nonresident Contractors and Subcontractors

Verified Nonresident Contractors are treated just like Resident Contractors. A Verified Nonresident General or Prime Contractor is not required to file a surety bond with DRS. A Verified Nonresident Subcontractor is not required for the General or Prime Contractor to hold back a portion of the amount owed the Subcontractor under the contract.

#### 1.1 Verification Procedure for General/Prime Contractors and Subcontractors:

**1.1.1 Register with DRS** via REG-1 for all appropriate taxes.

**1.1.2 Submit Form AU-960 “Nonresident Contractor Request for Verified Contractor Status” to DRS.** If you have a 3 year filing history with DRS and no delinquencies, then just complete **Part I & Part I**, otherwise go to **Part III**.

**1.1.3 Submit Form AU-961 “Verification Bond” to DRS.**

**1.1.4** If Verified by DRS, submit “**Notice of Verified Status**” (Verification Letter issued by DRS) to the Connecticut Department of Administrative Services / Construction Services (DAS/CS) Office of Legal Affairs, Policy, and Procurement as specified in Section 00 41 00 Bid Proposal Form.

**2.0 Unverified Nonresident Contractors and Subcontractors  
(for Contracts Greater Than \$250,000):**

The requirements for Unverified Nonresident Contractors and Unverified Nonresident Subcontractors (for Contracts greater than \$250,000) are different for General/Prime Contractors and their Subcontractors:

**2.1 Unverified Nonresident General or Prime Contractors:**

- 2.1.1** Submit **Form AU-964 “Surety Bond and Release” to DRS**. The Unverified Nonresident General/Prime Contractor is required to file a good and valid surety bond with DRS using Form AU-964 “Surety Bond and Release” for 5% of the contract price to secure payment of required taxes by both the General/Prime Contractor and its Subcontractors.
- 2.1.2** The General/Prime Contractor must provide proof to DAS/CS that they have posted a good and valid surety bond with DRS by providing a copy of **Form AU-965 “Acceptance of Surety Bond”** that verifies acceptance of the bond by DRS\*.

**2.2 Unverified Nonresident Subcontractors:**

- 2.2.1** The Resident or Verified or Unverified Nonresident General/Prime Contractor is required to hold back 5% of its payments to the Unverified Nonresident Subcontractor. The General/Prime Contractor must keep the hold-backs in a special fund in trust for the state.
- 2.2.2** The Unverified Nonresident Subcontractor can request that the money be released from the General/Prime Contractor by submitting **Form AU-967 “Request for Certificate of Compliance” to DRS**. It must be signed by the General/Prime Contractor and the Nonresident Subcontractor and submitted **to DRS within 90 days of the completion date**.
- 2.2.3** If **Form AU-968 “Certificate of Compliance”** is issued by DRS, DRS will instruct the General/Prime Contractor holding back the 5% to release the withheld amount to the Nonresident Subcontractor. If the “Certificate of Compliance” is denied or not requested within **90 days of the completion date of the contract**, the General/Prime Contractor holding back the 5% will remit the withheld amount on their own Sales & Use tax returns.
- 2.2.4** The 5% holdback does not take the place of any tax returns due from the Unverified Nonresident Contractor.
- 2.2.5** The General/Prime Contractor must give the Unverified Nonresident Subcontractor written notice of the hold-back requirements by the time the Subcontractor begins work under the contract.

\*Document(s) must be submitted to the DAS/CS Office of Legal Affairs, Policy, and Procurement as specified in Section 00 41 00 “Bid Proposal Form”.

**End of Section**

**00 92 30 Procedures Regarding Taxation  
For Nonresident General/Prime Contractor & Subcontractors**

## PART 1 – GENERAL

### 1.1 DEFINITIONS

**A. Contractor:**

Whenever the term "**Contractor**" is used in these Division 01 General Requirements and the Contract Documents, it may be understood to mean either the **Design-Bid-Build (D-B-B) "General Contractor"** or the **Construction Manager at Risk ("CMR")** as applicable to the specific Project.

**B. Subcontractor:**

Whenever the term "**Subcontractor**" is used, it may be understood to mean either a **Subcontractor** or a **Supplier**, as applicable to the specific Project.

**C. Contract:**

Whenever the term "**Contract**" is used in these Division 01 General Requirements and the Contract Documents, it may be understood to mean either the **D-B-B General Contractor's Contract Sum** as stated in their Contract or the **CMR's Contract Sum** as stated in their CMR Agreement, as applicable to the specific Project.

### 1.2 RELATED DOCUMENTS

- A.** The Contract Documents are defined in the D-B-B and CMR Division 00 General Conditions, as applicable to the specific Project.
- B.** Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

### 1.3 WORK COVERED BY CONTRACT DOCUMENTS

**A. Project Delivery Method:**

- 1. Design-Bid-Build (DBB);

**B. Project Number: BI-RS-357**

**C. Project Title: LYMAN CENTER – HVAC/ELECTRICAL RENOVATIONS - BID PACKAGE 1**

**D. Project Location:** The Southern Connecticut State University, located in New Haven, Connecticut.

**E. The Project Description:**

- 1. The Work consists of the renovation and adjustment of the existing HVAC system serving the Lyman Hall Auditorium, including the following work:
  - a. Insulating all exposed metal surfaces of the HVAC system.
  - b. Replacement of the existing exhaust fans with new fans equipped with variable frequency drives (VFDs).
  - c. Adjusting the controls and sequence of operation for the air conditioning system and balancing per recommendations of the Mechanical Engineer.
  - d. Electrical: Remove and properly discard removed electrical equipment; Install new power conductors, raceway and disconnect switches to support the installation of new HVAC equipment; Provide new circuit breakers into the existing distribution panel to power new HVAC equipment.
- 2. The Authorities Having Jurisdiction for Threshold Projects, Non-Threshold Projects, and/or Connecticut State University System (CSUS) 2020 Projects, as defined by the Connecticut General Statutes, are the Connecticut Department of Administrative Services (DAS) / Construction Services (CS) Office of State Building Inspector (OSBI) and Office of State Fire Marshal (OSFM).

**F. Owner:**

- 1. **Owner's Name:** The Owner is the State of Connecticut, Department of Administrative Services.
- 2. **Authorized Representative for the Owner:** DAS/CS Project Manager Name: Rahul Abraham.
  - a. **DAS/CS Project Manager's Location:** The DAS/CS Project Manager is located at 450 Columbus Blvd, Suite 1201, Hartford, CT, 06103.
  - b. **Phone:** 860-713-5752;

c. **Email:** Rahul.Abraham@ct.gov.

3. **Authority:** The DAS/CS Project Manager is the only authorized representative for the Department of Administrative Services Commissioner to act in matters involving revoking, altering, enlarging or relaxing any requirement of the Contract Documents.

a. **Related Section: Article 25, All Work Subject To Control of the Commissioner,** Division 00 General Conditions of the Contract for Construction.

**G. Agency:**

1. **Agency Name:** The Connecticut State (User) Agency is The Southern Connecticut State University.

2. **Agency Representative Name and Title:** Peter J. Visentin. The Agency Representative's Title is Director of Architectural Services, SCSU.

a. **Agency Representative Location:** The Agency Representative is located at Southern Connecticut State University, 615 Fitch Street, Hamden CT 06514.

b. **Phone:** (203) 392-6055;

c. **Email:** visentinp1@southernct.edu.

3. **Authority:** The Agency Representative has the administrative authority for the facility and or site where the work is being performed but does not have the authority to change the Contract Documents or direct the Contractor.

**H. Architect and Engineer (A/E):**

1. **Architect's Name:** The Architect representing the firm for this project is Paul Hohenthal.

a. **Architect's Location:** The Architect is located at Friar Architecture Inc., 21 Talcott Notch Road, Farmington CT 06032.

b. **Phone:** 860-678-1291;

c. **Email:** [peh@friar.com](mailto:peh@friar.com).

**Engineer's Name:** The Engineer representing the firm for this project is Richard W Camara, P.E.

a. **Engineer's Location:** The Engineer is located at RZ Design Associates, Inc., 750 Old Main Street, Rocky Hill, CT 06067.

b. **Phone:** 860-436-4336;

c. **Email:** [rcamara@rzdesignassociates.com](mailto:rcamara@rzdesignassociates.com).

2. The Architect and Engineer (A/E) or their accredited representative is referred to in the Contract Documents as "Architect" or "Architects" or "Engineer" or "Engineers" or by pronouns which imply them. As information for the Contractor, the Architect's or Engineer's status is defined as follows:

a. The Architect and Engineer will not make interpretations or decisions directly to the Contractor. All interpretations or decisions will be conveyed through the Construction Administrator to the DAS/CS Project Manager.

b. As the authorized representative of the Department of Administrative Services Commissioner, the Architect and Engineer is responsible for review of shop drawings, materials, and equipment intended for the work, in accordance with the Division 00 "General Conditions" and "Supplementary Conditions".

3. Wherever the Architect or Engineer is mentioned in the documents in connection with an administrative function, it shall include the Construction Administrator in that function except for shop drawings.

**I. Construction Administrator (CA):**

1. **Construction Administrator Name:** Scott Pinckney.

a. **Construction Administrator Location:** STV Incorporated 280 Trumbull St #14, Hartford, CT 06103

b. **Phone:** 860-882-5600

**Authority:** As information to the Contractor, the Construction Administrator's status is defined as follows:

- a. The Construction Administrator (CA) is referred to in the Contract Documents as "Construction Administrator" or by pronouns which imply it. All communications concerning the project will be directed through the Construction Administrator or a designated representative(s).
  - b. The Construction Administrator is the Owner's Agent who will, among other things, monitor and analyze the Contractor's performance, scheduling and construction, process shop drawings, material, and equipment submittals, review and process periodic billings, review, analyze, and recommend cost changes.
  - c. **Related Section: Article 26 "Authority of the Construction Administrator"** of Division 00 "General Conditions of the Contract for Construction".
3. The Construction Administrator will process all requests for information, interpretations and decisions regarding the meaning and intent of the Contract Documents, consulting with appropriate parties prior to rendering the interpretations or decisions for the Project Manager to the Contractor. All such requests and replies shall be in writing.
- J. **Work:** The Work Includes but is not limited to the following:
- 1 Insulating all exposed metal surfaces of the HVAC system.
  - 2 Replace the existing exhaust fans with new fans equipped with variable frequency drives (VFDs)
  - 3 Adjusting the controls and sequence of operation for the air conditioning system and balancing per recommendations of the Mechanical Engineer.
  - 4 Electrical: Remove and properly discard removed electrical equipment; Install new power conductors, raceway and disconnect switches to support the installation of new HVAC equipment; Provide new circuit breakers into the existing distribution panel to power new HVAC equipment.
- K. The Contractor will include in their bid, all items required in order to carry out the intent of the Work as described, shown and implied in the Contract Documents.
- L. The Work will be constructed under the Contractor's Contract as applicable to this Project.

#### 1.4 WORK UNDER OTHER CONTRACTS

- A. **Separate Contract:** The Owner has awarded a separate contract for performance of certain construction operations at the site. Those operations are scheduled to be substantially complete before the work under this Contract begins. The separate contract includes the following:
1. **Contract:** A separate contract has been awarded to **[Insert]** to perform the following Work **Reupholstery of Auditorium Seating**.
- B. **Separate Contract:** The Owner has awarded a separate contract for performance of certain construction operations at the site. These operations will be conducted simultaneously to the work under this Contract. The separate contract includes the following:
1. **Contract:** A separate contract has been awarded to **[Insert]** to perform the following Work **Re-roof and Interior Renovations**.
- C. Cooperate fully with separate contractors so that work under those contracts may be carried out smoothly, without interfering with or delaying work under this contract.

#### 1.5 CONTRACTOR'S USE OF PREMISES

- A. **General:** During the construction period the Contractor shall have full use of the newly constructed premises for construction operations, including use of the site. The Contractor's use of the premises is limited only by the Owner's right to perform work or to retain other contractors on portions of the Project.
- B. **Use of the Site:** Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.
1. **Owner Occupancy:** Allow for Owner occupancy and use by the public of the existing facility.
  2. The Contractor shall confine his operations including storage of materials, supplies, equipment, and apparatus to the areas bounded by the contract limits indicated and as directed in the Contract Documents.
  3. Existing roads, drives, walks, and parking areas which are not within the contract limit line are to be kept free and clear at all times. All deliveries for the project are to enter the **Lyman Hall** property from **Crescent Street to the rear entrance**. The Contractor shall check all roadways for accessibility and clearances for deliveries of all large material and equipment. The Contractor shall inform the Construction Administrator at least **seventy-two (72)** hours in advance of these deliveries so they can

be coordinated with the Agency so appropriate traffic control, etc. can be provided. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

4. The Contractor shall be responsible for keeping the premises clean and shall pick up rubbish and debris and promptly remove from site.
  5. Parking for the Contractor's employees will be limited to an area designated by the Construction Administrator, and the Contractor may be required to provide identification stickers for all employees' cars.
  6. Special precautions shall be taken to protect all wetland areas designated to remain. Prevent any and all sediment, debris, or other materials from getting into these areas. Should any sediment, debris, or other materials get into these areas or if any damage occurs to the vegetation therein, the Contractor shall immediately contact the Construction Administrator for direction.
  7. The Contractor shall comply with local working hour restrictions, unless specifically approved otherwise in writing by the Owner.
  8. No signs, other than those approved by the Construction Administrator, will be visible on the premises.
- C. Use of the Existing Building:** Maintain the existing building in a weather-tight condition throughout the construction period. Repair damage caused by construction operations. Take all precautions necessary to protect the building and its occupants during the construction period. Note: Check with Agency special types of conditions. Contractor personnel are not allowed to use the Cafeteria or vending machines within the existing buildings unless authorized in writing by the agency.

#### 1.6 OCCUPANCY REQUIREMENTS

- A. Full Agency Occupancy During Construction:** The Owner reserves the right to allow the Agency to occupy the site and existing building during the entire construction period. Cooperate with the Agency during construction operations to minimize conflicts and facilitate Agency usage. Perform the Work so as not to interfere with the Agency's operations.
1. Provide adequate building and fire code egress from the buildings during the renovation process and/or as indicated on the Contract Documents. The Contractor will be responsible to maintain and protect egress ways during the construction sequence as required and/or indicated in the Contract documents. The Contractor shall be responsible for preparing egress plans for Owner approval and for DAS/CS Office of State Building Official and Office of State Fire Marshal for approval if required.
- B. Partial Agency Occupancy:** The Owner reserves the right to allow the Agency to occupy and to place and install equipment in completed areas of the building prior to Substantial Completion, provided 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.
1. Should it become necessary or advisable, as the work nears final completion, for the Agency to occupy a portion of the building prior to final acceptance, the Contractor shall cooperate in completing such areas and making same accessible.
  2. The Construction Administrator will determine whether such occupancy or use is possible and, if so, will make arrangements for holding a job inspection with the DAS/CS Project Manager, Agency Representative, and Contractor.
  3. A comprehensive list of items to be completed or corrected as issued by the Contractor, together with the status of completion and terms of occupancy, will be forwarded to the DAS/CS Project Manager by the Construction Administrator. A letter will be issued by the DAS/CS Project Manager and Contractor to Construction Administrator granting such occupancy and will state the terms and conditions of occupancy.
  4. Prior to partial Agency occupancy, mechanical and electrical systems shall be fully operational. Required inspections and tests shall have been successfully completed. Upon occupancy, the Agency will operate and maintain mechanical and electrical systems serving occupied portions of the building.
  5. The Architect will prepare a "Certificate of Substantial Completion" for each specific portion of the Work to be occupied prior to Agency occupancy. Use the "Certificate of Substantial Completion" form as required by the Owner and forward the Certificate to the DAS/CS Office of State Building Inspector for a Certificate of Occupancy and obtain the same after his review and approval.

6. The DAS/CS Project Manager will request a signed "Certificate of Compliance" from the Architect and Contractor, and forward the Certificate to the Office of State Building Inspector for a Certificate of Occupancy and obtain the same after his review and approval.
7. A letter from the DAS/CS Project Manager to the Agency Representative with copy to the Contractor granting occupancy will state the terms and conditions of occupancy and that fire insurance coverage has been requested, the effective date of which will indicate to the Contractor that they may cancel fire insurance coverage for that portion of the project.
8. Upon occupancy, the Agency will assume responsibility for maintenance and custodial service for occupied portions of the building.
9. **Work after Partial Agency Occupancy:**
  - 9.1 For all work to complete the area occupied, warranty work, the balancing and Commissioning (Cx) of systems, repair of latent defects and adjustments after partial occupancy, the Contractor is responsible for all costs associated with working in occupied buildings.

**C. Agency Occupancy:**

1. The Construction Administrator will determine whether such occupancy is possible and, if so, will make arrangements for holding a job inspection with the DAS/CS Project Manager, Agency Representative, and Contractor.
2. A comprehensive list of items to be completed or corrected as issued by the Contractor, together with the status of completion and terms of occupancy, will be forwarded to the DAS/CS Project Manager and the Contractor by the Construction Administrator. A letter will be issued by the DAS/CS Project Manager and Contractor to Construction Administrator granting such occupancy and will state the terms and conditions of occupancy.
3. Prior to Agency occupancy, mechanical and electrical systems shall be fully operational. Required inspections and tests shall have been successfully completed. Upon occupancy, the Agency will operate and maintain mechanical and electrical systems serving occupied portions of the building.
4. The Architect will prepare a "Certificate of Substantial Completion" for the Work to be occupied prior to Agency occupancy. Use the "Certificate of Substantial Completion" form as required by the Owner.
5. The DAS/CS Project Manager will request a signed "Certificate of Compliance" from the Architect and Contractor, and forward the Certificate to the Office of State Building Inspector for a Certificate of Approval and obtain the same after his review and approval.
6. A letter from the DAS/CS Project Manager to the Agency Representative with copy to the Contractor granting occupancy will state the terms and conditions of occupancy and that fire insurance coverage has been requested, the effective date of which will indicate to the Contractor that they may cancel fire insurance coverage for the project.
7. Upon occupancy, the Agency will assume responsibility for maintenance and custodial service for occupied portions of the building.
8. **Work after Agency Occupancy:**
  - 8.1 For all work to complete the occupied building, warranty work, the balancing and commissioning of systems, repair of latent defects and adjustments after occupancy, the Contractor is responsible for all costs associated with working in occupied buildings.

**1.7 PRODUCTS ORDERED IN ADVANCE**

- A. General:** The Owner has negotiated purchase orders with suppliers of material and equipment to be incorporated into the Work. The Owner has assigned these purchase orders to the Contractor. Costs for receiving handling and storage, and installation are included in the contract sum.
1. The Contractor's responsibilities are the same as if the contractor negotiated the purchase orders. If necessary, the Contractor shall renegotiate purchase and execute final purchase-order agreements.
  2. A "Schedule of Products Ordered in Advance" is included at the end of this section.

**1.8 OWNER-FURNISHED PRODUCTS**

- A.** The Owner may furnish various products as may be indicated in the construction documents. The Work includes providing support systems to receive Owner's equipment, and mechanical and electrical connections.



1. The Owner will arrange for and deliver necessary shop drawings, product data, and samples to the Contractor.
2. The Owner will arrange and pay for delivery of Owner-furnished items according to the Contractor's Construction Schedule.
3. Following delivery, the Owner will inspect items delivered for damage.
4. If Owner-furnished items are damaged, defective, or missing, the Owner will arrange for replacement.
5. The Owner will arrange for manufacturer's field services and for the delivery of manufacturer's warranties to the appropriate Contractor.
6. The Contractor shall designate delivery dates of Owner-furnished items in the Contractor's Construction Schedule.
7. The Contractor shall review shop drawings, product data, and samples and return them to the Architect noting discrepancies or problems anticipated in use of the product.
8. The Contractor is responsible for receiving, unloading, and handling Owner-furnished items at the site.
9. The Contractor is responsible for protecting Owner-furnished items from damage, including damage from exposure to the elements. The Contractor shall repair or replace items damaged as a result of his operations.

#### 1.11 MISCELLANEOUS PROVISIONS

##### A. Examination of Site:

1. It is not the intent of the Documents to show all existing conditions. All Contractors and Subcontractors are advised to attend the Pre-Bid Meeting prior to submitting their Bid Proposals. This is the only official opportunity to visit and examine the site with the Owner, Agency, Architect, Engineer and Construction Administrator.
2. The Contractor should investigate and satisfy himself as to the conditions affecting the work, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, uncertainties of weather, roads or similar physical conditions of the ground, the character of equipment, and facilities needed preliminary to and during the prosecution of the Work. The Contractor should further satisfy himself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, as well as from information presented by the Contract Documents. Any failure by the Contractor to acquaint himself with the available information shall not relieve him from the responsibility for estimating properly the difficulty and cost of successfully performing the Work.

##### B. Pre-Bid Meeting:

1. A Pre-Bid Meeting and tour of the site will be conducted as scheduled in Division 00 Section 00 11 16 "Invitation to Bid". This scheduled meeting is the only official opportunity for the bidders to tour the site with the Owner, Architect, Engineer, Construction Administrator, and Agency.

##### C. Project Documents:

1. The Specifications and Drawings are intended to describe and illustrate the materials and labor necessary for the work of this Project.
2. Throughout the Technical Specifications, the Connecticut Department of Transportation Standard Specifications for Roads, Bridges, and Incidental Construction Form 816, current edition including any interim and supplemental specifications are referenced. Where so referenced the requirements set forth therein are applicable and made a part hereof. Copies of Form 816 are available from the Connecticut Department of Transportation at a nominal charge.

##### D. Site Logistics Plan(s): Site Logistics Plan(s) for this Project are in the Contract Documents. The Site Logistics Plan(s) describe in detail the proposed use of the Site and Building, both inside and outside the Contract Limit Area.

1. **Related Section:** Section 01 31 00 "Project Management and Coordination", 1.5 Submittals, A, (4).
2. The **Site Logistics Plan(s)** include, but are not be limited to the following information:
  - a. phasing requirements;

- b. proposed vehicle and equipment access routes;
- c. locations of proposed staging/lay-down and storage areas, utility connections;
- d. utilization of maintaining at least one elevator in use at all times;
- e. occupant access to the elevator during construction;
- f. delivery access of materials, handicap access;
- g. building egress, proposed pedestrian traffic flows in the interior and exterior of the building;
- h. temporary access-ways;
- i. office trailer and dumpster locations;
- j. location of perimeter construction fencing and gates;
- k. other protection measures around and in the building(s);
- l. temporary partitions, proposed pedestrian traffic flows around and in each building;
- m. proposed building access points;
- n. proposed protection measures for trees, shrubs and plantings, interior access-ways;
- o. coordination of activities that relate to building occupants and other field applied measure to protect and coordinate the work including any relocation of utilities.

**E. Scope Review:**

1. Prior to signing a Contract with the State, DAS/CS will conduct a full scope review with the apparent Low Bidder to ensure that all of the requirements have been included within the bid. This scope review will highlight all of the specific requirements of the project, a review of the DAS/CS procedures and all of the Technical sections of the contract documents.
2. This process will ensure that all of the scope of work included in the contract documents has indeed been included.

**F. Specifications, Drawings, and Electronic Data Storage Devices Furnished:**

1. The Contractor shall receive **one (1) set of Portable Document Format (PDF, latest version) Conformed Bid Documents** (incorporating all Addendum changes made to the Contract Documents during the official Bid Period) on Electronic Data Storage Devices on or about the time of execution of the Contract, free of charge from the Architect. If additional copies are wanted, they will be available at the direct additional cost of their reproduction, to the Contractor.
2. The Contractor shall receive **one (1) set of AutoCAD compatible (latest version) Conformed Set of Floor Plans** (incorporating all Addendum changes made to the Contract Documents during the official Bid Period) on Electronic Data Storage Devices at no cost on or about the time of execution of the Contract from the Architect. Additional sets of AutoCAD compatible (latest version) Floor Plans on Electronic Data Storage Devices from the Architect shall be available at the cost of their reproduction, to the Contractor.

**G. Construction Responsibility:**

1. The Contractor shall be responsible for his construction means, methods, techniques, sequences, and procedures employed in the performance of his work and shall have full responsibility for his failure to carry out any part of his work in accordance with the Contract Documents.

**H. Overtime Requests:**

1. The Contractor shall request approval from the Owner to work overtime. Said request shall be made **forty eight (48) hours** in advance. All costs for overtime are included in the Contract Sum as stated in Division 00 Section 00 41 00 "Bid Proposal Form."

**I. PMWeb Project Management:**

1. DAS/CS is using PMWeb as the project management collaborative software tool for this project.
2. The Contractor is required to utilize PMWeb for the duration of this project and shall provide all project information via this program management software. This includes, but is not limited to contracts, applications for payment, change orders, change order proposals, requests for information, etc.
3. The DAS/CS Project Manager **or the Construction Administrator (CA)** shall arrange for training. This training is for the Contractor's Staff, the DAS/CS Project Manager, the Construction Administrator, the A/E, and their representatives.
4. DAS/CS will be establishing a project specific email "file" address for this project. The Contractor shall send an electronic "file" copy of all project documents to this email address, to include but not limited to all project correspondence, project emails, forms, etc.
5. The Contractor is required to scan all documents that contain wet (ink) signatures and send a copy of those documents electronically to the DAS/CS Project Manager and the project specific email "file"

address. The hard copy of the wet signature documents shall be transmitted as directed by the DAS/CS Project Manager. This includes, but is not limited to all contracts, change orders, applications for payment, closeout documentation, etc.

**J. Subcontractor Performance Evaluations:**

1. Pursuant to C.G.S. Sec. 4a-101, the Contractor shall compile evaluation information during the performance of the contract on each of its subcontractors who are performing work with a value in excess of five hundred thousand dollars (\$500,000.00). The Contractor shall complete and submit to DAS/CS evaluations of each such subcontractor upon fifty percent (50%) completion of the project and upon Substantial Completion of the project. The Contractor acknowledges that its failure to complete and submit these evaluations in a timely manner may, by statute, result in a delay in project funding and, consequently, payment to the Contractor. The Contractor agrees to indemnify and hold the State harmless from any loss, damage, or expense that results from or is caused by the Contractor's failure to complete and submit the evaluations to DAS/CS in accordance with this provision.

**K. Reporting and Contracting Requirements for Contractor and Subcontractor Payments:**

1. For compliance with **C.G.S. Sec. 4b-95 and 49-41**, DAS/CS requires every Contractor (and its Subcontractors) who has been awarded a DAS/CS construction contract to log on to the State of Connecticut web-based platform, BizNet, **each month** and **enter payments** they have received from the state, from the Contractor, or from a higher tier Subcontractor (as applicable).
2. The process is described as follows: The state will pay the Contractor on a monthly basis for work performed (and purchases made) by it and its Subcontractors. The Contractor will input the payment date and amount they receive from the state on a monthly basis. The Contractor's first-level Subcontractor (Tier 1 Subcontractor) will input the payment they receive from the Contractor. The second-level Subcontractor (Tier 2 Subcontractor) will input the payment they receive from the Tier 1 Subcontractor. And so on.
3. Contractors awarded a DAS/CS construction contract shall contain **a provision in their subcontract agreements** requiring their Subcontractors to enter payment receipt from the Contractor in the State of Connecticut web-based platform, BizNet, for work performed or purchases made in relation to state projects.
4. Detailed instructions can be found in the DAS/CS publication, "**6002 Instructions to Contractors/Subcontractors for Entering Payments in BizNet**", available for download by going to the DAS Homepage ([www.ct.gov/DAS](http://www.ct.gov/DAS)) and selecting Doing Business With The State > State Building Construction > Publications and Forms > DAS Construction Services Library > 6000 Series.

**PART 2 - PRODUCTS (Not Applicable)**

**PART 3 - EXECUTION (Not Applicable)**

**END OF SECTION 01 11 00**

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

- A. Contract Documents and general provisions of the Contract, including General and Supplementary Conditions, other Division 01 Specification Sections, and Section 00 41 00 "Bid Proposal Form" apply to this Section.

### 1.2 SUMMARY

- A. Related Sections:** The following Sections contain requirements that relate to this Section:

Section 01 26 00 Contract Modification Procedures  
Section 01 29 76 Progress Payment Procedures  
Section 01 35 16 Alteration Project Procedures  
Section 01 35 26 Government Safety Requirements  
Section 01 50 00 Temporary Facilities And Controls  
Section 01 77 00 Closeout Procedures

### 1.3 ALLOWANCES

- A.** This Section includes administrative and procedural requirements for Allowances.

- B. Related Sections:** The following Sections contain requirements that relate to this Section:

1. Division 01 Section 01 26 00 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.

- C. Cash Allowances:**

1. The Contractor's costs for unloading and handling, labor, installation costs, storage, insurance, overhead and profit and other expense related to the Allowance item shall be included in the Contractor's Lump Sum Base Bid Amount and not in the Allowance unless stated otherwise in the Allowance Schedule of this section.

**2. Architect/Engineer Responsibilities:**

- a. Consult with Contractor for consideration of Products, suppliers and installers.
- b. Select Products in consultation with the DAS/CS Project Manager and Agency Representatives and transmit decision to Construction Administrator.
- c. Prepare Change Order.

**3. Construction Administrator Responsibilities:**

- a. Consult with Architect/Engineer, Contractor, DAS/CS Project Manager and Agency Representatives for consideration of Products, suppliers and installers.
- b. Select Products in consultation with Architect/Engineer, DAS/CS Project Manager and Agency Representatives and transmit decision to Contractor.
- c. Prepare Change Order.

**4. Contractor Responsibilities:**

- a. Assist Architect/Engineer and Construction Administrator in selection of Products and Suppliers.
- b. Obtain proposals from Suppliers and offer recommendations.
- c. On notification of selection by Construction Administrator execute purchase agreement with designated supplier.
- d. Arrange for and provide one full size set of Contract Documents to Construction Administrator for their use on site.
- e. Arrange for and provide one electronic tablet, pre-loaded with all required software to manage construction activities, to Construction Administrator for their use on site.

1. Tablet Specifications (minimum):

- a. Operating System- iOS/Android/Windows
- b. Memory- 3GB minimum
- c. Screen size- 10.2" minimum
- d. Storage capacity- 64 GB minimum
- e. Connectivity- Wifi
- f. Camera- 8MP (rear facing)

2. Software: Includes, but is not limited to the latest versions of: Bluebeam Revu, Adobe Acrobat Professional, Microsoft Word, Microsoft Excel, and any Construction Administration programs or apps used by the Contractor (e.g. Procore).

- f. Arrange for and process shop drawings, product data, and samples. Arrange for delivery.
- g. If the actual cost of an Allowance item is more or less than the given amount, the Contract Sum will be adjusted by Change Order.

**PART 2 - PRODUCTS (Not Applicable)**

**PART 3 - EXECUTION (Not Applicable)**

**END OF SECTION 01 20 00**

**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 administrative and procedural requirements for handling requests for equals and substitutions made after award of the Contract.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
1. Division 01 Section 01 33 00 "Submittal Procedures" specifies requirements for submitting the Contractor's Construction Schedule and the Submittal Schedule.
  2. Division 01 Section 01 42 20 "Reference Standards and Definitions" specifies the applicability of industry standards to products specified.
  3. Division 01 Section 01 60 00 "Product Requirements" specifies requirements governing the Contractor's selection of products and product options.

**1.3 DEFINITIONS**

- A. Definitions in this Article do not change or modify the meaning of other terms used in the Contract Documents.
- B. **Equals or Substitutions General:** Changes in products, materials, equipment, and methods of construction required by the Contract Documents proposed by the Contractor after award of the Contract.

**1.4 SUBMITTALS**

- A. **Equals and Substitution Request Submittals:** The Owner will consider requests for equals or substitutions if made prior to the Receipt of the Competitive Bid. The information on all materials shall be consistent with the information herein. After the contract award, substitutions will be considered for materials or systems specified that are no longer available. It will not be considered if the product was not purchased in a reasonable time after award. The Contractor shall submit all equal and substitutions requests on the **"Equal or Substitute Product Request (Form 7001)"**, an example of which is shown at the end of this Section. The Form is available from the Construction Administrator (CA). See Article 15 in the General Conditions for further refinement and information.
- B. The Contractor is required to prepare and submit three (3) copies of the required data for the first manufacturer listed or procedure listed in the specifications section with reference to all of the following areas: the substance and function considering quality, workmanship, economy of operation, durability and suitability for purposes intended including the size, rating performance, LEED® compliance, and cost. All submissions must include all the required data for the first listed manufacturer or procedure as specified, as well as the required data for the proposed Equal or Substitution. This will enable the Owner and Architect to determine that the proposed Equal or Substitution is or is not substantially equal to the first listed manufacturer or procedure.
1. Identify the product or the fabrication or installation method to be replaced in each request. Include related Specification Section and Drawing numbers.
  2. Provide complete documentation showing compliance with the requirements for equals or substitutions, and the following information, as appropriate:
    - a. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate contractors that will be necessary to accommodate the proposed Equal or Substitution.
    - b. A detailed comparison chart of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements, such as performance, weight, size, durability, and visual effect.
    - c. Product Data, including Shop Drawings and descriptions of products and fabrication and installation procedures.
    - d. Samples, where applicable or requested.

- e. A statement indicating the effect on the Contractor's Construction Schedule or CPM Schedule compared to the schedule without approval of the Equal or Substitution. Indicate the effect on overall Contract Time.
  - f. Cost information, broken down, including a proposal of the net change, if any in the Contract Sum.
  - g. The Contractor's certification that the proposed Equal or Substitution conforms to requirements in the Contract Documents in every respect and is appropriate for the applications indicated.
  - h. The Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of the failure of the Equal or Substitution to perform adequately.
3. **Architect's Action:** If necessary, the Architect will request additional information or documentation for evaluation within **seven (7) days** of receipt of the original request for equal or substitution request. The Architect will notify the Construction Administrator who will notify the Owner of recommended acceptance or rejection of the proposed equal or substitution, within **fourteen (14) days** of receipt of the request, or **seven (7) days** of receipt of additional information or documentation, whichever is later. The Construction Administrator will give final acceptance or rejection by the Owner not less than **seven (7) days** after notification.
- a. Any request deemed an "Equal" and accepted by the Construction Administrator, Architect, Owner, and Agency will result in written notification to the Contractor and will not be in the form of a change order for an "Equal".
  - b. Any request deemed a "Substitution" and rejected or approved by Construction Administrator, Architect, and Owner may result in written notification to the Contractor and may be in the form of a change order if the "Substitution" is approved.

## PART 2 - PRODUCTS

### 2.1 EQUAL OR SUBSTITUTIONS

- A. **Conditions:** The Architect will consider the Contractor's request for Equal or Substitution of a product or method of construction when one or more of the following conditions are satisfied, as determined by the Architect. If the following conditions are not satisfied, the Architect will return the requests to the Construction Administrator without action except to record noncompliance with these requirements.
1. The proposed request does not require extensive revisions to the Contract Documents.
  2. The proposed request is in accordance with the general intent of the Contract Documents.
  3. The proposed request is timely, fully documented, and/or properly submitted.
  4. The proposed request can be provided within the Contract Time. However, the Architect will not consider the proposed request if it is a result of the Contractor's failure to pursue the Work promptly or coordinate activities properly.
  5. The proposed request will offer the Owner a substantial advantage, in cost, time, energy conservation, or other considerations, after deducting additional responsibilities the Owner must assume. However, if the proposed request requires the Owner to incur additional responsibilities, including but not limited to, additional compensation to the Architect for redesign and evaluation services, increased cost of other construction by the Owner or similar considerations, then the Owner will have just cause to reject the request for Equal or Substitution.
  6. The proposed request can receive the necessary approvals, in a timely manner, required by governing authorities having jurisdiction.
  7. The proposed request can be provided in a manner that is compatible with the Work as certified by the Contractor.
  8. The proposed request can be coordinated with the Work as certified by the Contractor.
  9. The proposed request can uphold the warranties required by the Contract Documents as certified by the Contractor.
- B. The Contractor's submission and the Architect's review of Submittals, including but not limited to, Samples, Manufacturer's Data, Shop Drawings, or other such items, which are not clearly identified as a request for an Equal or Substitution, will not be considered or accepted as a valid request for an Equal or Substitution, nor does it constitute an approval.

**PART 3 - EXECUTION (Not Applicable)**

**END OF SECTION 01 25 00**





**7001  
Equal or Substitute  
Product Request**

Page 1 of 2

Request Phase: Pre-Bid  Post Bid  (See Article 15 Materials: Standards, General Conditions)

(If Pre-bid only) Current Bid Due Date:  Request No.:  Dated:

To: State of Connecticut  
Department of Administrative Services,  
Construction Services

DAS Project No.:

Project Name / Location:

References: Specification(s):  Section(s):  Paragraph(s):

Drawing(s):  Drawing(s) No(s):  Detail(s) No(s):

Contractually Specified Product:

Contractor Proposed Product:

Proposed Product is: Equal:  Substitute:  Model No.:

**IMPORTANT:**  
**See Attached Data For Both Specified And Proposed Products  
As Required By Article 15 General Conditions.**

Data attached: Drawings:  Product Data:  Reports:  Samples:

Tests:  Other:

Reason(s) for not providing the Specified Product:

Similar Installation:

Project Name:  Architect's Name:

Project Location:  Owner's Name:

Date Installed:



7001  
 Equal or Substitute  
 Product Request

Page 2 of 2

Will proposed substitution impact other parts of the Work?	No	<input type="checkbox"/>	Yes	<input type="checkbox"/>	<i>If Yes Attach An Explanation.</i>	
Will proposed substitution increase Contract Time?	No	<input type="checkbox"/>	Yes	<input type="checkbox"/>	<i>By Number Of Calendar Days</i> <input style="width: 50px;" type="text"/>	
Actual Dollar Savings to the State of Connecticut if substitution is accepted:					\$ <input style="width: 150px;" type="text"/>	
<b>The Undersigned Certifies:                  That The Proposed Request For An Equal Or Substitute Product Conforms To All Of The                  Requirements Of Division 01 General Requirements, Section 01 25 00 Substitution Procedures.</b>						
Request Submitted By General Contractor / CMR: <input style="width: 300px;" type="text"/> <div style="text-align: right; font-size: small;"><i>(Firm's Typed Name)</i></div>						
By:	<input style="width: 100px;" type="text"/> <div style="font-size: x-small;"><i>(Typed Name)</i></div>	<input style="width: 100px;" type="text"/> <div style="font-size: x-small;"><i>(Title)</i></div>	<input style="width: 150px;" type="text"/> <div style="font-size: x-small;"><i>(Signature)</i></div>	<input style="width: 100px;" type="text"/> <div style="font-size: x-small;"><i>(Date)</i></div>		
Contractor / CMR Send copies to :    DAS PM: <input type="checkbox"/> CA: <input type="checkbox"/>						
Consultant's Request Received on (Date): <input style="width: 100px;" type="text"/> Consultant's Review – This Substitution Request is:						
<input type="checkbox"/>	Approved:	<i>(Submittal(s) in accordance with Div. 01 General Requirements, Section 01 33 00 Submittal Procedures.)</i>				
<input type="checkbox"/>	Approved as Noted:	<i>(Submittals in accordance with Div. 01 General Requirements, Section 01 33 00 Submittal Procedures.)</i>				
<input type="checkbox"/>	Rejected:	Use Specified Materials.				
<input type="checkbox"/>	Rejected:	Request Not Received Within Specified Time Period - Use Specified Materials.				
Reviewed Issued By:						
Name: <input style="width: 250px;" type="text"/> <div style="text-align: right; font-size: x-small;"><i>(Typed Name)</i></div>						
Title: <input style="width: 250px;" type="text"/>						
Signature: <input style="width: 150px;" type="text"/> <input style="width: 100px;" type="text"/> <div style="display: flex; justify-content: space-between; font-size: x-small;"><span><i>(Signature)</i></span><span><i>(Date)</i></span></div>						
CONSULTANT Send copies to:    DAS PM <input type="checkbox"/> CA <input type="checkbox"/> Chief Architect <input type="checkbox"/> Chief Engineer <input type="checkbox"/>						
If Approved: As noted by Consultant, DAS Chief Architect: <input style="width: 200px;" type="text"/> <input style="width: 100px;" type="text"/> <div style="display: flex; justify-content: space-between; font-size: x-small;"><span><i>(Signature)</i></span><span><i>(Date)</i></span></div>						
Copies:    Project File    Red R2						

END

## 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 specifies administrative and procedural requirements for handling and processing contract modifications.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Division 01 Section 01 20 00 "Contract Considerations" for administrative requirements governing use of Unit Prices.
  - 2. Division 01 Section 01 25 00 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after award of the Contract.
  - 3. Division 01 Section 01 29 76 "Progress Payment Procedures" for administrative procedures governing Applications for Payment.
  - 4. Division 01 Section 01 32 16 "Construction Progress Schedules" for requirements for construction scheduling and reporting progress of work.
  - 5. Division 01 Section 01 33 00 "Submittal Procedures" for requirements for submittal of the Construction Progress Schedule or CPM Schedule.
  - 6. General Conditions "Article 13 - Compensation for Changes in the Work".
- C. All Forms referenced in this Section are available for download from the DAS website ([www.ct.gov/DAS](http://www.ct.gov/DAS))> Doing Business With The State > State Building Construction > Publications and Forms > DAS Construction Services Library > 7000 Series - Construction Phase Forms.

### 1.3 REQUESTS FOR INFORMATION

- A. In the event that the Contractor or subcontractor, at any tier, determines that some portion of the drawings, specifications, or other contract documents requires clarification or interpretation by the Architect, the Contractor shall submit a "Request for Information" in writing to the Architect via the Construction Administrator. "Requests for Information" may only be submitted by the Contractor and shall only be submitted on the "Request for Information" forms as required by the Owner.
  - 1. In the "Request for Information", the Contractor shall clearly and concisely set forth the issue for which clarification or interpretation is sought and why a response is needed from the Architect.
  - 2. In the "Request for Information", the Contractor shall set forth an interpretation or understanding of the requirement along with reasons why such an understanding was reached.
  - 3. The Owner acknowledges that this is a complex project. Based upon the owner's past experience with projects of similar complexity, the Owner anticipates that there will probably be some "Requests for Information" on this project.
  - 4. The Architect will review all "Requests for Information" to determine whether they are valid "Requests for Information". If it is determined that the document is not a valid "Request for Information", it will be returned to the Contractor, unreviewed as to content, for resubmittal on the proper form and in the proper manner.
  - 5. A "Request for Information Response" shall be issued within seven (7) days of receipt of the request from the Contractor unless the Owner determines that a longer time is necessary to provide an adequate response. If a longer time is determined necessary by the Owner, the Owner will, within seven (7) days of receipt of the request, notify the Contractor of the anticipated response time. If the Contractor submits a "Request for Information" on an activity with seven (7) days or less of float on the current project schedule, the Contractor shall not be entitled to any time extension due to the time it takes the Architect to respond to the request provided that the Architect responds within the seven (7) days set forth above.
  - 6. A "Request for Information Response" from Architect will not change any requirement of the Contract Documents. In the event the Contractor believes that the "Request for Information Response" will

cause a change to the requirements of the Contract Documents, the Contractor shall within five (5) days give written notice to the Construction Administrator stating that the Contractor believes the "Request for Information Response" will result in a "Change Order" and the Contractor intends to submit a "Change Order Proposal" request. Failure to give such written notice within five (5) days shall waive the Contractor's right to seek additional time or cost under the requirement these Requirements.

#### 1.4 MINOR CHANGES IN THE WORK

- A. The Architect, through the Construction Administrator, will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or Contract Time, on the "Supplemental Instructions" form as required by the Owner.

#### 1.5 PROPOSAL REQUEST

- A. Architect/Owner-Initiated Requests For Proposals: The Architect or Owner will issue a detailed description of proposed changes in the Work via the Construction Administrator that will require adjustment to the Contract Sum or Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications. Such requests shall be on a "Proposal Request" form as required by the Owner.
1. "Proposal Request" is issued for information only. Do not consider them as an instruction either to stop work in progress or to execute the proposed change.
  2. Within **(14) days** of receipt of a "Proposal Request", submit a "Change Order Proposal" with the required information necessary to execute the change to the Construction Administrator for the Architect's/Owner's review.
    - a. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
    - b. Indicate applicable delivery charges, equipment rental, and amounts of trade discounts.
    - c. Include a statement indicating the effect the proposed change in the Work will have on the Contract Time.
    - d. The Agency is tax exempt. All Contractor and Subcontractor services provided under your Contract with the State of Connecticut may not be exempt from taxes. The Department of Revenue Services can guide you as to which services are exempt and which are not. Please contact the State of Connecticut, Department of Revenue Services at 1-800-382-9463 or 860-541-3280.
    - e. Dollar values shown on the Schedule of Values shall not be the governing (or deciding) final amounts for change orders involving either additional charges or deletions.

#### 1.6 CHANGE ORDER PROPOSAL

- A. When either a "Request for Information" from the Contractor or a "Proposal Request" from the Architect or Owner results in conditions that may require modifications to the Contract, the Contractor may propose changes by submitting a request for a "Change Order Proposal" to the Architect via the Construction Administrator on forms as required by the Owner. These forms shall also include "Change Order Proposal Workbook(s)" as required by the Owner.
1. Include statements outlining the reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and Contract Time.
  2. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities as directed by Article 13 of the General Conditions of the Contract for Construction.
  3. Indicate applicable delivery charges, equipment rental, and amounts of trade discounts.
  4. Comply with requirements in Division 01 Section 01 25 00 "Substitution Procedures" if the proposed change requires an equal or substitution of one product or system for a product or system specified.
  5. The State of Connecticut construction contract has the following tax exemptions:
    - a. Purchasing of materials which will be physically incorporated and become a permanent part of the project.
    - b. Tools, supplies and equipment used in fulfilling the construction contract are not exempt.

- c. Services that are resold by the Contractor are exempt, i.e. if a Contractor hires a plumber, carpenter or electrician, a resale certificate may be issued to the subcontractor because these services are considered to be integral and inseparable component parts of the building contract
- C. "Change Order Request" Forms: Use "Change Order Proposal" and "Change Order Proposal Worksheets" forms as required by Owner.
- D. A "Change Order Proposal" cannot be submitted without either prior submission of a "Request for Information" from the Contractor or as a response to a "Proposal Request" submitted by the Architect or Owner.
- E. Any "Change Order Request" submitted without a prior submittal of a "Request for Information" or as a response to a "Proposal Request" will be immediately rejected and returned to the Contractor.

**1.7 CONSTRUCTION CHANGE DIRECTIVE**

**A. "Construction Change Directive":**

When the Owner and the Contractor disagree on the terms of a "Change Order Proposal" resulting from either a "Request for Information" or "Proposal Request", then the Architect through the Construction Administrator may issue a "Construction Change Directive" on a "Construction Change Directive" form as authorized by the Owner. The "Construction Change Directive" instructs the Contractor to proceed with a change in the Work, for subsequent inclusion in a "Change Order".

- 1. The "Construction Change Directive" contains a complete description of the change in the Work. It also designates the method to be followed to determine change in the Contract Sum or Contract Time.
  - 2. Contractor must proceed with the Work once a "Construction Change Directive" is issued.
  - 3. The change in the Contract Sum and Contract Time resulting from the issuance of a "Construction Change Directive" will be based on "Time & Material" or "Unit Prices".
  - 4. Issuance of "Construction Change Directive" does not guarantee payment for the Work described in the "Construction Change Directive".
- B. Documentation: The Contractor shall maintain detailed records on a time and material basis of work required by the "Construction Change Directive".
- 1. After completion of the change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.
  - 2. The final value shall be negotiated based on the supporting data to determine the value of the work.

**1.8 CHANGE ORDER PROCEDURES**

- A. Upon the Owner's approval of a Contractor's "Change Order Proposal", the Construction Administrator will issue a "Change Order" for signatures of the Architect, Owner and the Contractor on a "Change Order" form as required by the Owner.

**PART 2 - PRODUCTS (Not Applicable)**

**PART 3 - EXECUTION (Not Applicable)**

**END OF SECTION 01 26 00**

## 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 specifies procedures for preparation and submittal of the Contractor's Applications for Payment.
- B. Related Sections: The following Sections contain requirements that relate to this Section.
1. Notice to Bidders: Article 10
  2. General Conditions: Articles: 27 "Schedule of Values, Application for Payment"; 28 "Partial Payments"; 31 "Final Payment"; and 32 "Owner's Right to Withhold Payments".
  3. Division 01 Section 01 32 16 "Construction Progress Schedules" for requirements for construction scheduling and reporting progress of work.
  4. Division 01 Section 01 33 00 "Submittal Procedures".
  5. Division 01 Section 01 77 00 "Closeout Procedures" for requirements for Final Payment.

### 1.3 SCHEDULE OF VALUES

- A. **Coordination:** Coordinate preparation of the "Schedule of Values" with preparation of the CPM Schedule or Construction Schedule. Use "Schedule of Values" form as required by the Owner
1. Submit the "Schedule of Values" to the Construction Administrator at the earliest possible date but no later than **twenty-one (21)** days after Contract Start Date.
  2. **Sub-schedules:** Where Work is separated into phases requiring separately phased payments, provide sub-schedules showing values correlated with each phase of payment.
- B. **Format and Content:** Use the Project Manual Table of Contents as a guide to establish the format for the "Schedule of Values". Provide at least one line item for each Specification Section on electronic media printout.
1. **Identification:** Project identification on the Schedule of Values shall include, but not be limited to, the following:
    - a. **Owner**
    - b. **Project Number**
    - c. **Project Name**
    - d. **Project Location**
    - e. **Contractor's name and address.**
  2. Arrange the "Schedule of Values" in tabular format as required by the Owner, containing separate columns including, but not limited to, the following Items:
    - a. **Item Number.**
    - b. **Description of Work with Related Specification Section or Division Number.**
    - c. **Scheduled Values broken down by description number, type material, units of each material.**
      - 1) **Include break down of General Condition requirements, i.e. bonds, insurance premiums, taxes, job mobilization, temporary facilities, field supervision and layout, operation and maintenance manuals, punch list activities, project record documents, demonstration and training, overhead, and profit as separate line items.**
    - d. **Name of subcontractor.**
    - e. **Name of manufacturer or fabricator.**
    - f. **Name of supplier.**
    - g. **Retainage.**

- h. Contract sum in sufficient detail.**
3. Percentage of Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
  4. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual Table of Contents. Break principal subcontract amounts down into several line items. In addition, the following items listed below must be included.
    - a. **Site Logistics Plan (01 31 00):** a lump sum at 1/20 of one percent of the base bid total project cost at the time of submission of this plan.
    - b. **Coordination Drawings (01 31 00):** a lump sum of this cost for payment at the submittal of this product a minimum cost of 1/10<sup>th</sup> of one percent of the base bid total project cost or \$5,000 whichever is greater.
    - c. **Photographic Documentation (01 32 33):** a monthly cost of \$1,000 per month to be paid each month upon receipt of the photographs or forfeit of that month's payment.
    - d. **Submittal Schedule (01 33 00):** a lump sum payment calculated at 1/20<sup>th</sup> of 1% of the base bid total project cost upon receipt of the schedule
    - e. **Waste Collection & Cleaning (01 50 00):** a monthly cost. A minimum payment of \$1,000 to \$3,000 (based on size & complexity of the project) with forfeit of that monthly payment if not done.
    - f. **As-Built Updates (01 31 00):** a monthly cost, a minimum payment of \$1,000 with forfeit of that monthly payment if not done.
    - g. **Start-up and Adjusting (01 75 00):** a lump sum cost upon completion. (to be determined by the DAS/CS Project Manager (PM) with Architect/Engineer and Construction Administrator (CA) advice)
    - h. **Schedule (01 32 16):** For the Base Schedule a lump sum payment or 40% of the total schedule budget, with the remainder paid on an even payment over the duration of the project.
  5. Round amounts to nearest whole dollar; the total shall equal the Contract Sum.
  6. **Unit-Cost Allowances:** Show the line-item value of unit-cost allowances, as a product of the unit cost, multiplied by the measured quantity. Estimate quantities from the best indication in the Contract Documents.
  7. **General Conditions:** Show line items for indirect costs and margins on actual costs only when such items are listed individually in Applications for Payment. Each item in the Schedule of Values and Applications for Payment shall be complete. Include the total cost and proportionate share of general overhead and profit margin for each item.
    - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at the Contractor's option.

#### 1.4 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by the Architect and Construction Administrator and paid for by the Owner.
  1. The initial "Application for Payment", the "Application for Payment" at time of "Substantial Completion", and the final "Application for Payment", involve additional requirements.
- B. **Payment-Application Terms:** The Owner will process monthly progress payments. The Contractor may submit applications for payment on a monthly basis.
- C. **Payment-Application Forms:** Use the "Application for Payment" form as required by the Owner. Present the required information on electronic media printout or Owner approved form; multiple pages should be used if required.
  1. For each item, provide a column including but not limited to the following items:
    - a. Item Number.
    - b. Description of Work and Related Specification Section or Division.
    - c. Scheduled Value, break down by units of material and units of labor.
    - d. Work Completed from previous application.

- e. Work Completed this period.
  - f. Materials presently stored.
  - g. Total Completed and stored to date of application.
  - h. Percentage of Completion.
  - i. Balance to Finish.
  - j. Retainage.
- D. Application Preparation:** Complete every entry on the Application form. At the time of Final Payment only, include an executed Application form by a person authorized to sign legal documents on behalf of the Contractor. The Construction Administrator will return incomplete Applications without action.
- 1. Entries shall match data on the "Schedule of Values".
  - 2. Include amounts of Change Orders issued prior to the last day of the construction period covered by the application.
- E. Transmittal:** Except for final payment, submit to the Construction Administrator by a method ensuring receipt within **forty-eight (48)** hours. **One (1)** complete, signed and notarized original of each Application for Payment, including lien waivers and similar attachments when required, along with **six (6)** copies. For Final Payment, **nine (9)** complete, signed and notarized copies shall be submitted.
- 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information related to the application, in a manner acceptable to the Architect.
- F. Applications for Payment:** Administrative actions and submittals, that must precede or coincide with submittal of the first Application for Payment and all subsequent Application for Payments including, but not limited to, the following items:
- 1. List of subcontractors and suppliers' name, FEIN/Social Security numbers, and Connecticut Tax Registration Numbers.
  - 2. List of principal suppliers and fabricators.
  - 3. Schedule of Values.
  - 4. Contractor's Construction Schedule (preliminary if not final).
  - 5. Schedule of principal products.
  - 6. Submittal Schedule (preliminary if not final).
  - 7. List of Contractor's staff assignments.
  - 8. List of Contractor's principal consultants.
  - 9. Copies of all applicable permits.
  - 10. Copies of authorizations and licenses from governing authorities for performance of the Work.
  - 11. Proof that subcontractors have been paid amounts included on the Contractor's Application for Payment within thirty (30) days after the Owner has paid the Contractor for the particular Application for Payment in accordance with Connecticut General Statute § 49-41a (a)(1).
  - 12. Releases of Lien from subcontractors with amounts included on the Contractor's Application for Payment when Contractor has been paid by the Owner for the particular Application for Payment but the subcontractors have not been paid.
  - 13. Proof that as-built documents are updated as required by Section 01 77 00 "Closeout Procedures.
  - 14. Initial as-built survey and damage report, if required.
  - 15. Update the "Contractor's Master Subcontract Agreement List" and submit copies all recently executed Subcontract Agreements in accordance with CGS § 4b-96.
    - 15.1. The "Contractor's Master Subcontract Agreement List" shall list all Subcontract Agreements in order of Contract Sum magnitude (from high to low) in the following format:

<b>Contractor's Master Subcontract Agreement List</b>				
<b>Subcontractor Name</b>	<b>Minority Or Small Business Designation</b>	<b>Trade</b>	<b>Address</b>	<b>Contract Sum</b>



16. In accordance with CGS § 42-158j (b):  
Each payment requisition submitted 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 section, "pending construction change order" or "other pending change directive" **means an authorized directive for extra work that has been issued to a contractor or a subcontractor and identified by an official Change Order Number or Construction Change Directive Number assigned by the State of Connecticut.**

**G. Application for Payment at Substantial Completion:** Following issuance of the Certificate of Substantial Completion submit an Application for Payment form; use the form as required by the Owner. Present the required information on electronic media printout as applicable that include, but are not limited, to the following:

1. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
2. Administrative actions and submittals that shall precede or coincide with this application include, but are not limited to, the following:
  - 2.1 Occupancy permits and similar approvals.
  - 2.2 Warranties (guarantees) and maintenance agreements.
  - 2.3 Test/adjust/balance records.
  - 2.4 Maintenance instructions.
  - 2.5 Meter readings.
  - 2.6 Startup performance reports.
  - 2.7 Changeover information related to Owner's occupancy, use, operation, and maintenance.
  - 2.8 Final cleaning.
  - 2.9 Application for reduction of retainage and consent of surety.
  - 2.10 Advice on shifting insurance coverage.
  - 2.11 Final progress photographs.
  - 2.12 List of incomplete Work, recognized as exceptions to Architect's Certificate of Substantial Completion.

**H. Final Payment Application:** Administrative actions and submittals that must precede or coincide with submittal of the final Application for Payment include, but are not limited, to the following:

1. Completion of Project Closeout requirements.
2. Completion of list of items remaining to be completed as indicated on the attachment to the Certificate of Substantial Completion.
3. Ensure that unsettled claims will be settled.
4. Ensure that incomplete Work is not accepted and will be completed in accordance with a schedule prepared by the Contractor which is acceptable to the Owner.
5. Transmittal of required Project construction records to the Owner (including as-built documents specified in Section 01 77 00 "Closeout Procedures").
6. Certified property survey.
7. Proof that taxes, fees, and similar obligations were paid.
8. Removal of temporary facilities and services.
9. Removal of surplus materials, rubbish, and similar elements (Reference Section 01 74 19 "Construction Waste Management & Disposal").
10. Change of door locks to Owner's access.
11. The requirements of the General Conditions and Supplementary Conditions for Final Acceptance, Final Completion, Final Inspection, and Final Payment.
12. Asbestos, lead or other hazardous material manifests.

13. Completion of "Building Contractor Reporting Form" as supplied by Department of Construction Services, for all Contractors, Subcontractors, Vendors, Suppliers, etc. who work on the Contract. The form includes the following information:
- a. Contractor/Subcontractor name.
  - b. FEIN/Social Security Numbers
  - c. Connecticut Tax Registration Numbers
  - d. Type of work
  - e. Name of business and address
  - f. Remittance address.

**PART 2 - PRODUCTS (Not Applicable)**

**PART 3 - EXECUTION (Not Applicable)**

**END OF SECTION 01 29 76**

## 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 administrative and supervisory requirements necessary for coordinating construction operations including, but not necessarily limited to, the following:
1. General project coordination procedures.
  2. Conservation.
  3. Coordination Drawings, including Site Logistics Plans.
  4. Administrative and supervisory personnel.
  5. Cleaning and protection.
- B. **Related Sections:** The following Sections contain requirements that relate to this Section:
1. Division 01 Section 01 29 76 "Progress Payment Procedures" for Schedule of Values items
  2. Division 01 Section 01 31 19 "Project Meetings" for progress meetings, coordination meetings, and pre-installation conferences.
  3. Division 01 Section 01 32 16 "Construction Progress Schedules" for requirements for construction scheduling and reporting progress of work.
  4. Division 01 Section 01 50 00 "Temporary Facilities and Controls".
  5. Division 01 Section 01 60 00 "Product Requirements" for coordinating general installation.
  6. Division 01 Section 01 77 00 "Closeout Procedures" for coordinating contract closeout.

### 1.3 CONSTRUCTION ADMINISTRATOR

#### A. Construction Administrator:

1. The Construction Administrator is identified in Division 01 Section 01 11 00 "Summary of Work".
2. **Construction Mobilization:**
  - a. Cooperate with the Construction Administrator in the allocation of mobilization areas of the site, for field offices and sheds, for agency facility access, traffic, and parking facilities.
  - b. During Construction, coordinate use of site and facilities through the Construction Administrator.
  - c. Comply with Construction Administrator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.
  - d. Comply with instructions of the Construction Administrator for use of temporary utilities and construction facilities.
  - e. Coordinate field engineering layout as specified in Division 01 Section 01 71 23 "Field Engineering" for work under the instructions of the Construction Administrator.

### 1.4 COORDINATION

- A. Coordinate construction operations included in various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections that depend on each other for proper installation, connection, and operation.
1. Schedule construction operations in the sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
  2. Coordinate installation of different components to assure maximum accessibility for required maintenance, service, and repair.
  3. Make provisions to accommodate items scheduled for later installation.

- B. Where necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
  - 1. Prepare similar memoranda for the Construction Administrator, Owner and separate contractors where coordination of their work is required.
- C. **Administrative Procedures:** Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and assure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
  - 1. Preparation of schedules.
  - 2. Installation and removal of temporary facilities.
  - 3. Delivery and processing of submittals.
  - 4. Progress meetings.
  - 5. Project closeout activities.
  - 6. As-Builts - coordinate monthly meetings to assure up-dates being performed.

### 1.5 SUBMITTALS

- A. **Coordination Drawings:** Prepare coordination drawings to complete detailed coordination of systems and components and to integrate information about fabrication and installation.
  - 1. Thoroughly prepare coordination drawings, as further stipulated in Part 3 "Execution", reviewing all contract documents and consulting with all entities contributing to or involved with each portion of the work under consideration.
    - a. Show the relationship of all components shown on any separate Shop Drawings.
    - b. Indicate required desired installation sequences.
    - c. Comply with requirements contained in Division 01 Section 01 33 00 "Submittal Procedures".
  - 2. Prepare coordination drawings for installation of all products and materials fabricated by separate entities.
  - 3. Prepare coordination drawings where limited space availability necessitates maximum utilization of space for efficient installation of different components, including but not limited to: all site-utility entry points; all ceiling and roof cavities in all areas; all electrical, telecommunications and mechanical rooms; all stage-boundary interface areas; all laboratories, animal-handling rooms and data rooms; all classrooms and seminar rooms; all lecture halls and their support spaces; all video studios, broadcast classrooms and their support facilities; and all such other conditions required to coordinate the work.
- B. **Staff Names:** Prior to the contract start date, submit a list of the Contractor's principal staff assignments, including the superintendent, project safety officer, and other personnel in attendance at the Project Site. Identify individuals and their duties and responsibilities. List their addresses and telephone numbers.
  - 1. Post copies of the list in the Project meeting room, the temporary field office, and at each temporary telephone.
  - 2. Provide resumes of each staff member proposed for the Project. This shall include the Project Manager, Project Superintendent and Safety Officer.

## PART 2 - PRODUCTS (Not Applicable)

## PART 3 - EXECUTION

### 3.1 GENERAL COORDINATION PROVISIONS

- A. **Inspection of Conditions:** The Contractor shall require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed and coordinate such inspections with the Construction Administrator and authorities having jurisdictions. If unsatisfactory conditions exist notify the Construction Administrator immediately. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
- B. The Contractor shall coordinate temporary enclosures with required inspections and tests to minimize the necessity of uncovering completed construction for that purpose.

- C. Coordination Drawings:** Before construction work can begin, the Contractor shall submit to the Architect coordination drawings in the form of (a) reproducible (vellum) transparencies at not less than 1/4-inch scale and (b) CAD files of the coordination drawings on CDROM. Such drawings will be required throughout all areas for trades as described below. These drawings shall show resolutions of trade conflicts in congested areas. The Architect will supply base drawings (with the title blocks removed), including floor plans, reflected ceiling plans, and structural framing plans, in the form of electronic CAD files on CDROM, using the AutoCAD release edition specified with the files, to the Contractor for distribution to the trades for use in developing the coordination drawings. Each trade contractor shall create separate layers within the CAD files to show the work of their trade. Prepare coordination drawings as follows:
1. The HVAC subcontractor shall initiate 1/4-inch scale drawings done on AutoCAD (latest version) showing ducts and piping in plan and section. Sheet metal shop drawings must be approved prior to starting coordination drawings.
  2. The Electrical subcontractor shall then add layers to superimpose all the electrical information on the coordination drawings. Said information is to include but not necessarily be limited to cable trays, equipment, lighting, conduits, bus duct, etc. Show space allowances reserved for work under other contracts, such as audio-visual wiring and equipment.
  3. Subcontractors for specialties, furnishings, equipment and special construction shall add layers to show their work to assure full coordination of all systems.
  4. The Construction Administrator shall review the completed coordination drawings for general compliance and then submit them to the Architect for his review. All subcontractors shall rework the drawings until all systems are properly coordinated.
  5. The Contractor shall indicate Architectural/Structural conflicts or obstacles and coordinate to suit the overall construction schedule. The Contractor shall locate all precut and prefabricated holes and openings in structural steel on the CAD coordination drawing files as required for HVAC, plumbing, fire protection and electrical work. The Contractor shall coordinate these holes and openings with the structural steel fabricator during the structural steel shop drawing development phase. Coordination to take place on schedule so as to permit shop fabrication of all structural steel holes and openings. The Owner will not be held responsible for the costs associated with field fabrication of structural openings resulting from the lack of timely and thorough coordination.
  6. The Contractor shall expedite all drawing work and coordinate to suit the construction schedule. The Contractor shall then review these drawings and compare them with the Architectural, Structural, Equipment, and other drawings and determine that all of the work can be installed without undue interference. Prior to the submittal to the Architect, areas of potential conflict shall be brought to the attention of the Contractor who shall convene a coordination meeting of all parties involved, for the purpose of resolving all utility conflicts. The Contractor shall supervise and direct corrective measures and have all trades sign acceptance of the drawings. Submit four (4) hard copies of each drawing to the Architect and two (2) copies to the Construction Administrator for the record, and only after all conflicts have been accommodated.
  7. If the coordination meeting fails to resolve coordination conflicts, the Contractor shall indicate the nature of such conflicts in a detailed RFI, proposing the most economical solution.
  8. The Contractor shall not permit work by trades to proceed in a given bay or area until all trade foremen agree on the exact arrangements for each room or area. If a given trade proceeds prior to trades approval, then if necessary, that trade shall revise their work, if necessary, at no extra cost, in order to permit other trades to proceed.
  9. Submit all coordination drawings on CD-ROM, in addition to hard copy.
- D.** The Construction Administrator will meet with the Contractor on all major items of coordination.

### 3.2 CLEANING AND PROTECTION

- A.** Clean and protect construction in progress and adjoining materials in place, during handling and installation. Apply protective covering, where required, to assure protection from damage or deterioration.
- B.** Clean and provide maintenance on completed construction as construction per manufacturers requirements through the remainder of the construction period. Adjust and lubricate operable components to assure operability without damaging effects.
- C.** Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:

1. Excessive static or dynamic loading.
2. Excessive internal or external pressures.
3. Excessively high or low temperatures.
4. Thermal shock.
5. Excessively high or low humidity.
6. Air contamination or pollution.
7. Water or ice.
8. Solvents.
9. Chemicals.
10. Light.
11. Radiation.
12. Puncture.
13. Abrasion.
14. Heavy traffic.
15. Soiling, staining, and corrosion.
16. Bacteria.
17. Rodent and insect infestation.
18. Combustion.
19. Electrical current.
20. High-speed operation.
21. Improper lubrication.
22. Unusual wear or other misuse.
23. Contact between incompatible materials.
24. Destructive testing.
25. Misalignment.
26. Excessive weathering.
27. Unprotected storage.
28. Improper shipping or handling.
29. Theft.
30. Vandalism.

**PART 2 - PRODUCTS (Not Applicable)**

**PART 3 - EXECUTION (Not Applicable)**

**END OF SECTION 01 31 00**

## 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 specifies administrative and procedural requirements for project meetings, including, but not limited to, the following:
1. Start Date meeting (establishes start date)
  2. Pre-construction conferences.
  3. Pre-installation conferences.
  4. Progress meetings.
  5. Safety
  6. Coordination
  7. As-built drawings review
  8. And as required
- B. **Related Sections:** The following Sections contain requirements that relate to this Section:
1. Division 01 Section 01 31 00 "Project Management and Coordination" for procedures for coordinating project meetings with other construction activities.
  2. Division 01 Section 01 32 16 "Construction Progress Schedules" for requirements for construction scheduling and reporting progress of work.
  3. Division 01 Section 01 33 00 "Submittal Procedures" for submitting the Construction Schedule or CPM Schedule.
  4. Division 01 Section 01 35 26 "Government Safety Requirements specifies the requirements for safety plans, reports, and investigation submittals.

### 1.3 PRE-CONSTRUCTION CONFERENCE

- A. The Contractor will attend a pre-construction conference before starting construction, as scheduled by the Construction Administrator convenient to the Owner, the Construction Administrator, Architect, and Contractor. This meeting will take place at least **fourteen (14)** days prior to official Start Date. Hold the conference at the Project Site or another convenient location as directed by the Construction Administrator. The Construction Administrator shall conduct the Pre-construction Conference to review the Contractor and Subcontractor responsibilities and personnel assignments.
- B. **Attendees:** Authorized representatives of the Construction Administrator, Owner, Architect, and their consultants; the Contractor and its superintendent; major subcontractors; agency; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.
- C. **Agenda:** Discuss items of significance that could affect progress, including the following:
1. Tentative construction schedule.
  2. Critical work sequencing.
  3. Progress meeting schedule.
  4. Designation of responsible personnel.
  5. Procedures for processing field decisions and Change Orders.
  6. Procedures for processing Applications for Payment.
  7. Distribution of Contract Documents.
  8. Submittal of Shop Drawings, Product Data, and Samples.

9. Preparation of record documents.
10. Use of the premises.
11. Parking availability.
12. Office, work, and storage areas.
13. Equipment deliveries and priorities.
14. Safety procedures.
15. First aid.
16. Security.
17. Housekeeping.
18. Working hours.

#### 1.4 PRE-INSTALLATION/CONSTRUCTION CONFERENCES

- A. The Contractor will schedule a pre-installation conference(s) at the Project Site before each construction activity that requires coordination with other construction. The Contractor shall be responsible to notify in writing the Construction Administrator and the appropriate Subcontractor(s), etc., of the date and time of all Pre-installation/Construction Conferences. Notification shall be at least seven (7) days, prior to the Conference. The Contractor shall be responsible for coordination and attendance of all Subcontractors, etc., involved in or affected by the installation for all Pre-installation/Construction Conferences.
- B. **Attendees:** The Construction Administrator, Contractor, Subcontractors, Owner and Architect, the 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. The Contractor shall advise all attendees of the scheduled Pre-installation/Construction Conferences dates.
- C. **Agenda:** Review the progress of other construction activities and preparations for the particular activity under consideration at each Pre-installation/Construction Conference, including but not limited to the following requirements:
  1. Contract Documents.
  2. Options.
  3. Related Change Orders.
  4. Purchases.
  5. Deliveries.
  6. Shop Drawings, Product Data, and quality-control samples.
  7. Review of mockups.
  8. Possible conflicts.
  9. Compatibility problems.
  10. Time schedules.
  11. Weather limitations.
  12. Manufacturer's recommendations.
  13. Warranty requirements.
  14. Compatibility of materials.
  15. Acceptability of substrates.
  16. Temporary facilities.
  17. Space and access limitations.
  18. Governing regulations.
  19. Safety.
  20. Inspecting and testing requirements.



21. Required performance results.
22. Recording requirements.
23. Protection.
- D. The Construction Administrator will record significant discussions and agreements and disagreements of each Pre-installation/Construction Conference, and the approved schedule. The Construction Administrator will promptly distribute the record of the Pre-installation/Construction Conference to all attendees.
- E. The Contractor shall not proceed with the installation/construction if the conference cannot be successfully concluded. The Contractor shall be responsible to initiate whatever actions are necessary to resolve impediments to performance of Work and schedule and reconvene another Pre-installation/Construction Conference at the earliest feasible date. Failure of the contractor to resolve impediments to the performance of the work will not result in an extension of days.

#### 1.5 PROGRESS MEETINGS

- A. The Construction Administrator will conduct progress meetings, bi-weekly, at the Project Site or at regular intervals as agreed upon at the Pre-construction Conference. The Construction Administrator will notify the Owner, the Architect, and the Contractor of the scheduled Progress Meeting dates. Coordinate dates of Progress Meetings with preparation of Application for Payment requests.
- B. **Attendees:** In addition to representatives of the Contractor, Construction Administrator, Owner and the Architect, subcontractor, supplier, or other entity concerned with current progress or involved in planning, coordination, or performance of future activities may be requested to attend these meetings on an as needed basis. All participants at the meeting shall be familiar with the Project and authorized to conclude matters relating to the Work. The Contractor shall include the site superintendent as a minimum.
- C. **Agenda:** Progress Meetings shall review and correct or approve minutes of the previous Progress Meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the status of the Project.
  1. **Construction Schedule or CPM Schedule:** Review progress since the last Progress Meeting. Determine where each activity is in relation to the required Contractor's "Construction Schedule" or "CPM Schedule" and whether each activity is on time or ahead or behind Schedule. Determine how Work that is behind Schedule will be expedited; secure commitments from parties involved to do so. Discuss whether Schedule revisions are required to insure that current and subsequent activities will be completed within the Contract Time.
  2. Review the present and future needs of each entity present, including the following:
    - a. Interface requirements.
    - b. Time.
    - c. Sequences.
    - d. Status of submittals.
    - e. Deliveries.
    - f. Off-site fabrication problems.
    - g. Access.
    - h. Site utilization.
    - i. Temporary facilities and services.
    - j. Hours of work.
    - k. Hazards and risks.
    - l. Housekeeping.
    - m. Quality and work standards.
    - n. Commissioning and inspection by testing agencies, if required.
    - o. Change Orders.
    - p. Documentation of information for payment requests.

- D. Reporting:** The Construction Administrator will distribute minutes of the meeting to each party present, promptly and before the next scheduled meeting, and to parties who should have been present.

**1.6 SUBCONTRACTOR/COORDINATION/SAFETY MEETINGS**

- A.** The Contractor shall conduct Subcontractor/coordination meetings.
- B.** The Contractor shall conduct a separate safety meeting after the safety plan is submitted. The Contractor shall take meeting minutes. These minutes shall be made available upon request. The Contractor shall notify the Construction Administrator of the times and dates of these meetings, who may elect to attend these meetings as an observer when necessary. A minimum of one safety meeting will be held per month.

**PART 2 - PRODUCTS (Not Applicable)**

**PART 3 - EXECUTION (Not Applicable)**

**END OF SECTION 01 31 19**

## 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 administrative and procedural requirements for the preparation, submittal, and updating of the Contractor's construction schedules and reporting progress of the Work.
1. Refer to the General Conditions and the Agreement for definitions and specific dates of Contract Time.
- B. This Section includes the following:
1. Format.
  2. Content.
  3. Revisions to schedules.
  4. Submittals.
  5. Distribution.
- C. **Related Sections:** The following Sections contain requirements that relate to this Section:
1. Division 01 Section 01 29 76 "Progress Payment Procedures" specifies requirements for submitting Schedule of Values and Application for Payments.
  2. Division 01 Section 01 31 19 "Project Meetings" specifies requirements for submitting and distributing meeting and conference minutes.
  3. Division 01 Section 01 33 00 "Submittal Procedures" specifies requirements for submitting the Submittal Schedule.
  4. Division 01 Section 01 45 00 "Quality Control" specifies requirements for submitting inspection and test reports.
  5. Division 01 Section 01 60 00 "Product Requirements" specifies requirements for submitting the list of products.

### 1.3 DEFINITIONS

- A. **Construction Schedule:** A method of planning and scheduling a construction project utilizing a horizontal bar chart with a separate bar for each major portion of the Work or operation to make the schedule an effective tool for planning and monitoring the progress of the work.

### 1.4 QUALITY ASSURANCE

- A. **The Contractor's Consultant:** Retain a consultant to provide planning, evaluating, and reporting by CPM scheduling.
1. **In-House Option:** The Owner may waive the requirement to retain a consultant if the Contractor can demonstrate that:
    - a. The Contractor has the computer equipment required to produce construction schedules.
    - b. The Contractor employs skilled personnel with experience in construction scheduling and reporting techniques.
  2. **Program:** Use **Microsoft Project** latest version.
  3. **Standards:** Comply with procedures contained in AGC's "Construction Planning & Scheduling."

### 1.5 PRELIMINARY SCHEDULE

- A. Preliminary Gantt schedule is to be prepared by the Contractor and submitted to the Construction Administrator within **seven (7)** days of award of contract. This schedule is to cover all items of Work from the start of the project up to the completion of the project. This schedule must be revised when the actual schedule of significant items varies more than one week from the proposed schedule.

**1.6 CONSTRUCTION SCHEDULE FORMAT**

1. **Format:** Utilize a horizontal bar chart (Gantt) with a separate bar for each major portion of the Work or operation, identifying first work day of each week.
2. **Program:** Use **Microsoft Project**, latest version.
3. **Sequence of Listings:** Utilize the Table of Contents of this Project Manual and the chronological order of the start of each item of work.
4. **Scale and Spacing:** Provide space for notations and revisions.
5. **Sheet Size:** To be coordinated with Construction Administrator.
6. **Weather Days Allowance:** The Contractor shall include as a separate identifiable activity on the Critical Path of the Construction Schedule, and activity labeled "Weather Days Allowance." Insert this activity immediately prior to the substantial completion milestone.

**6.1** The Contractor shall be fully responsible for determining the number of weather delay days to be included in the Construction Schedule. This determination shall be based on the normal anticipated weather for the project location and the nature of the project work. The Construction Schedule shall be based on the contractor's determined weather delay allowance. The weather delay activity shall be included in the construction schedule immediately prior to the Substantial Completion milestone.

**6.2** The minimal allowed duration of the Weather Days Allowance shall be calculated as follows (decimals rounded to nearest whole number):

$$\frac{\text{Contract Time (Calendar Days)}}{365} \text{ multiplied by } 7 \text{ equals Weather Days Allowance (Calendar Days)}$$

**6.3** The Contractor shall insert an activity in the Critical Path of the Construction Schedule to reflect weather day occurrences when weather days are experienced and accepted by the Owner. Identify this activity as a weather delay.

**6.4** The Contractor shall reduce duration of Weather Days Allowance activity as weather delays are experienced and inserted into the schedule. Remaining weather days in Weather Day Allowance at completion of project is considered float. Weather delay, when justified, are considered allowable, non compensable.

**1.7 CONTENT**

- A. Show complete sequence of construction by activity, with dates beginning and completion of each element of construction.
- B. Identify each item by specification section numbers.
- C. Identify work of separate phases and other logically grouped activities.
- D. Show accumulated percentages of completion of each item, and total percentage of Work completed, as of the **first** day of each month.
- E. Provide separate schedule of submittal dates for shop drawings, product data, and samples, Owner/Agency furnished products and any products identified as under Allowances, and dates reviewed submittals will be required from Architect/Engineer. Indicate decision dates for selection of finishes.
- F. Indicate delivery dates for Owner/Agency furnished products and any products identified as under Allowances.
- G. Indicate critical path with original baseline indicated.
- H. Coordinate content with Schedule of Values specified in Section 01 29 76 "Progress Payment Procedures."

**1.8 SUBMITTALS AND REVISIONS TO SCHEDULES**

- A. An initial bar graph schedule is to be prepared by the Contractor and submitted to the Construction Administrator. Refer to Article 1.5.
- B. Indicate progress of each activity to date of submittal, and projected completion date of each activity.
- C. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.

- D. Provide narrative report to define problem areas, anticipated delays, and impact on Schedule. Report corrective action taken, or proposed, and its effect.
- E. Schedules must be revised monthly and when the actual schedule of significant items varies more than **seven (7) days** from the proposed schedule.
- F. Submit revised Construction Schedules for each Application for Payment.
- G. Submit **four (4)** copies of the Construction Schedule to the Construction Administrator.

**1.9 DISTRIBUTION**

- A. Distribute copies of the Construction Schedules to Construction Administrator, Architect, Owner, Subcontractors, suppliers, and other concerned parties.
- B. Instruct recipients to promptly report, in writing, problem anticipated by projections indicated in schedules.

**PART 2 - PRODUCTS (Not Applicable)**

**PART 3 - EXECUTION (Not Applicable)**

**END OF SECTION 01 32 16**

## 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 administrative and procedural requirements for construction photographs.
- B. **Related Sections:** The following Section contains requirements that relate to construction photographs:
  - 1. Division 01 Section 01 33 00 "Submittal Procedures" specifies general requirements for submitting digital construction photographs.

### 1.3 SUBMITTALS

- A. **Photographs:** Provide a digital camera to take **twenty-four (24)** or more photos each time. Deliver **two (2)** sets of photo files on **one (1)** CD-ROM and **one (1)** set of prints (8x10) to the Construction Administrator for the Department.
- B. **Extra Sets:** When requested by the Owner, the photographer shall prepare extra sets of prints or CD-ROM. The photographer shall distribute these directly to the designated parties who will pay the costs for the extra sets directly to the photographer.

### 1.4 QUALITY ASSURANCE

- A. Engage a qualified commercial photographer to take photographs during construction.
- B. **Photographer's Qualifications:** Photographer shall be an individual of established reputation who has been regularly engaged as a professional photographer for not less than **three (3) years**.

## PART 2 - PRODUCTS

### 2.1 PHOTOGRAPHIC COPIES

- A. On the date the work is begun and every **thirty (30) days** thereafter (until the work is at least 95 percent complete), the Contractor shall have digital photographs of the construction taken by a professional photographer.
- B. **Identification:** Label each CD-ROM with project name and date the photographs were taken. With each submittal provide an applied label, rubber-stamped or index sheet with the following information:
  - 1. **Name of the Project.**
  - 2. **Name and address of the photographer.**
  - 3. **Name of the Architect.**
  - 4. **Name of the Contractor.**
  - 5. **Date the photographs were taken.**
  - 6. **Vantage Point: Description of vantage point, in terms of location, direction (by compass point), and elevation or story of construction.**

## PART 3 – EXECUTION

### 3.1 PRECONSTRUCTION PHOTOGRAPHS

- A. Before starting construction, take digital photos of the site and surrounding properties from different points of view, as selected by the Construction Administrator.
  - 1. Take digital photos in sufficient number to show existing site conditions before starting Work.

2. Take digital photos of adjacent existing buildings either on or adjoining the property in sufficient detail to record accurately the physical conditions at the start of construction.

**3.2 PHOTOGRAPHIC REQUIREMENTS**

- A. Take **twenty-four (24)** or more digital photographs monthly, coinciding with the cutoff date associated with each Application for Payment. The Construction Administrator shall select the vantage points for each shot to best show the status of construction and progress since the last photos were taken.
- B. As the digital photographs are a record of the work progress, they shall be taken each month, whether or not they show work done during the preceding month. Deliver the CD-ROMs and prints within **ten (10) days** of their taking.
- C. Provide and coordinate the use of photographic software to assure that the photos are viewable by all interested parties.

**D. PART 2 - PRODUCTS (Not Applicable)**

**E. PART 3 - EXECUTION (Not Applicable)**

**END OF SECTION 01 32 33**

## 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 administrative and procedural requirements for submittals required for performance of the Work, including but not limited to the following:
  - 1. **Submittal schedule.**
  - 2. **Shop Drawings.**
  - 3. **Product Data.**
  - 4. **Samples.**
  - 5. **Quality assurance submittals.**
  - 6. **Proposed "Substitutions/Equals".**
  - 7. **Warranty samples.**
  - 8. **Coordination Drawings.**
  - 9. **O & M Manuals**
- B. Administrative Submittals: Refer to other Division 01 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to, the following:
  - 1. **Permits.**
  - 2. **Applications for Payment.**
  - 3. **Performance and payment bonds.**
  - 4. **Contractor's construction schedule.**
  - 5. **Daily construction reports.**
  - 6. **Construction Photographs.**
  - 7. **Insurance certificates.**
  - 8. **List of subcontractors.**
  - 9. **Subcontractors/Suppliers FEIN number's and Connecticut tax registration number.**
- C. **Related Sections:** The following Sections contain requirements that relate to this Section:
  - 1. Division 01 Section 01 25 00 "Substitution Procedures" specifies requirements for submittal of requests for equals and substitutions.
  - 2. Division 01 Section 01 29 76 "Progress Payment Procedures" specifies requirements for submittal of the Schedule of Values.
  - 3. Division 01 Section 01 31 00 "Project Management and Coordination" specifies requirements governing preparation and submittal of required Coordination Drawings.
  - 4. Division 01 Section 01 31 19 "Project Meetings" specifies requirements for submittal and distribution of meeting and conference minutes.
  - 5. Division 01 Section 01 32 16 "Construction Progress Schedules" for requirements for construction scheduling and reporting progress of work.
  - 6. Division 01 Section 01 32 33 "Photographic Documentation" specifies requirements for submittal of periodic construction photographs.
  - 7. Division 01 Section 01 35 26 "Government Safety Requirements" specifies the requirements for safety plans, reports, and investigation submittals.



8. Division 01 Section 01 45 00 "Quality Control" specifies requirements for submittal of inspection and test reports and mockups.
9. Division 01 Section 01 45 23.13 "Testing for Indoor Air Quality (IAQ), Baseline IAQ, and Materials" specifies requirements for submittal of documentation required to support LEED or Green Globes certification.
10. Division 01 Section 01 77 00 "Closeout Procedures" specifies requirements for submittal of Project Record Documents and warranties at project closeout.
11. Division 01 Section 01 78 30 "Warranties and Bonds".

### 1.3 DEFINITIONS

- A. Coordination Drawings show the relationship and integration of different construction elements that require careful coordination during fabrication or installation to fit in the space provided or to function as intended and as identified in the Specification Divisions 02 through 49.
  1. Preparation of Coordination Drawings is specified in Division 01 Section 01 31 00 "Project Management and Coordination" and may include components previously shown in detail on Shop Drawings or Product Data.
- B. Field samples are full-size physical examples erected on-site to illustrate finishes, coatings, or finish materials. Field samples are used to establish the standard by which the Work will be judged.
- C. Mockups are full-size assemblies for review of construction, coordination, testing, or operation; they are not Samples.

### 1.4 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
  1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
  2. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
    - a. The Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until all related submittals are received.
    - b. The Architect reserves the right to reject incomplete submitted packages.
  3. Processing: To avoid the need to delay installation as a result of the time required to process submittals, allow sufficient time for submittal review, including time for re-submittals.
    - a. Allow **fourteen (14) days** for initial review. Allow additional time if the Architect must delay processing to permit coordination with subsequent submittals.
    - b. If an intermediate submittal is necessary, process the same as the initial submittal.
    - c. Allow **fourteen (14) days** for reprocessing each submittal.
    - d. No extension of Contract Time will be authorized because of failure to transmit submittals to the Architect sufficiently in advance of the Work to permit processing.
- B. **Submittal Preparation:** Place a permanent label, title block or **8-1/2 inches x 11 inches** cover page approved by the Architect, on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.
  1. The minimum number of copies required for each submittal shall be **seven (7)** or as determined otherwise at the pre-construction conference or by the Construction Administrator.
  2. Provide a space approximately **4 inches by 5 inches** on the label, beside the title block or on the cover page on Shop Drawings to record the Contractor's review and approval markings and the action taken.
  3. Include the following information on the label for processing and recording action taken.
    - a. **Project Name and State of Connecticut Project Number.**
    - b. **Date.**
    - c. **Name and address of the Architect, Construction Administrator, and Owner Representative.**

- d. **Name and address of the Contractor.**
  - e. **Name and address of the subcontractor.**
  - f. **Name and address of the supplier.**
  - g. **Name of the manufacturer.**
  - h. **Number and title of appropriate Specification Section.**
  - i. **Drawing number and detail references, as appropriate.**
  - j. **Indicate either initial or resubmittal.**
  - k. **Indicate deviations from Contract Documents.**
  - l. **Indicate if "equal" or "substitution".**
- C. Submittal Transmittal:** Package each submittal appropriately for transmittal and handling. Transmit each submittal from the Contractor to the Architect using a transmittal form. Copy the Construction Administrator on the transmittal. The Architect will return all submittals to the Contractor after action is taken with a complete copy of the submittal package and one complete copy of the submittal package. The Architect will not accept submittals received from sources other than the Contractor.
- 1. On the transmittal, record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.

#### 1.6 SUBMITTAL SCHEDULE

- A.** After development and review by the Owner and Architect acceptance of the Contractor's Construction or CPM schedule prepare a complete schedule of submittals. Submit the schedule to the Construction Administrator within **thirty (30)** days of Contract Award.
- 1. Coordinate Submittal Schedule with the list of subcontracts, Schedule of Values, and the list of products as well as the Contractor's Construction or CPM Schedule.
  - 2. Prepare the schedule in chronological order. Provide the following information:
    - a. Schedule date for the initial submittal.
    - b. Related section number.
    - c. Submittal category (Shop Drawings, Product Data, or Samples).
    - d. Name of Subcontractor.
    - e. Description of the part of Work covered.
    - f. Scheduled date for resubmittal.
    - g. Scheduled date for the Architect's final release of approval.
- B. 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 modifications to submittals noted by the 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 or CPM Schedule.
  - 2. **Initial Submittal:** Submit concurrently with start-up construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
  - 3. **Final Submittal:** Submit concurrently with the first complete submittal of Contractor's construction schedule.
    - a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
- C. Coordination:** Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
  2. Submit all submittal items required for each specification section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
  3. Submit action submittals and informational submittals required by the same specification section as separate packages under separate transmittals.
  4. Coordinate transmittal of 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.
- D. Processing Time:** Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on **Architect's** receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. **Initial Review:** Allow **fifteen (15)** days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. **Architect** will advise Contractor when a submittal being processed must be delayed for coordination with related submittals not yet received. Additional time will be required if processing must be delayed to permit review of related subsequent submittals.
  2. **Intermediate Review:** If intermediate submittal is necessary, process it in same manner as initial submittal.
  3. **Resubmittal Review:** Allow **fifteen (15)** days for review of each resubmittal.
  4. **Mass Submittals:** **Six (6)** or more submittals in **one (1) day** or **twenty (20)** or more submittals in **one (1) week**. If "Mass Submittals" are received, Architect's review time stated above may be extended as necessary to perform proper review. Architect will review "Mass Submittals based upon priority determined by Architect after consultation with Owner and Contractor.
- E. Distribution:** Following response to the initial submittal, print and distribute copies to the Construction Administrator, Architect, Owner, subcontractors, and other parties required to comply with submittal dates indicated. Post copies in the Project meeting room and field office.
1. When revisions are made, distribute 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 construction activities.
- A. Schedule Updating:** Revise the schedule after each meeting or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting.

#### 1.7 DAILY CONSTRUCTION REPORTS

- A.** Prepare a daily construction report recording the following information concerning events at the site, and submit duplicate copies to the Construction Administrator at weekly intervals:
1. **List of subcontractors at the site.**
  2. **Approximate count of personnel at the site.**
  3. **High and low temperatures, general weather conditions.**
  4. **Accidents and unusual events.**
  5. **Meetings and significant decisions.**
  6. **Stoppages, delays, shortages, and losses.**
  7. **Meter readings and similar recordings.**
  8. **List of equipment on site and identify if idle or in use.**
  9. **Orders and requests of governing authorities.**
  10. **Change Orders received, start and end dates.**
  11. **Services connected, disconnected.**
  12. **Equipment or system tests and startups.**
  13. **Partial Completion's, occupancies.**
  14. **Substantial Completion's authorized.**
  15. **Equals or Substitutions approved or rejected.**

## 1.8 SHOP DRAWINGS

- A. Submit newly prepared information drawn accurately to scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not a Shop Drawing.
- B. Shop Drawings include fabrication and installation Drawings, setting diagrams, schedules, patterns, templates and similar Drawings. Include the following information:
  - 1. Dimensions.
  - 2. Identification of products and materials included by sheet and detail number.
  - 3. Compliance with specified standards.
  - 4. Notation of coordination requirements.
  - 5. Notation of dimensions established by field measurement.
  - 6. 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 **36 by 48 inches**.
  - 7. Submit **one (1)** reproducible media and **seven (7)** prints as directed by the Construction Administrator. The Contractor's submittal shall identify the specification section and/or drawing number applicable to the submittal.
  - 8. Details shall be large scale and/or full size.
- C. The Contractor shall review the Shop Drawings, stamp with this approval, and submit them with reasonable promptness and in orderly sequence so as to cause no delay in his Work or in the Work of any subcontractor. Shop Drawings shall be properly identified as specified for item, material, workmanship, and project number. At the submission, the Contractor shall inform the Architect, in writing of any deviation in the shop drawings from the requirements of the Contract Documents.
- D. The Architect will review and comment on shop drawings with reasonable promptness so as to cause no delay, but only for conformance with the design concept of the project and with the information given in the Contract Documents. Refer to Article 5 of the General Conditions. Shop Drawings received by the Architect that indicate insufficient study of drawings and specifications, illegible portions or gross errors, will be rejected outright. Such rejections shall not constitute an acceptable reason for granting the Contractor additional time to perform the work.
- E. The Contractor shall make any corrections required by the Architect and shall resubmit the required number of corrected copies of Shop Drawings until fully reviewed.
- F. Upon final review submit **four (4)** additional prints, same as submitted, for use by the Construction Administrator.
- G. The Architect's review and comments on Shop Drawings shall not relieve the Contractor of responsibility for any deviation from the requirements of the Contract Documents.
- H. Only final reviewed Shop Drawings are to be used on the Project site.
- I. The Work installed shall be reviewed in accordance with the Shop Drawings and the drawings and specifications. Final Review of the Shop Drawings by the Architect shall constitute acceptance by the State and the Architect of a variation or departure that is **clearly identified**. If the contractor believes notations made by the A/E increases the value or scope of the CD's, the contractor must provide written notice to the CA within **seven (7)** days of this issue. Final reviewed Shop Drawings shall not replace or be used as a vehicle to issue or incorporate change orders or substitutions. Substitutions shall be submitted in accordance with Division 01 Section 01 25 00 "Substitution Procedures".

## 1.09 PRODUCT DATA

- A. Collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information, schedules, such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams, and performance curves.
  - 1. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products that are not required, mark copies to indicate the applicable information. Include the following information:
    - a. **Manufacturer's printed recommendations.**

- b. **Compliance with trade association standards.**
  - c. **Compliance with recognized testing agency standards.**
  - d. **Application of testing agency labels and seals.**
  - e. **Notation of dimensions verified by field measurement.**
  - f. **Notation of coordination requirements.**
2. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.
  3. **Preliminary Submittal:** Submit a preliminary single copy of Product Data where selection of options is required.
  4. **Submittals:** Submit **seven (7)** copies of each required submittal; submit **five (5)** copies where required for maintenance manuals. The Architect will retain **one (1)** and will return the other marked with action taken and corrections or modifications required.
    - a. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.
  5. **Distribution:** Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities. Show distribution on transmittal forms.
    - a. Do not proceed with installation until a copy of Product Data is in the Installer's possession.
    - b. Do not permit use of unmarked copies of Product Data in connection with construction.

#### 1.10 SAMPLES

- A. Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture, and pattern.
  1. Store, mount or display Samples on site in the manner to facilitate review of qualities indicated. Prepare Samples to match the Architect's sample. Include the following:
    - a. **Specification Section number and reference.**
    - b. **Generic description of the Sample.**
    - c. **Sample source.**
    - d. **Product name or name of the manufacturer.**
    - e. **Compliance with recognized standards.**
    - f. **Availability and delivery time.**
  2. Submit Samples for review of size, kind, color, pattern, and texture. Submit Samples for a final check of these characteristics with other elements and a comparison of these characteristics between the final submittal and the actual component as delivered and installed.
    - a. Where variation in color, pattern, texture, or other characteristic is inherent in the material or product represented, submit at least **three (3)** multiple units that show approximate limits of the variations.
    - b. Refer to other Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar construction characteristics.
    - c. Refer to other Sections for Samples to be returned to the Contractor for incorporation in the Work. Such Samples must be undamaged at time of use. On the transmittal, indicate special requests regarding disposition of Sample submittals.
    - d. Samples not incorporated into the Work, or otherwise designated as the Owner's property, are the property of the Contractor and shall be removed from the site prior to Substantial Completion.
  3. **Preliminary Submittals:** Submit a full set of choices where Samples are submitted for selection of color, pattern, texture, or similar characteristics from a range of standard choices, unless otherwise noted in specification section.
    - a. The Architect will review and return preliminary submittals with the Architects notation, indicating selection and other action.

4. **Submittals:** Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation, and similar characteristics, submit **three (3)** sets. The Architect will return **one (1)** set marked with the action taken.
5. Maintain sets of Samples, as returned, at the Project Site, for quality comparisons throughout the course of construction.
  - a. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.
  - b. Sample sets may be used to obtain final acceptance of the construction associated with each set.
- B. Distribution of Samples:** Prepare and distribute additional sets to subcontractors, manufacturers, fabricators, suppliers, installers, and others as required for performance of the Work. Show distribution on transmittal forms.
  1. Field samples are full-size examples erected on-site to illustrate finishes, coatings, or finish materials and to establish the Project standard.
    - a. Comply with submittal requirements to the fullest extent possible. Process transmittal forms to provide a record of activity.

#### 1.11 QUALITY ASSURANCE SUBMITTALS

- A.** Submit quality-control submittals, including design data, certifications, manufacturer's instructions, manufacturer's field reports, and other quality-control submittals as required under other Sections of the Specifications.
- B. Certifications:** Where other Sections of the Specifications require certification that a product, material, or installation complies with specified requirements, submit a notarized certification from the manufacturer certifying compliance with specified requirements.
  1. **Signature:** Certification shall be signed by an officer of the manufacturer or other individual authorized to sign documents on behalf of the company.
- C. Inspection and Test Reports:** Requirements for submittal of inspection and test reports from independent testing agencies are specified in Division 01 Section 01 45 00 "Quality Control."

#### 1.12 ARCHITECT'S ACTION

- A.** Except for submittals for the record or information, where action and return is required, the Architect will review each submittal, mark to indicate action taken, and return promptly.
  1. Compliance with specified characteristics is the Contractor's responsibility.
- B. Action Stamp:** The Architect will stamp each submittal with a uniform, action stamp. The Architect will mark the stamp appropriately to indicate the action taken, as follows:
  1. **Final Unrestricted Release:** When the Architect marks a submittal "Approved for fabrication," the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.
  2. **Final-But-Restricted Release:** When the Architect marks a submittal "Incorporate Notations," the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents. Submit corrected copies for record. Final payment depends on that compliance.
  3. **Returned for Resubmittal:** When the Architect marks a submittal "Rejected, or Revise and Resubmit," do not proceed with Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal according to the notations; resubmit without delay. Repeat if necessary to obtain different action mark.
    - a. Do not use, or allow others to use, submittals marked "Rejected, or Revise and Resubmit" at the Project Site or elsewhere where Work is in progress.
  4. **Other Action:** Where a submittal is for information or record purposes or special processing or other activity, the Architect will return the submittal marked "Action Not Required."
- C. Unsolicited Submittals:** The Architect will discard unsolicited submittals without action.

**PART 2 - PRODUCTS (Not Applicable)**

**PART 3 - EXECUTION (Not Applicable)**

**END OF SECTION 01 33 00**

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Division 00 General Conditions of the Contract for Construction for Design-Bid-Build and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for performing alteration and renovation Work.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Division 00 Section 00 30 00 "General Statements for Available Information" for information that is available in addition to the Bidding Documents for review by bidders.
  - 2. Division 01 Section 01 31 00 "Project Management and Coordination" for procedures for coordinating cutting and patching with other construction activities.
  - 3. Division 01 Section 01 73 29 "Cutting and Patching" for procedures for cutting and patching.
  - 4. Division 01 Section 01 74 19 "Construction Waste Management & Disposal" for the requirements for waste management goals, waste management plan and waste management plan implementation.
  - 5. Refer to other Sections for specific requirements and limitations applicable to performing alteration Work with individual parts of the Work.
  - 6. Requirements of this Section apply to mechanical and electrical installations. Refer to Division 21, 22, 23 and 26 Sections for other requirements and limitations applicable to renovation Work by mechanical and electrical installations.

## PART 2 - PRODUCTS

### 2.1 PRODUCTS FOR PATCHING AND EXTENDING WORK

- A. New materials: As specified in product sections; match existing Products and Work for patching and extending Work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing Products where necessary, referring to existing Work as a standard.

## PART 3 - EXECUTION

### 3.1 INSPECTION

- A. **General:**
  - 1. Observe all existing conditions prior to submitting a bid. Include in the bid, existing conditions and their impact, particularly to cost and health and safety of workers and occupants, and proper function and operation of the facility. Be aware of other work being performed. Failure to visit the site shall in no way provide relief from the necessity of furnishing materials or performing any work that may be required to complete the work in accordance with the Contract Documents without additional cost to the Owner. All site visits shall be scheduled with the Owner.
  - 2. The quantities, locations and the extent of work indicated are best estimates, which are limited by the physical constraints imposed by occupancy of the facility. Consider all aspects of the substrates within the identified plan area. Material information and quantities were obtained from site surveys. Accordingly, variations (plus or minus 10 percent) in quantities within the limits of the work area are considered as having no impact on contract sum and contract performance period. Where additional abatement work is required beyond the above variations, the contract sum and contract performance period shall be adjusted under provisions of Division 01 of the Specifications.
  - 3. Verify that demolition is complete and areas are ready for installation of new Work.
  - 4. Beginning of restoration Work means acceptance of existing conditions.



- B. See also **General Conditions Article 23 "Cutting, Fitting, Patching and Digging"**.

### 3.2 PREPARATION

- A. Cut, move, or remove items as are necessary for access to alteration and renovation Work. Replace and restore at completion.
- B. Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.
- C. Remove debris and abandoned items from area and from concealed spaces.
- D. Prepare surface and remove surface finishes to provide for proper installation of new Work and finishes.
- E. Close openings in exterior surfaces to protect existing Work from weather and extremes of temperature and humidity. Insulate ductwork and piping to prevent condensation in exposed areas.

### 3.3 INSTALLATION

- A. Coordinate alteration and renovation Work to expedite completion, and if required sequence Work to accommodate Owner occupancy.
- B. Remove, cut and patch Work in a manner to minimize damage and to provide restoring products and finishes to original and or specified condition in accordance with **Section 01 73 29 "Cutting and Patching"**.
- C. Refinish visible existing surfaces to remain in renovated rooms and spaces, to specified condition for each material, with neat transition to adjacent finishes in accordance with **Section 01 73 29 "Cutting and Patching"**.
- D. In addition to specified replacement of equipment and fixtures, restore existing plumbing, heating, ventilation, air conditioning, and electrical systems to full operational condition.
- E. Recover and refinish Work that exposes mechanical and electrical Work exposed accidentally during the Work.
- F. Install products as specified in individual specification sections.

### 3.4 TRANSITIONS

- A. Where new Work abuts or aligns with existing, perform a smooth and even transition. Patch work to match existing adjacent Work in texture and appearance.
- B. When finished surfaces are cut so that a smooth transition with new Work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect/Engineer.

### 3.5 ADJUSTMENTS

- A. Where removal of partitions or walls result in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
- B. Where a change of plane of 1/4-inch in (12) inches or more occurs, request recommendation from Architect/Engineer for providing a smooth transition.
- C. Trim existing doors as necessary to clear new floor finish. Refinish trim as required.
- D. Fit Work at penetrations of surfaces as specified in **Section 01 73 29 "Cutting and Patching"**.

### 3.6 REPAIR OF DAMAGED SURFACES

- A. Patch or replace portions of existing surfaces that are damaged, lifted, discolored, or showing imperfections.
- B. Repair substrate prior to patching finishes.

### 3.7 FINISHES

- A. Finish surfaces as specified in individual product specification sections.
- B. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

### 3.8 CLEANING

- A. In addition to cleaning specified in **Section 01 50 00 "Temporary Facilities and Controls"**, clean Agency occupied areas of Work.

END OF SECTION 01 35 16

**PART 1 GENERAL**

**1.1 RELATED DOCUMENTS**

- A.** Construction Documents 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 guide specification covers construction safety requirements and requirements for the protection of people, property, and resources. It is intended for use in construction, renovation, and demolition projects for the State of Connecticut Department of Administrative Services (DAS) / Construction Services (CS).

- B. Related Sections:** The following Sections contain requirements that relate to this Section:

1. Division 01 Section 01 33 00 Submittal Procedures specifies the requirements for submittal requirements;
2. Division 01 Section 01 31 19 "Project Meetings" specifies requirements for submittal and distribution of meeting and conference minutes.

**1.2 REFERENCES**

- A.** The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

<b>AMERICAN SOCIETY OF SAFETY ENGINEERS (ASSE/SAFE)</b> <a href="http://www.asse.org/publications/">www.asse.org/publications/</a>	
ASSE/SAFE A10.32	(2004) Fall Protection
ASSE/SAFE A10.34	(2001; R 2005) Protection of the Public on or Adjacent to Construction Sites
ASSE/SAFE Z359.1	(2007) Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components
<b>AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)</b> <a href="http://www.asme.org/Codes/">www.asme.org/Codes/</a>	
ASME B30.22	(2005) Articulating Boom Cranes
ASME B30.3	(2004) Construction Tower Cranes
ASME B30.5	(2004) Mobile and Locomotive Cranes
ASME B30.8	(2004) Floating Cranes and Floating Derricks
<b>NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)</b> <a href="http://www.nfpa.org/">www.nfpa.org/</a>	
NFPA 10	(2007) Portable Fire Extinguishers
NFPA 51B	(2009) Standard for Fire Prevention During Welding, Cutting, and Other Hot Work
NFPA 241	(2004) Safeguarding Construction, Alteration, and Demolition Operations
NFPA 70	(2008) National Electrical Code
NFPA 70E	Standard for Electrical Safety in the Workplace
<b>CODE OF FEDERAL REGULATIONS (CFR)</b> <a href="http://www.archives.gov/federal-register/cfr/">www.archives.gov/federal-register/cfr/</a>	
10 CFR	Standards for Protection Against Radiation
29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1910.28	Safety Requirements For Scaffolding.
29 CFR 1910.146	Permit-required Confined Spaces
29 CFR 1910.147	Control Of Hazardous Energy (Lockout/Tagout)
29 CFR 1910.178	Powered industrial trucks.
29 CFR 1915	Confined and Enclosed Spaces and Other
29 CFR 1926	Safety and Health Regulations for Construction
29 CFR 1926.500	Fall Protection
29 CFR 1926.550	Cranes and Derricks

**1.3 SUBMITTALS**

- A.** An "O" followed by "A" indicates that the Owner acceptance; submittals not having an "O" designation are for Contractor Quality Control approval.
- B. Submittal Procedures:**
  - 1. Preconstruction Submittals:**
    - a.** Accident Prevention Plan (APP); "O, A";
    - b.** Activity Hazard Analysis (AHA); "O, A";
    - c.** Crane Critical Lift Plan; "O, A";
    - d.** Proof of qualification for Crane Operators; O, A.
  - 2. Test Reports:** Submit reports as their incidence occurs, in accordance with the requirements of the paragraph entitled, "Reports."
    - a.** Accident Reports;
    - b.** Monthly Exposure Reports;
    - c.** Crane Reports;
    - d.** Regulatory Citations and Violations;
    - e.** Gas Protection.
  - 3. Certificates:**
    - a.** Confined Space Entry Permit;
    - b.** Hot work permit;
    - c.** License Certificates.
    - d.** Certificate of Compliance – Crane

**1.4 DEFINITIONS**

- A. Competent Person.** A competent person is one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.
- B. Competent Person for Fall Protection.** A person who is capable of identifying hazardous or dangerous conditions in the personal fall arrest system or any component thereof, as well as their application and use with related equipment, and has the authority to take prompt corrective measures to eliminate the hazards of falling.
- C. Confined Space:** A space which by design has limited openings for entry and exit, unfavorable natural ventilation which could contain or produce dangerous air contaminants, and which is not intended for continuous employee occupancy. Confined spaces include, but are not limited to storage tanks, process vessels, pits, silos, vats, degreasers, reaction vessels, boilers, ventilation and exhaust ducts, sewers, tunnels, underground utility vaults, and pipelines.
- D. High Visibility Accident:** Any mishap which may generate publicity and/or high visibility.
- E. Medical Treatment;** Medical treatment includes treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even through provided by a physician or registered personnel.
- F. Operating Envelope:** The area surrounding any crane. Inside this "envelope" is the crane, the operator, riggers and crane walkers, rigging gear between the hook and the load, the load and the crane's supporting structure (ground, rail, etc.).
- G. Qualified Person for Fall Protection:** A person with a recognized degree or professional certificate and with extensive knowledge, training and experience in the field of fall protection; who is capable of performing design, analysis, and evaluation of fall protection systems and equipment.
- H. Recordable Injuries or Illnesses:** Any work-related injury or illness that results in:
  - 1.** Death, regardless of the time between the injury and death, or the length of the illness;
  - 2.** Days away from work (any time lost after day of injury/illness onset);
  - 3.** Restricted work;
  - 4.** Transfer to another job;
  - 5.** Medical treatment beyond first aid;
  - 6.** Loss of consciousness; or
  - 7.** A significant injury or illness diagnosed by a physician or other licensed health care professional, even if it did not result in (1) through (6) above.

- I. **Weight Handling Equipment (WHE) Accident:** A WHE accident occurs when any one or more of the six elements in the operating envelope fails to perform correctly during operation, including operation during maintenance or testing resulting in personnel injury or death; material or equipment damage; dropped load; derailment; two-blocking; overload; and/or collision, including unplanned contact between the load, crane, and/or other objects. A dropped load, derailment, two-blocking, overload and collision are considered an accident even though no material damage or injury occurs. A component failure (e.g., motor burnout, gear tooth failure, bearing failure) is not considered an accident solely due to material or equipment damage unless the component failure results in damage to other components (e.g., dropped boom, dropped load, roll over, etc.).

1.5 **REGULATORY REQUIREMENTS**

- A. In addition to the detailed requirements included in the provisions of this Section see, **Division 01, Section 01 42 20 "Reference Standards and Definitions"** for other state laws, criteria, rules and regulations. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, regulations, and referenced documents vary, the most stringent requirements govern.

1.6 **SITE QUALIFICATIONS, DUTIES, AND MEETINGS**

A. **Personnel Qualifications:**

B. **Site Safety and Health Officer (SSHO):**

1. Provide a Site Safety and Health Officer (SSHO) at the work site at all times to perform safety and occupational health management, surveillance, inspections, and safety enforcement for the Contractor. The Contractor Quality Control (QC) person can be the SSHO on this project. Meet the following requirements within the SSHO:

**Level 2:** A minimum of three (3) years safety work on similar project. 30-hour OSHA construction safety class or equivalent within last 3 years. Competent person training as needed.

C. **Crane Operators:**

Meet the Crane Operators and Crane Operation requirements of the Connecticut Bureau of License and Permits – Cranes, Department of Administrative Services, Office of State Fire Marshal pursuant to C.G.S § 29-221 through 29-230. Provide proof of current license and qualification. For more information visit the DAS website ([www.ct.gov/DAS](http://www.ct.gov/DAS)) > Licensing, Certification, Permitting and Codes > Cranes, or call **(860) 713-5580** or **(860) 713-5529**.

D. **Personnel Duties:**

1. **Site Safety and Health Officer (SSHO):**

- a. Conduct daily safety and health inspections and maintain a written log which includes area/operation inspected, date of inspection, identified hazards, recommended corrective actions, estimated and actual dates of corrections. Attach safety inspection logs to the Contractors' daily report.
- b. Conduct mishap investigations and complete required reports. Maintain the **OSHA Form 300 and Daily Production** reports for prime and sub-contractors. For more information visit the OSHA website at [www.osha.gov](http://www.osha.gov) > Employers > Recordkeeping Requirements and Forms.
- c. Maintain applicable safety reference material on the job site.
- d. Attend the pre-construction conference, pre-work meetings including preparatory inspection meeting, and periodic in-progress meetings.
- e. Implement and enforce accepted APPS and AHAs.
- f. Maintain a safety and health deficiency tracking system that monitors outstanding deficiencies until resolution. Post a list of unresolved safety and health deficiencies on the safety bulletin board.
- g. Ensure sub-contractor compliance with safety and health requirements.

Failure to perform the above duties will result in dismissal of the superintendent and/or SSHO, and a project work stoppage. The project work stoppage will remain in effect pending approval of a suitable replacement.

E. **Meetings:**

1. **Preconstruction Conference:**

- a. Contractor representatives who have a responsibility or significant role in accident prevention on the project shall attend the preconstruction conference. This includes the project superintendent, site safety and health officer, quality control supervisor, or any other assigned safety and health professionals who participated in the development of the

- Accident Prevention Plan (APP);** (including the **Activity Hazard Analyses (AHAs)**, and special plans, program and procedures associated with it).
- b. Discuss the details of the submitted APP to include incorporated plans, programs, procedures and a listing of anticipated AHAs that will be developed and implemented during the performance of the contract. This list of proposed AHAs will be reviewed at the conference and an agreement will be reached between the Contractor and the Owner's Representative(s) as to which phases will require an analysis. In addition, establish a schedule for the preparation, submittal, review, and acceptance of AHAs to preclude project delays.
  - c. Deficiencies in the submitted APP will be brought to the attention of the Contractor at the preconstruction conference, and the Contractor shall revise the plan to correct deficiencies and re-submit it for acceptance. Do not begin work until there is an accepted APP.

**2. Safety Meetings:**

Safety meetings shall be conducted to review past activities, plan for new or changed operations, review pertinent aspects of appropriate AHA (by trade), establish safe working procedures for anticipated hazards, and provide pertinent safety and health training and motivation.

- a. Meetings shall be conducted at least once a month for all supervisors on the project location and at least once a week for all workers by supervisors or foremen.
- b. Meetings shall be documented, including the date, persons in attendance, subjects discussed, and names of individual(s) who conducted the meeting. Documentation shall be maintained and copies furnished to the Construction Administrator (CA) on request.
- c. The Construction Administrator (CA) shall be informed of all scheduled meetings in advance and be invited to attend.

**1.7 ACCIDENT PREVENTION PLAN (APP):**

- A. Use a qualified person to prepare the written site-specific APP.
  1. Prepare the APP in accordance with the format and requirements of **US Army Core of Engineers (USACE), Safety, and Health Requirements Manual, EM 385-1-1**, or as approved by the CA and as supplemented herein. Cover all paragraphs and subparagraph elements in **USACE EM 385-1-1, Appendix A, "Minimum Basic Outline for Accident Prevention Plan"** or as approved by the CA. The USACE Safety, and Health Requirements Manual, EM 385-1-1 is available at the USACE Website [www.iwr.usace.army.mil](http://www.iwr.usace.army.mil).
  2. Specific requirements for some of the APP elements are described in "B" below. The APP shall be job-specific and address any unusual or unique aspects of the project or activity for which it is written.
- B. The APP shall interface with the Contractor's overall safety and health program. Include any portions of the Contractor's overall safety and health program referenced in the APP in the applicable APP element and made site-specific. The Owner considers the Prime General Contractor to be the "controlling authority" for all work site safety and health of the subcontractors. Contractors are responsible for informing their subcontractors of the safety provisions under the terms of the contract and the penalties for noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out. The APP shall be signed by the person and firm (senior person) preparing the APP, the Contractor, the on-site superintendent, the designated site safety and health officer and any designated Certified Safety Professional (CSP) and/or Certified Industrial Hygienist (CIH).
- C. Submit the APP to the DAS/CS Project Manager and Construction Administrator **Fourteen (14) Calendar Days** prior to the date of the preconstruction conference for acceptance. Work cannot proceed without an accepted APP. Once accepted by the DAS/CS Project Manager and Construction Administrator, the APP and attachments will be enforced as part of the contract. Disregarding the provisions of this contract or the accepted APP will be cause for stopping of work, at the discretion of the DAS/CS Project Manager and Construction Administrator, until the matter has been rectified. Once work begins, changes to the accepted APP shall be made with the knowledge and concurrence of the DAS/CS Project Manager and Construction Administrator, project superintendent, Site Safety and Health Officer (SSHO) and quality control manager. Should any hazard become evident, stop work in the area, secure the area, and develop a plan to remove the hazard. Notify the DAS/CS Project Manager and Construction Administrator within **Twenty (24) hours** of discovery. Eliminate/remove the hazard. In the interim, take all necessary action to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public (as defined by **American Society of Safety**

Engineers, ASSE/SAFE A10.34 - Protection of the Public on or Adjacent to Construction Sites, see [www.asse.org](http://www.asse.org)) and the environment.

Copies of the accepted plan will be maintained at the Construction Administrator's office at the job site. Continuously reviewed and amended the APP, as necessary, throughout the life of the contract. Incorporate unusual or high-hazard activities not identified in the original APP as they are discovered.

**D. APP Contents:**

The contents of the Accident Prevention Plan (APP) shall be in accordance with **Appendix A** of the US Army Corps of Engineers, **EM 385-1-1 Safety and Health Requirements Manual**, Appendix A, Minimum Basic Outline for Accident Prevention Plans or as approved by the CA. For more information visit the USACE Website at [www.usace.army.mil/Library](http://www.usace.army.mil/Library).

**1.8 ACTIVITY HAZARD ANALYSIS (AHA):** Activity Hazard Analyses (AHAs) define the activities being performed and identify the sequences of work, the specific hazards anticipated, site conditions, equipment, materials, and the control measures to be implemented to eliminate or reduce each hazard to an acceptable level of risk. The Activity Hazard Analysis (AHA) format shall be in accordance with US Army Corps of Engineers, **EM 385-1-1 Safety and Health Requirements Manual** or as approved by the CA.

**A. Submittals:**

1. Submit initial AHA to CA for review at least **15 Calendar Days** prior to the start of each phase. Format subsequent AHAs as amendments to the APP. The analysis should be used during daily inspections to ensure the implementation and effectiveness of the activity's safety and health controls.
2. The AHA list will be reviewed monthly at the Contractor supervisory safety meeting and updated as necessary when procedures, scheduling, or hazards change. Develop the activity hazard analyses using the project schedule as the basis for the activities performed. Any activities listed on the project schedule will require an AHA. The AHAs will be developed by the contractor, supplier or subcontractor and provided to the prime contractor for submittal to the CA.

**1.9 DISPLAY OF SAFETY INFORMATION**

Within **one (1) Calendar Days** after commencement of work, erect a safety bulletin board at the job site. Include and maintain information on safety bulletin board as required by US Army Corps of Engineers, **EM 385-1-1 Safety and Health Requirements Manual**, Section 01.A.06 or as approved by the CA. Additional items required to be posted include:

- A. Confined space entry permit.
- B. Hot work permit.
- C. Crane permit
- D. Street permit(s)
- E. Others (as required)

**1.10 SITE SAFETY REFERENCE MATERIALS**

Maintain safety-related references applicable to the project, including those listed in the article "References." Maintain applicable equipment manufacturer's manuals.

**1.11 EMERGENCY MEDICAL TREATMENT**

Contractors will arrange for their own emergency medical treatment. The Owner has no responsibility to provide emergency medical treatment.

**1.12 REPORTS**

**A. Accident Reports**

1. Conduct an accident investigation for recordable injuries and illnesses, and property damage accidents resulting in at least **Two Thousand Dollars (\$2,000)** in damages, to establish the root cause(s) of the accident, complete "Accident Report Form" approved by the CA. Provide the report to the CA within **five (5) Calendar Days** of the accident.

**B. Accident Notification**

Notify the CA as soon as practical, but not later than **four hours (4)**, after any accident meeting the definition of Recordable Injuries or Illnesses or High Visibility Accidents, property damage equal to or greater than \$2,000, or any weight handling equipment accident.

1. Within notification include the following:

- a. contractor name;
- b. contract title;
- c. type of contract;
- d. name of activity,
- e. installation or location where accident occurred;
- f. date and time of accident;
- g. names of personnel injured;
- h. extent of property damage, if any; extent of injury, if known, and brief description of accident to include type of construction equipment used, Personal Protective Equipment (PPE) used, etc.. Preserve the conditions and evidence on the accident site until the U.S. Department of Labor, Occupational Safety and Health Administration (USDOL-OSHA) investigation team arrives on-site and USDOL-OSHA investigation is conducted.

**C. Monthly Exposure Reports**

Monthly exposure reporting to the CA is required to be attached to the monthly Application for Payment request. This report is a compilation of employee-hours worked each month for all site workers, both prime and subcontractor. Provide on a form approved by the CA.

**D. Crane Reports**

Submit crane inspection reports on a form approved by the CA and as specified herein with Daily Reports of Inspections.

**E. HOT WORK**

Hot Work shall only be performed in accordance with the requirements of **NFPA 51B "Fire Prevention During Welding, Cutting and Other Hot Work Standard.**

**1. Definitions:**

- a. **Hot Work:** Work involving burning, welding, or a similar operation that is capable of initiating fires or explosions. Examples listed by NFPA include arc welding, oxygen- fuel gas welding, open-flame soldering, brazing, thermal spraying, oxygen cutting, and arc cutting.
  - b. **Permit Authorizing Individual (PAI).** Means the individual designated by the General Contractor to authorize hot work. The PAI is permitted to be, among others, the General Contractor's project executive, supervisor, foreperson, or designated safety administrator. The PAI CANNOT be the hot work operator, except as permitted in **NFPA 51B**. The PAI is aware of the fire hazards involved and is familiar with the provisions of this standard.
2. **Permit:** Submit and obtain a written permit from the PAI prior to performing "Hot Work" (welding, cutting, etc.) or operating other flame-producing/spark producing devices, from the PAI. CONTRACTORS ARE REQUIRED TO MEET ALL CRITERIA BEFORE A PERMIT IS ISSUED. The General Contractor will provide at least two (2) twenty (20) pound 4A:20 BC rated extinguishers for normal "Hot Work". All extinguishers shall be current inspection tagged, approved safety pin and tamper resistant seal.
3. **Fire Watch:** It is also mandatory to have a designated FIRE WATCH for any "Hot Work" done at this activity. The Fire Watch shall be trained in accordance with **NFPA 51B Standard for Fire Prevention During Welding, Cutting, and Other Hot Work** and remain on-site for a minimum of 30 minutes after completion of the task or as specified on the hot work permit. When starting work in the facility, require personnel to familiarize themselves with the location of the nearest fire alarm boxes and place in memory the local fire department emergency phone number(s). ANY FIRE, NO MATTER HOW SMALL, SHALL BE REPORTED TO THE LOCAL FIRE DEPARTMENT, GENERAL CONTRACTOR'S AUTHORIZED REPRESENTATIVE, AND OWNER'S CA IMMEDIATELY.

**1.13 FACILITY OCCUPANCY CLOSURE**

Streets, walks, and other facilities occupied and used by the state User Agency shall not be closed or obstructed without written permission from the CA.

**1.14 SEVERE STORM PLAN**

In the event of a severe storm warning, the Contractor must:

- A. Secure outside equipment and materials and place materials that could be damaged in protected areas.



- B. Check surrounding area, including roof, for loose material, equipment, debris, and other objects that could be blown away or against existing facilities.
- C. Ensure that temporary erosion controls are adequate.

**PART 2 PRODUCTS**

NOT USED.

**PART 3 EXECUTION**

**3.1 CONSTRUCTION AND/OR OTHER WORK**

Comply with the Connecticut State Building and Fire Safety Codes, OSHA regulations, and other references regulations. The most stringent standard prevails.

**3.1.2 HAZARDOUS MATERIAL EXCLUSIONS**

Notwithstanding any other hazardous material used in this contract, radioactive materials or instruments capable of producing ionizing/non-ionizing radiation (with the exception of radioactive material and devices used in accordance with **USACE EM 385-1-1** such as nuclear density meters for compaction testing and laboratory equipment with radioactive sources) as well as materials which contain asbestos, mercury or polychlorinated biphenyls, di-isocyanates, lead-based paint are prohibited. The CA, upon written request by the Contractor, may consider exceptions to the use of any of the above excluded materials.

**3.1.3 UNFORESEEN HAZARDOUS MATERIAL**

- A. Related Section: Division 01, Section 01 35 16, Alteration Project Procedures.

**3.2 PRE-OUTAGE COORDINATION MEETING**

Contractors are required to apply for utility outages at least **fifteen (15) Calendar Days** in advance. As a minimum, the request should include the location of the outage, utilities being affected, duration of outage and any necessary sketches. Special requirements for electrical outage requests are contained elsewhere in this specification section. Once approved, and prior to beginning work on the utility system requiring shut down, attend a pre-outage coordination meeting with the CA, User Agency Representative, and Public Utilities representative to review the scope of work and the lock-out/tag-out procedures for worker protection. No work will be performed on energized electrical circuits unless proof is provided that no other means exist.

**3.3 SAFETY LOCKOUT/TAGOUT PROCEDURES**

- A. The General Contractor shall ensure that each employee is familiar with and complies with these procedures and **OSHA 29 CFR 1910.147 Control Of Hazardous Energy (Lockout/Tagout)**.
  1. The General Contractor's "Authorized Employee" shall apply lockout/tagout tags and take other actions that, because of experience and knowledge, are known to be necessary to make the particular equipment safe to work on.
  2. No person, regardless of position or authority, shall operate any switch, valve, or equipment that has an official lockout/tagout tag attached to it, nor shall such tag be removed except as provided in this section.
  3. No person shall work on any equipment that requires a lockout/tagout tag unless he, his immediate supervisor, project leader, or a subordinate has in his possession the stubs of the required lockout/tagout tags. Only qualified personnel shall perform work on electrical circuits.
  4. A supervisor who is required to enter an area protected by a lockout/tagout tag will be considered a member of the protected group provided he notifies the holder of the tag stub each time he enters and departs from the protected area.
  5. Identification markings on building light and power distribution circuits shall not be relied on for established safe work conditions.
  6. Before clearance will be given on any equipment other than electrical (generally referred to as mechanical apparatus), the apparatus, valves, or systems shall be secured in a passive condition with the appropriate vents, pins, and locks. Pressurized or vacuum systems shall be vented to relieve differential pressure completely. Vent valves shall be tagged open during the course of the work. Where dangerous gas or fluid systems are involved, or in areas where the environment may be oxygen deficient, system or areas shall be purged, ventilated, or otherwise made safe prior to entry.

**B. Tag Placement**

Lockout/tagout tags shall be completed in accordance with the regulations printed on the back thereof and attached to any device which, if operated, could cause an unsafe condition to exist. If more than one group is to work on any circuit or equipment, the employee in charge of each group shall have a separate set of lockout/tagout tags completed and properly attached. When it is required that certain equipment be tagged, the State of Connecticut Authority Having Jurisdiction will review the characteristics of the various systems involved that affect the safety of the operations and the work to be done; take the necessary actions, including voltage and pressure checks, grounding, and venting, to make the system and equipment safe to work on; and apply such lockout/tagout tags to those switches, valves, vents, or other mechanical devices needed to preserve the safety provided. This operation is referred to as "Providing Safety Clearance."

**C. Tag Removal**

When any individual or group has completed its part of the work and is clear of the circuits or equipment, the supervisor, project leader, or individual for whom the equipment was tagged shall turn in his signed lockout/tagout tag stub to the Contractor. That group's or individual's lockout/tagout tags on equipment may then be removed on authorization by the Contractor.

**3.4 FALL HAZARD PROTECTION AND PREVENTION PROGRAM**

Establish a fall protection and prevention program, for the protection of all employees exposed to fall hazards. Within the program include company policy, identify responsibilities, education and training requirements, fall hazard identification, prevention and control measures, inspection, storage, care and maintenance of fall protection equipment and rescue and evacuation procedures.

**A. Training**

Institute a fall protection training program. As part of the Fall Hazard Protection and Prevention Program, provide training for each employee who might be exposed to fall hazards. Provide training by a competent person for fall protection in accordance with **USACE EM 385-1-1**, Section 21.A.16.

**B. Fall Protection Equipment and Systems**

Enforce use of the fall protection equipment and systems designated for each specific work activity in the Fall Protection and Prevention Plan and/or AHA at all times when an employee is exposed to a fall hazard. Protect employees from fall hazards as specified in **USACE EM 385-1-1, section 21**. In addition to the required fall protection systems, safety skiff, personal floatation devices, life rings etc., are required when working above or next to water in accordance with **USACE EM 385-1-1, paragraphs 05.H. and 05.I**. Personal fall arrest systems are required when working from an articulating or extendible boom, swing stages, or suspended platform. In addition, personal fall arrest systems are required when operating other equipment such as scissor lifts if the work platform is capable of being positioned outside the wheelbase. The need for tying-off in such equipment is to prevent ejection of the employee from the equipment during raising, lowering, or travel. Fall protection must comply with **OSHA 29 CFR 1926.500, Fall Protection, Subpart M, and ASSE/SAFE A10.32, Fall Protection**.

**1. Personal Fall Arrest Equipment**

Personal fall arrest equipment, systems, subsystems, and components shall meet **ASSE/SAFE Z359.1, Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components**. Only a full-body harness with a shock-absorbing lanyard or self-retracting lanyard is an acceptable personal fall arrest body support device. Body belts may only be used as a positioning device system (for uses such as steel reinforcing assembly and in addition to an approved fall arrest system). Harnesses shall have a fall arrest attachment affixed to the body support (usually a Dorsal D-ring) and specifically designated for attachment to the rest of the system. Only locking snap hooks and carabiners shall be used. Webbing, straps, and ropes shall be made of synthetic fiber. The maximum free fall distance when using fall arrest equipment shall not exceed **1.8 m 6 feet**. The total fall distance and any swinging of the worker (pendulum-like motion) that can occur during a fall shall always be taken

**2. Fall Protection for Roofing Work**

Implement fall protection controls based on the type of roof being constructed and work being performed. Evaluate the roof area to be accessed for its structural integrity including weight-bearing capabilities for the projected loading.

**a. Low Sloped Roofs:**

**(i)** For work within 6 feet (6 feet (1.8 m) of an edge, on low-slope roofs, Protect personnel from falling by use of personal fall arrest systems, guardrails, or safety nets.

- (ii) For work greater than (6 feet (1.8 m) from an edge, erect and install warning lines in accordance with **OSHA 29 CFR 1926.500, Fall Protection**.
- b. Steep-Sloped Roofs: Work on steep-sloped roofs requires a personal fall arrest system, guardrails with toe-boards, or safety nets. This requirement also includes residential or housing type construction.

**3. Existing Anchorage**

Certified (or re-certified) by a qualified person for fall protection existing anchorages, to be used for attachment of personal fall arrest equipment in accordance with **ASSE/SAFE Z359.1, Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components**. Existing horizontal lifeline anchorages must be certified (or re-certified) by a registered professional engineer with experience in designing horizontal lifeline systems.

**4. Horizontal Lifelines**

Design, install, certify and use under the supervision of a qualified person horizontal lifelines for fall protection as part of a complete fall arrest system which maintains a safety factor of 2 (**OSHA 29 CFR 1926.500 Fall Protection**).

**5. Guardrails and Safety Nets**

Design, install and use guardrails and safety nets in accordance with **29 CFR 1926, Safety and Health Regulations for Construction Subpart M**.

**6. Rescue and Evacuation Procedures**

When personal fall arrest systems are used, the contractor must ensure that the mishap victim can self-rescue or can be rescued promptly should a fall occur. Prepare a Rescue and Evacuation Plan and include a detailed discussion of the following: methods of rescue; methods of self-rescue; equipment used; training requirement; specialized training for the rescuers; procedures for requesting rescue and medical assistance; and transportation routes to a medical facility. Include the Rescue and Evacuation Plan within the Activity Hazard Analysis (AHA) for the phase of work, in the Fall Protection and Prevention (FP&P) Plan, and the Accident Prevention Plan (APP).

**3.5 SCAFFOLDING**

- A. The Contractor shall provide all employees with a safe means of access to the work area on the scaffold in accordance with **OSHA 29 CFR 1910.28 Safety Requirements For Scaffolding** and as contained in this section.
  - 1. Climbing of any scaffold braces or supports not specifically designed for access is prohibited.
  - 2. Access scaffold platforms greater than 20 feet (6 m) maximum in height by use of a scaffold stair system.
  - 3. Do not use vertical ladders commonly provided by scaffold system manufacturers for accessing scaffold platforms greater than 20 feet (6 m) maximum in height.
  - 4. The use of an adequate gate is required.
  - 5. Ensure that employees are qualified to perform scaffold erection and dismantling.
  - 6. Do not use scaffold without the capability of supporting at least four times the maximum intended load or without appropriate fall protection as delineated in the accepted fall protection and prevention plan.
  - 7. Stationary scaffolds must be attached to structural building components to safeguard against tipping forward or backward.
  - 8. Give special care to ensure scaffold systems are not overloaded. Side brackets used to extend scaffold platforms on self-supported scaffold systems for the storage of material are prohibited.
  - 9. The first tie-in shall be at the height equal to 4 times the width of the smallest dimension of the scaffold base. Place work platforms on mud sills. Scaffold or work platform erectors shall have fall protection during the erection and dismantling of scaffolding or work platforms that are more than six feet. Delineate fall protection requirements when working above six feet or above dangerous

operations in the Fall Protection and Prevention (FP&P) Plan and Activity Hazard Analysis (AHA) for the phase of work.

**B. Stilts**

The use of stilts for gaining additional height in construction, renovation, repair or maintenance work is **PROHIBITED**.

**3.6 EQUIPMENT**

**A. Material Handling Equipment**

Material Handling Equipment shall be in accordance with **OSHA 29 CFR 1910.178 Powered Industrial Trucks** and as contained in this section.

1. Material handling equipment such as forklifts shall not be modified with work platform attachments for supporting employees unless specifically delineated in the manufacturer's printed operating instructions.
2. The use of hooks on equipment for lifting of material must be in accordance with manufacturer's printed instructions.
3. Operators of forklifts or power industrial trucks shall be licensed in accordance with OSHA.

**B. Weight Handling Equipment**

1. Equip cranes and derricks as specified in **ASME B30.5** or **ASME B30.22** or **ASME B30.8** as applicable.
2. Comply with the crane manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the work. Perform erection under the supervision of a designated person (as defined in **ASME B30.5**). Perform all testing in accordance with the manufacturer's recommended procedures.
3. Comply with **ASME B30.5** for mobile and locomotive cranes, **ASME B30.22** for articulating boom cranes, **ASME B30.3** for construction tower cranes, and **ASME B30.8** for floating cranes and floating derricks.
4. Under no circumstance shall a Contractor make a lift at or above 90% of the cranes rated capacity in any configuration.
5. When operating in the vicinity of overhead transmission lines, operators and riggers shall be alert to this special hazard and follow the requirements of **ASME B30.5** or **ASME B30.22** as applicable.
6. Do not crane suspended personnel work platforms (baskets) unless the Contractor proves that using any other access to the work location would provide a greater hazard to the workers or is impossible. Do not lift personnel with a line hoist or friction crane.
7. Inspect, maintain, and recharge portable fire extinguishers as specified in **NFPA 10, Standard for Portable Fire Extinguishers**.
8. All employees must keep clear of loads about to be lifted and of suspended loads.
9. Use cribbing when performing lifts on outriggers.
10. The crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.
11. A physical barricade must be positioned to prevent personnel from entering the counterweight swing (tail swing) area of the crane.
12. Certification records which include the date of inspection, signature of the person performing the inspection, and the serial number or other identifier of the crane that was inspected shall always be available for review by CA.

13. Written reports listing the load test procedures used along with any repairs or alterations performed on the crane shall be available for review by CA.
14. Certify that all crane operators have been trained in proper use of all safety devices (e.g. anti-two block devices).

**3.8 UTILITIES WITHIN CONCRETE SLABS**

- A.** Utilities located within concrete slabs or pier structures, bridges, and the like, are extremely difficult to identify due to the reinforcing steel used in the construction of these structures. Whenever contract work involves concrete chipping, saw cutting, or core drilling, the existing utility location must be coordinated with utility company in addition to a private locating service. Outages to isolate utility systems must be used in circumstances where utilities are unable to be positively identified. The use of historical drawings does not alleviate the contractor from meeting this requirement.

**3.9 ELECTRICAL**

**A. Conduct of Electrical Work**

Underground electrical spaces must be certified safe for entry before entering to conduct work. Cables that will be cut must be positively identified and de-energized prior to performing each cut. Positive cable identification must be made prior to submitting any outage request for electrical systems. Arrangements are to be coordinated with the CA and utility company for identification. The CA will not accept an outage request until the Contractor satisfactorily documents that the circuits have been clearly identified. Perform all high voltage cable cutting remotely using hydraulic cutting tool. When racking in or live switching of circuit breakers, no additional person other than the switch operator will be allowed in the space during the actual operation. Plan so that work near energized parts is minimized to the fullest extent possible. Use of electrical outages clear of any energized electrical sources is the preferred method. When working in energized substations, only qualified electrical workers will be permitted to enter. When work requires Contractor to work near energized circuits as defined by the **NFPA 70**, high voltage personnel must use personal protective equipment that includes, as a minimum, electrical hard hat, safety shoes, insulating gloves with leather protective sleeves, fire retarding shirts, coveralls, face shields, and safety glasses. In addition, provide electrical arc flash protection for personnel as required by **NFPA 70E**. Insulating blankets, hearing protection, and switching suits may also be required, depending on the specific job and as delineated in the Contractor's AHA.

**B. Portable Extension Cords**

Size portable extension cords in accordance with manufacturer ratings for the tool to be powered and protected from damage. Immediately remove from service all damaged extension cords. Portable extension cords shall meet the requirements of **NFPA 70**.

**3.10 WORK IN CONFINED SPACES**

- A.** Comply with the requirements in **OSHA 29 CFR 1910.146** and **OSHA 29 CFR 1926.21(b) (6)**. Any potential for a hazard in the confined space requires a permit system to be used.
1. Entry Procedures. Prohibit entry into a confined space by personnel for any purpose, including hot work, until the qualified person has conducted appropriate tests to ensure the confined or enclosed space is safe for the work intended and that all potential hazards are controlled or eliminated and documented. All hazards pertaining to the space shall be reviewed with each employee during review of the AHA.
  2. Forced air ventilation is required for all confined space entry operations and the minimum air exchange requirements must be maintained to ensure exposure to any hazardous atmosphere is kept below its' action level.
  3. Sewer wet wells require continuous atmosphere monitoring with audible alarm for toxic gas detection.

**END OF SECTION 01 35 26**

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

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

### 1.2 DEFINITIONS

- A. **General:** Basic contract definitions are included in the General Conditions of the Contract for Construction.
- B. **"Indicated":** The term "indicated" refers to graphic representations, notes, or schedules on the Drawings, or other paragraphs or Schedules in the Specifications, and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the reader locate the reference. Location is not limited to this term.
- C. **"Directed":** Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean directed by the Architect, requested by the Architect, and similar phrases.
- D. **"Approved":** The term "approved," when used in conjunction with the Architect's action on the Contractor's submittals, applications, and requests, is limited to the Architect's duties and responsibilities as stated in the Conditions of the Contract.
- E. **"Regulations":** The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. **"Furnish":** The term "furnish" means supply and deliver to the Project Site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. **"Install":** The term "install" describes operations at the Project Site including the actual unloading, unpacking, assembly, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. **"Provide":** The term "provide" means to furnish and install, complete and ready for the intended use.
- I. **"Installer":** An installer is the Contractor or another entity engaged by the Contractor, either as an employee, subcontractor, or contractor of lower tier, to perform a particular construction activity, including installation, erection, application, or similar operations. Installers are required to be experienced in the operations they are engaged to perform.
  - 1. The term **"experienced,"** when used with the term **"installer,"** means having a minimum of **five (5)** previous projects similar in size and scope to this Project, being familiar with the special requirements indicated, and having complied with requirements of authorities having jurisdiction.
  - 2. **Trades:** Using terms such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.
  - 3. **Assigning Specialists:** Certain Sections of the Specifications require that specific construction activities shall be performed by specialists who are recognized experts in those operations. The specialists must be engaged for those activities, and their assignments are requirements over which the Contractor has no option. However, the ultimate responsibility for fulfilling contract requirements remains with the Contractor.
    - a. This requirement shall not be interpreted to conflict with enforcing building codes and similar regulations governing the Work. It is also not intended to interfere with local trade-union jurisdictional settlements and similar conventions.
- J. **"Project Site"** is the space available to the Contractor for performing construction activities, either exclusively or in conjunction, with others performing other Work as part of the Project. The extent of the Project Site is shown on the Drawings and may or may not be identical with the description of the land on which the Project is to be built.
- K. **"Testing Agencies":** A testing agency is an independent entity engaged to perform specific inspections or tests, either at the Project Site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.

### 1.3 SPECIFICATION FORMAT AND CONTENT EXPLANATION

- A. **Specification Format:** These Specifications are organized into Divisions and Sections based on CSI's "MasterFormat" 49-Division format and numbering system.
- B. **Specification Content:** This Specification uses certain conventions regarding the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:
  - 1. **Abbreviated Language:** Language used in Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be interpolated, as the sense requires. Singular words will be interpreted as plural and plural words interpreted as singular where applicable as the context of the Contract Documents indicates.
  - 2. **Streamlined Language:** The Specifications generally use the imperative mood and streamlined language. Requirements expressed in the imperative mood are to be performed by the Contractor. At certain locations in the Text, subjective language is used for clarity to describe responsibilities that must be fulfilled indirectly by the Contractor or by others when so noted.
    - a. The words "**shall be**" are implied where a colon (:) is used within a sentence or phrase.

### 1.4 INDUSTRY STANDARDS

- A. **Applicability of Standards:** Except where the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. **Publication Dates:** Comply with the standards in effect as of the date of the Contract Documents unless a specific date is indicated in the Contract Documents or the governing regulations cited herein.
- C. **Conflicting Requirements:** Where compliance with **two (2)** or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent and highest quality requirement. Request a decision from the Architect before proceeding on requirements that are different but apparently equal, and where it is uncertain which requirement is the most stringent.
  - 1. **Minimum Quantity or Quality Levels:** The quantity or quality level shown or specified shall be the minimum acceptable. 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 the requirements. Request a clarification from the Architect regarding uncertainties before proceeding.
- D. **Copies of Standards:** Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
  - 1. Where copies of standards are needed to perform a required construction activity, the Contractor shall obtain copies directly from the publication source.
- E. **Abbreviations and Names:** Trade association names and titles of general standards are frequently abbreviated. Where such acronyms or abbreviations are used in the Specifications or other Contract Documents, they mean the recognized name of the trade association, standards-generating organization, authorities having jurisdiction, or other entity applicable to the context of the text provision. Refer to Thompson Gale's "Encyclopedia of Associations," available in most libraries.

### 1.5 GOVERNING REGULATIONS AND AUTHORITIES

- A. **Copies of Regulations:** Obtain copies of the "**latest applicable State Codes**" and the following regulations and retain at the Project Site to be available for reference by parties who have a reasonable need during submittals, planning, and progress of the Work, until Substantial Completion.
  - 1. Connecticut State Building Code - 2018.
    - 1.1 CT Supplement- most recent.
    - 1.2 CT Amendments - most recent.
    - 1.3 International Building Code - 2015.
    - 1.4 International Existing Building Code - 2015.
    - 1.5 International Mechanical Code - 2015.

- 1.6 International Plumbing Code - 2015.
- 1.7 International Energy Conservation Code - 2015.
- 1.8 National Electric Code (NFPA 70) - 2017.
- 1.9 ICC/ANSI A117.1-Accessible and Usable Buildings and Facilities – 2009.
2. Connecticut Fire Safety Code – 2018.
  - 2.1 CT Supplement - most recent.
  - 2.2 CT Amendments - most recent.
  - 2.3 International Fire Safety Code – 2015.
  - 2.4 NFPA 101 – 2015.
3. Connecticut Fire Prevention Code - 2018.
  - 3.1 NFPA 1 - 2015.
4. Occupational Safety and Health Administration (OSHA)
  - 4.1 OSHA 29 CFR Part 1910 Occupational Safety and Health Regulations.
  - 4.2 OSHA 29 CFR Part 1926 Occupational Safety and Health Regulations for Construction.
- B. The “**latest applicable State Codes**” are available for download from the DAS website ([www.ct.gov/das](http://www.ct.gov/das)) > Doing Business With The State > State Building Construction > Publications and Forms > Office of State Building Inspector *and* Office of State Fire Marshal. Also visit the [www.ctdol.state.ct.us](http://www.ctdol.state.ct.us) Connecticut Department of Labor website.

**1.6 SUBMITTALS**

- A. **Permits, Licenses, and Certificates:** For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents.

**PART 2 – PRODUCTS (Not Applicable)**

**PART 3 – EXECUTION (Not Applicable)**

**END OF SECTION 01 42 20**



---

**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 administrative and procedural requirements for quality-control services.
- B. Quality-Control services include fire alarm acceptance testing, inspections, tests, and related actions, including reports performed by Contractor, by independent agencies, and by governing authorities. They do not include contract enforcement activities performed by the Owner.
- C. Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with Contract Document requirements.
- D. Requirements of this Section relate to customized fabrication and installation procedures, not production of standard products.
1. Specific quality-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 inspections, tests, and related actions do not limit Contractor's quality-control procedures that facilitate compliance with Contract Document requirements.
  3. Requirements for Contractor to provide quality-control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
- E. Related Sections: The following Sections contain requirements that relate to this Section:
1. Division 01 Section 01 33 00 "Submittal Procedures" specifies requirements for development of a schedule of required tests and inspections.
  2. Division 01 Section 01 73 29 "Cutting and Patching" specifies requirements for repair and restoration of construction disturbed by inspection and testing activities.
  3. Division 01 Section 01 77 00 "Closeout Procedures", specific requirements for contract closeout procedures.

**1.3 RESPONSIBILITIES**

- A. Contractor Responsibilities: Unless otherwise indicated as the responsibility of another identified entity, the Owner, through the Construction Administrator, shall provide inspections, tests, and other quality-control services specified elsewhere in the Contract Documents and required by authorities having jurisdiction. All tests required by the individual specification sections are required to be scheduled and notification given to the Construction Administrator **48** hours in advance of the test/inspection as applicable. Costs for these services are not included in the Contract Sum.
1. Where individual Sections specifically indicate that certain inspections, tests, and other quality-control services are the Contractor's responsibility, the Contractor shall employ and pay a qualified independent testing agency to perform quality-control services. Costs for these services are included in the Contract Sum.
  2. Where individual Sections specifically indicate that certain inspections, tests, and other quality-control services are the Owner's responsibility, the Owner will employ and pay a qualified independent testing agency to perform those services.
    - a) Such services include Special Inspections as required by the latest edition of the "Connecticut State Building Code".
    - b) Where the Owner has engaged a testing agency for testing and inspecting part of the Work, and the Contractor is also required to engage an entity for the same or related element, the Contractor shall not employ the entity engaged by the Owner. The Owner will engage the services of a qualified Special Inspector for this project. The Special Inspector, as a representative of the

- Owner, shall document and confirm compliance with the provisions of the Connecticut State Building Code for Special Inspections.
- c) Materials and assemblies for this project will be tested and construction operations inspected as the work progresses. Failure to detect any defective work or material shall not in any way prevent later rejection when such defect is discovered nor shall it obligate the State for final acceptance.
  - d) The Owner's use of testing and inspection services shall in no way relieve the Contractor of the responsibility to furnish materials and finished construction in full compliance with the Contract Documents and the Connecticut State Building Code.
- B. Retesting: The Contractor is responsible for retesting where results of inspections, tests, or other quality-control services prove unsatisfactory and indicate noncompliance with Contract Document requirements, regardless of whether the original test was Contractor's responsibility.
- 1. The cost of retesting construction, revised or replaced by the Contractor, is the Contractor's responsibility where required tests performed on original construction indicated non-compliance with Contract Document requirements.
  - 2. The Owner will issue a credit change order to cover all costs incurred related to all re-tests/re-inspections due to non-compliance to the Contract Documents, including but not limited to the Owner's costs and the Consultant's costs.
- C. Associated Services: Cooperate with agencies performing required inspections, tests, and similar services, and provide reasonable auxiliary services as requested. Notify the Agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include, but are not limited to, the following:
- 1. Provide access to the Work.
  - 2. Furnish incidental labor and facilities necessary to facilitate inspections and tests.
  - 3. Take adequate quantities of representative samples of materials that require testing or assist the agency in taking samples.
  - 4. Provide facilities for storage and curing of test samples.
  - 5. Deliver samples to testing laboratories.
  - 6. Provide an approved design mix proposed for use for material mixes that require control by the testing agency.
  - 7. Provide security and protection of samples and test equipment at the Project Site.
- D. Duties of the Testing Agency: The independent testing agency engaged to perform inspections, sampling, and testing of materials and construction specified in individual Sections shall cooperate with the Construction Administrator, Architect and the Contractor in performance of the testing agency's duties. The testing agency shall provide qualified personnel to perform required inspections and tests.
- 1. The testing agency shall notify the Construction Administrator and the Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
  - 2. The testing agency is not authorized to release, revoke, alter, or enlarge requirements of the Contract Documents or approve or accept any portion of the Work.
  - 3. The testing agency shall not perform any duties of the Contractor.
- E. Owner will pay for the services of an independent testing agency laboratory to perform inspections, tests and other services required by the Specifications except as noted below, listed for which the Owner will issue a deduct change order to cover the cost associated with these tests:
- 1. When the Contractor notifies the Construction Administrator and/or Testing Agency less than 24 hours before the expected time of testing.
  - 2. When the Contractor requires testing for his own convenience.
  - 3. When the Contractor schedules a test and is not ready for the required test.
- F. Submit reports of tests that are part of the submittal requirements which indicate compliance or non-compliance with the specified standard.
- G. See also General Conditions Article 16 "Inspections & Tests".

#### 1.4 SUBMITTALS

- A. Unless the Contractor is responsible for this service, the independent testing agency shall submit a certified written report, in duplicate, of each inspection, test, or similar service to the Construction Administrator. If the Contractor is responsible for the service, submit a certified written report, in duplicate, of each inspection, test, or similar service through the Contractor.
1. Submit additional copies of each written report directly to the governing authority, when the authority so directs.
  2. Report Data: Written reports of each inspection, test, or similar service include, but are not limited to, the following:
    - a. Date of issue.
    - b. Project title and number.
    - c. Name, address, and telephone number of testing agency.
    - d. Dates and locations of samples and tests or inspections.
    - e. Names of individuals making the inspection or test.
    - f. Designation of the Work and test method.
    - g. Identification of product and Specification Section.
    - h. Complete inspection or test data.
    - i. Test results and an interpretation of test results.
    - j. Ambient conditions at the time of sample taking and testing.
    - k. Comments or professional opinion on whether inspected or tested Work complies with Contract Document requirements.
    - l. Name and signature of laboratory inspector.
    - m. Recommendations on re-testing.

#### 1.5 QUALITY ASSURANCE

- A. **Qualifications for Service Agencies:** Engage inspection and testing service agencies, including independent testing laboratories, that are pre-qualified as complying with the National Voluntary Laboratory Accreditation Program and that specialize in the types of inspections and tests to be performed.
1. Each independent inspection and testing agency engaged on the Project shall be authorized by authorities having jurisdiction to operate in the state where the Project is located.
- B. **Mockups:** Provide full-size, physical assemblies that are constructed on-site. Mockups will be used to verify selections made under sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not samples. **Approved mockups establish the standard by which the Work will be judged.**

### PART 2 - PRODUCTS (Not Applicable)

### PART 3 - EXECUTION

#### 3.1 MOCKUPS

- A. Build site-assembled mockups using installers who will perform same tasks for project.
- B. 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:  
Build mockups in location and of size indicated or, if not indicated, as directed by Architect or **Construction Administrator**.
2. Notify Architect and **Construction Administrator** seven (7) days in advance of dates and times when mockups will be constructed.
  3. Demonstrate the proposed range of aesthetic effects and workmanship.

4. Obtain Architect's **and Construction Administrator's** approval of mockups before starting work, fabrication, or construction.
5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
6. Demolish and remove mockups when directed, unless otherwise indicated.

**3.2 REPAIR AND PROTECTION**

- A. General: Upon completion of inspection, testing, sample taking and similar services, repair damaged construction and restore substrates and finishes. Comply with Contract Document requirements for Division 01 Section 01 73 29 "Cutting and Patching."
- B. Protect constructions exposed by or for quality-control service activities, and protect repaired construction.
- C. Repair and protection is Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing, or similar services.

**END OF SECTION 01 45 00**

**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 following:
1. Requirements of baseline Indoor Air Quality (IAQ) testing for maximum indoor pollutant concentrations for acceptance of the facility.
  2. Requirements for independent materials testing of specific materials anticipated to have major impact on IAQ.
  3. Procedures for testing specific construction materials for IAQ performance to assure compliance with green building rating system credits. Materials have been identified for independent testing based on the following **three (3)** criteria:
    - a. Large volume of material used in occupied spaces.
    - b. The space is occupied during normal working hours.
    - c. Materials are used in an area where there is recirculating air.
- B. Related Sections:** The following Sections contain requirements that relate to this Section:
1. Divisions 01 through 49 sections for green building rating system requirements specific to the Work of each of those sections. These requirements may or may not include reference to LEED or Green Globes.
  2. Division 23 Section 23 05 93 "Testing, Adjusting and Balancing for HVAC" for additional requirements for baseline testing for IAQ.
  3. Division 23 Section 23 05 93 "Testing, Adjusting and Balancing for HVAC" for cleaning of HVAC system including duct work, air intakes and returns, and changing of filters.

**1.3 REFERENCES**

- A. American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE):**
1. ASHRAE 52.2-1999, Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size.
- B. ASTM International, Inc. (ASTM):**
1. ASTM D5116-2006, Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions From Indoor Materials/Products.
- C. Sheet Metal and Air Conditioning Contractors' National Association (SMACNA):**
1. IAQ Guidelines for Occupied Buildings Under Construction, 1995.
- D. United States Environmental Protection Agency (EPA):**
1. Compendium of Methods for the Determination of Air Pollutants in Indoor Air.

**1.4 SUBMITTALS**

- A. Baseline IAQ Testing:** Submit a report for each test site specified for IAQ baseline testing as prescribed in Section 23 05 93 "Testing, Adjusting and Balancing for HVAC". Report on air concentrations of targeted pollutants as identified in Table 3.1 below.
- B. Product Emissions Test Reports:** Submit a report for each material emissions test performed. Report test results in terms of emission factors that will be used by the Owner to model indoor air concentrations. These reports and the modeling data prepared by the Owner shall be included in the closeout documentation specified in Section 01 77 00 "Closeout Procedures".
- C. Green Building Certification Documentation Submittals:**
1. **Construction Indoor Air Quality (IAQ) Management Plan (During Construction) Credit:**

- a. Construction IAQ management plan.
  - b. Letter confirming if the permanently installed air handling equipment was used during construction.
  - c. Product data for temporary filtration media. Indicate manufacturer, model number, MERV rating, and location of installed media.
  - d. Letter confirming that each filtration media was replaced prior to final occupancy.
  - e. Product data for filtration media to be used during occupancy. Indicate manufacturer, model number, MERV rating, and location of media.
  - f. Construction Documentation: **Six (6)** photographs at **three (3)** different occasions during construction along with a brief description of the SMACNA approach employed, document implementation of the IAQ management measures, such as protection of ducts and on-site stored or installed absorptive materials.
- 2. Construction Indoor Air Quality (IAQ) Management Plan (Before Occupancy) Credit:**
- a. Signed letter confirming the approach taken by the project (pre-occupancy flush-out; flush-out with early occupancy flush-out or IAQ testing).
  - b. A narrative describing the building air flush-out procedures including the dates when flush-out was begun and completed and statement that filtration media was replaced after flush-out.
  - c. Product data for filtration media used during flush-out and during occupancy.
  - d. A narrative describing the building's IAQ testing process and results including the dates when testing was started and completed.
  - e. Report from testing and inspecting agency indicating results of IAQ testing and documentation showing conformance with IAQ testing procedures and requirements.

**1.5 QUALITY ASSURANCE**

- A. Perform material tests and report results in accordance with ASTM D5116.

**PART 2 - PRODUCTS (Not Applicable)**

**PART 3 - EXECUTION**

**3.1 BASELINE IAQ TESTING**

- A. **HVAC System Verification:** To assure compliance with recognized standards for indoor air quality including ASHRAE 62-2004, the Contractor's independent testing and balancing agency shall verify the performance of each HVAC system including space temperature and space humidity uniformity, outside air quantity, filter installation, drain pan operation, and any obvious contamination sources.
- B. **Indoor Air Quality Testing:** Upon verification of HVAC system operation, the Contractor shall hire an independent contractor, subject to approval by the Architect, with a minimum of five (5) years experience in performing the types of testing specified herein, to test levels of indoor air contaminants for compliance with specified requirements.
  - 1. Submit a test plan for the approval of the Architect. The plan shall specify procedures, times, instrumentation, and sampling methods that will be employed.
  - 2. Perform testing in **16** different locations. Contaminant levels are to be measured on **each floor of each building in an area** agreed upon by the Contractor and the Architect. Areas with very high outside air ventilation rates such as laboratories are excluded from these testing requirements. The Architect is the sole judge of areas exempt from testing.
  - 3. Collect air samples on **three (3) consecutive** days during normal business hours (between the hours of 8:00 AM and 5:00 PM) with building operating at normal HVAC rates. Average the results of each three-day test cycle to determine compliance or non-compliance of indoor air quality for each air handling zone tested.
  - 4. Sample and record outside air levels of formaldehyde and TVOC contaminants at outside air intake of each respective air handling unit simultaneously with indoor tests to establish basis of comparison for these contaminant levels. Indoor testing will be done in the breathing zone; between **four (4) and seven (7) feet** from the floor.

5. Acceptance of respective portions of [the building] [buildings] by the Architect is subject to compliance with specified limits of indoor air quality contaminant levels.
- C. Compliance indoor air quality shall conform to the following standards and limits:**
1. **Carbon Monoxide:** Not to exceed nine (9) ppm.
  2. **Carbon Dioxide:** Not to exceed 800 ppm.
  3. **Airborne Mold and Mildew:** Simultaneous indoor and outdoor readings.
  4. **Maximum Air Concentration Standards:** Indoor room air concentration levels, emission rates, and qualities of the listed contaminants shall not exceed the following limits specified in Table 3.1 below.
- D. Test Reports:** Prepare test reports showing the results and location of each test, a summary of the HVAC operating conditions, a listing of any discrepancies and recommendations for corrective actions, if required.
1. Include certification of test equipment calibration with each test report.
- E.** If any test fails the standard, the Contractor is responsible to ventilate the building with 100 percent outside air until the building passes both air quality tests and duct inspections. Retesting shall be performed at no additional expense to the Owner.

**Table 3.1 MAXIMUM INDOOR AIR CONCENTRATION STANDARDS**

INDOOR CONTAMINANTS	MAXIMUM AIR CONCENTRATION LEVELS*
Formaldehyde	50 parts per billion
Particulates (PM10)	50 micrograms per cubic meter
Total Volatile Organic Compounds (TVOC)	500 micrograms per cubic meter
4-Phenylcyclohexene (4-PCH)**	6.5 micrograms per cubic meter
Carbon Monoxide (CO)	9 parts per million and no greater than 2 parts per million above outdoor levels

\* All levels must be achieved prior to acceptance of the building. The levels do not account for contributions from office furniture, occupants, and occupant activities.

\*\* This test is only required if carpet and fabrics with styrene-butadiene rubber (SBR) latex backing material are installed in the building.

- F. Construction Indoor Air Quality (IAQ) Management Plan (During Construction) Credit:** Comply with SMACNA IAQ Guidelines for Occupied Buildings under Construction.
- G. Construction Indoor Air Quality (IAQ) Management Plan (Before Construction) Credit:**
1. After construction ends, prior to occupancy and with all interior finishes installed, perform a building flush-out by supplying a total air volume of 14000 cu ft of outdoor air per sq ft of floor area while maintaining an internal temperature of at least 60 degrees F and relative humidity no higher than 60 percent.
    - a. Refer to Section 23 05 00"Mechanical General Conditions " paragraph 1.36 for requirements.
  2. If building occupancy is to occur before completion of the flush-out, deliver a minimum of 3500 cu ft of outdoor air per sq ft of floor area to the space. Once the space is occupied, ventilate it at a minimum rate of 0.30 cfm/sq ft of outside air or the design minimum outside air rate determined in accordance with Sections 4 through 7 of ASHRAE 62.1 or applicable local code, whichever is more stringent. During each day of the flush-out period, begin ventilation a minimum of three (3) hours prior to occupancy and continue during occupancy. Maintain these conditions until a total of 14000 cu ft/sq ft of outside air has been delivered to the space.
  3. Engage an independent testing and inspecting agency to conduct a baseline IAQ testing program according to EPA Compendium of Methods for the Determination of Air Pollutants in Indoor Air [and the LEED for New Construction Version 2.2 Reference Guide].

**3.2 INDEPENDENT MATERIALS TESTING**

- A. Materials That Must Be Tested:** Test materials listed below that are proposed for use on this project for permanent, in-place Indoor Air Quality performance in accordance with requirements of these specifications.

Results shall be furnished to the Architect. Materials meeting the criteria for independent testing are as follows:

1. Field applied paint systems on appropriate substrate. Paint primers and intermediate coats (if used) should be applied with a typical drying time allowed between coats (not to exceed seven (7) days).
  2. Carpet including manufacturer's recommended adhesive. The carpet will be applied to the appropriate concrete flooring per manufacturer's instructions so that the testing is of the "carpet assembly."
  3. Acoustical ceiling tile.
  4. Fireproofing material applied to appropriate substrate.
- B. Materials for Testing:** Only test representative samples of actual products selected for use on this project. Tests of products generically and/or technically similar but produced by a manufacturer other than that of the product selected for use on this project is invalid.
- C. Materials Testing Parameters:**
1. Wrap each material to be tested in air tight covering for shipment direct from the factory to the testing laboratory to avoid contamination in transit. Unwrap material or apply material to substrate if material is wet-applied, such as paint or adhesive materials) in the testing lab.
  2. **Emissions Testing:** Perform all testing in accordance with ASTM D5116. Report results in accordance with Section ii of referenced ASTM Standard. Report in terms of emission rates at a minimum of three (3) distinct time intervals (e.g., one (1) hour, 24 hours, 72 hours) that will be modeled by the Architect to predict maximum indoor air concentrations and to assist the Contractor in determining suitability of products or materials. Assumptions that will be used for the Architect's model are given below for information.
  3. Table 3.2 summarizes required product testing.

**Table 3.2 PRODUCT EMISSION TESTING**

<b>PRODUCT ASSEMBLY TO BE TESTED</b>	<b>TVOC (per ASTM)</b>	<b>PM (per NIOSH)</b>
Wall paint on appropriate substrate, including any primer coat	Yes	No
Carpet including adhesive and concrete flooring	Yes	No
Acoustical Ceiling Tile	No	Yes
Fireproofing material on appropriate substrate	No	Yes

- D. Model Assumptions Used for Predicting Indoor Air Concentrations:** The model will assume the standard room enclosure as 10' long x 10' wide x 9' high. Each product tested will be modeled separately to provide information on the particular product. The model will assume a ventilation rate of one (1) air change per hour.
1. **Field Applied Paint Systems:** Test fully cured samples of each complete paint system including primers, intermediate coats (if used), and finish coats. The model assumes application to all four (4) walls and one-half of ceiling of model standard room enclosure.
  2. **Carpet and Adhesive Assembly:** Assumes application to entire 10 x 10 ft floor surface of model standard room enclosure.
  3. **Acoustical Ceiling Tile:** Assumes application to entire 10 x 10 ft ceiling surface of model standard room enclosure.
  4. **Fireproofing:** Assumes application to entire 10 x 10 ft area above the ceiling surface of model standard room enclosure.
- E. Materials Test Reports:** Submit test reports to the Architect. The report shall include the information outlined in Section 11 of ASTM D5116.
- F. Product/Material Evaluation:** All products/materials shown by testing to comply with emissions limits and other criteria specified in this section will be approved for use on this project subject to compliance with all other specified requirements of the Project Manual. Products/materials shown by model to exceed specified emission limits shall be discussed, test results interpreted, and a determination made as to alternative product uses or selections.

**END OF SECTION 01 45 23.13**



## **PART 1 - GENERAL**

### **1.1 RELATED DOCUMENTS**

- A.** Drawings and general provisions of the Contract, including Division 00 General Conditions of the Contract for Construction for Design-Bid-Build and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

### **1.2 SUMMARY**

- A.** This Section includes requirements for identification badges, parking stickers, construction facilities and temporary controls, including temporary utilities, support facilities, and security and protection.
- B.** Temporary utilities include, but are not limited to, the following:
  - 1. Temporary water service and distribution.
  - 2. Temporary electric power and lighting services.
  - 3. Temporary heating, cooling and ventilation
  - 4. Temporary telephone service and data.
  - 5. Temporary sanitary facilities, including drinking water.
  - 6. Storm and sanitary sewer.
  - 7. Storm water pollution control.
- C.** Support facilities include, but are not limited to, the following:
  - 1. Storage and fabrication sheds.
  - 2. Temporary enclosures.
  - 3. Temporary lifts, hoists and elevator use.
  - 4. Temporary project identification signs.
  - 5. Temporary exterior lighting.
  - 6. Collection and disposal of waste and cleaning.
  - 7. Temporary Environmental Controls.
  - 8. Stairs.
- D.** Security and protection facilities include, but are not limited to, the following:
  - 1. Temporary fire protection.
  - 2. Permanent fire protection.
  - 3. Security for site and Agency.
  - 4. Barricades, warning signs, and lights.
  - 5. Enclosure fence.
  - 6. Security enclosure and lockup.
  - 7. Protection.
  - 8. Environmental protection.
  - 9. Traffic ways.
  - 10. Identification badges for Contractor's personnel & parking stickers.

### **1.3 RELATED SECTIONS**

- A.** Division 01 Section 01 57 30 "Indoor Environmental Control" for additional provisions governing temporary heating, ventilating and air conditioning.

**1.4 SUBMITTALS**

- A. Temporary Utilities:** Submit reports of tests, inspections, meter readings, and similar procedures performed on temporary utilities.
- B. Implementation and Termination Schedule:** Within twenty-one (21) days of the date established for commencement of the Work, submit a schedule indicating implementation and termination of each temporary utility.

**1.5 QUALITY ASSURANCE**

- A. Regulations:** Comply with industry standards and applicable laws and regulations of authorities having jurisdiction including, but not limited to, the following:
  - 1. Building and fire code requirements.
  - 2. Health and safety regulations.
  - 3. Utility company regulations.
  - 4. Police, fire department, and rescue squad rules.
  - 5. Environmental protection regulations.
  - 6. Americans with Disabilities Act.
- B. Standards:** OSHA. Comply with NFPA 241 "Standard for Safeguarding Construction, Alteration, and Demolition Operations," ANSI A10 Series standards for "Safety Requirements for Construction and Demolition," and NECA 200 "Recommended Practice for Installing and Maintaining Temporary Electric Power at Construction Sites."
  - 1. **Electrical Service:** Comply with NEMA, NECA, and UL standards and regulations for temporary electric service. Install service in compliance with NFPA 70 "National Electric Code."
- C. Inspections:** Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

**1.6 PROJECT CONDITIONS**

- A. Temporary Utilities:** Prepare a schedule indicating dates for implementation and termination of each temporary utility. At the earliest feasible time, when acceptable to the Owner, the Construction Administrator will direct the change over from use of temporary service to use of permanent service.
- B. Conditions of Use:** Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Relocate temporary services and facilities as the Work progresses. Do not overload facilities or permit them to interfere with progress. Take necessary fire-prevention measures. Do not allow hazardous, dangerous, or unsanitary conditions, or public nuisances to develop or persist on-site.

**PART 2 - PRODUCTS**

**2.1 MATERIALS**

- A. General:** Provide new materials. If acceptable to the Architect, the Contractor may use undamaged, previously used materials in serviceable condition. Provide materials suitable for use intended.
- B. Lumber and Plywood:** Comply with requirements in Division 06 Section 06 10 00 "Rough Carpentry."
  - 1. For signs and directory boards, provide 3/4-inch exterior grade, Grade A-B Fir plywood. Mount sign on preservative treated Fir posts.
    - a. Project sign shall be 4' x 8' painted and supported on 4-inch x 4-inch posts, of a design to be provided by the Owner via the Construction Administrator.
  - 2. **Vision Barriers:** Provide minimum 1/2-inch thick exterior plywood.
  - 3. For safety barriers, sidewalk bridges, and similar uses, provide minimum 5/8-inch thick exterior plywood.

- C. **Paint:** Comply with requirements of Division 09 Section 09 91 00 "Painting."
  - 1. For sign and directory boards applying graphics, provide exterior-grade alkyd gloss enamel over exterior primer unless otherwise indicated.
- D. **Tarpaulins:** Provide waterproof, fire-resistant, UL-labeled tarpaulins with flame-spread rating of 15 or less. For temporary enclosures, provide translucent, nylon-reinforced, laminated polyethylene or polyvinyl chloride, fire-retardant tarpaulins.
- E. **Water:** Provide potable water approved by local health authorities.
- F. **Enclosure Fencing:** Provide 0.120-inch thick, galvanized 2-inch chain link fabric fencing six (6) feet high galvanized steel pipe posts, 1-1/2 inches knuckle both bottom and top I.D. for line posts and 2-1/2 inches I.D. for corner posts.

## 2.2 EQUIPMENT

- A. **General:** Provide new equipment. If acceptable to the Architect, the Contractor may use undamaged, previously used equipment in serviceable condition. Provide equipment suitable for use intended.
  - 1. The Contractor shall furnish tools, apparatus and appliances, hoists and/or cranes and power for same, scaffolding, runways, ladders, temporary supports and bracing and similar work or material necessary to insure convenience and safety in the execution of the Contract except where this is otherwise specified in any Specification Section. All such items shall meet the approval of the Owner but responsibility for design, strength and safety shall remain with the Contractor. All such items shall comply with Federal OSHA regulations and applicable codes, statutes, rules and regulations, including compliance with the requirements of the current edition of the "Manual of Accident Prevention in Construction" published by the Associated General Contractors (AGC) and the standards of the State Labor Department.
  - 2. Staging, exterior and interior, required for the execution of this Contract, shall be furnished, erected, relocated if necessary and removed by the Contractor. Staging shall be maintained in a safe condition without charge to and for the use of all trades as needed.
- B. **Water Hoses:** Provide 3/4-inch, heavy-duty, abrasion-resistant, flexible rubber hoses with pressure rating greater than the maximum pressure of the water distribution system. Provide adjustable shutoff nozzles at hose discharge and backflow preventers.
- C. **Electrical Outlets:** Provide properly configured, NEMA-polarized outlets to prevent insertion of 110- to 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.
- D. **Electrical Power Cords:** 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. Do not exceed safe length-voltage ratio.
- E. **Lamps and Light Fixtures:** Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered-glass enclosures where exposed to breakage. Provide exterior fixtures where exposed to moisture.
- F. **Heating Units:** Provide temporary heating units that have been tested and labeled by UL, FM, or another recognized trade association related to the type of fuel being consumed.
- G. **Temporary Toilet Units:** Provide self-contained, single-occupant toilet units of the chemical, aerated recirculation, or combustion type. Provide units properly vented and fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.
- H. **Fire Extinguishers:** Provide hand-carried, portable, UL-rated, Class A fire extinguishers for temporary offices and similar spaces. In other locations, provide hand-carried, portable, UL-rated, Class ABC, dry-chemical extinguishers or a combination of extinguishers of NFPA-recommended classes for the exposures.
  - 1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.
- 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.

### 3.2 SUPPORT FACILITIES INSTALLATION

- A. **General:** Locate storage sheds, and other temporary construction and support facilities in designated area as shown on the Contract Documents. The location of the trailers on the Drawings is diagrammatic in nature. Final placements to be approved by the Construction Administrator.
  - 1. Maintain support facilities until Final Completion. Remove prior to Final Completion with permission from the Owner.
- B. **Field Tablet Computer System:** Contractor to arrange for and provide one electronic tablet, pre-loaded with all required software to manage construction activities, to Construction Administrator for their use on site per Section 012000 Contract Considerations.
  - 1. Contractor to provide equivalent tablet computer system for their own use on site.
- C. **Storage and Fabrication Sheds:** Install storage and fabrication sheds sized, furnished, and equipped to accommodate materials and equipment involved, including temporary utility service. Sheds may be open shelters or fully enclosed spaces within the building or elsewhere on-site.
  - 1. Storage sheds for tools, materials and equipment shall be weathertight with heat, lighting and ventilation for products requiring controlled conditions.
  - 2. Remove temporary materials, equipment services and construction before Substantial Completion.
  - 3. Clean and repair damage caused by installation or use of temporary facilities. Restore existing facilities used during construction to specified or original condition.
- D. **Temporary Enclosures:** Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities.
  - 1. Where heat is needed and the permanent building enclosure is not complete, provide temporary enclosures where there is no other provision for containment of heat. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
  - 2. Install tarpaulins securely, with incombustible wood framing and other materials. Close openings of 25-sq ft or less with plywood or similar materials.
  - 3. Close openings through floor or roof decks and horizontal surfaces with load-bearing, wood-framed construction.
  - 4. Where temporary enclosure exceeds 100-sq ft in area, use UL-labeled, fire-retardant-treated material for framing and main sheathing.
- E. **Temporary Lifts, Hoists and Elevator Use:**
  - 1. Provide facilities for hoisting materials and employees. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
  - 2. Refer to Division 14 Sections for elevators.
- F. **Temporary Project Identification Signs:** Prepare project identification and other signs of size indicated. 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.
  - 1. **Project Sign:** Engage an experienced sign painter to apply graphics. Comply with details to be furnished by the Construction Administrator.

- a. **Project Sign:** The Contractor shall contact the Construction Administrator for the proper wording for the project sign. Fabricate sign of 3/4" Exterior Grade A-B Fir plywood. Mount sign on preservative treated Fir posts. The Owner shall provide design, color selection and illustration of the Project Sign. Paint both sides and all edges of sign and the posts with two (2) coats of exterior, white, alkyd primer. Paint the border and letters with "bulletin" (sign) paint. Letter sizes, colors and related information are given on the illustration below. A self-adhesive decal of the State seal will be furnished at the Contract signing. Erect the sign within two (2) weeks after execution of the Contract and remove the sign within one (1) week after completion of the project.
  - b. **Project Sign Detail:** Sign letter sizes, fonts, colors and related information are shown in the illustration available for download from the DAS website ([www.ct.gov/das](http://www.ct.gov/das)) > Doing Business With The State > State Building Construction > Publications and Forms > DAS Construction Services Library > 3000 Series - Design Phase Forms.
- G. Temporary Exterior Lighting:** Install exterior yard and sign lights so signs are visible when Work is being performed.
- H. Collection and Disposal of Waste and Cleaning:**
- 1. Collect waste within the contract limit line from construction areas daily. Provide separate containers for proper waste recycling. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than seven (7) days during normal weather or three (3) days when the temperature is expected to rise above 80 degrees F. Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material lawfully.
  - 2. Maintain areas under Contractor's control free of waste materials, debris and rubbish. Maintain in a clean and orderly condition.
  - 3. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces and other closed or remote spaces before closing the space.
  - 4. Periodically clean interior areas before start of surface finishing and continue cleaning on an as-needed basis.
  - 5. Control cleaning operations so that dust and other particulates will not adhere to wet or newly coated surfaces.
- I. Temporary Environmental Controls:** Contractor is to provide the following controls.
- 1. Dust Control (construction and demolition).
  - 2. Noise Control.
  - 3. Pollution Control.
- 3.3 SECURITY AND PROTECTION FACILITIES INSTALLATION (listed in Paragraph 1.2 D)**
- A. Security for Site and Agency:**
- 1. Provide security program and facilities to protect work, existing facilities and the Owner and Agency's operations from unauthorized entry, vandalism and theft. Coordinate with the Owner's and Agency's security program.
  - 2. The Contractor shall be solely responsible for damage, loss or liability due to theft or vandalism.
- B. Barricades, Warning Signs, and Lights:** Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and the public of the hazard being protected against. Where appropriate and needed, provide lighting, including flashing red or amber lights.
- 1. Provide covered walkways as required by governing authorities for public rights-of-way and for public access to existing buildings.
  - 2. Provide temporary, insulated, weathertight closures at openings to the exterior to provide acceptable working conditions and protection for materials, to allow for temporary heating and to prevent entry of unauthorized persons. Provide doors with self-closing hardware and locks.

3. Barriers and enclosures shall be in conformance with code requirements. Do not block egress from occupied buildings unless necessary to further the work of the Contract. In this case, secure the Owners approval of an alternate egress plan.
  4. See also General Conditions Article 19, "Protection of the Work, Persons and Property".
- C. Enclosure Fences:** Before excavation begins, install an enclosure fence with lockable entrance gates. Locate where indicated on the Construction Documents, or enclose the entire site or the portion determined sufficient to accommodate construction operations. Install in a manner that will prevent people, dogs, and other animals from easily entering the site, except by the entrance gates.
1. Provide chain link construction fencing with posts set in a compacted mixture of gravel and earth. Use existing fence to the extent possible.
- D. Security Enclosure and Lockup:** Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Provide keys to the Construction Administrator.
1. **Storage:** Where materials and equipment must be stored, and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.
- E. Protection:**
1. Protect buildings, equipment, furnishings, grounds and plantings from damage. Any damage shall be repaired or otherwise made good at no expense to the Owner.
  2. Provide protective coverings and barricades to prevent damage. The Contractor shall be held responsible for, and must make good at his own expense, any water or other type of damage due to improper coverings. Protect the public and building personnel from injury.
  3. Provide temporary protection for installed products. Control traffic in immediate area to minimize damage.
  4. Provide protective coverings for walls, projections, jambs, sills and soffits of openings. Protect finished floors and stairs from traffic, movement of heavy objects and storage. Prohibit traffic and storage on waterproofed and roofed surfaces and on lawn and landscaped areas.
  5. Provide temporary partitions and ceilings to separate work areas from Agency-occupied areas to prevent penetration of dust and moisture into Agency-occupied areas and equipment. Erect framing and sheet materials with closed joints and sealed edges at intersections with existing surfaces.
  6. See also General Conditions Article 19, "Protection of the Work, Persons and Property".
- F. Environmental Protection:** Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations, and minimize the possibility that air, waterways, and subsoil might be contaminated or polluted or that other undesirable effects might result.
- G. Traffic Ways:**
1. The Contractor may use on-site paved roads and parking areas but shall not encumber same or their access. Public highways shall not be blocked by standing trucks, parked cars, material storage, construction operations or in any other manner.
  2. Public roads and existing paved roads, drives and parking areas on Owner's property shall be kept free from scrap or debris due to construction operations and any damage to their surface caused by the Contractor shall be repaired by him at his own expense.
  3. If the work of the Contract affects public use of any street, road, highway or thoroughfare, the Contractor shall confer with the police authority having jurisdiction to determine if and how many police are needed for public safety in addition to any barriers and signals that may be needed. The Contractor will be responsible for payment of any needed police services.
- H. Identification Badges for Contractor's Personnel, Visitors and Parking Stickers:**
1. The Contractor will provide each person working or visiting at the site with an identification badge, bearing the name of the Contractor and a number. As badges are assigned, a record

shall be kept by the Contractor and given to the Construction Administrator and Agency Administrator. Update and correct the records of all badges issued on a semi-monthly basis.

2. Badges are to be worn on outer garment where visible at all times while at the construction site, return them to the Contractor's field office at the end of each day and pick them up there each morning.
3. All vehicles parking in the Contractor's parking lot and those used around the site require an ID sticker. They will be issued by the Agency. Each contractor shall apply for parking stickers through the Construction Administrator no more than semi-monthly and shall keep record of all stickers issued.

### 3.4 OPERATION, TERMINATION, AND REMOVAL

- A. **Supervision:** Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.
- B. **Maintenance:** Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
  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. Protection: Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.
- C. **Termination and Removal:** Unless the Architect/CA requests that it be maintained longer, remove each temporary facility when the need has ended, when 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 the 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 the Contractor's property. The Owner reserves the right to take possession of project identification signs.
  2. At Substantial Completion, clean and renovate permanent facilities used during the construction period including, but not limited to, the following:
    - a. Replace air filters and clean inside of ductwork and housings.
    - b. Replace significantly worn parts and parts subject to unusual operating conditions.
    - c. Replace lamps burned out or noticeably dimmed by hours of use.

END OF SECTION 01 50 00

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

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

### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Microbial and fungal contamination control.
  - 2. Indoor air quality and pollution control.
  - 3. Heating, ventilating, and air conditioning.
- B. **Related Sections:** The following Sections contain requirements that relate to this Section:
  - 1. Division 01 Section 01 45 23.13 "Testing for Indoor Air Quality (IAQ), Baseline IAQ, & Materials" for building flush out requirements.
  - 2. Division 01 Section 01 57 40 "Construction IAQ Management Plan" for a description of the IAQ management plan.

### 1.3 REFERENCES

- 1. **ASTM International (ASTM):**
  - a. ASTM D5116-2006, Standard Guide for Small-Scale Environmental Chamber Determination of Organic Emissions From Indoor Materials/Products.

## PART 2 - PRODUCTS (Not Applicable)

## PART 3 - EXECUTION

### 3.1 MICROBIAL AND FUNGAL CONTAMINATION CONTROL

- A. Perform, schedule, and sequence Work as required to limit conditions supporting formations of microbes, molds, and fungi.
  - 1. Control water penetration, dampness, and humidity to prevent products not treated for exterior use from becoming soaked or damp.
  - 2. Enclose building prior to installing interior materials and finishes.
  - 3. Do not install interior products subject to moisture absorption until building is enclosed and wet work generating moisture and humidity is complete.
- B. When visible formations are observed and when formations cannot be completely removed by non-abrasive surface cleaning:
  - 1. Remove and replace materials identified as food sources for microbes, molds, and fungi.
  - 2. Correct conditions supporting microbial, mold, and fungal growth.
- C. Remove interior products and finishes, identified as food sources that have absorbed sufficient moisture to become damp whether or not microbial, mold, or fungal growth is observed. Include:
  - 1. Plaster and gypsum board cores.
  - 2. Organic materials composed of cellulose fiber or paper.
  - 3. Materials containing sucrose or other binders identified as supporting microbial growth.
- D. Remove fibrous insulation materials subject to retaining moisture such as duct liner, insulation, and other materials that are made wet or damp and cannot immediately be made dry.
- E. Repair or replace ductwork, pans, and other conditions subject to moisture condensation, water penetration, or other water source not drained and made dry.



1. Remove conditions that have become an environment for microbes, molds, or fungi.
  2. Do not permit conditions leading to standing water.
- F. Install wet work and allow time needed to dry and cure prior to installing materials such as carpet, acoustical material, textiles, and other material of type that may attract and retain moisture.

### 3.2 INDOOR AIR QUALITY AND POLLUTION CONTROL

- A. **Product Emission Rate Standards:** Test to ASTM D5116 for maximum indoor air concentration levels.
1. **Formaldehyde:**
    - a. 0.03 parts per million where no other requirements are specified.
    - b. 0.005 parts per million where products are specified as formaldehyde free.
  2. **Total VOC Emissions for Carpet Tile, Adhesives, and Sealers:** 0.05 mg/m<sup>2</sup> per hour.
  3. **4 Phenyl Cyclohexene (4-PC) Particulate Emissions for Carpet:** One (1) part per billion.
  4. **Total Particulate Emission Rate Levels:** 50 ug/m<sup>3</sup>.
  5. **Primary and Secondary Regulated Pollutants:** Conform to USEPA, Code of Federal Regulations, Title 40, Part 50 National Air Ambient Air Quality Standard. Refer to EPA Web Site <http://www.epa.gov/epahome/rules.html#codified>.
  6. **Other Pollutants Not Listed:** Not greater than 1/10 of Threshold Limit Value - Time Weighted Average (TLV-TWA) industrial workplace standard.
- B. **Architectural Coatings - Volatile Organic Compound (VOC) Content Limits:** Conform to US Environmental Protection Agency (EPA) Federal Register 48886/Vol. 63, No.176 Friday, September 11, 1998/ Rules and Regulations. Refer to EPA Web Site: <http://www.epa.gov/ttn/atw/eparules.html>.
- C. Do not use products in combination with or in contact with other products that can be identified as combining to form toxic fumes or sustained odors.
- D. Do not use solvents within interior areas that may penetrate and be retained in absorptive materials such as concrete, gypsum board, wood, cellulose products, fibrous material, and textiles.
- E. Protect construction materials from contamination and pollution from contact with construction dust, debris, fumes, solvents, and other environmentally polluting materials.
- F. Allow furnishings and materials such as carpet, floor tile, acoustical tile, textiles, office furniture, and casework, to air out in clean environment prior to installation.

### 3.3 HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)

- A. Do not run permanent HVAC system during course of construction. Seal ductwork intake and exhaust vents.
- B. Heat, dehumidify, and ventilate building during course of Work as necessary to maintain environmental conditions suitable for drying and curing materials and for prevention of conditions suitable for mold and mildew growth.
1. Ventilate building to remove moisture, dust, fumes, and odors.
  2. Temper and dehumidify air as needed to remove excess moisture.
  3. Do not use propane heaters and other moisture generating heating systems.
- C. **Flush out building prior to commissioning.** Refer to Section 01 45 23.13 "Testing for IAQ, Baseline IAQ, & Materials" for procedure.
- D. Inspect ductwork for refuse, contaminants, moisture and other foreign contamination prior to commissioning. Notify Commissioning Agent (CxA) of satisfactory inspection prior to beginning of Commissioning.
- E. Clean underfloor plenum at access flooring acting as supply air duct, prior to occupancy.

### 3.4 REMEDIAL ACTION

- A. Promptly take action as necessary to inspect and remediate conditions suspected of supporting microbial, fungal or mold conditions and where contaminated by indoor air pollution.
- B. Notify and consult with Architect prior to beginning remedial action where contamination by hazardous chemicals, microbes, and fungi is suspected.

END OF SECTION 01 57 30

## **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:
  - 1. Description of a Construction Indoor Air Quality (IAQ) Management Plan.
  - 2. IAQ construction requirements.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Divisions 01 through 49 sections for green building rating system requirements specific to the Work of each of those sections. These requirements may or may not include reference to LEED or Green Globes.
  - 2. Division 01 Section 01 45 23.13 "Testing for IAQ, Baseline IAQ, & Materials."
  - 3. Division 01 Section 01 57 30 "Indoor Environmental Control."
  - 4. Division 01 Section 23 05 93 "Testing, Adjusting and Balancing for HVAC" for additional requirements for baseline testing for IAQ.
  - 5. Division 01 Section 23 05 93 "Testing, Adjusting and Balancing for HVAC" for cleaning of HVAC system including ductwork, air intakes and returns, and changing of filters.

### **1.3 REFERENCES**

- A. American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE):
  - 1. ASHRAE Standard 52.1-1992, Gravimetric and Dust Spot Procedures for Testing Air Cleaning Devices in General Ventilation for Removing Particulate Matter.
- B. ASTM International, Inc. (ASTM):
  - 1. ASTM D5116-2006, Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions From Indoor Materials/Products.
- C. Sheet Metal and Air Conditioning National Contractors' National Association (SMACNA):
  - 1. IAQ Guidelines for Occupied Buildings under Construction, 1995.

### **1.4 INDOOR AIR QUALITY**

- A. Goals: The Owner has set the following indoor air quality goals for jobsite operations on the project, within the limits of the construction schedule, Contract Sum, and available materials, equipment, products and services. Goals include:
  - 1. Protect workers on the site from undue health risks during construction.
  - 2. Prevent residual problems with indoor air quality in the completed building.

### **1.5 SUBMITTALS**

- A. Indoor Air Quality Plan: Within fourteen (14) days after receipt of Notice of Award and prior to any waste removal from the project, develop and submit for review a healthy indoor air quality plan. The plan shall include:
  - 1. List of IAQ protective measures to be instituted on the site.
  - 2. Schedule for inspection and maintenance of IAQ measures.

### **1.6 QUALITY ASSURANCE**

- A. Perform material tests and report results in accordance with ASTM D5116.

## PART 2 - PRODUCTS

### 2.1 SUBSTITUTIONS

- A. Should the Contractor desire to use procedures, materials, equipment, or products that are not specified but meet the intent of the specifications to protect indoor air quality on the site, the Contractor shall propose these substitutions in accordance with Section 01 60 00 "Product Requirements."

### 2.2 MATERIALS

- A. Low emitting products have been specified in appropriate sections.

## PART 3 - EXECUTION

### 3.1 CONSTRUCTION IAQ MANAGEMENT PLAN

- A. Meet or exceed the minimum requirements of the SMACNA "IAQ Guidelines for Occupied Buildings Under Construction."
  - 1. Protect the ventilation system components from contamination, OR provide cleaning of the ventilation components exposed to contamination during construction prior to occupancy.
  - 2. After construction ends, prior to occupancy and with all interior finishes installed, perform a building flush-out by supplying a total air volume of 14000 cu ft of outdoor air per sq ft of floor area while maintaining an internal temperature of at least 60 degrees F and relative humidity no higher than 60 percent.
    - a. Refer to Section 23 05 00 "Mechanical General Conditions" paragraph 1.36 for requirements.
  - 3. If building occupancy is to occur before completion of the flush-out, deliver a minimum of 3500 cu ft of outdoor air per sq ft of floor area to the space. Once the space is occupied, ventilate it at a minimum rate of 0.30 cfm/sq ft of outside air or the design minimum outside air rate determined in accordance with Sections 4 through 7 of ASHRAE 62.1 or applicable local code, whichever is more stringent. During each day of the flush-out period, begin ventilation a minimum of three (3) hours prior to occupancy and continue during occupancy. Maintain these conditions until a total of 14000 cu ft/sq ft of outside air has been delivered to the space.
- B. During installation of carpet, paints, furnishings, and other VOC-emitting products, provide supplemental (spot) ventilation for at least 72 hours after work is completed. Preferred HVAC system operation uses supply air fans and ducts only; exhaust provided through windows. Use exhaust fans to pull exhaust air from deep interior locations. Stair towers and other paths to exterior can be useful during this process.
- C. Conduct regular inspection and maintenance of indoor air quality measures including ventilation system protection, and ventilation rate.
- D. Require VOC-safe masks for workers installing VOC-emitting products (interior and exterior) defined as products that emit 150 gpl or more UNLESS local jurisdiction's requirements are stricter, in which case the strictest requirements shall be followed for use of VOC-safe masks.
- E. Use low-toxic cleaning supplies for surfaces, equipment, and worker's personal use. Options include several soybean-based solvents and cleaning options (SoySolv) and citrus-based cleaners.
- F. Use wet sanding for gypsum board assemblies. Exception: Dry sanding allowed subject to Architect's approval of the following measures:
  - 1. Full isolation of space undergoing finishing.
  - 2. Plastic protection sheeting is installed to provide air sealing during sanding.
  - 3. Closure of all air system devices and ductwork.
  - 4. Sequencing of construction precludes the possibility of contamination of other spaces with gypsum dust.
  - 5. Worker protection is provided.
- G. Use safety meetings, signage, and Contractor agreements to communicate the goals of the construction indoor air quality plan.

**END OF SECTION 01 57 40**

## 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 administrative and procedural requirements governing the Contractor's selection of products for use in the Project.
- B. **Related Sections:** The following Sections contain requirements that relate to this Section:
1. Division 01 Section 01 25 00 "Substitution Procedures" specifies administrative procedures for handling requests for substitutions made after award of the Contract.
  2. Division 01 Section 01 33 00 "Submittal Procedures" specifies requirements for submittal of the Contractor's Construction Schedule and the Submittal Schedule.
  3. Division 01 Section 01 42 20 "Reference Standards and Definitions" specifies the applicability of industry standards to products specified.

### 1.3 DEFINITIONS

- A. Definitions used in this Article are not intended to change the meaning of other terms used in the Contract Documents, such as "specialties," "systems," "structure," "finishes," "accessories," and similar terms. Such terms are self-explanatory and have well-recognized meanings in the construction industry.
1. "Products" are items purchased for incorporation in the Work, whether purchased for the Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
    - a. "Named Products" are items identified by the manufacturer's product name, including make or model number or other designation, shown or listed in the manufacturer's published product literature, which is current as of the date of the Contract Documents.
  2. "Materials" are products substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.
  3. "Equipment" is a product with operational parts, whether motorized or manually operated, that requires service connections, such as wiring or piping.

### 1.4 QUALITY ASSURANCE

- A. **Source Limitations:** To the fullest extent possible, provide products of the same kind from a single source.
- B. **Compatibility of Options:** When the Contractor is given the option of selecting between two (2) or more products for use on the Project, the product selected shall be compatible with products previously selected, even if previously selected products were also options.
- C. **Nameplates:** Except for required labels and operating data, do not attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products that will be exposed to view in occupied spaces or on the exterior.
1. Labels: Locate required product labels and stamps on concealed surfaces or, where required for observation after installation, on accessible surfaces that are not conspicuous.
  2. Equipment Nameplates: Provide a permanent nameplate on each item of service-connected or power-operated equipment. Locate on an easily accessible surface that is inconspicuous in occupied spaces. The nameplate shall contain the following information and other essential operating data:
    - a. Name of product and manufacturer.
    - b. Model and serial number.
    - c. Capacity.
    - d. Speed.

e. Ratings.

## 1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A.** Deliver, store, and handle products according to the manufacturer's recommendations, using means and methods that will prevent damage, deterioration, and loss, including theft.
1. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.
  2. Coordinate delivery with installation time to assure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
  3. Deliver products to the site in an undamaged condition in the manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing. Store products in accordance with manufacturers' instructions and maintain within temperature and humidity range required by manufacturer.
  4. Inspect products upon delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
  5. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.
  6. Store heavy materials away from the Project structure in a manner that will not endanger the supporting construction.
  7. Store products subject to damage by the elements above ground, under cover in a weathertight enclosure, with ventilation adequate to prevent condensation.
  8. For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation.
  9. Store loose granular material on solid surfaces in a well-drained area; prevent mixing with foreign matter.
  10. Arrange storage to provide access for inspection. Periodically inspect to insure products are undamaged and are maintained under required conditions. Keep log showing date, time and problems, if any.
  11. Stone, masonry units and similar materials shall be stored on platforms or dry skids and shall be adequately covered and protected against damage.
  12. Materials and equipment shall be delivered, stored and handled to prevent intrusion of foreign matter and damage by weather or breakage. Packaged materials shall be delivered and stored in original, unbroken packages.
  13. Promptly inspect shipments to assure that products comply with requirements, that quantities are correct and products are undamaged.
  14. Packages, materials and equipment showing evidence of damage will be rejected and replaced at no additional cost to the Owner.

## PART 2 - PRODUCTS

### 2.1 PRODUCT SELECTION

- A. General Product Requirements:** Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, new at the time of installation.
1. Provide products complete with accessories, trim, finish, safety guards, and other devices and details needed for a complete installation and the intended use and effect.
  2. Standard Products: Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.
- B. Product Selection Procedures:** The Contract Documents and governing regulations govern product selection. Procedures governing product selection include the following:
1. Semi-proprietary Specification Requirements: Where Specifications name two (2) or more products or manufacturers, provide one (1) of the products indicated. Comply with the requirements of Division 01 Section 01 25 00 "Substitution Procedures."

2. 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.
3. Compliance with Standards, Codes, and Regulations: Where Specifications only require compliance with an imposed code, standard, or regulation, select a product that complies with the standards, codes, or regulations specified.
4. Visual Selection: Where specified product requirements include the phrase "*...as selected from manufacturer's standard colors, patterns, textures...*" or a similar phrase, select a product and manufacturer that complies with other specified requirements. The Architect will select the color, pattern, and texture from the product line selected.

## **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 60 00**

## 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 administrative and procedural requirements for cutting and patching.
- B. **Related Sections:** The following Sections contain requirements that relate to this Section:
1. Division 01 Section 01 31 00 "Project Management and Coordination" for procedures for coordinating cutting and patching with other construction activities.
  2. Division 01 Section 01 35 16 "Alteration Project Procedures" for procedures for coordinating cutting and patching with other construction activities.
  3. Refer to other Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.
    - a. Requirements of this Section apply to mechanical and electrical installations. Refer to Division 22, 23, and 26 Sections for other requirements and limitations applicable to cutting and patching mechanical and electrical installations.

### 1.3 SUBMITTALS

- A. **Cutting and Patching Proposal:** Submit a proposal to the Construction Administrator describing procedures well in advance of the time cutting and patching will be performed and if the Owner's Representative and/or Architect/Engineer requires approval of these procedures before proceeding. Request approval to proceed. Include the following information, as applicable, in the proposal:
1. Describe the extent of cutting and patching required. Show how it will be performed and indicate why it cannot be avoided.
  2. Describe anticipated results in terms of changes to existing construction. Include changes to structural elements and operating components as well as changes in the building's appearance and other significant visual elements.
  3. Describe affects to integrity of weather exposed or moisture resistant element.
  4. Describe affects to efficiency, maintenance, or safety of any operational element.
  5. Describe affects to Work of Owner or separate contractor.
  6. List products to be used and firms or entities that will perform Work.
  7. Indicate dates when cutting and patching will be performed.
  8. **Utilities:** List utilities that cutting and patching procedures will disturb or affect. List utilities that will be relocated and those that will be temporarily out of service. Indicate how long service will be disrupted.
  9. Where cutting and patching involves adding reinforcement to structural elements, submit details and engineering calculations sealed by an Engineer registered in the State of Connecticut showing integration of reinforcement with the original structure.
  10. Approval by the Construction Administrator to proceed with cutting and patching does not waive the Architect/Engineer of Record's rights to later require complete removal and replacement of unsatisfactory Work.

### 1.4 QUALITY ASSURANCE

- A. **Requirements for Structural Work:** Do not cut and patch structural elements in a manner that would change their load-carrying capacity or load-deflection ratio.
1. Obtain approval from the Architect/Engineer of the cutting and patching proposal before cutting and patching the following structural elements:
    - a. Structural steel.
    - b. Lintels.



- c. Structural decking.
  - d. Structural systems of special construction in Division 13 Sections.
- B. Operational Limitations:** Do not cut and patch operating elements or related components in a manner that would result in reducing their capacity to perform as intended. Do not cut and patch operating elements or related components in a manner that would result in increased maintenance or decreased operational life or safety.
- 1. Obtain Architect/Engineer's approval of the cutting and patching proposal before cutting and patching the following operating elements or safety related systems:
    - a. Primary operational systems and equipment.
    - b. Air or smoke barriers.
    - c. Water, moisture, or vapor barriers.
    - d. Membranes and flashings.
    - e. Fire protection systems.
    - f. Noise and vibration control elements and systems.
    - g. Control systems.
    - h. Communication systems.
    - i. Conveying systems.
    - j. Electrical wiring systems.
    - k. Operating systems of special construction in Division 13 Sections.
- C. Visual Requirements:** Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in the Architect's opinion, reduce the building's aesthetic qualities. Do not cut and patch construction in a manner that would result in visual evidence of cutting and patching. Remove and replace construction cut and patched in a visually unsatisfactory manner.

#### 1.5 WARRANTY

- A. Existing Warranties:** Replace, patch, and repair material and surfaces cut or damaged by methods and with materials in such a manner as not to void any warranties required or existing.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS, GENERAL

- A.** Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible if identical materials are unavailable or cannot be used. Use materials whose installed performance will equal or surpass that of existing materials.
- B.** The Contractor shall install sleeves, inserts and hangers furnished by the trades needing same.

### PART 3 - EXECUTION

#### 3.1 INSPECTION

- A.** Examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed before cutting. If unsafe or unsatisfactory conditions are encountered, notify the Construction Administrator and Architect, before proceeding with corrective action.
- B.** Openings and chases may not be shown on the Drawings. It is the responsibility of the Contractor to examine the Architectural, Electrical, Heating, Cooling, Ventilating and Plumbing Drawings and to provide chases, channels or openings where needed.
- 1. After installing Work into openings, channels and/or chases, the Contractor shall close same. If finishes are to be restored, the new Work shall match the original and shall be done by the trade customarily responsible for the particular kind of Work.

- C. The Contractor shall verify dimensions for built-in Work and/or Work adjoining that of other trades before ordering any material or doing any Work. Discrepancies shall be submitted to the Construction Administrator before proceeding with the Work.
- D. See also General Conditions Article 23 "Cutting, Fitting, Patching & Digging".

### 3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Work that might be exposed during cutting and patching operations.
- C. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Avoid cutting existing pipe, conduit, or ductwork serving the building but scheduled to be removed or relocated until provisions have been made to bypass them.

### 3.3 PERFORMANCE

- A. **General:** Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.
  - 1. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.
  - 2. DO perform cutting and patching to integrate elements of Work. Provide penetrations of existing surfaces. Provide samples for testing. Seal penetrations through floors, walls, ceilings and roofs, as applicable; restore or preserve fire-rated and smoke-barrier construction. Construction and finishes shall match original Work.
- B. **Cutting:** Cut existing construction using methods least likely to damage elements retained or adjoining construction. Where possible, review proposed procedures with the original Installer; comply with the original Installer's recommendations.
  - 1. In general, where cutting, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
  - 2. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
  - 3. Cut through concrete and masonry using a cutting machine, such as a Carborundum saw or a diamond-core drill.
  - 4. Comply with requirements of applicable Division 32 Sections where cutting and patching requires excavating and backfilling.
  - 5. Where services are required to be removed, relocated, or abandoned, by-pass utility services, such as pipe or conduit, before cutting. Cut-off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and cutting.
- C. **Patching:** Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
  - 1. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
  - 2. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
  - 3. Where removing walls or partitions extends one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform color and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
    - a. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing the patch after the area has received primer and second coat.
  - 4. Patch, repair, or re-hang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

**3.4 CLEANING**

- A. Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar items. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

**END OF SECTION 01 73 29**

## 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 requirements for waste management goals, waste management plan and waste management plan implementation.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Division 01 Section 01 11 00 "Summary of Work".
  - 2. Division 01 Section 01 20 00 "Price and Payment Procedures".
  - 3. Division 01 Section 01 25 00 "Substitution Procedures".
  - 4. Division 01 Section 01 31 19 "Project Meetings".
  - 5. Division 01 Section 01 33 00 "Submittal Procedures".
  - 6. Division 01 Section 01 45 00 "Quality Control".
  - 7. Division 01 Section 01 50 00 "Temporary Facilities and Controls".
  - 8. Division 01 Section 01 60 00 "Product Requirements".
  - 9. Division 01 Section 01 77 00 "Closeout Procedures".

### 1.3 DEFINITIONS

- A. **Construction Waste:** Solid wastes such as building materials, packaging and rubble resulting from construction, paving and infrastructure.
- B. **Demolition Waste:** Solid wastes such as concrete, wood, brick, plaster, roofing materials, wallboard, metals, carpeting, insulation, and clean fill resulting from demolition or selective demolition of structures.
- C. **Recyclable Materials:** Products and materials that can be recovered and remanufactured into a new product. Recyclable materials include, but are not limited to, the following:
  - 1. Metals (ferrous and non-ferrous), including banding, metal studs, ductwork, and piping.
  - 2. Asphaltic concrete paving.
  - 3. Portland cement concrete.
  - 4. Gypsum products.
  - 5. Paper and cardboard.
  - 6. Wood products, including structural, finish, crates, and pallets.
  - 7. Brick and masonry.
  - 8. Carpet and padding.
  - 9. Plastics.
  - 10. Copper wiring.
- D. **Recycling Facility:** A business that specializes in collecting, handling, processing, distributing, or remanufacturing waste materials generated by new construction projects, into products or materials that can be used for this project or by others.
- E. **Salvage and Reuse:** Existing usable product or material that can be saved and reused in some manner on the project site. Materials for reuse must be approved by the Architect. Materials that can be salvaged and reused must comply with applicable technical specifications and include, but are not limited to, the following:
  - 1. Dimensional lumber and other wood products.
  - 2. Structural steel.
  - 3. Masonry products.

- F. **Salvage for Resale:** Existing usable product that can be saved and removed intact (as is) from the project site to another site for resale to others without remanufacturing.

#### 1.4 WASTE MANAGEMENT GOALS

- A. The Owner has established that this Project shall generate the least amount of waste possible and that processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors shall be employed.
- B. The Contractor shall use all means available to divert the greatest extent practical and economically feasible, construction waste from landfills and incinerators.
- C. Of the inevitable waste that is generated, as many of the waste materials as economically feasible shall be reused, salvaged, or recycled. Waste disposal in landfills shall be minimized.
- D. Recycle and/or salvage a minimum of **50** percent of non-hazardous construction **and demolition** waste by weight of the total solid waste generated by the Project.
- E. With regard to these goals the Contractor shall develop, for the Architect's review, a Waste Management Plan for this Project.
- F. Take a pro-active, responsible role in management of construction waste and require all subcontractors, vendors, and suppliers to participate in the effort. Establish a construction waste management program that includes the following categories:
  - 1. Minimizing packaging waste.
  - 2. Salvage and reuse.
  - 3. Salvage for resale or donation.
  - 4. Recycling.
  - 5. Disposal.

#### 1.5 SUBMITTALS

- A. **Draft Waste Management Plan:** Within 30 days after receipt of Notice of Award of Bid, or prior to any waste removal, whichever occurs sooner, the Contractor shall submit **three (3)** copies of a Draft Waste Management Plan to the Construction Administrator.
- B. **Final Waste Management Plan:** Once the Owner has determined which of the recycling options addressed in the Draft Waste Management Plan are acceptable, the Contractor shall submit within 10 days **three (3)** copies of a Final Waste Management Plan.
- C. **Progress Reports:** Submit **three (3)** copies of monthly progress reports, at the same time as the Application for Payment, documenting the following:
  - 1. Material category.
  - 2. Point of waste generation.
  - 3. Total quantity of waste in tons.
  - 4. Quantity of waste salvaged, in tons.
  - 5. Quantity of waste recycled, in tons.
  - 6. Total quantity of waste recovered (salvaged plus recycled) in tons.
  - 7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- D. **Calculations:** Submit **three (3)** copies of calculations indicating the end-of-project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Project prior to Substantial Completion.
- E. **Record Submittals:**
  - 1. **Donations:** Indicate which salvageable materials were donated, who they were donated to, and whether the recipient is tax exempt. Submit documentation indicating receipt of donations.
  - 2. **Sales:** Indicate which salvageable materials were sold, who they were sold to, and whether the recipient is tax exempt. Submit documentation indicating receipt of materials.
  - 3. **Recycling:** Indicate which materials were recycled and the name of the facility licensed to accept them. Submit documentation such as manifests, weight tickets, receipts, and invoices.

4. **Waste Disposal:** Indicate which materials were accepted as waste by landfills and incinerator facilities licensed to accept them. Submit documentation indicating receipt of materials.

## 1.6 QUALITY ASSURANCE

- A. **Regulatory Requirements:** Comply with regulations of State of Connecticut Department of Environment Protection, Waste Management Bureau Recycling Program.
- B. **Waste Management Conference:** Review and discuss the waste management plan, requirements for documenting quantities of each type of waste and its disposition, procedures for materials separation, procedures for periodic collection and transportation to recycling and disposal facilities. Review waste management requirements for each trade. Verify availability of containers and bins needed to avoid delays.

## 1.7 WASTE MANAGEMENT PLAN

- A. **Draft Waste Management Plan:** Include the following in the Draft Plan:
  1. Analysis of the proposed jobsite waste to be generated, including types and quantities.
  2. **Landfill Options:** The name of the landfill(s) where trash will be disposed of, the applicable landfill tipping fee(s), and the projected cost of disposing of all Project waste in the landfill(s).
  3. **Alternatives to Landfilling:** A list of each material proposed to be salvaged, reused, or recycled during the course of the Project, the proposed local market for each material, and the estimated net cost savings or additional costs resulting from separating and recycling (versus landfilling) each material. "Net" means that the following have been subtracted from the cost of separating and recycling:
    - a. Revenue from the sale of recycled or salvaged materials and
    - b. Landfill tipping fees saved due to diversion of materials from the landfill. The list of these materials is to include, at a minimum, the following materials:
      - i) Cardboard.
      - ii) Clean dimensional wood.
      - iii) Beverage containers.
      - iv) Land clearing debris.
      - v) Concrete.
      - vi) Bricks.
      - vii) Concrete Masonry Units (CMU).
      - viii) Asphalt.
      - ix) Metals from banding, stud trim, ductwork, piping, rebar, roofing, other trim, steel, iron, galvanized sheet steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze.
- B. **Resources for Development of Waste Management Plan:** The following sources may be useful in developing the Draft Waste Management Plan:
  1. **Recycling Haulers and Markets:** Local haulers and markets for recyclable materials. For more information, contact the State of Connecticut Department of Environmental Protection, Waste Management Bureau Recycling Program, (860) 424-3365, [www.dep.state.ct.us/wst/recycle/ctrecycle.htm](http://www.dep.state.ct.us/wst/recycle/ctrecycle.htm).
- C. **Final Waste Management Plan:** The Final Waste Management Plan shall contain the following:
  1. Analysis of the proposed jobsite waste to be generated, including types and quantities.
  2. **Landfill Options:** The name of the landfill(s) where trash will be disposed of, the applicable landfill tipping fee(s), and the projected cost of disposing of all Project waste in the landfill(s).
  3. **Alternatives to Landfilling:** A list of the waste materials from the Project that will be separated for reuse, salvage, or recycling.
  4. **Meetings:** A description of the regular meetings to be held to address waste management. Refer to Section 01 31 19 "Project Meetings".
  5. **Materials Handling Procedures:** A description of the means by which any waste materials identified in item (3) above will be protected from contamination, and a description of the means to be employed in recycling the above materials consistent with requirements for acceptance by designated facilities.

6. **Transportation:** A description of the means of transportation of the recyclable materials (whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler and removed from the site) and destination of materials.

**1.8 WASTE MANAGEMENT PLAN IMPLEMENTATION**

- A. Manager:** The Contractor shall designate an on-site party (or parties) responsible for instructing workers and overseeing and documenting results of the Waste Management Plan for the Project.
- B. Distribution:** The Contractor shall distribute copies of the Waste Management Plan to the Job Site Foreman, each Subcontractor, the Owner, and the Architect.
- C. Instruction:** The Contractor shall provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the Project.
- D. Separation Facilities:** The Contractor shall lay out and label a specific area to facilitate separation of materials for potential recycling, salvage, reuse, and return. Recycling and waste bin areas are to be kept neat and clean and clearly marked in order to avoid contamination of materials.
- E. Hazardous Wastes:** Hazardous wastes shall be separated, stored, and disposed of according to local regulations.
- F. Application for Progress Payments:** The Contractor shall submit with each Application for Progress Payment a Summary of Waste Generated by the Project. Failure to submit this information shall render the Application for Payment incomplete and shall delay Progress Payment. The Summary shall be submitted on a form acceptable to the Owner and shall contain the following information:
1. The amount (in tons or cubic yards) of material landfilled from the Project, the identity of the landfill, the total amount of tipping fees paid at the landfill, and the total disposal cost. Include manifests, weight tickets, receipt, and invoices.
  2. For each material recycled, reused, or salvaged from the Project: the amount (in tons or cubic yards), the date removed from the jobsite, the receiving party, the transportation cost, the amount of any money paid or received for the recycled or salvaged material, and the net total cost or savings of salvage or recycling of each material shall be indicated. Attach manifests, weight tickets, receipts, and invoices.

**PART 2 – PRODUCTS**

(Not Applicable)

**PART 3 – EXECUTION**

**3.1 PLAN IMPLEMENTATION**

- A.** Implement the waste management plan as approved by **Owner**.
- B.** Provide training of workers, contractors, subcontractors, and suppliers on proper waste management procedures.
1. Distribute waste management plan to all parties involved in the Project within **three (3)** days of submittal return.
  2. Distribute plan to parties when they first begin working on the Project site. Review plan procedures and locations established for salvage, recycling, and disposal.

**3.2 SEPARATION OF RECYCLABLE WASTE MATERIALS**

- A.** Provide the necessary containers and bins, to facilitate the waste management program, that are clearly and appropriately marked. Prevent contamination of recyclable materials from incompatible products and materials. Separate construction waste at the project site by one of the following methods:
1. **Source Separated Method:** Waste products and materials, that are recyclable, are separated from trash and sorted into appropriately marked separate containers and then transported to the respective recycling facility for further processing. Trash is transported to a landfill or incinerator.

2. **Co-Mingled Method:** All construction waste is placed into a single container and then transported to a recycling facility where the recyclable materials are sorted and processed and the remaining trash is transported to a landfill or incinerator.
3. Other methods proposed by the Contractor and approved by the **Owner**.

END OF SECTION 01 74 19



## 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 administrative and procedural requirements for handling requests for building system start up and system demonstration and includes the following:
  - 1. Starting Systems.
  - 2. Demonstration and instructions.
  - 3. Testing, adjusting, and balancing.
- B. **Related Sections:** The following Sections contain requirements that relate to this Section:
  - 1. Division 01 Section 01 45 00 "Quality Control" specifies quality assurance and inspecting services.
  - 2. Division 01 Section 01 77 00 "Closeout Procedures" specifies requirements for contract close out requirements for system operation and maintenance data and extra materials.

### 1.3 STARTING SYSTEMS

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Provide written notification to the Construction Administrator **30 days** prior to start-up of each item.
- C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, and control sequence for other conditions that may cause damage.
- D. Verify that tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- E. Verify that wiring and support components are complete and tested.
- F. Execute the start-up under supervision of manufacturer's representative, in accordance with manufacturer's instructions.
- G. When referenced in individual specification sections, require manufacturer to provide an authorized representative to be present at the site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.
- H. Submit a written report in accordance with Division 01 Section 01 45 00 "Quality Control" that the equipment or system has been properly installed and is functioning properly.

### 1.4 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of Products to Owner and Agency Personnel **fourteen (14)** days prior to substantial completion.
- B. Demonstrate Project equipment and instruct in a classroom environment at location designated by the Construction Administrator and instructed by a qualified manufacturer's representative who is knowledgeable about the Project.
- C. For equipment or systems requiring seasonal operation perform demonstration for season within **six (6)** months.
- D. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner and Agency Personnel in detail to explain all aspects of operation and maintenance.
- E. Demonstrate start-up, operation, control, adjustment, troubleshooting, servicing, and maintenance, and shutdown of each item at agreed upon scheduled time and at equipment or designated location.
- F. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during demonstration.

- G. Starting and adjusting equipment does not constitute acceptance by the owner since commissioning is a requirement of this contract. Additionally, the warrantee does not begin until substantial completion has been granted for that specific item.

**1.5 TESTING, ADJUSTING, AND BALANCING**

- A. The Contractor will employ and pay for the testing services of an independent consultant to verify the testing, adjusting, and balancing.
- B. Reports will be submitted by the independent testing consultant to the Construction Administrator indicating observations and results of tests and indicating compliance or non-compliance with the requirements of the Contract Documents.
- C. The Owner may employ and pay for the services of an independent consultant to verify testing, adjusting, and balancing which was performed by the Contractor.

**PART 2 - PRODUCTS (Not Applicable)**

**PART 3 - EXECUTION (Not Applicable)**

END OF SECTION 01 75 00

## 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 administrative and procedural requirements for contract closeout including, but not limited to, the following:
1. Inspection procedures.
  2. Project record document submittal.
  3. Operation and maintenance manual submittal.
  4. Submittal of warranties.
  5. Final cleaning.
- B. **Related Sections:** The following Sections contain requirements that relate to this Section:
1. Division 01 Section 01 11 00 "Summary of Work".
  2. Division 01 Section 01 29 76 "Progress Payment Procedures".
- C. Closeout requirements for specific construction activities may be included in the appropriate Sections in Divisions 02 through 49.

### 1.3 SUBSTANTIAL COMPLETION

- A. **General:** Basic contract definitions are included in Article 1 of the General Conditions of the Contract for Construction.
- B. **Preliminary Procedures:** Before requesting inspection for Certification of Substantial Completion, complete the following. List exceptions in the request.
1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete.
    - a. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.
    - b. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.
  2. Advise the Owner of pending insurance changeover requirements.
  3. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications, and similar documents.
  4. Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, certificates of compliance, operating certificates, and similar releases.
  5. Submit record drawings, maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
  6. Deliver tools, spare parts, extra stock, and similar items.
  7. Make final changeover of permanent locks and transmit keys to the Owner. Advise the Owner's personnel of changeover in security provisions.
  8. Demonstrate, thru operation and testing, the functions of all systems and/or equipment to the satisfaction of the Owner for compliance to the Contract. Complete testing of systems and instruction of the Owner's operation and maintenance personnel. Discontinue and remove temporary facilities from the site, along with mockups, construction tools, and similar elements.
  9. Complete final cleanup requirements.
  10. Certify that required training of personnel is complete.

- C. **Inspection Procedures:** The Contractor shall be ready and prepared when they request a Substantial Completion inspection. If the inspection reveals that the work is not complete, that there are extensive punchlist items that will take more than **ninety (90)** days to complete and as the items listed in Article 1.3 above are not complete, the Construction Administrator, Architect, and Owner will determine the inspection has failed.
- D. The Contractor is responsible for all costs to re-inspect due to a failed inspection. The Owner will issue a deduct change order to cover all costs for re-inspection.
  - 1. The Architect will repeat inspection when requested and assured that the Work is substantially complete.
  - 2. Results of the completed inspection will form the basis of requirements for final acceptance.

#### 1.4 ACCEPTANCE

- A. **Preliminary Procedures:** Before requesting final inspection for "Certificate of Acceptance" and final payment, complete the following. List exceptions in the request.
  - 1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include insurance certificates for products and completed operations where required.
  - 2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
  - 3. Submit a certified copy of the Architect's final inspection list of items to be completed or corrected, endorsed and dated by the Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance and shall be endorsed and dated by the Architect.
  - 4. Submit consent of surety to Final Payment.
  - 5. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
  - 6. Touch up and otherwise repair and restore marred, exposed finishes, including touchup painting.
- B. **Re-inspection Procedure:** The Inspection Group will re-inspect the Work upon receipt of notice from the Construction Administrator that the Work, including inspection list items from earlier inspections, has been completed, except for items whose completion is delayed under circumstances acceptable to the Owner.
  - 1. Upon completion of re-inspection, the Construction Administrator will prepare a Certificate of Acceptance. If the Work is incomplete, the Construction Administrator will advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.

#### 1.5 AS-BUILT DOCUMENT SUBMITTALS

- A. **General:** The Contractor shall not use As-built Drawings for construction purposes. Protect contractor As-built Drawings from deterioration and loss in a secure, fire-resistant location. Provide access to As-built Drawings for the Architect's reference during normal working hours. Keep documents current; do not permanently conceal any work until required information has been recorded. **IMPORTANT NOTE: Failure to keep As-built Documents current is sufficient cause to withhold progress payments.**
- B. **As-built Drawings:** The Contractor shall maintain **one (1)** clean, complete undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark which drawing is most capable of showing conditions fully and accurately. Where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date. Update As-built Drawings on a monthly basis coincident with the submittal of the Application for Payment.
  - 1. Mark record sets with erasable pencil to distinguish between variations in separate categories of the Work.
  - 2. Mark all new information that is not shown on Contract Drawings.
  - 3. Note related change-order numbers where applicable.
  - 4. Organize record drawing sheets into manageable sets. Bind sets with durable-paper cover sheets; print suitable titles, dates, and other identification on the cover of each set.
  - 5. Upon completion of the work, the Contractor shall submit Record Drawings to the Construction Administrator for the Owner's Records who will pass them on to the Architect or Engineer for transferring the changes to the Record Drawing Mylar Tracings.

6. Submit electronic format data of all Coordination Drawings as required by the Owner, at no additional cost.
  7. Refer to Section 01 45 00 "Quality Control" Article 1.3 for required as-built drawings and specifications for fire alarm systems.
- C. Record Specifications:** The Contractor shall maintain one (1) complete copy of the Project Manual, including Addenda. Include with the Project Manual one (1) copy of other written construction documents, such as Change Orders and modifications issued in printed form during construction.
1. Mark these documents to show substantial variations in actual Work performed in comparison with the text of the Specifications and modifications.
  2. Give particular attention to equals and substitutions and selection of options and information on concealed construction that cannot otherwise be readily discerned later by direct observation.
  3. Note related record drawing information and Product Data.
  4. Upon completion of the Work, submit Record Specifications to the Construction Administrator for the Owner's records.
- D. Record Product Data:** The Contractor shall maintain one (1) copy of each Product Data submittal. Note related Change Orders and markup of record drawings and Specifications.
1. Mark these documents to show significant variations in actual Work performed in comparison with information submitted. Include variations in products delivered to the site and from the manufacturer's installation instructions and recommendations.
  2. Give particular attention to concealed products and portions of the Work that cannot otherwise be readily discerned later by direct observation.
  3. Upon completion of markup, submit complete set of Record Product Data to the Construction Administrator for the Owner's records.
- E. Record Sample Submitted:** Immediately prior to Substantial Completion, the Contractor shall meet with the Construction Administrator, Architect and the Owner's personnel at the Project Site to determine which Samples are to be transmitted to the Owner for record purposes. Comply with the Owner's instructions regarding delivery to the Owner's Sample storage area.
- F. Miscellaneous Record Submittals:** Refer to other Specification Sections for requirements of miscellaneous record keeping and submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order. Identify miscellaneous records properly and bind or file, ready for continued use and reference. Submit to the Construction Administrator for the Owner's records.
- G. Maintenance Manuals:** Organize operation and maintenance data into suitable sets of manageable size. Bind properly indexed data in individual, heavy-duty, **2-inch**, 3-ring, vinyl-covered binders, with pocket folders for folded sheet information. Mark appropriate identification on front and spine of each binder according to Division 01 Section 01 78 23 "Operation & Maintenance Data". Included but not limited to the following types of information:
1. Emergency instructions.
  2. Spare parts list.
  3. Copies of warranties.
  4. Wiring diagrams.
  5. Inspection procedures.
  6. Shop Drawings and Product Data.

## **PART 2 - PRODUCTS (Not Applicable)**

## **PART 3 - EXECUTION**

### **3.1 CLOSEOUT PROCEDURES**

- A. Operation and Maintenance Instructions:** Arrange for each Installer of equipment that requires regular maintenance to meet with the Owner's personnel to provide instruction in proper operation and

maintenance. Provide instruction by manufacturer's representatives if installers are not experienced in operation and maintenance procedures. Include a detailed review of the following items:

1. Maintenance manuals.
2. Record documents.
3. Spare parts and materials.
4. Tools.
5. Identification systems.
6. Warranties and bonds.
7. Maintenance agreements and similar continuing commitments.

### 3.2 FINAL CLEANING

- A. General:** The General Conditions require general cleaning during construction. Regular site cleaning is included in Division 01 Section 01 50 00 "Temporary Facilities and Controls."
- B. Cleaning:** Employ professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.
1. Complete cleaning operations before requesting inspection for Certification of Substantial Completion and Certification of Occupancy.
- C. Removal of Protection:** Remove temporary protection and facilities installed for protection of the Work during construction.
- D. Compliance:** Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury 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 lawfully.
1. Where extra materials of value remain after completion of associated Work, they become the Owner's property. Dispose of these materials as directed by the Construction Administrator.
  2. Leave building clean and ready for occupancy. If the Contractor fails to clean up, the Owner may do so, with the cost charged to the Contractor. The Owner will issue a credit change order to cover the costs.

END OF SECTION 01 77 00

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Division 00 General Conditions and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for operation and maintenance manuals, including the following:
1. Preparing and submitting operation and maintenance manuals for building operating systems and equipment.
  2. Preparing and submitting instruction manuals covering the care, preservation, and maintenance of architectural products and finishes.
- B. **Related Sections:** The following Sections contain requirements that relate to this Section:
1. Division 01 Section 01 33 00 "Submittal Procedures" specifies preparation of Shop Drawings and Product Data.
  2. Division 01 Section 01 75 00 "Starting and Adjusting" specifies instruction of the Owner and Agency operating personnel in the operation and maintenance of building systems and equipment and the general requirements for starting-up equipment and systems.
  3. Division 01 Section 01 77 00 "Closeout Procedures" specifies general closeout requirements.
  4. Division 01 Section 01 78 30 "Warranties and Bonds" specifies requirements for submittal of warranties and bonds.
  5. Appropriate Sections of Divisions 02 through 49 specify special operation and maintenance data requirements for specific pieces of equipment or building operating systems.

### 1.3 QUALITY ASSURANCE

- A. **Maintenance Manual Preparation:** In preparation of maintenance manuals, use personnel thoroughly trained and experienced in operation and maintenance of equipment or system involved.
1. Where maintenance manuals require written instructions, use personnel skilled in technical writing where necessary for communication of essential data.
  2. Where maintenance manuals require drawings or diagrams, use draftsmen capable of preparing drawings clearly in an understandable format.
- B. **Instructions for the Owner and Agency Personnel:** The Construction Manager must use experienced instructors thoroughly trained and experienced in operation and maintenance of equipment or system involved, to instruct the Owner's operation and maintenance personnel.
- C. **Commissioning (Cx) Coordination:** The Commissioning process requires detailed O&M documentation. The Contractor must submit O&M manuals to the Construction Administrator for review and approval by Commissioning Agent (CxA).

### 1.4 SUBMITTALS

- A. **Submittal Schedule:** Comply with the following schedule for submitting operation and maintenance manuals:
1. Before Substantial Completion, when each installation that requires operation and maintenance manuals is nominally complete, submit **three (3)** draft copies of each manual to the Owner's Representative, Agency Representative, and Architect for review. Include a complete index or table of contents of each manual.
    - a. The Owner's Representative will return **one (1)** copy of the draft with comments within **twenty - one (21)** calendar days of receipt.
    - b. Submit **three (3)** copies of data in final form at least **twenty-one (21)** calendar days before final inspection. The Owner's Representative will return **one (1)** copy within **twenty-one (21)** calendar after final inspection, with comments.

2. After final inspection, make corrections or modifications to comply with the Commissioning Agent's (CxA), Architect's, and Agency Representative's comments. Submit final copies to the Owner's Representative within **twenty-one (21)** calendar days of receipt of the Commissioning Agent's (CxA), Architect's, and Agency Representative's comments.
- B. Form of Submittal:** Prepare operation and maintenance manuals in the form of an instructional manual for use by the Owner's operating personnel. Organize into suitable sets of manageable size. Where possible, assemble instructions for similar equipment into a single binder.
1. **Binders:** For each manual, provide heavy-duty, commercial-quality, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to receive **8-1/2-by-11- inch** paper. Provide a clear plastic sleeve on the spine to hold labels describing contents. Provide pockets in the covers to receive folded sheets.
    - a. Where **two (2)** or more binders are necessary to accommodate data, correlate data in each binder into related groupings according to the Project Manual table of contents. Cross-reference other binders where necessary to provide essential information for proper operation or maintenance of the piece of equipment or system.
    - b. Identify each binder on front and spine, with the printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter covered. Indicate volume number for multiple volume sets of manuals.
  2. **Dividers:** Provide heavy paper dividers with celluloid-covered tabs for each separate section. Mark each tab to indicate contents. Provide a typed description of the product and major parts of equipment included in the section on each divider.
  3. **Protective Plastic Jackets:** Provide protective, transparent, plastic jackets designed to enclose diagnostic software for computerized electronic equipment.
  4. **Text Material:** Where maintenance manuals require written material, use the manufacturer's standard printed material. If manufacturer's standard printed material is not available, provide specially prepared data, neatly typewritten, on **8-1/2-by-11-inch, 20-lb/sq ft** white bond paper.
  5. **Drawings:** Where maintenance manuals require drawings or diagrams, provide reinforced, punched binder tabs on drawings and bind in with text.
    - a. Where oversize drawings are necessary, fold drawings to the same size as text pages and use as a foldout.
    - b. If drawings are too large to be used practically as a foldout, place the drawing, neatly folded, in front or rear pocket of binder. Insert a typewritten page indicating drawing title, description of contents, and drawing location at the appropriate location in the manual.

## 1.5 MANUAL CONTENT

- A.** In each manual include information specified in the individual Specification Section and the following information for each major component of building equipment and its controls:
1. General system or equipment description.
  2. Design factors and assumptions.
  3. Copies of applicable shop drawings and product data.
  4. System or equipment identification, including:
    - a. Name of manufacturer.
    - b. Model number.
    - c. Serial number of each component.
  5. Operating instructions.
  6. Emergency instructions.
  7. Wiring diagrams.
  8. Inspection and test procedures.
  9. Maintenance procedures and schedules.
  10. Precautions against improper use and maintenance.
  11. Copies of warranties.



12. Repair instructions including spare parts listing.
  13. Sources of required maintenance materials and related services.
  14. Manual index.
- B.** Organize each manual into separate sections for each piece of related equipment. As a minimum, each manual shall contain a title page; a table of contents; copies of product data, supplemented by drawings and written text; and copies of each warranty, bond, and service contract issued.
1. **Title Page:** Provide a title page in a transparent, plastic envelope as the first sheet of each manual. Provide the following information:
    - a. Subject matter covered by the manual.
    - b. Name and address of the Project.
    - c. Date of submittal.
    - d. Name, address, and telephone number of the Construction Manager.
    - e. Name and address of the Architect and Owner's Representative.
    - f. Cross-reference to related systems in other operation and maintenance manuals.
  2. **Table of Contents:** After title page, include a typewritten table of contents for each volume, arranged systematically according to the Project Manual format. Include a list of each product included, identified by product name or other appropriate identifying symbol and indexed to the content of the volume.
    - a. Where a system requires more than one volume to accommodate data, provide a comprehensive table of contents for all volumes in each volume of the set.
  3. Provide a general information section immediately following table of contents, listing each product included in the manual, identified by product name. Under each product, list the name, address, and telephone number of the subcontractor or Installer and the maintenance subcontractor. Clearly delineate the extent of responsibility of each of these entities. Include a local source for replacement parts and equipment.
  4. **Product Data:** Where the manuals include manufacturer's standard printed data, include only sheets that are pertinent to the part or product installed. Mark each sheet to identify each part or product included in the installation. Where the Project includes more than one (1) item in a tabular format, identify each item, using appropriate references from the Contract Documents. Identify data that is applicable to the installation, and delete references to information that is not applicable.
  5. **Written Text:** Prepare written text to provide necessary information where manufacturer's standard printed data is not available, and the information is necessary for proper operation and maintenance of equipment or systems. Prepare written text where it is necessary to provide additional information or to supplement data included in the manual. Organize text in a consistent format under separate headings for different procedures. Where necessary, provide a logical sequence of instruction for each operation or maintenance procedure.
  6. **Drawings:** Provide specially prepared drawings where necessary to supplement manufacturer's printed data to illustrate the relationship of component parts of equipment or systems or to provide control or flow diagrams. Coordinate these drawings with information contained in project record drawings to assure correct illustration of the completed installation.
    - a. Do not use original Record Documents as part of operation and maintenance manuals.
  7. **Warranties and/or Bonds:** Provide a copy of each warranty and/or bond in the appropriate manual for the information of the Owner's operating personnel. Provide written data outlining procedures to follow in the event of product failure. List circumstances and conditions that would affect validity of warranty or bond.

#### 1.6 MATERIAL AND FINISHES MAINTENANCE MANUAL

- A.** Submit **four (4)** copies of each manual, in final form, on material and finishes to the Owner's Representative for distribution. Provide **one (1)** section for architectural products, including applied materials and finishes. Provide a second section for products designed for moisture protection and products exposed to the weather.
1. Refer to individual Specification Sections for additional requirements on care and maintenance of materials and finishes.

- B. Architectural Products:** Provide manufacturer's data and instructions on care and maintenance of architectural products, including applied materials and finishes.
- 1. Manufacturer's Data:** Provide complete information on architectural products, including the following, as applicable:
    - a. Manufacturer's catalog number.
    - b. Size.
    - c. Material composition.
    - d. Color.
    - e. Texture.
    - f. Reordering information for specially manufactured products.
  - 2. Care and Maintenance Instructions:** Provide information on care and maintenance, including manufacturer's recommendations for types of cleaning agents to be used and methods of cleaning. Provide information on cleaning agents and methods that could prove detrimental to the product. Include manufacturer's recommended schedule for cleaning and maintenance.
- C. Moisture Protection and Products Exposed to the Weather:** Provide complete manufacturer's data with instructions on inspection, maintenance, and repair of products exposed to the weather or designed for moisture-protection purposes.
- 1. Manufacturer's Data:** Provide manufacturer's data giving detailed information, including the following, as applicable:
    - a. Applicable standards.
    - b. Chemical composition.
    - c. Installation details.
    - d. Inspection procedures.
    - e. Maintenance information.
    - f. Repair procedures.

#### 1.7 EQUIPMENT AND SYSTEMS MAINTENANCE MANUAL

- A.** Submit **three (3)** copies of each manual, in final form, on equipment and systems to the Owner's Representative for distribution. Provide separate manuals for each unit of equipment, each operating system, and each electric and electronic system.
1. Refer to individual Specification Sections for additional requirements on operation and maintenance of the various pieces of equipment and operating systems.
- B. Equipment and Systems:** Provide the following information for each piece of equipment, each building operating system, and each electric or electronic system.
1. Description: Provide a complete description of each unit and related component parts, including the following:
    - a. Equipment or system function.
    - b. Operating characteristics.
    - c. Limiting conditions.
    - d. Performance curves.
    - e. Engineering data and tests.
    - f. Complete nomenclature and number of replacement parts.
  2. **Manufacturer's Information:** For each manufacturer of a component part or piece of equipment, provide the following:
    - a. Printed operation and maintenance instructions.
    - b. Assembly drawings and diagrams required for maintenance.
    - c. List of items recommended to be stocked as spare parts.

3. **Maintenance Procedures:** Provide information detailing essential maintenance procedures, including the following:
  4. **Operating Procedures:** Provide information on equipment and system operating procedures, including the following:
    - a. Startup procedures.
    - b. Equipment or system break-in.
    - c. Routine and normal operating instructions.
    - d. Regulation and control procedures.
    - e. Instructions on stopping.
    - f. Shutdown and emergency instructions.
    - g. Summer and winter operating instructions.
    - h. Required sequences for electric or electronic systems.
    - i. Special operating instructions.
  5. **Servicing Schedule:** Provide a schedule of routine servicing and lubrication requirements, including a list of required lubricants for equipment with moving parts.
  6. **Controls:** Provide a description of the sequence of operation and as-installed control diagrams by the control manufacturer for systems requiring controls.
  7. **Identification Drawings:** Provide each Subcontractor's Identification Drawings.
    - a. Provide as-installed, color-coded, piping diagrams, where required for identification.
  8. **Valve Tags:** Provide charts of valve-tag numbers, with the location and function of each valve.
  9. **Circuit Directories:** For electric and electronic systems, provide complete circuit directories of panel boards, including the following:
    - a. Controls.
    - b. Communication.
- C. Electronic Media:**
1. For equipment which requires maintenance by operational personnel, provide a professionally developed **DVD** for the use of maintenance training for the facility. Each **DVD** will be accompanied by a written index which can be utilized to find any specific item of information by time or place on the **DVD**.
  2. The Construction Manager is responsible for this production. This **DVD** will be provided to the Owner's Representative at the same time as the delivery of the other maintenance material.
  3. The **DVD** must be able to be edited for future changes to the equipment and modifications as they occur.

**PART 2 - PRODUCTS (Not Applicable)**

**PART 3 - EXECUTION (Not Applicable)**

**END OF SECTION 01 78 23**

## 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 administrative and procedural requirements for warranties required by the Contract Documents, including manufacturer's standard warranties on products and special warranties.
  - 1. Refer to the General Conditions for terms of the Contractor's period for correction of the Work.
- B. **Related Sections:** The following Sections contain requirements that relate to this Section:
  - 1. Division 01 Section 01 33 00 "Submittal Procedures" specifies procedures for submitting warranties.
  - 2. Division 01 Section 01 77 00 "Closeout Procedures" specifies contract closeout procedures.
  - 3. Division 01 Section 01 78 23 "Operation and Maintenance Data" specifies required operation and maintenance data.
  - 4. Divisions 02 through 49 Sections for specific requirements for warranties on products and installations specified to be warranted.
  - 5. Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.
- C. **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. Manufacturer's disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

### 1.3 WARRANTY REQUIREMENTS

- A. **Related Damages and Losses:** When correcting failed or damaged warranted construction, remove and replace construction that has been damaged as a result of such failure or must be removed and replaced to provide access for correction of warranted construction.
- 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 the 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:** Expressed warranties made to the Owner are in addition to implied warranties and shall not limit the duties, obligations, rights, and remedies otherwise available under the law. Expressed warranty periods shall not be interpreted as limitations on the time in which the Owner can enforce such other duties, obligations, rights, or remedies.
  - 1. **Rejection of Warranties:** The Owner reserves the right to reject warranties and to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
- E. Where the Contract Documents require a special warranty, or similar commitment on the Work or part of the Work, the Owner reserves the right to refuse to accept the Work, until the Contractor presents evidence that entities required to countersign such commitments are willing to do so.
- F. The Contractor shall guarantee all materials and workmanship for a period of **eighteen (18)** months from the date of Substantial Completion of the Work. In addition, the Contractor shall furnish the warranties listed below. Submit four (4) copies of each to the Construction Administrator in the supplier's standard form or in the form given below if there is no standard form available.

- G. **Specification/Warranty Table:** The General Contractor shall provide for all warranties as shown in the Specification/Warranty table:

Specification / Warranty Table		
Item No.	Section No.	Specification Product/Warranty
1.	23 09 13, 1.6.I	INSTRUMENTATION AND CONTROL DEVICES FOR HVAC
2.	23 33 19, 1.5.G	DUCT SILENCERS

- H. Submit certification that finish materials are fire rated as specified.  
I. Form of Warranty: Warranties shall be submitted in following format:

**Warranty**

*Commissioner: (Insert Commissioner's Name)*  
**Department of Administrative Services**  
**DAS Commissioner's Office**  
**450 Columbus Boulevard, Suite 1501**  
**Hartford, CT 06103**

*Project Number: (Insert DAS/CS Project Number)*  
*Project Title: (Insert DAS/CS Project Title)*

**I (We) hereby warranty**

**the \_\_\_\_\_ work on the referenced project for a period of \_\_\_\_\_ years**

**from \_\_\_\_\_, 20 \_\_\_\_\_ against failures of workmanship and materials in accordance**

**with the requirements of Section \_\_\_\_\_, Page \_\_\_\_\_, Paragraph \_\_\_\_\_, of the Specifications.**

**Installer  | Subcontractor  | Vendor/Suppliers  | Manufacturer**

**Installer or Subcontractor or Vendor/Suppliers or Manufacturer Name:** \_\_\_\_\_

**Installer or Subcontractor or Vendor/Suppliers or Manufacturer Signature:** \_\_\_\_\_

**General Contractor's Name** \_\_\_\_\_

**General Contractor's Signature:** \_\_\_\_\_

**or**

**General Contractor's Authorized Agent Signature:** \_\_\_\_\_

- J. Bonds shall be by approved Surety Companies, made out to the Commissioner, Department of Administrative Services on companies' standard form.  
K. Warranties, Guarantees, or bonds supplied by the General Contractor's Subcontractors or Vendors/Suppliers or Manufacturers shall reference the project name, number, and location and be certified by the General Contractor to be for the product and installation on the project and must be countersigned by the General Contractor.

- L. Bonds shall be by approved Surety Companies, made out to the Commissioner, Department of Administrative Services, on company's standard form.
- M. Guarantees, warranties or bonds supplied by Subcontractors, Suppliers or Manufacturers shall reference the project name, number, and location and be certified by the Contractor to be for the product and installation on the project and must be countersigned by the Contractor.

**1.4 SUBMITTALS**

- A. Submit written warranties prior to the date certified for Substantial Completion. If the Architect's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the Work, or a designated portion of the Work, submit written warranties upon request of the Architect.
- B. Forms for special warranties are included in this Section. Prepare a written document utilizing the appropriate form, ready for execution by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer. Submit a draft to the Owner, through the Construction Administrator, for approval prior to final execution.
  - 1. Refer to Divisions 02 through 49 Sections for specific content requirements and particular requirements for submitting special warranties.
- C. **Form of Submittal:** At Final Completion compile **two (2)** copies of each required warranty properly executed by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual.
- D. Bind warranties and bonds in heavy-duty, commercial-quality, durable 3-ring, vinyl-covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive **8-1/2-by-11-inch** paper.
  - 1. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the 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 the Installer.
  - 2. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project title or name, and name of the Contractor.
  - 3. When warranted construction requires operation and maintenance manuals, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

**PART 2 - PRODUCTS (Not Applicable)**

**PART 3 - EXECUTION (Not applicable)**

**END OF SECTION 01 78 30**

**SECTION 078413 - PENETRATION FIRESTOPPING**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
  - 1. Penetrations in fire-resistance-rated floors and walls.
  - 2. Penetrations in horizontal assemblies.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer.
- B. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for penetration firestopping.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A firm that has been approved by FM Global according to FM Global 4991, "Approval of Firestop Contractors," or been evaluated by UL and found to comply with its "Qualified Firestop Contractor Program Requirements."
- B. Installer Qualifications: A firm experienced in installing penetration firestopping similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful performance. Qualifications include having the necessary experience, staff, and training to install manufacturer's products per specified requirements. Manufacturer's willingness to sell its penetration firestopping products to Contractor or to Installer engaged by Contractor does not in itself confer qualification on buyer.
- C. Fire-Test-Response Characteristics: Penetration firestopping shall comply with the following requirements:
  - 1. Penetration firestopping tests are performed by a qualified testing agency acceptable to authorities having jurisdiction.

2. Penetration firestopping is identical to those tested per testing standard referenced in "Penetration Firestopping" Article. Provide rated systems complying with the following requirements:
  - a. Penetration firestopping products bear classification marking of qualified testing and inspecting agency.
  - b. Classification markings on penetration firestopping correspond to designations listed by the following:
    - 1) UL in its "Fire Resistance Directory."
- D. Preinstallation Conference: Conduct conference at Project site.

#### 1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install penetration firestopping when ambient or substrate temperatures are outside limits permitted by penetration firestopping manufacturers or when substrates are wet because of rain, frost, condensation, or other causes.
- B. Install and cure penetration firestopping per manufacturer's written instructions using natural means of ventilations or, where this is inadequate, forced-air circulation.

#### 1.7 COORDINATION

- A. Coordinate construction of openings and penetrating items to ensure that penetration firestopping is installed according to specified requirements.
- B. Coordinate sizing of sleeves, openings, core-drilled holes, or cut openings to accommodate penetration firestopping.
- C. Notify Owner's testing agency at least seven days in advance of penetration firestopping installations; confirm dates and times on day preceding each series of installations.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  1. Hilti, Inc.
  2. 3M Fire Protection Products.
  3. Tremco, Inc.; Tremco Fire Protection Systems Group.
  4. USG Corporation.



## 2.2 PENETRATION FIRESTOPPING

- A. Provide penetration firestopping that is produced and installed to resist spread of fire according to requirements indicated, resist passage of smoke and other gases, and maintain original fire-resistance rating of construction penetrated. Penetration firestopping systems shall be compatible with one another, with the substrates forming openings, and with penetrating items if any.
- B. Penetrations in Fire-Resistance-Rated Walls: Provide penetration firestopping with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg.
  - 1. Fire-resistance-rated walls include fire walls fire-barrier walls smoke-barrier walls and fire partitions.
  - 2. F-Rating: Not less than the fire-resistance rating of constructions penetrated.
- C. Penetrations in Horizontal Assemblies: Provide penetration firestopping with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg.
  - 1. Horizontal assemblies include floors floor/ceiling assemblies and ceiling membranes of roof/ceiling assemblies.
  - 2. F-Rating: At least 1 hour, but not less than the fire-resistance rating of constructions penetrated.
  - 3. T-Rating: At least 1 hour, but not less than the fire-resistance rating of constructions penetrated except for floor penetrations within the cavity of a wall.
- D. VOC Content: Penetration firestopping sealants and sealant primers shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
  - 1. Sealants: 250 g/L.
  - 2. Sealant Primers for Nonporous Substrates: 250 g/L.
  - 3. Sealant Primers for Porous Substrates: 775 g/L.
- E. Low-Emitting Materials: Penetration firestopping sealants and sealant primers shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- F. Accessories: Provide components for each penetration firestopping system that are needed to install fill materials and to maintain ratings required. Use only those components specified by penetration firestopping manufacturer and approved by qualified testing and inspecting agency for firestopping indicated.
  - 1. Collars.
  - 2. Steel sleeves.

## 2.3 FILL MATERIALS

- A. Firestop Devices: Factory-assembled collars formed from galvanized steel and lined with intumescent material sized to fit specific diameter of penetrant.
- B. Intumescent Putties: Nonhardening dielectric, water-resistant putties containing no solvents, inorganic fibers, or silicone compounds.

#### 2.4 MIXING

- A. For those products requiring mixing before application, comply with penetration firestopping manufacturer's written instructions for accurate proportioning of materials, water (if required), type of mixing equipment, selection of mixer speeds, mixing containers, mixing time, and other items or procedures needed to produce products of uniform quality with optimum performance characteristics for application indicated.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Surface Cleaning: Clean out openings immediately before installing penetration firestopping to comply with manufacturer's written instructions and with the following requirements:
  - 1. Remove from surfaces of opening substrates and from penetrating items foreign materials that could interfere with adhesion of penetration firestopping.
  - 2. Clean opening substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with penetration firestopping. Remove loose particles remaining from cleaning operation.
  - 3. Remove laitance and form-release agents from concrete.
- B. Priming: Prime substrates where recommended in writing by manufacturer using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration onto exposed surfaces.

#### 3.3 INSTALLATION

- A. General: Install penetration firestopping to comply with manufacturer's written installation instructions and published drawings for products and applications indicated.

- B. Install forming materials and other accessories of types required to support fill materials during their application and in the position needed to produce cross-sectional shapes and depths required to achieve fire ratings indicated.
  - 1. After installing fill materials and allowing them to fully cure, remove combustible forming materials and other accessories not indicated as permanent components of firestopping.
- C. Install fill materials for firestopping by proven techniques to produce the following results:
  - 1. Fill voids and cavities formed by openings, forming materials, accessories, and penetrating items as required to achieve fire-resistance ratings indicated.
  - 2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.

### 3.4 IDENTIFICATION

- A. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanently to surfaces adjacent to and within 6 inches of firestopping edge so labels will be visible to anyone seeking to remove penetrating items or firestopping. Use mechanical fasteners or self-adhering-type labels with adhesives capable of permanently bonding labels to surfaces on which labels are placed. Include the following information on labels:
  - 1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."
  - 2. Contractor's name, address, and phone number.
  - 3. Designation of applicable testing and inspecting agency.
  - 4. Date of installation.
  - 5. Manufacturer's name.
  - 6. Installer's name.

### 3.5 FIELD QUALITY CONTROL

- A. Where deficiencies are found or penetration firestopping is damaged or removed because of testing, repair or replace penetration firestopping to comply with requirements.
- B. Proceed with enclosing penetration firestopping with other construction only after inspection reports are issued and installations comply with requirements.

### 3.6 CLEANING AND PROTECTION

- A. Clean off excess fill materials adjacent to openings as the Work progresses by methods and with cleaning materials that are approved in writing by penetration firestopping manufacturers and that do not damage materials in which openings occur.
- B. Provide final protection and maintain conditions during and after installation that ensure that penetration firestopping is without damage or deterioration at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, immediately cut out and remove damaged or deteriorated penetration firestopping and install new materials to produce systems complying with specified requirements.

3.7 PENETRATION FIRESTOPPING SCHEDULE

- A. Where UL-classified systems are indicated, they refer to system numbers in UL's "Fire Resistance Directory" under product Category XHEZ.

END OF SECTION 078413

---

**SECTION 07 92 00 - JOINT SEALANTS****PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. The Contractor, Subcontractors, and/or suppliers providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

**1.2 SUMMARY**

- A. Section Includes:
  - 1. Silicone joint sealants.

**1.3 PRECONSTRUCTION TESTING**

- A. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.
  - 1. Use ASTM C 1087 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
  - 2. Submit not fewer than two pieces of each type of material, including joint substrates, shims, joint-sealant backings, secondary seals, and miscellaneous materials.
  - 3. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
  - 4. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures including use of specially formulated primers.
  - 5. Testing will not be required if joint-sealant manufacturers submit joint preparation data that are based on previous testing of current sealant products for adhesion to, and compatibility with, joint substrates and other materials matching those submitted.

**1.4 ACTION SUBMITTALS**

- A. Product Data: For each joint-sealant product indicated.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
- C. Samples for Verification: For each type and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- wide joints formed between two 6-inch- long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

D. Joint-Sealant Schedule: Include the following information:

1. Joint-sealant application, joint location, and designation.
2. Joint-sealant manufacturer and product name.
3. Joint-sealant formulation.
4. Joint-sealant color.

#### 1.5 INFORMATIONAL SUBMITTALS

A. Product Certificates: For each type of joint sealant and accessory, signed by product manufacturer.

B. Qualification Data: For Installer.

C. Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:

1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.

D. Product Test Reports: Based on comprehensive testing of product formulations performed by a qualified testing agency, indicating that sealants comply with requirements.

E. Preconstruction Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:

1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.

F. Warranties: Special warranties specified in this Section.

#### 1.6 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.

B. Product Testing: Test joint sealants using a qualified testing agency.

1. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.
2. Test according to SWRI's Sealant Validation Program for compliance with requirements specified by reference to ASTM C 920 for adhesion and cohesion under cyclic movement, adhesion-in-peel, and indentation hardness.

- C. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."

#### 1.7 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 or are below 40 deg F.
  - 2. When joint substrates are wet.
  - 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
  - 4. Contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

#### 1.8 WARRANTY

- A. Special Installer's Warranty: Installer's standard form in which Installer agrees to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
  - 1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer's standard form in which elastomeric sealant manufacturer agrees to furnish elastomeric joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
  - 1. Warranty Period for Silicone: 20 years from date of Substantial Completion.
- C. Special warranties specified in this Article exclude deterioration or failure of elastomeric joint sealants from the following:
  - 1. Movement of the structure resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression caused by structural settlement or errors attributable to design or construction.
  - 2. Disintegration of joint substrates from natural causes exceeding design specifications.
  - 3. Mechanical damage caused by individuals, tools, or other outside agents.
  - 4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

---

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, 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. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
- C. Stain-Test-Response Characteristics: Where sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.
- D. Suitability for Contact with Food: Where sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.
- E. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 SILICONE JOINT SEALANTS

- A. Mildew Resistant, Single-Component, Nonsag, Acid-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use NT.
  - 1. Products: Subject to compliance with requirements, provide one of the following:
    - a. Dow Corning Corporation; 786 Mildew Resistant.
    - b. GE Silicones; Sanitary SCS1700.
    - c. Tremco; Tremsil 200 Sanitary.

2.3 JOINT-SEALANT BACKING

- A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin) as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.



1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. Alcot Plastics Ltd.
  - b. BASF Corporation.
  - c. Construction Foam Products; a division of Nomaco, Inc.
  
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

#### 2.4 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
  
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way and formulated to promote optimum adhesion of sealants to joint substrates.
  
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

### 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 and the following requirements:
  1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.

2. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
    - a. Concrete.
    - b. Masonry.
  3. Remove laitance and form-release agents from concrete.
  4. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
    - a. Metal.
- B. Joint Priming: Prime joint substrates, where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

### 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. 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 sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
  1. Do not leave gaps between ends of sealant backings.
  2. Do not stretch, twist, puncture, or tear sealant backings.
  3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
  - 1. Place sealants so they directly contact and fully wet joint substrates.
  - 2. Completely fill recesses in each joint configuration.
  - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
  
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
  - 1. Remove excess sealant from surfaces adjacent to joints.
  - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
  - 3. Provide concave joint configuration per Figure 8A in ASTM C 1193.

### 3.4 CLEANING

- A. Clean off excess 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 so installations with repaired areas are indistinguishable from original work.

### 3.6 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
  - 1. Joint Locations: Perimeter joints at louvers.
  - 2. Silicone Joint Sealant: Single component, nonsag, neutral curing, Class 100/50.
  - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors, for each material.

END OF SECTION 07 92 00

---

SECTION 099123 – INTERIOR PAINTING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Interior high-performance paint and coatings systems including surface preparation.

1.2 RELATED SECTIONS

- A. Section 09 01 20.91 – Plaster Repair.
- B. Section 09 21 16 – Gypsum Board Assemblies.

1.3 SUMMARY

- A. This section includes the following:
  - 1. Interior coating system as shown on the contract drawings and in finish schedules.

1.4 REFERENCES

- A. Material Safety Data Sheets / Environmental Data Sheets: Per manufacturer's MSDS/EDS for specific VOCs (calculated per 40 CFR 59.406). VOCs may vary by base and sheen.
- B. South Coast Air Quality Management District (SCAQMD): Rule 1113 - Architectural Coatings.
- C. Green Seal, Inc.:
  - 1. GS-11 Standard for Paints and Coatings (1st Edition, May 20,1993).
  - 2. GC-03 - Environmental Criteria for Anti-Corrosive Paints.
- D. United States Green Building Council (USGBC): LEED-09 NC/CI/CS.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data: For each paint system indicated, including.
  - 1. Product characteristics.
  - 2. Surface preparation instructions and recommendations.
  - 3. Primer requirements and finish specification.
  - 4. Storage and handling requirements and recommendations.
  - 5. Application methods.
  - 6. Cautions for storage, handling and installation.
- C. Selection Samples: Submit a complete set of color chips that represent the full range of manufacturer's products, colors and sheens available.
- D. Verification Samples: For each finish product specified, submit samples that represent actual product, color, and sheen.

- E. Only submit complying products based on project requirements (i.e. LEED). One must also comply with the regulations regarding VOCs (CARB, OTC, SCAQMD, LADCO). To ensure compliance with district regulations and other rules, businesses that perform coating activities should contact the local district in each area where the coating will be used.

#### 1.6 QUALITY ASSURANCE

- A. Installer Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.
- B. Paint exposed surfaces. If a color of finish, or a surface is not specifically mentioned, Architect will select from standard products, colors and sheens available.
- C. Do not paint concealed surfaces, operating parts, and labels unless indicated.
- D. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
  - 1. Finish surfaces for verification of products, colors and sheens.
  - 2. Finish area designated by Architect.
  - 3. Provide samples that designate primer and finish coats.
  - 4. Do not proceed with remaining work until the Architect approves the mock-up.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver manufacturer's unopened containers to the work site. Packaging shall bear the manufacturer's name, label, and the following list of information.
  - 1. Product name, and type (description).
  - 2. Application and use instructions.
  - 3. Surface preparation.
  - 4. VOC content.
  - 5. Environmental handling.
  - 6. Batch date.
  - 7. Color number.
- B. Storage: Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.
- C. Store materials in an area that is within the acceptable temperature range, per manufacturer's instructions. Protect from freezing.
- D. Handling: Maintain a clean, dry storage area, to prevent contamination or damage to the coatings.

#### 1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

## 1.9 EXTRA MATERIALS

- A. Furnish extra paint materials from the same production run as the materials applied and in the quantities described below. Package with protective covering for storage and identify with labels describing contents. Deliver extra materials to Owner.
- B. Furnish Owner with an additional one percent of each material and color, but not less than 1 gal (3.8 l) or 1 case, as appropriate.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Basis of Design Acceptable Manufacturer: Sherwin-Williams, which is located at: 101 Prospect Ave.; Cleveland, OH 44115; Toll Free Tel: 800-524-5979; Tel: 216-566-2000; Fax: 440-826-1989; Email: request info [specifications@sherwin.com](mailto:specifications@sherwin.com); Web:[www.swspecs.com](http://www.swspecs.com).

Other Acceptable Manufacturers:

- 1. PPG Industries
- 2. Benjamin Moore

### 2.2 APPLICATIONS/SCOPE

- A. Interior High Performance Paints and Coatings:
  - 1. Drywall: Drywall board, Gypsum board
  - 2. Plaster: Ceilings.

### 2.3 PAINT MATERIALS - GENERAL

- A. Paints and Coatings:
  - 1. Unless otherwise indicated, provide factory-mixed coatings. When required, mix coatings to correct consistency in accordance with manufacturer's instructions before application. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.
  - 2. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color. Or follow manufactures product instructions for optimal color conformance.
- B. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.
- C. Coating Application Accessories: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required, per manufacturer's specifications.
- D. Color: Refer to Finish Schedule for paint colors, and as selected.

## 2.4 HIGH PERFORMANCE INTERIOR PAINT SYSTEMS

- A. DRYWALL - (Ceilings).
  - 1. Refer to Contract Drawings for paint manufacturer and type, follow manufacturer's recommended paint systems based on the selection and material to be painted.
- B. PLASTER - (Ceilings)
  - 1. Refer to Contract Drawings for paint manufacturer and type, follow manufacturer's recommended paint systems based on the selection and material to be painted.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared; notify Architect of unsatisfactory conditions before proceeding. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- B. Proceed with work only after conditions have been corrected and approved by all parties, otherwise application of coatings will be considered as an acceptance of surface conditions.
- C. Previously Painted Surfaces: Verify that existing painted surfaces do not contain lead based paints, notify Architect immediately if lead based paints are encountered.

### 3.2 SURFACE PREPARATION

- A. General: Surfaces shall be dry and in sound condition. Remove oil, dust, dirt, loose rust, peeling paint or other contamination to ensure good adhesion.
  - 1. Prior to attempting to remove mildew, it is recommended to test any cleaner on a small, inconspicuous area prior to use. Bleach and bleaching type cleaners may damage or discolor existing paint films. Bleach alternative cleaning solutions are advised.
  - 2. Remove mildew before painting by washing with a solution of 1 part liquid household bleach and 3 parts of warm water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes. Rinse thoroughly with clean water and allow the surface to dry before painting. Wear protective glasses or goggles, waterproof gloves, and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. Do not add detergents or ammonia to the bleach/water solution.
  - 3. Remove items including but not limited to thermostats, electrical outlets, switch covers and similar items prior to painting. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.
  - 4. No exterior painting should be done immediately after a rain, during foggy weather, when rain is predicted, or when the temperature is below 50 degrees F (10 degrees C), unless products are designed specifically for these conditions. On large expanses of metal siding, the air, surface and material temperatures must be 50 degrees F (10 degrees F) or higher to use low temperature products.

- B. Drywall - Interior: Must be clean and dry. All nail heads must be set and spackled. Joints must be taped and covered with a joint compound. Spackled nail heads and tape joints must be sanded smooth and all dust removed prior to painting.
- C. Plaster: Must be allowed to dry thoroughly for at least 30 days before painting, unless the products are designed to be used in high pH environments. Room must be ventilated while drying; in cold, damp weather, rooms must be heated. Damaged areas must be repaired with an appropriate patching material. Bare plaster must be cured and hard. Textured, soft, porous, or powdery plaster should be treated with a solution of 1 pint household vinegar to 1 gallon of water. Repeat until the surface is hard, rinse with clear water and allow to dry.

### 3.3 INSTALLATION

- A. Apply all coatings and materials with the manufacturer's specifications in mind. Mix and thin coatings according to manufacturer's recommendations.
- B. Do not apply to wet or damp surfaces. Wait at least 30 days before applying to new concrete or masonry. Or follow manufacturer's procedures to apply appropriate coatings prior to 30 days. Test new concrete for moisture content. Wait until wood is fully dry after rain or morning fog or dew.
- C. Apply coatings using methods recommended by manufacturer.
- D. Uniformly apply coatings without runs, drips, or sags, without brush marks, and with consistent sheen.
- E. Apply coatings at spreading rate required to achieve the manufacturers recommended dry film thickness.
- F. Regardless of number of coats specified, apply as many coats as necessary for complete hide, and uniform appearance.
- G. Inspection: The coated surface must be inspected and approved by the Architect just prior to the application of each coat.

### 3.4 PROTECTION

- A. Protect finished coatings from damage until completion of project.
- B. Touch-up damaged coatings after substantial completion, following manufacturer's recommendation for touch up or repair of damaged coatings. Repair any defects that will hinder the performance of the coatings.

END OF SECTION



SECTION 23 05 00 - MECHANICAL GENERAL CONDITIONS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor and each Subcontractor and/or supplier providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 DESCRIPTION

- A. The General Conditions and Supplementary General Conditions are a part of this Division and are to be considered a part of this Contract.
- B. Where items of the General Conditions and Supplementary General Conditions are repeated in other Sections of the Specifications, it is merely intended to qualify or to call particular attention to them. It is not intended that any other parts of the General Conditions and Supplementary General Conditions shall be assumed to be omitted if not repeated therein.
- C. This Section applies equally and specifically to all Contractors supplying labor and/or equipment and/or materials as required under each Section of this Division.
- D. The following information contains specifications of Work in connection with, and in addition to, this Division:
  - 1. All drawings associated with the project.
  - 2. All specifications associated with the project.
- E. Division of work responsibilities shall be as defined and directed by the Bidding Agent and/or the Bidding General Contractor.

1.3 INTENT

- A. It is the intent of the Specifications and Drawings to call for finished work, tested and ready for operation.
- B. Furnish, deliver and install any apparatus, appliance, material or Work not shown on Drawings but mentioned in the Specifications, or vice versa, or any incidental accessories necessary to make the Work complete and perfect in all respects and ready for operation, even if not particularly specified, under their respective Section without additional expense to the Owner.
- C. Include in the work minor details not usually shown or specified but necessary for proper installation and operation, as though they were hereinafter shown or specified.
- D. Provide Engineer written notice of any materials or apparatus believed inadequate or unsuitable; in violation of laws, ordinances, rules or regulations of authorities having jurisdiction; and any necessary items of Work omitted. In the absence of such written notice, it is mutually agreed that Work under each Section has included the cost of all required items for the accepted, satisfactory functioning of the entire system without extra compensation.
- E. The Work indicated is diagrammatic. The Architect and/or Engineer may require as part of this Contract, the relocation of devices to reasonable distances from the general locations shown.

- F. Verbal clarifications of the Drawings or Specifications during the bid period are not to be relied upon. Refer any questions or clarifications to the Engineer at least five Working days prior to bidding to allow for issuance of an addendum. After the five-day deadline, Bidder must make a decision and qualify the Bid, if the Bidder feels it necessary.

#### 1.4 DRAWINGS

- A. Drawings are diagrammatic and indicate the general arrangement of systems and work included in the Contract. (Do not scale the Drawings.) Consult the Architectural Drawings and Details for exact location of fixtures and equipment; where same are not definitely located, obtain this information from the Architect.
- B. Closely follow Drawings in layout of Work; check Drawings of other Divisions to verify spaces in which work will be installed. Maintain maximum headroom. Where space conditions appear inadequate, Engineer shall be notified before proceeding with installations.
- C. Engineer may, without extra charge, make reasonable modifications in the layout as needed to prevent conflict with work of other trades and/or for proper execution of the work.
- D. Where variances occur between the Drawings and Specifications or within either of the Documents, include the item or arrangement of better quality, greater quantity or higher cost in the Contract price. The Engineer shall decide on the item and the manner in which the work shall be installed.

#### 1.5 SURVEYS AND MEASUREMENTS

- A. Before submitting a Bid, the Contractor shall visit the site and shall become thoroughly familiar with all conditions under which the work will be installed. Contractor will be held responsible for any assumptions, omissions or errors made as a result of failure to become familiar with the site and the Contract Documents.
- B. Base all measurements, both horizontal and vertical, from established bench marks. All Work shall agree with these established lines and levels. Verify all measurements at the site and check the correctness of same as related to the Work.
- C. Should the Contractor discover any discrepancies between actual measurements and those indicated which prevent following good practice or the intent of the Drawings and Specifications, notify the Engineer do not proceed with that Work until instructions have been received from the Engineer.

#### 1.6 CODES AND STANDARDS

- A. The Codes and Standards listed below apply to all Work. Where Codes or Standards are mentioned in these Specifications, follow the latest edition or revision.
- B. The current adopted editions of the following State or local Codes apply:
  - 1. 2015 International Building Code
  - 2. 2018 Connecticut State Building Code
  - 3. 2015 International Existing Building Code
  - 4. 2015 International Mechanical Code
  - 5. 2015 International Plumbing Code
  - 6. 2017 National Electrical Code (NFPA 70)
  - 7. 2015 International Energy Conservation Code
  - 8. 2015 International Residential Code

9. 2015 International Fire Code
10. 2015 Life Safety Code (NFPA 101)
11. ICC/ANSI A117.1-2009 Accessible and Usable Buildings and Facilities

- C. All materials furnished and all work installed shall comply with the rules and recommendations of the NFPA, the requirements of the local utility companies, the recommendations of the fire insurance rating organization having jurisdiction and the requirements of all Governmental departments having jurisdiction.
- D. Include in the Work, without extra cost to the Owner, any labor, materials, testing, services, apparatus and Drawings in order to comply with all applicable laws, ordinances, rules and regulations, whether or not shown on Drawings and/or specified.

1.7 PERMITS AND FEES

- A. Give all necessary notices, obtain all permits; pay all Government and State sales taxes and fees where applicable, and other costs, including utility connections or extensions in connection with the Work. File all necessary Drawings, prepare all Documents and obtain all necessary approvals of all Governmental and State departments having jurisdiction, obtain all required certificates of inspections for Work and deliver a copy to the Engineer before request for acceptance and final payment for the Work.

1.8 SEISMIC RESTRAINT

- A. General: Verify current seismic requirements based on project location and with Code requirements. If this project is in a seismic zone per State and/or Local Codes and Ordinances, all materials and equipment shall be installed, supported, and seismically restrained accordingly.
- B. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in the jurisdiction where the 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 vibration isolation bases and seismic restraints that are similar to those required for this Project in material, design, and extent.
- C. If mechanical equipment is exempt from seismic restraints, provide a certified letter, signed by the seismic professional engineer noted in Paragraph B, referencing code verification of exemptions.
- D. Shop Drawings: Show designs and calculations, certified by a professional engineer, for the following:
1. Design Calculations: Calculations for selection of vibration isolators, design of vibration isolation bases, and if required, design of seismic supports and selection of seismic restraints for all equipment and materials.
  2. Vibration Isolation Base Details: Detail fabrication, including anchorages and attachments to the structure and to the supported equipment. Include auxiliary motor slides and rails, and base weights.
  3. Seismic Restraint Details (If required): Detail fabrication and attachment of restraints, supports and snubbers.
  4. Seismic Separation Assemblies (If required): Refer to the Architectural and/or Structural drawings for locations of seismic joints.

- E. Installation: Installation shall be carried out in strict accordance with the Seismic Engineer's submittal, current Code, accepted standards and the equipment and material manufacturers' recommendations.

1.9 COORDINATION

- A. Carry out all work in conjunction with other trades and give full cooperation in order that all work may proceed with a minimum of delay and interference. Particular emphasis is placed on timely installation of major apparatus and furnishing other Contractors, especially the General Contractor or Construction Manager, with information as to openings, chases, sleeves, bases, inserts, equipment locations, panels, access doors, etc. required by other trades, and to allow for serviceable access to equipment.
- B. Mechanical contractors' shall initiate coordination drawings and sections clearly showing how the work is to be installed in relation to the work of other trades and existing conditions, at no extra charge to the Owner. The Contractors' shall prepare coordination drawings at a scale no less than 1/4"=1'-0", showing the work of all trades and existing conditions, including but not limited to, the following: proposed ductwork installation in detail, including ceiling heights, approved structural steel shop drawings and/or existing structural system, duct heights, access doors, light fixtures, registers and diffusers, sprinkler piping, electrical distribution conduits, wires, panels and any other electrical work which may conflict with the sheet metal ducts or piping, waste and vent piping, water piping, storm piping, and rain leaders. Provide elevation details showing connections and equipment layout and configuration based on approved submittals. Each shall use a different color code. A coordination meeting of all Contractors involved is then to be held and all possible conflicts are to be resolved. All trades shall sign acceptance of the drawings and then shall submit two (2) prints of each drawing to the Engineer for record.
- C. Contractors are required to examine all of the Project Drawings and mutually arrange Work so as to avoid interference. In general, ductwork, heating piping, sprinkler piping and drainage lines take precedence over water, gas and electrical conduits. The Engineer regarding the arrangement of Work, which cannot be agreed upon by the Contractors, will make final decisions. Service of equipment will take precedence.
- D. Where the Work of the Contractor will be installed in close proximity to or will interfere with Work of other trades, assist in working out space conditions to make a satisfactory adjustment.
- E. If Work is installed before coordinating with other Divisions or so as to cause interference with Work of other Sections, the Contractor causing the interference will make necessary changes to correct the condition without extra charge to the Owner.
- F. Initial contact and coordination has been conducted with utility entities for the purpose of the preparation of Bid Documents. The Contractor shall coordinate all final specific utility requirements.

1.10 ACCEPTANCES

- A. The equipment, materials, Workmanship, design and arrangement of all Work installed are subject to the review of the Engineer.
- B. Within 30 days after the awarding of a Contract, submit to the Engineer for review a list of manufacturers of equipment proposed for the Work. The intent to use the exact makes specified does not relieve the Contractor of the responsibility of submitting such a list.

- C. If extensive or unacceptable delivery time is expected on a particular item of equipment specified, notify the Engineer, in writing, within 30 days of the awarding of the Contract. In such instances, deviations may be made pending acceptance by the Engineer or the Owner's representative.
- D. Where any specific material, process or method of construction or manufactured article is specified by reference to the catalog or model number of a manufacturer, the Specifications are to be used as a guide and are not intended to take precedence over the basic duty and performance specified or noted on the Drawings. In all cases, verify the duty specified with the specific characteristics of the equipment offered for review. Equipment characteristics are to be used as mandatory requirements where the Contractor proposes to use an acceptable equivalent.
- E. If material or equipment is installed before shop drawing review, liability for its removal and replacement is assumed by the Contractor, at no extra charge to the Owner, if, in the opinion of the Engineer, the material or equipment does not meet the intent of the Drawings and Specifications.
- F. Failure on the part of the Engineer to reject shop drawings or to reject Work in progress shall not be interpreted as acceptance of Work not in conformance with the Drawings and/or Specifications. Correct Work not in conformance with the Drawings and/or Specifications whenever non-conformance is discovered.

#### 1.11 EQUIPMENT DEVIATIONS

- A. Where the Contractor proposes to deviate (substitute or provide an equivalent) from the equipment or materials as hereinafter specified, he shall do so by making a request in writing a minimum of 14 calendar days prior to submitting his bid. The request shall include a detailed description of the proposed deviation, manufacturer's equipment cuts, copy of manufacturer's warranty and a line-by-line comparison detailing how the proposed product differs from the specified product. The proposed deviation must be equivalent or better than the specified product as judged by the Engineer.
  - 1. The Base Bid shall be based on using the materials and equipment as specified and scheduled with no exceptions. Equipment Manufacturers Scheduled on Drawings are considered Base Product Specification and any other acceptable manufacturers listed in the specifications is considered an equipment deviation and subject to the requirements above. When any alternate manufacturer does not qualify acceptable, as determined by the Engineer, provide the Base Product manufacturer at no additional cost to Owner.
  - 2. Where an equivalent manufacturer is listed in the specifications, it may or may not indicate that there is an equal product available. Any products must meet all criteria of the Base Product Specification as determined by the Engineer.
- B. Substitutions and Equipment Deviations will not be considered if they have a direct bearing on the changing or revising of Contract Documents or if it involves other Contractor's scope of work or their equipment. Coordination with all trades is required and must be acceptable to all other involved Contractors.
- C. Substitutions may be considered for one of the following:
  - 1. Substitution for Cause: Changes proposed by the Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of warranty terms.
  - 2. Substitutions for Convenience: Changes proposed by the Contractor that are not required in order to meet other Project requirements, but may offer advantage to either the Owner or Contractor.

- D. In these Specifications and on the accompanying Drawings, one or more makes of materials, apparatus or appliances may have been specified for use in this installation. This has been done for convenience in fixing the standard of workmanship, finish and design required for installation. In the event that only one (1) manufacturer of a product is specified and it is found that the manufacturer has discontinued the product, the Contractor shall use an acceptable equivalent product that meets the requirements of an equivalent product, as noted below, and has all the features of the originally specified product. The details of workmanship, finish and design, and the guaranteed performance of any material, apparatus or appliance which the Contractor desires to deviate for those mentioned herein shall also conform to these standards.
- E. Where no specific make of material, apparatus or appliance is mentioned, any first-class product made by a reputable manufacturer may be submitted for the Engineer's review.
- F. Where two or more names are given as equivalents or where one name only is used and is followed by the words "or acceptable equivalent", the Contractor must use the item named or he may apply for an equipment deviation through the prescribed manner in accordance with this Specification.
- G. Equipment, material or devices submitted for review as an "accepted equivalent" shall meet the following requirements:
  - 1. The equivalent shall have the same construction features such as, but not limited to:
  - 2. Material thickness, gauge, weight, density, etc.
  - 3. Welded, riveted, bolted, etc., construction
  - 4. Finish, undercoatings, corrosion protection
  - 5. The equivalent shall perform with the same or better operating efficiency.
  - 6. The equivalent shall have equal or greater reserve capacity.
  - 7. The equivalent shall be locally represented by the manufacturer for service, parts and technical information.
  - 8. The equivalent shall bear the same labels of performance certification as is applicable to the specified item, such as AMCA or ARI labels.
- H. Where the Contractor proposes to use an item of equipment other than specified or detailed on the Drawings which requires any redesign of the structure, partitions, foundations, piping, wiring or any other part of the mechanical, electrical or architectural layout, all such redesign and all new drawings and detailing required therefore shall be prepared by the Designers of Record at the expense of the Contractor and at no additional cost to the Owner.
- I. Where such accepted deviation or substitution requires a different quantity and arrangement of piping, ductwork, valves, pumps, insulation, wiring, conduit and equipment from that specified or indicated on the Drawings, the Contractor shall, with the acceptance by the Engineer, furnish and install any such additional equipment required by the system at no additional cost to the Owner, including any costs added to other trades due to the substitution.
- J. The Engineer shall determine if an "accepted equivalent" to a manufacturer listed in the Specifications is considered acceptable.

1.12 SHOP DRAWINGS

- A. Refer to individual specification sections for additional submittal information.
- B. The Contractor shall submit for review detailed shop drawings of all equipment and material specified in each section and coordinated ductwork layouts. No material or equipment may be delivered to the job site or installed until the Contractor has received shop drawings for the particular material or equipment which have been properly reviewed.

- C. Shop drawings shall be submitted within 60 days after award of Contract before any material or equipment is purchased. The Contractor shall submit for review copies of all shop drawings to be incorporated in the Contract. Refer to the General Conditions and Supplementary General Conditions for the quantity of copies required for submission. Where quantities are not specified, provide seven (7) copies for review.
- D. Provide shop drawings for all devices specified under equipment specifications for all systems, materials, equipment and/or devices. Shop drawings shall include manufacturers' names, catalog numbers, cuts, diagrams and other such descriptive data as may be required to identify and accept the equipment. A complete list in each category (example: all fixtures) of all shop drawings, catalog cuts, material lists, etc., shall be submitted to the Engineer at one time. No consideration will be given to a partial shop drawing submittal. Partial submissions shall be rejected.
- E. Equipment shop drawings shall contain full range performance curves, graphs, tables or other pertinent data which clearly indicates operational range of a given unit size. Computer generated/plotted curves, based solely on design performance, will not be accepted.
- F. All specific options and/or alternatives shall be clearly indicated. Failure to do so shall be grounds for rejection.
- G. Submittals shall be marked with the trade involved, i.e., HVAC, plumbing, fire protection, etc. and the specific associated specification section.
- H. Where multiple quantities or types of equipment are being submitted, provide a cover sheet (with a list of contents) on the submittal identifying the equipment or material being submitted.
- I. Failure to submit shop drawings in ample time for review shall not entitle the Contractor to an extension of Contract time. Contractor must allow for a one week review at the Engineer's office plus normal delivery time to the G.C., Architect, Engineer, and return to the Architect, and G.C. No claim for extension by reason of such default will be allowed, nor shall the Contractor be entitled to purchase, furnish and/or install equipment which has not been reviewed by the Engineer. The Contractor shall incur all costs associated with delay of construction due to equipment and/or materials arriving late due to late or improper shop drawing submittal.
- J. The Contractor shall furnish all necessary templates, patterns, etc., for installation work and for the purpose of making adjoining work conform; furnish setting plans and shop details to other trades as required.
- K. Acceptance rendered on shop drawings shall not be considered as a guarantee of measurements or building conditions. Where drawings are reviewed, review does not indicate that drawings have been checked in detail; said approval does not in any way relieve the Contractor from his responsibility or necessity of furnishing material or performing work as required by the Contract Drawings and Specifications. Verify available space prior to submitting shop drawings.
- L. Acceptance of shop drawings shall not apply to quantity nor relieve Contractor of his responsibility to comply with intent of Drawings and Specifications.
- M. Acceptance of shop drawings is final and no further changes will be allowed without the written consent of the Engineer.
- N. Shop drawing submittal sheets which may show items that are not being furnished shall have those items crossed off to clearly indicate which items will be furnished.

- O. Bidders shall not rely on any verbal clarification of the Drawings and/or Specifications. Any questions shall be referred to the Engineer at least five (5) working days prior to Bidding to allow for issuance of an Addendum. After the five (5) day deadline, Bidder shall make a decision and qualify the Bid, if the Bidder deems it necessary.
- P. Contractor shall make any corrections required by Engineer and shall resubmit required number of corrected copies of shop drawings or new samples until accepted. Contractor shall direct specific attention in writing or on resubmitted shop drawings to revisions other than corrections requested by Engineer on previous submissions. Engineer shall review no more than one resubmittal of any shop drawing or sample at Owner's expense. The fees for review of additional resubmittals shall be paid by the Contractor at the Engineer's standard rates.

**1.13 CHANGES IN WORK**

- A. A Change Order is a written order to the Contractor signed by the Owner and the Architect, issued after Contracts have been awarded, authorizing a change in the work or an adjustment in the Contract sum or the Contract time. A Change Order signed by the Contractor indicates his agreement therewith, including the adjustment in the Contract sum or the Contract time.
- B. All changes in the work shall follow the recommendations of the AIA "General Conditions of the Contract for Construction", Article 12.

**1.14 MANUFACTURER'S IDENTIFICATION**

- A. All component parts of each item of equipment or device shall bear the manufacturer's nameplate giving name of manufacturer, description, size, type, serial and model number, electrical characteristics, etc., in order to facilitate maintenance or replacement. Nameplate data shall not be obstructed. The nameplate of a Contractor or distributor will not be acceptable.
- B. All material and equipment for the electrical portion of the mechanical systems shall bear the label of or be listed by UL, or other accredited authoritative agencies or testing organizations approved by the authority having jurisdiction.

**1.15 RECORD DRAWINGS**

- A. Maintain at the job site a record set of Mechanical Drawings on which any changes in location or routing of all equipment, materials and access panels shall be recorded.
- B. At the end of construction, the Contractor shall provide the Owner with a complete set of As-Built Drawings, including all updated coordination drawings, ductwork and piping plans. As-Built drawings shall be drawn on the latest version of Autocad or compatible software, approved in writing, prior to submittal.

**1.16 MATERIALS AND WORKMANSHIP**

- A. All materials and apparatus required for the work, except as otherwise specifically indicated, shall be new, of first-class quality, and shall be furnished, delivered, erected, connected and finished in every detail and be so selected and arranged as to fit properly into the building spaces. Where no specific type or quality of material is given, a first-class standard article as accepted by industry standards shall be furnished.
- B. The Contractor shall furnish the services of an experienced superintendent who shall be constantly in charge of the installation of the work together with all skilled workmen, fitters,



metal workers, welders, helpers and laborers required to unload, transfer, erect, connect, adjust, start, operate and test each system.

- C. Unless otherwise specifically indicated on the Drawings or Specifications, all equipment and materials shall be installed with the acceptance of the Engineer and in accordance with the recommendations of the manufacturer. This includes the performance of such tests as the manufacturer recommends.
- D. All labor for installation of mechanical systems shall be performed by experienced, skilled tradesmen under the supervision of a licensed journeyman foreman. All work shall be of a quality consistent with good trade practice and shall be installed in a neat, workmanlike manner. The Engineer reserves the right to reject any work which, in his opinion, has been installed in a substandard, dangerous or unserviceable manner. The Contractor shall replace said work in a satisfactory manner at no extra cost to the Owner.

1.17 PROTECTION OF MATERIALS AND EQUIPMENT

- A. Work under each Section shall include protecting the work and material of all other Sections from damage by work or workmen and shall include making good all damage thus caused.
- B. The Contractor shall be responsible for work and equipment until the facility has been accepted by the Owner. Protect work against theft, injury or damage and carefully store material and equipment received on site which is not immediately installed. Close open ends of work with temporary covers or plugs during construction to prevent entry of foreign material.
- C. Work under each Section includes receiving, unloading, uncrating, storing, protecting, setting in place and completely connecting equipment supplied under each Section. Work under each Section shall also include exercising special care in handling and protecting equipment and fixtures, and shall include the cost of replacing any of the equipment and fixtures which are missing or damaged.
- D. Equipment and material stored on the job site shall be protected from the weather, vehicles, dirt and/or damage by workmen or machinery. Insure that all electrical or absorbent equipment or material is protected from moisture during storage.

1.18 BASES AND SUPPORTS

- A. Unless otherwise specifically noted, the Contractor shall furnish all necessary supports, rails, framing, bases and piers required for all equipment furnished under this Division.
- B. Unless otherwise shown, all equipment shall be securely attached to the building structure in an acceptable manner. Attachments shall be of a strong and durable nature; any attachments that are insufficient, in the opinion of the Engineer, shall be replaced as directed without extra cost to the Owner.
- C. All equipment supports shall be designed and constructed such that the equipment will be capable of resisting both vertical and horizontal movement. The equipment shall be positively anchored to the bases or supports to resist vertical movement. The equipment and its supports shall be provided with suitable restraints to resist horizontal movement from any direction as dictated by applicable seismic Codes.

1.19 SLEEVES, INSERTS AND ANCHOR BOLTS

- A. The Contractor shall provide, set in place and be held responsible for the location of all sleeves, inserts and anchor bolts required for the work. In the event that failure to do so requires cutting and patching of finished work, it shall be done at the Contractor's expense.
- B. It is the responsibility of the Contractor to furnish cast-in-place steel sleeves, inserts and anchors in sufficient time to be installed during initial concrete pours. Where job schedules make this impossible, coordinate and obtain acceptance from the Structural Engineer for alternate installation methods.
- C. All pipes and conduits passing through floors, walls or partitions shall be provided with sleeves having an inside diameter one (1") inch larger than the outside diameter of the pipe, conduit or insulation enclosing the pipe.
- D. Piping insulation shall run continuous through sleeve.
- E. Penetrations through fire-rated walls, ceilings and all floors (except slab on grade) in which piping or ducts pass shall be filled solidly with acceptable fire-stopping material. Sleeves shall be steel or a UL / FM listed and approved assembly.
- F. When ducts, piping or conduit penetrate the floor of a mechanical room located above an occupied space, such penetrations shall be made completely watertight, such that a liquid leak shall not pass through the penetration.

1.20 FIRE-STOPS AND SEALS

- A. Refer to Division 7 Specification for additional and more specific information.
- B. Fire-stopping systems shall be submitted as shop drawing.
- C. Penetrations through fire-rated walls, ceiling or floors shall be sealed with a UL approved fire-stop fitting classified for an hourly rating equivalent to the fire rating of the wall, ceiling or floor.
- D. Thruwall and floor seals shall be used to provide a positive means of sealing pipes or ducts which pass through the concrete foundation of a structure below grade or below ground water level. Seals shall also be used at entry points through concrete walls or floors which must be sealed.

1.21 CUTTING AND PATCHING

- A. All cutting and patching shall be done per Division 1 requirements. The Contractor shall furnish sketches showing the location and sizes of all openings, chases, etc., required for the installation of work.
- B. Work under this Division shall include furnishing, locating and setting inserts and/or sleeves required before the floors and walls are built or be responsible for cutting, drilling or chopping where sleeves and inserts were not installed or correctly located. The Contractor shall do all drilling required for the installation of hangers.
- C. Exercise extreme caution when core drilling or punching openings in concrete floor slabs in order to avoid cutting or damaging structural members. No structural members or structural slabs/floors shall be cut without the written acceptance of the Structural Engineer and all such cutting shall be done in a manner directed by him.

1.22 SCAFFOLDING, RIGGING, HOISTING

- A. The Contractor shall furnish all scaffolding, rigging, hoisting and services necessary for erection and delivery into the premises any equipment and apparatus furnished under this Division. Remove same from premises when no longer required.

1.23 WATERPROOFING

- A. Where any work pierces waterproofing, including waterproof concrete and floors in wet areas, the method of installation shall be reviewed by the Engineer before work is done. The Contractor shall furnish all necessary sleeves, caulking and flashing required to make openings absolutely watertight.

1.24 ACCESSIBILITY AND ACCESS PANELS

- A. The Contractor shall be responsible for the sufficiency of the size of shafts and chases, the adequate thickness of partitions, and the adequate clearance in double partitions and hung ceilings for the proper installation of the work.
- B. Locate all equipment which must be serviced, operated or maintained in fully accessible positions. Equipment shall include, but not be limited to: motors, controllers, coil, valves, switchgear, drain points, etc. Access doors shall be furnished if required for better accessibility. Minor deviations from the Drawings may be made to allow better accessibility, but changes of magnitude or which involve extra cost shall not be made without the acceptance of the Engineer.
- C. Access doors in walls, ceilings, floors, etc., shall be field coordinated. It is the responsibility of the Contractor to coordinate and provide information regarding the sizes and quantities of access doors required for his work. The Contractor shall arrange his work in such a manner as to minimize the quantity of access doors required, such as grouping shutoff valves in the same area. Where possible, locate valves in already accessible areas, such as lay-in ceilings, etc.
- D. On a clean set of prints, the Contractor shall mark in red pencil the location of each required access door, including its size and fire rating (if any), and shall submit the print to the Architect for review before access doors are purchased or installed.
- E. Upon completion of the Project, the Contractor shall physically demonstrate that all equipment and devices installed have been located and/or provided with adequate access panels for repair, maintenance and/or operation. Any equipment not so furnished shall be relocated or provided with additional access panels by the installing Contractor at no additional cost to the Owner. All access panel or door locations shall be indicated on Owner's final as-built record drawings.
- F. Permanent ladders for access to equipment when shown on Plans shall be furnished and installed. Coordinate exact requirements in field.

1.25 TEMPORARY OPENINGS

- A. The Contractor shall ascertain from an examination of the Drawings whether any special temporary openings in the building will be required for the admission of apparatus provided under this Division and shall coordinate the requirements accordingly. In the event of failure of the Contractor to give sufficient notice in time to arrange for these openings during construction, the Contractor shall assume all costs of providing such openings thereafter.

1.26 SHUTDOWNS

- A. When installation of a new system requires the temporary shutdown of an existing operating system, the connection of the new system shall be performed at such time as designated by the Owner's representative.
- B. The Engineer and the Owner shall be notified of the estimated duration of the shutdown period at least ten (10) days in advance of the date the work is to be performed.
- C. Work shall be arranged for continuous performance whenever possible. The Contractor shall provide all necessary labor, including overtime if required, to assure that existing operating services will be shut down only during the time actually required to make necessary connections.

1.27 TAGS AND CHARTS

- A. Each valve and piece of apparatus under this Division shall be provided with suitable brass or laminated plastic tags securely fastened with brass chains, screws or rivets. Equipment shall be numbered with laminated plastic tags or neatly stenciled letters two (2") inches high using designations in equipment schedules and/or shall conform to a directory indicating number, location and use of each item. Directories shall be prepared under each Section and shall be glass framed.
- B. Directory shall indicate valve tag number and the unit number, floor/area branch line, main line, service or other pertinent data to quickly and easily identify the valve's purpose.

1.28 ESCUTCHEONS

- A. The Contractor shall provide escutcheons on pipes wherever they pass through floors, ceilings, walls or partitions in finished visible locations.

1.29 PAINTING

- A. All materials shipped to the job site under this Division, such as grilles, registers and/or radiation covers, shall have standard manufacturer's finish, unless otherwise specified by Architect.
- B. The Contractor shall paint the interior of all ducts wherever the interior of the duct can be seen through a register or louver. Paint shall be flat black, rust preventative type.
- C. All outdoor piping, fittings and hangers shall be properly primed with zinc-rich primer and finished with a minimum of two (2) coats of high grade exterior enamel.

1.30 ELECTRICAL CONNECTIONS

- A. Unless otherwise specified, all wiring shall be furnished and installed per Division 26 Specifications.
- B. All motor controllers not factory mounted on mechanical equipment shall be furnished, mounted, and installed by the Division 26 contractor, and shall be coordinated with this contractor. Provide properly sized overload heaters and all required accessories with all motor controllers. See Division 26 Motor Controllers for motor controller requirements.
- C. All power wiring shall be furnished and installed per Division 26 complete from power source to motor or equipment junction box including power wiring through the motor controller and proper

means of disconnect per NEC and Division 26. The Division 26 Contractor shall provide all disconnects, unless noted otherwise.

1.31 QUIET OPERATION

- A. If noise level is deemed objectionable by the Owner/Engineer, the Contractor shall test and record sound levels in the presence of the Owner/Engineer. The sound level shall be observed on the "A" weighting network of a sound level or sound survey meter. The ASHRAE "Guide and Data Book" provides a means to determine sound level of mechanical equipment when the total of background plus equipment sound levels exceeds the minimum acceptable equipment sound level.
- B. If objectionable noises or vibrations of any magnitude are produced and transmitted to occupied portions of the building by apparatus, piping, ducts or other parts of the mechanical work, the Contractor shall make such changes or additions as necessary without extra cost to the Owner.

1.32 MAINTENANCE

- A. The Contractor shall provide the necessary skilled labor to assure the proper operation and to provide all required current and preventative maintenance for all equipment and controls provided under this Division until final acceptance of the building by the Owner. The Contractor shall not assume acceptance of the building by the Owner until he receives written notification.
- B. The Contractor shall receive calls for any and all problems experienced in the operation of the equipment provided under this Division and he shall take steps to immediately correct any deficiencies that may exist.
- C. The Contractor shall provide a check list and shall put a copy of it in the boiler or main mechanical room. The check list shall itemize each piece of equipment furnished under his Section.
- D. The Contractor shall certify on this check list that he has examined each piece of equipment and that, in his opinion, it is operating as intended by the manufacturer, it has been properly lubricated, and that all necessary current and preventative maintenance has been performed as recommended by the manufacturer and by good and accepted practice.
- E. The Contractor shall check all controls in the building to ascertain that they are functioning as designed. This shall apply to all thermostats, aquastats, humidistats, freezestats and firestats, etc. This portion of the work shall be performed by the Contractor who installed the controls.
- F. During construction, the Contractor shall ensure that all filters are in place on all equipment. If the equipment is operated during construction (see restrictions section of this specification), strict attention shall be paid to maintaining clean and effective filters and cleaning ductwork and equipment. Filters shall be new and/or clean when the system testing and balancing takes place. The Contractor shall bear the cost of all filters and media during construction until final acceptance by the Owner. This requirement shall apply equally to fluid filters and strainers.
- G. Where normal preventative maintenance for any piece of equipment requires special tools, the Contractor shall furnish the appropriate tools for that piece of equipment (i.e., special filter removal hooks, valve wrenches, etc.).

1.33 DEMOLITION

- A. All required demolition work shall be performed by the Contractor. All demolition work shall be performed in a neat and orderly fashion.
- B. Demolition work, if indicated on the drawings, is intended for general information only and is not intended to describe the full extent of demolition work required under this Contract. All existing mechanical work and systems, including but not limited to piping, equipment, ductwork, wiring, controls, hangers, and supports, made obsolete by this project, shall be removed in their entirety under this Contract, unless noted otherwise.
- C. After piping, ductwork, equipment, etc., has been removed, neatly cap remaining ductwork and piping, and insulate caps to match the existing adjacent ductwork and piping. In finished areas, all ductwork and piping shall be cut back to a concealed location, i.e., within walls, above ceilings, etc., before capping.
- D. Before submitting his Bid, the Contractor shall visit the site with the Contract Documents in hand, and shall inspect all existing systems to determine the extent of demolition work involved. Particular attention is drawn to the removal of existing walls or portions of existing walls. In those areas, all exposed and concealed piping, ductwork, equipment, etc., running across or through affected areas shall be removed as required. Piping and ductwork shall then be either capped, or, if required for the proper continuing operation of an existing system to remain, piping and ductwork shall be rerouted around the affected areas and reconnected as required.
- E. In general, it shall be the responsibility of the Contractor to remove demolished equipment, piping, ductwork, etc., from the site and properly dispose of it. If the Owner shall so request, however, the Contractor shall turn over demolished equipment, etc., to the Owner for the Owner's use. Unless otherwise noted, demolished work shall not be abandoned in place. Contractor shall make safe all utilities pertaining to this section.

1.34 LUBRICATION

- A. All equipment installed under this Contract having moving parts and requiring lubrication shall be properly lubricated according to manufacturer's recommendations prior to testing and operation. Any such equipment discovered to have been operated before lubrication by the Contractor is subject to rejection and replacement at no additional cost to the Owner. Units furnished with sealed bearings are exempted.
- B. The Contractor shall furnish and install, as appropriate on all equipment requiring lubrication, Zerk pressure gun grease fittings or sight gravity-feed oilers equipped with shutoff and needle valve adjustment. Units furnished with sealed bearings and lifetime lubrication are exempted. All fittings and oilers are to be fully accessible for lubrication with equipment which does not require special adapters. Where fittings would be otherwise inaccessible, furnish and install extended grease lines.

1.35 CLEANING

- A. The Contractor shall be responsible for keeping the jobsite clean, safe and neat throughout the duration of construction. The Contractor shall clean up his own debris daily and shall coordinate removal of rubbish and debris with the General Contractor/Construction Manager.
- B. No debris, construction materials, cigarette butts, coffee cups, etc., shall be left above suspended ceilings.
- C. Terminal equipment and plumbing fixtures shall cleaned at substantial completion.

- D. If any part of a system should be stopped or damaged by any foreign matter after being placed in operation, the system shall be disconnected, cleaned and reconnected wherever necessary to locate and/or remove obstructions. Any work damaged in the course of removing obstructions shall be repaired or replaced when the system is reconnected at no additional cost to the Owner.
- E. During the course of construction, all ducts and pipes shall be capped in an acceptable manner to insure adequate protection against the entrance of foreign matter.
- F. Upon completion of all work under the Contract, the Contractor shall remove from the premises all rubbish, debris and excess materials left over from his work. Any oil or grease stains on floor areas caused by the Contractor shall be removed and floor areas left clean.

1.36 BUILDING FLUSH OUT

- A. Once installation is complete the auditorium shall be flushed out in accordance with this section of the specification.
- B. After construction ends, prior to occupancy and with all interior finishes installed, perform a building flush-out by supplying a total air volume of 14000 cu ft of outdoor air per sq ft of floor area while maintaining an internal temperature of at least 60 degrees F and relative humidity no higher than 60 percent.
- C. Flush out is specifically limited to the air handling unit serving the auditorium. For calculation purposes the floor area of the auditorium shall be considered to be 18,000 sf. Controls shall be configured to allow 100% outside air during flush out, while maintaining maximum humidity of 60% by utilizing the systems chilled water cooling valve.
- D. It is estimated that flush out, utilizing 100% outside air, with fan operating at full speed will take a minimum of 120 hours. Contractor shall include this time in his schedule. Every effort should be made to accomplish flush out during the unoccupied period of the building.
- E. Contractor shall maintain a log during flush, out indicating date, number of hours flush out is operative on that date, and % of outside air (normally 100%) during flush out to verify flush out requirements are met. Log shall be submitted to the Engineer for review upon completion of flush out.
- F. If building occupancy is to occur before completion of the flush-out, deliver a minimum of 3500 cu ft of outdoor air per sq ft of floor area to the space. Once the space is occupied, ventilate it at a minimum rate of 0.30 cfm/sq ft of outside air or the design minimum outside air rate determined in accordance with Sections 4 through 7 of ASHRAE 62.1 or applicable local code, whichever is more stringent. During each day of the flush-out period, begin ventilation a minimum of three (3) hours prior to occupancy and continue during occupancy. Maintain these conditions until a total of 14000 cu ft/sq ft of outside air has been delivered to the space.
- G. Flush out will include the installation of new clean filters before flush out commences, and replacement with new filters once flush out is complete.

1.37 OPERATING INSTRUCTIONS

- A. Upon completion of all work and tests, the Contractor shall furnish the necessary skilled labor and helpers for operating his system and equipment for a period of 4 hours unless specified otherwise under each applicable Section of this Division. During this period, he shall fully instruct the Owner or the Owner's representative in the operation, adjustment and maintenance

of all equipment furnished. The Contractor shall give at least 72 hours notice to the Owner and the Engineer in advance of this period.

- B. The Contractor shall formally submit for delivery to the Engineer three (3) complete bound sets of typewritten or blueprinted instructions for operating and maintaining all systems and equipment included in this Division. All instructions shall be submitted in draft for review prior to final issue. Manufacturer's advertising literature or catalogs will not be acceptable for operating and maintenance instruction.
- C. The Contractor, in the above-mentioned instructions, shall include the maintenance schedule for the principal items of equipment furnished under this Division.
- D. The appropriate Contractor shall physically demonstrate procedures for all routine maintenance of all equipment furnished under each respective Section to assure accessibility to all devices.
- E. An authorized manufacturer's representative shall attest in writing that the equipment has been properly installed prior to startup of any major equipment. The following equipment will require this inspection: pumps; air conditioning equipment, controls, air handling equipment, boilers. These letters will be bound into the operating and maintenance books.
- F. Refer to individual trade Sections for any other particular requirements related to operating instructions.

**1.38 ADJUSTING AND TESTING**

- A. After all the equipment and accessories to be furnished are in place, they shall be put in final adjustment and subjected to such operating tests so as to assure the Engineer that they are in proper adjustment, the control operate as described in the sequence of operation and all systems are in satisfactory, permanent operating condition.
- B. Where requested by the Engineer, a factory-trained service engineering representative shall inspect the installation and assist in the initial startup and adjustment to the equipment. The period of these services shall be for such time as necessary to secure proper installation and adjustments. After the equipment is placed in permanent operation, the service engineering representative shall supervise the initial operation of the equipment and instruct the personnel responsible for operation and maintenance of the equipment. The service engineering representative shall notify the Contractor in writing that the equipment was installed according to manufacturer's recommendations and is operating as intended by the manufacturer.

**1.39 COMMISSIONING**

- A. Where indicated in the equipment or commissioning specifications, engage a factory-authorized service representative, to perform startup service.
- B. Complete installation, startup checks and functional tests according to manufacturers written instructions.
- C. Operational Test: After electrical system has been energized, start units to confirm proper unit operation. Rectify malfunctions, replace defective parts with new ones and repeat the start up procedure.
- D. Verify that equipment is installed and commissioned as per manufacturers written instructions/requirements.



- E. Test and adjust controls and safety devices. Replace damaged and malfunctioning controls and equipment.
- F. Contractor shall replace all damaged components and components that failed the inspections at no additional charge.
- G. Inspections by the Commissioning Agent shall be on "spot check basis". Commissioning process does not reduce responsibility of installing contractors to provide a finished and fully functioning product.
- H. This section shall in no way diminish the responsibility of the Contractors, Sub-contractors and Suppliers in performing all aspects of work and testing as outlined in the Contract Documents. Any requirements outlined in this section are in addition to requirements outlined in related specifications.

1.40 GUARANTEES

- A. The Contractor shall guarantee all equipment, material and workmanship under these Specifications and the Contract for a period of eighteen (18) months from the date of final acceptance by Owner, unless otherwise noted.
- B. During this guarantee period, all defects developing through faulty equipment, materials or workmanship shall be corrected or replaced immediately by the Contractor without expense to the Owner. Such repairs or replacements shall be made to the Engineer's satisfaction.

1.41 RESTRICTIONS

- A. Mechanical equipment provided under this Division may not be used for temporary heating/cooling requirements due to premature wear and dirt/dust infiltration. Equipment shall be protected from dust and debris during construction. Duct opening shall be protected during construction to prevent dust and debris from being transported through ductwork to equipment or other spaces and to ensure ductwork is clean and ready for use at the time of equipment start-up. Written approval may be obtained from the Owner only after submission of a written cleaning plan and guarantee/warranty extension.
- B. Piping shall not be run in any concrete floor slab. Written approval from the Structural Engineer may be obtained only after submission and approval of a layout shop drawing.

PART 2 PRODUCTS - NOT USED.

PART 3 EXECUTION - NOT USED.

END OF SECTION 23 05 00

SECTION 23 05 13 - COMMON MOTOR REQUIREMENTS FOR HVAC EQUIPMENT

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor and each Subcontractor and/or supplier providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SECTION INCLUDES

- A. General construction and requirements.
- B. Applications.
- C. Single phase electric motors.
- D. Three phase electric motors.
- E. Electronically Commutated Motors (ECM).

1.3 RELATED REQUIREMENTS

- A. Section 26 05 83 - Wiring Connections: Electrical characteristics and wiring connections.

1.4 REFERENCE STANDARDS

- A. ABMA STD 9 - Load Ratings and Fatigue Life for Ball Bearings; 2015.
- B. IEEE 112 - IEEE Standard Test Procedure for Polyphase Induction Motors and Generators; 2004.
- C. NEMA MG 1 - Motors and Generators; 2017.
- D. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.5 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide wiring diagrams with electrical characteristics and connection requirements.
- C. Test Reports: Indicate test results verifying nominal efficiency and power factor for three phase motors larger than 1/2 horsepower.
- D. Manufacturer's Installation Instructions: Indicate setting, mechanical connections, lubrication, and wiring instructions.
- E. Operation Data: Include instructions for safe operating procedures.

- F. Maintenance Data: Include assembly drawings, bearing data including replacement sizes, and lubrication instructions.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacture of electric motors for general HVAC use, and their accessories, with minimum three years documented product development, testing, and manufacturing experience.
- B. Comply with NFPA 70.
- C. Provide certificate of compliance from Authority Having Jurisdiction indicating approval of high efficiency motors.
- D. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect motors stored on site from weather and moisture by maintaining factory covers and suitable weather-proof covering. For extended outdoor storage, remove motors from equipment and store separately.

PART 2 PRODUCTS

2.1 GENERAL CONSTRUCTION AND REQUIREMENTS

- A. Electrical Service:
  - 1. Motors 3/4 HP and Smaller: 115 volts, single phase, 60 Hz.
  - 2. Motors Larger than 3/4 Horsepower: 208 volts, three phase, 60 Hz.
- B. Nominal Efficiency:
  - 1. Open Motor with Two Poles: 82.5.
  - 2. Open Motor with Four Poles: 82.5.
  - 3. Open Motor with Six Poles: 50.0.
  - 4. Enclosed Motor with Two Poles: 75.5.
  - 5. Enclosed Motor with Four Poles: 82.5.
  - 6. Enclosed Motor with Six Poles: 50.0.
- C. Construction:
  - 1. Open drip-proof type except where specifically noted otherwise.
  - 2. Design for continuous operation in 104 degrees F (40 degrees C) environment.
  - 3. Design for temperature rise in accordance with NEMA MG 1 limits for insulation class, service factor, and motor enclosure type.
  - 4. Motors with frame sizes 254T and larger: Energy efficient type.
- D. Visible Nameplate: Indicating motor horsepower, voltage, phase, cycles, RPM, full load amps, locked rotor amps, frame size, manufacturer's name and model number, service factor, power factor, efficiency.
- E. Wiring Terminations:
  - 1. Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Enclose terminal lugs in terminal box sized to NFPA 70, threaded for conduit.

2. For fractional horsepower motors where connection is made directly, provide threaded conduit connection in end frame.

## 2.2 APPLICATIONS

- A. Single phase motors for shaft mounted fans or blowers: Permanent split capacitor type.

## 2.3 SINGLE PHASE POWER - PERMANENT-SPLIT CAPACITOR MOTORS

- A. Starting Torque: Exceeding one fourth of full load torque.
- B. Starting Current: Up to six times full load current.
- C. Multiple Speed: Through tapped windings.

## 2.4 THREE PHASE POWER - SQUIRREL CAGE MOTORS

- A. Starting Torque: Between 1 and 1-1/2 times full load torque.
- B. Starting Current: Six times full load current.
- C. Power Output, Locked Rotor Torque, Breakdown or Pull Out Torque: NEMA Design B characteristics.
- D. Design, Construction, Testing, and Performance: Comply with NEMA MG 1 for Design B motors.
- E. Insulation System: NEMA Class B or better.
- F. Testing Procedure: In accordance with IEEE 112. Load test motors to determine free from electrical or mechanical defects in compliance with performance data.
- G. Motor Frames: NEMA Standard T-Frames of steel, aluminum, or cast iron with end brackets of cast iron or aluminum with steel inserts.
- H. Thermistor System (Motor Frame Sizes 254T and Larger): Three PTC thermistors embedded in motor windings and epoxy encapsulated solid state control relay for wiring into motor starter; refer to Section 26 29 13.
- I. Bearings: Grease lubricated anti-friction ball bearings with housings equipped with plugged provision for relubrication, rated for minimum ABMA STD 9, L-10 life of 20,000 hours. Calculate bearing load with NEMA minimum V-belt pulley with belt center line at end of NEMA standard shaft extension. Stamp bearing sizes on nameplate.
- J. Sound Power Levels: To NEMA MG 1.
- K. Part Winding Start Where Indicated: Use part of winding to reduce locked rotor starting current to approximately 60 percent of full winding locked rotor current while providing approximately 50 percent of full winding locked rotor torque.
- L. Nominal Efficiency: As indicated at full load and rated voltage when tested in accordance with IEEE 112.
- M. Nominal Power Factor: As indicated at full load and rated voltage when tested in accordance with IEEE 112.

2.5 ELECTRONICALLY COMMUTATED MOTORS (ECM)

A. Manufacturers:

1. US Motors, a brand of NIDEC Motor Corporation: [www.usmotors.com/#sle](http://www.usmotors.com/#sle).
2. Substitutions: See Section 01 60 00 - Product Requirements.

B. Applications:

1. Commercial:
  - a. Exhaust fan:
    - 1) Operating Mode: Constant room differential pressure.
    - 2) Input: Motor manufacturer to coordinate control requirements with the control board of the exhaust fan and/or specified sequence of operation.
    - 3) Shaft Extension: Single.
    - 4) Options: Remote mount control.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install securely on firm foundation. Mount ball bearing motors with shaft in any position.
- C. Check line voltage and phase and ensure agreement with nameplate.

3.2 SCHEDULE

A. NEMA Open Motor Service Factors.

1. 3/4 hp:
  - a. 1800 rpm: 1.25.
2. 1.5-150 hp:
  - a. 1800 rpm: 1.15.

B. Three Phase - Energy Efficient, Open Drip-Proof Performance:

1. 1800 rpm.
  - a. 3 hp:
    - 1) NEMA Frame: 182T.
    - 2) Minimum Percent Power Factor: 86.
    - 3) Minimum Percent Efficiency: 86.

END OF SECTION 23 05 13

SECTION 23 05 48 - VIBRATION AND SEISMIC CONTROLS FOR HVAC

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor and each Subcontractor and/or supplier providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SECTION INCLUDES

- A. Vibration isolation requirements.
- B. Vibration isolators for new exhaust fans.

1.3 REFERENCE STANDARDS

- A. ASHRAE (HVACA) - ASHRAE Handbook - HVAC Applications; Most Recent Edition Cited by Referring Code or Reference Standard.

1.4 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
  - 1. Coordinate selection and arrangement of vibration isolation and/or seismic control components with the actual equipment to be installed.
  - 2. Coordinate the work with other trades to provide additional framing and materials required for installation.
  - 3. Coordinate compatibility of support and attachment components with mounting surfaces at the installed locations.
  - 4. Notify Architect of any conflicts with or deviations from Contract Documents. Obtain direction before proceeding with work.

1.5 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Design Documents: Prepare and submit all information required for plan review and permitting by authorities having jurisdiction, including but not limited to floor plans, details, and calculations.
- C. Product Data: Provide manufacturer's standard catalog pages and data sheets for products, including materials, fabrication details, dimensions, and finishes.
  - 1. Vibration Isolators: Include rated load capacities and deflections; include information on color coding or other identification method for spring element load capacities.
- D. Shop Drawings - Vibration Isolation Systems:
  - 1. Include dimensioned plan views and sections indicating proposed arrangement of vibration isolators; indicate equipment weights and static deflections.

1.6 QUALITY ASSURANCE

- A. Comply with applicable building code.

- B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.
- C. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.1 VIBRATION ISOLATION REQUIREMENTS

- A. Design and provide vibration isolation systems to reduce vibration transmission to supporting structure from vibration-producing HVAC equipment and/or HVAC connections to vibration-isolated equipment.
- B. Comply with applicable general recommendations of ASHRAE (HVACA), where not in conflict with other specified requirements:
- C. General Requirements:
  - 1. Select vibration isolators to provide required static deflection.
  - 2. Select vibration isolators for uniform deflection based on distributed operating weight of actual installed equipment.
- D. Equipment Isolation: As indicated on drawings.

2.2 VIBRATION ISOLATORS

- A. General Requirements:
  - 1. Resilient Materials for Vibration Isolators: Oil, ozone, and oxidant resistant.
  - 2. Spring Elements for Spring Isolators:
    - a. Color code or otherwise identify springs to indicate load capacity.
    - b. Lateral Stability: Minimum lateral stiffness to vertical stiffness ratio of 0.8.
    - c. Designed to operate in the linear portion of their load versus deflection curve over deflection range of not less than 50 percent above specified deflection.
    - d. Designed to provide additional travel to solid of not less than 50 percent of rated deflection at rated load.
    - e. Selected to provide designed deflection of not less than 75 percent of specified deflection.
    - f. Selected to function without undue stress or overloading.
- B. Vibration Isolators for Non-Seismic Applications:
  - 1. Spring Isolator Hangers, Non-Seismic:
    - a. Description: Isolator assembly designed for installation in hanger rod suspension system utilizing single or multiple free-standing, laterally stable steel spring(s) in series with an elastomeric element for the lower hanger rod connection.
    - b. Designed to accommodate misalignment of bottom hanger rod up to 30 degrees (plus/minus 15 degrees) without short circuiting of isolation.
  - 2. Thrust Restraints:

- a. Description: Assembly utilizing free-standing, laterally stable steel spring designed for resisting horizontal motion due to thrust (e.g. air pressure from a fan), and intended for installation in pairs.

### PART 3 EXECUTION

#### 3.1 EXAMINATION

- A. Verify that field measurements are as shown on the drawings.
- B. Verify that mounting surfaces are ready to receive vibration isolation and/or seismic control components and associated attachments.
- C. Verify that conditions are satisfactory for installation prior to starting work.

#### 3.2 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Secure fasteners according to manufacturer's recommended torque settings.
- C. Vibration Isolation Systems:
  - 1. Isolator Hangers:
    - a. Use precompressed isolator hangers where required to facilitate installation and prevent damage to equipment utility connection provisions.
    - b. Locate isolator hangers at top of hanger rods in accordance with manufacturer's instructions.
  - 2. Thrust Restraints:
    - a. Adjust restraint movement under normal operating static pressure.
  - 3. Clean debris from beneath vibration-isolated equipment that could cause short circuiting of isolation.
  - 4. Use elastomeric grommets for attachments where required to prevent short circuiting of isolation.
  - 5. Adjust isolators to be free of isolation short circuits during normal operation.
  - 6. Do not overtighten fasteners such that resilient material isolator pads are compressed beyond manufacturer's maximum recommended deflection.

#### 3.3 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements, for additional requirements.
- B. Inspect vibration isolation and/or seismic control components for damage and defects.
- C. Vibration Isolation Systems:
  - 1. Verify isolator static deflections.
  - 2. Verify vibration isolation performance during normal operation; investigate sources of isolation short circuits.
- D. Correct deficiencies and replace damaged or defective vibration isolation and/or seismic control components.

END OF SECTION 23 05 48



SECTION 23 05 53 - IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor and each Subcontractor and/or supplier providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SECTION INCLUDES

- A. Nameplates.
- B. Adhesive-backed duct markers.

1.3 REFERENCE STANDARDS

- A. ASTM D709 - Standard Specification for Laminated Thermosetting Materials; 2017.

1.4 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. List: Submit list of wording, symbols, letter size, and color coding for mechanical identification.
- C. Product Data: Provide manufacturers catalog literature for each product required.
- D. Manufacturer's Installation Instructions: Indicate special procedures, and installation.
- E. Project Record Documents: Record actual locations of tagged valves.

PART 2 PRODUCTS

2.1 IDENTIFICATION APPLICATIONS

- A. Exhaust fans: Nameplates

2.2 NAMEPLATES

- A. Manufacturers:
  - 1. Advanced Graphic Engraving, LLC: [www.advancedgraphicengraving.com/#sle](http://www.advancedgraphicengraving.com/#sle).
  - 2. Brimar Industries, Inc: [www.pipemarker.com/#sle](http://www.pipemarker.com/#sle).
  - 3. Craftmark Pipe Markers: [www.craftmarkid.com/#sle](http://www.craftmarkid.com/#sle).
  - 4. Kolbi Pipe Marker Co: [www.kolbipipemarkers.com/#sle](http://www.kolbipipemarkers.com/#sle).
  - 5. Seton Identification Products, a Tricor Direct Company: [www.seton.com/#sle](http://www.seton.com/#sle).
  - 6. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Letter Color: White.
- C. Letter Height: 1/4 inch (6 mm).
- D. Background Color: Black.

E. Plastic: Comply with ASTM D709.

2.3 ADHESIVE-BACKED DUCT MARKERS

A. Manufacturers:

1. Brimar Industries, Inc: [www.pipemarker.com/#sle](http://www.pipemarker.com/#sle).
2. Craftmark Pipe Markers: [www.craftmarkid.com/#sle](http://www.craftmarkid.com/#sle).
3. Substitutions: See Section 01 60 00 - Product Requirements.

B. Material: High gloss acrylic adhesive-backed vinyl film 0.0032 inch (0.76 mm); printed with UV and chemical resistant inks.

C. Style: Individual Label.

D. Color: Yellow/Black.

E. Size: 1.5 inches.

PART 3 EXECUTION

3.1 PREPARATION

A. Degrease and clean surfaces to receive adhesive for identification materials.

3.2 INSTALLATION

A. Install nameplates with corrosive-resistant mechanical fasteners, or adhesive. Apply with sufficient adhesive to ensure permanent adhesion and seal with clear lacquer.

B. Nameplates shall be provided for new exhaust fans in the attic

C. Install new exhaust ductwork with adhesive backed duct markers.

END OF SECTION 23 05 53

SECTION 23 05 93 - TESTING, ADJUSTING, AND BALANCING FOR HVAC

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor and each Subcontractor and/or supplier providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SECTION INCLUDES

- A. Testing, adjustment, and balancing of air systems.
- B. Test and balance will include, in addition to the scope defined in this section of the specifications assistance to the controls contractor in determining set points for outside air dampers, differential pressure sensors, etc. Refer to the sequence of operation on the drawings, and coordinate with Automated Logic Control (sole source controls contractor) for scope of assistance required before submitting a bid for testing and balancing services.

1.3 RELATED REQUIREMENTS

- A. Section 01 40 00 - Quality Requirements: Employment of testing agency and payment for services.

1.4 REFERENCE STANDARDS

- A. AABC (NSTSB) - AABC National Standards for Total System Balance, 7th Edition; 2016.
- B. ASHRAE Std 111 - Measurement, Testing, Adjusting, and Balancing of Building HVAC Systems; 2008 (Reaffirmed 2017).
- C. SMACNA (TAB) - HVAC Systems Testing, Adjusting and Balancing; 2002.

1.5 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Installer Qualifications: Submit name of adjusting and balancing agency and TAB supervisor for approval within 30 days after award of Contract.
- C. TAB Plan: Submit a written plan indicating the testing, adjusting, and balancing standard to be followed and the specific approach for each system and component.
  - 1. Submit to Architect.
  - 2. Include at least the following in the plan:
    - a. List of all air flow, system capacity and efficiency measurements to be performed and a description of specific test procedures, parameters, formulas to be used.
    - b. Copy of field checkout sheets and logs to be used, listing each piece of equipment to be tested, adjusted and balanced with the data cells to be gathered for each.
    - c. Identification and types of measurement instruments to be used and their most recent calibration date.
    - d. Discussion of what notations and markings will be made on the duct drawings during the process.

- e. Final test report forms to be used.
  - f. Procedures for formal deficiency reports, including scope, frequency and distribution.
- D. Final Report: Indicate deficiencies in systems that would prevent proper testing, adjusting, and balancing of systems and equipment to achieve specified performance.
- 1. Submit under provisions of Section 01 40 00.
  - 2. Revise TAB plan to reflect actual procedures and submit as part of final report.
  - 3. Submit draft copies of report for review prior to final acceptance of Project. Provide final copies for Architect and for inclusion in operating and maintenance manuals.
  - 4. Include actual instrument list, with manufacturer name, serial number, and date of calibration.
  - 5. Form of Test Reports: Where the TAB standard being followed recommends a report format use that; otherwise, follow ASHRAE Std 111.
  - 6. Units of Measure: Report data in I-P (inch-pound) units only.
  - 7. Include the following on the title page of each report:
    - a. Name of Testing, Adjusting, and Balancing Agency.
    - b. Address of Testing, Adjusting, and Balancing Agency.
    - c. Telephone number of Testing, Adjusting, and Balancing Agency.
    - d. Project name.
    - e. Project location.
    - f. Project Architect.
    - g. Project Engineer.
    - h. Project Contractor.
    - i. Project altitude.
    - j. Report date.
- E. Project Record Documents: Record actual locations of flow measuring stations and balancing valves and rough setting.

## PART 2 PRODUCTS - NOT USED

## PART 3 EXECUTION

### 3.1 GENERAL REQUIREMENTS

- A. Perform total system balance in accordance with one of the following:
  - 1. AABC (NSTSB), AABC National Standards for Total System Balance.
  - 2. ASHRAE Std 111, Practices for Measurement, Testing, Adjusting and Balancing of Building Heating, Ventilation, Air-Conditioning, and Refrigeration Systems.
  - 3. SMACNA (TAB).
  - 4. Maintain at least one copy of the standard to be used at project site at all times.
- B. Begin work after completion of systems to be tested, adjusted, or balanced and complete work prior to Substantial Completion of the project.
- C. TAB Agency Qualifications:
  - 1. Company specializing in the testing, adjusting, and balancing of systems specified in this section.
  - 2. Having minimum of three years documented experience.
  - 3. Certified by one of the following:
    - a. AABC, Associated Air Balance Council: [www.aabc.com/#sle](http://www.aabc.com/#sle); upon completion submit AABC National Performance Guaranty.

- b. NEBB, National Environmental Balancing Bureau: [www.nebb.org/#sle](http://www.nebb.org/#sle).
- c. TABB, The Testing, Adjusting, and Balancing Bureau of National Energy Management Institute: [www.tabbcertified.org/#sle](http://www.tabbcertified.org/#sle).

D. TAB Supervisor and Technician Qualifications: Certified by same organization as TAB agency.

### 3.2 EXAMINATION

- A. Verify that systems are complete and operable before commencing work. Ensure the following conditions:
  - 1. Systems are started and operating in a safe and normal condition.
  - 2. Proper thermal overload protection is in place for electrical equipment.
  - 3. Duct systems are clean of debris.
  - 4. Fans are rotating correctly.
  - 5. Access doors are closed and duct end caps are in place.
  - 6. Air outlets are installed and connected.
  - 7. Duct system leakage is minimized.
- B. Submit field reports. Report defects and deficiencies that will or could prevent proper system balance.
- C. Beginning of work means acceptance of existing conditions.

### 3.3 PREPARATION

### 3.4 ADJUSTMENT TOLERANCES

- A. Air Handling Systems: Adjust to within plus or minus 5 percent of design for supply systems and plus or minus 10 percent of design for return and exhaust systems.

### 3.5 RECORDING AND ADJUSTING

- A. Field Logs: Maintain written logs including:
  - 1. Running log of events and issues.
  - 2. Discrepancies, deficient or uncompleted work by others.
  - 3. Contract interpretation requests.
  - 4. Lists of completed tests.
- B. Ensure recorded data represents actual measured or observed conditions.
- C. Mark on drawings the locations where traverse and other critical measurements were taken and cross reference the location in the final report.
- D. After adjustment, take measurements to verify balance has not been disrupted or that such disruption has been rectified.
- E. Leave systems in proper working order, replacing belt guards, closing access doors, closing doors to electrical switch boxes, and restoring thermostats to specified settings.

### 3.6 AIR SYSTEM PROCEDURE

- A. Adjust air handling and distribution systems to provide required or design supply, return, and exhaust air quantities at site altitude.

- B. Make air quantity measurements in ducts by Pitot tube traverse of entire cross sectional area of duct.
- C. Vary total system air quantities by adjustment of fan speeds. Provide drive changes required. Vary branch air quantities by damper regulation.
- D. Measure static air pressure conditions on air supply units, including filter and coil pressure drops, and total pressure across the fan. Make allowances for 50 percent loading of filters.
- E. Measure building static pressure and adjust supply, return, and exhaust air systems to provide required relationship between each to maintain approximately 0.05 inches (12.5 Pa) positive static pressure near the building entries.

3.7 SCOPE

- A. Test, adjust, and balance the following:
  - 1. Air Handling Units (Existing).
  - 2. Fans.

3.8 MINIMUM DATA TO BE REPORTED

- A. Electric Motors:
  - 1. Manufacturer.
  - 2. Model/Frame.
  - 3. HP/BHP.
  - 4. Phase, voltage, amperage; nameplate, actual, no load.
  - 5. RPM.
  - 6. Service factor.
  - 7. Starter size, rating, heater elements.
  - 8. Sheave Make/Size/Bore.
- B. V-Belt Drives:
  - 1. Identification/location.
  - 2. Required driven RPM.
  - 3. Driven sheave, diameter and RPM.
  - 4. Belt, size and quantity.
  - 5. Motor sheave diameter and RPM.
  - 6. Center to center distance, maximum, minimum, and actual.
- C. Air Moving Equipment:
  - 1. Location.
  - 2. Manufacturer.
  - 3. Model number.
  - 4. Serial number.
  - 5. Arrangement/Class/Discharge.
  - 6. Air flow, specified and actual.
  - 7. Return air flow, specified and actual.
  - 8. Outside air flow, specified and actual.
  - 9. Total static pressure (total external), specified and actual.
  - 10. Inlet pressure.
  - 11. Discharge pressure.
  - 12. Sheave Make/Size/Bore.
  - 13. Number of Belts/Make/Size.

14. Fan RPM.

D. Return Air/Outside Air:

1. Identification/location.
2. Design air flow.
3. Actual air flow.
4. Design return air flow.
5. Actual return air flow.
6. Design outside air flow.
7. Actual outside air flow.
8. Return air temperature.
9. Outside air temperature.
10. Required mixed air temperature.
11. Actual mixed air temperature.
12. Design outside/return air ratio.
13. Actual outside/return air ratio.

E. Exhaust Fans:

1. Location.
2. Manufacturer.
3. Model number.
4. Serial number.
5. Air flow, specified and actual.
6. Total static pressure (total external), specified and actual.
7. Inlet pressure.
8. Discharge pressure.
9. Sheave Make/Size/Bore.
10. Number of Belts/Make/Size.
11. Fan RPM.

END OF SECTION 23 05 93

SECTION 23 07 13 - DUCT INSULATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor and each Subcontractor and/or supplier providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SECTION INCLUDES

- A. Duct insulation for the exposed cold surfaces on the existing attic supply air ductwork.
- B. Duct liner for the exhaust air plenum.

1.3 REFERENCE STANDARDS

- A. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus; 2017.
- B. ASTM C553 - Standard Specification for Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications; 2013.
- C. ASTM C1071 - Standard Specification for Fibrous Glass Duct Lining Insulation (Thermal and Sound Absorbing Material); 2019.
- D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2018b.
- E. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials; 2016.
- F. ASTM G21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi; 2015.
- G. SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible; 2005 (Revised 2009).
- H. UL 723 - Standard for Test for Surface Burning Characteristics of Building Materials; Current Edition, Including All Revisions.

1.4 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide product description, thermal characteristics, list of materials and thickness for each service, and locations.
- C. Manufacturer's Instructions: Indicate installation procedures necessary to ensure acceptable workmanship and that installation standards will be achieved.



1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section with not less than three years of documented experience.
- B. Applicator Qualifications: Company specializing in performing the type of work specified in this section, with minimum three years of experience and approved by manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Accept materials on site in original factory packaging, labelled with manufacturer's identification, including product density and thickness.
- B. Protect insulation from weather and construction traffic, dirt, water, chemical, and mechanical damage, by storing in original wrapping.

1.7 FIELD CONDITIONS

- A. Maintain ambient temperatures and conditions required by manufacturers of adhesives, mastics, and insulation cements.
- B. Maintain temperature during and after installation for minimum period of 24 hours.

PART 2 PRODUCTS

2.1 REGULATORY REQUIREMENTS

- A. Surface Burning Characteristics: Flame spread index/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E84 or UL 723.

2.2 GLASS FIBER, FLEXIBLE

- A. Manufacturer:
  - 1. Johns Manville: [www.jm.com/#sle](http://www.jm.com/#sle).
  - 2. Knauf Insulation; Atmosphere Duct Wrap: [www.knaufinsulation.com/#sle](http://www.knaufinsulation.com/#sle).
  - 3. Owens Corning Corporation: [www.ocbuildingspec.com/#sle](http://www.ocbuildingspec.com/#sle).
  - 4. CertainTeed Corporation: [www.certainteed.com/#sle](http://www.certainteed.com/#sle).
  - 5. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Insulation: ASTM C553; flexible, noncombustible blanket.
  - 1. 'K' ('Ksi') value: 0.36 at 75 degrees F (0.052 at 24 degrees C), when tested in accordance with ASTM C518.
  - 2. Maximum Service Temperature: 1200 degrees F (649 degrees C).
  - 3. Maximum Water Vapor Absorption: 5.0 percent by weight.
- C. Vapor Barrier Jacket:
  - 1. Kraft paper with glass fiber yarn and bonded to aluminized film.
  - 2. Moisture Vapor Permeability: 0.02 perm inch (0.029 ng/Pa s m), when tested in accordance with ASTM E96/E96M.
  - 3. Secure with pressure sensitive tape.
- D. Vapor Barrier Tape:
  - 1. Kraft paper reinforced with glass fiber yarn and bonded to aluminized film, with pressure sensitive rubber based adhesive.

2.3 DUCTWORK BLOW IN INSULATION

- A. Blow-in insulation will be closed cell foam insulation.
- B. See drawings for specific requirements of acceptable manufacturers, required R values, and location of insulation.

2.4 DUCT LINER

- A. Manufacturers:
  - 1. Armacell LLC; AP Coilflex: [www.armacell.us/#sle](http://www.armacell.us/#sle).
  - 2. Ductmate Industries, Inc, a DMI Company: [www.ductmate.com/#sle](http://www.ductmate.com/#sle).
  - 3. Johns Manville: [www.jm.com/#sle](http://www.jm.com/#sle).
  - 4. Knauf Insulation: [www.knaufinsulation.com/#sle](http://www.knaufinsulation.com/#sle).
  - 5. Owens Corning Corporation; QuietR Rotary Duct Insulation; \_\_\_\_\_: [www.ocbuildingspec.com/#sle](http://www.ocbuildingspec.com/#sle).
  - 6. CertainTeed Corporation: [www.certainteed.com/#sle](http://www.certainteed.com/#sle).
  - 7. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Glass Fiber Insulation: Non-corrosive, incombustible glass fiber complying with ASTM C1071; flexible blanket, rigid board, and preformed round liner board; impregnated surface and edges coated with poly vinyl acetate polymer, acrylic polymer, or black composite.
  - 1. Fungal Resistance: No growth when tested according to ASTM G21.
  - 2. Apparent Thermal Conductivity: Maximum of 0.31 at 75 degrees F (0.045 at 24 degrees C).
  - 3. Service Temperature: Up to 250 degrees F (121 degrees C).
  - 4. Rated Velocity on Coated Air Side for Air Erosion: 5,000 fpm (25.4 m/s), minimum.
  - 5. Minimum Noise Reduction Coefficients:
    - a. 1/2 inch (13 mm) Thickness: 0.30.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that ducts have been tested before applying insulation materials.
- B. Verify that surfaces are clean, foreign material removed, and dry.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Insulated ducts conveying air below ambient temperature:
  - 1. Provide insulation with vapor barrier jackets.
  - 2. Finish with tape and vapor barrier jacket.
  - 3. Insulate all work indicated on the drawings including fittings, joints, flanges, fire dampers, flexible connections, and expansion joints.
- C. Duct and Plenum Liner Application:
  - 1. Adhere insulation with adhesive for 90 percent coverage.
  - 2. Secure insulation with mechanical liner fasteners. Refer to SMACNA (DCS) for spacing.
  - 3. Seal and smooth joints. Seal and coat transverse joints.
  - 4. Seal liner surface penetrations with adhesive.

5. Duct dimensions indicated are net inside dimensions required for air flow. Increase duct size to allow for insulation thickness.

3.3 SCHEDULES

- A. Exhaust air plenums: 1/2" thick duct liner
- B. Supply air ductwork above floor grating as defined on the drawings: 1 1/2" Flexible fiberglass insulation.
- C. Supply air ductwork below floor grating as defined on the drawings: 3/4" foam insulation.

END OF SECTION 23 07 13

SECTION 23 09 13 - INSTRUMENTATION AND CONTROL DEVICES FOR HVAC

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor and each Subcontractor and/or supplier providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SCOPE OF WORK

- A. Control integrator shall be Automated Logic Controls, 23 Village Lane, Wallingford CT(203-284-0100). No alternates are allowed.
- B. Control work shall consist of any new devices required to meet the sequence of operation shown on the drawing, required interconnected wiring, and programming.
- C. Existing devices, such as control dampers, control valves, temperature sensors, humidity sensors, shall be reutilized to the greatest extent possible.

1.3 SECTION INCLUDES

- A. Control panels.
- B. Dampers.
- C. Damper Operators:
  - 1. Electric operators.
- D. Input/Output Sensors:
  - 1. Temperature sensors.
  - 2. Static pressure (air pressure) sensors.
  - 3. Carbon dioxide sensors.
- E. Transmitters:
  - 1. Building static pressure transmitters.
  - 2. Air pressure transmitters.
  - 3. Temperature transmitters.
- F. Variable frequency drives.

1.4 REFERENCE STANDARDS

- A. AMCA 500-D - Laboratory Methods of Testing Dampers for Rating; 2018.
- B. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum); 2018.
- C. UL 94 - Tests for Flammability of Plastic Materials for Parts in Devices and Appliances; Current Edition, Including All Revisions.

1.5 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Conduct a preinstallation meeting one week before starting work of this section; require attendance by all affected installers.

1.6 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide description and engineering data for each control system component. Include sizing as requested. Provide data for each system component and software module.
- C. Shop Drawings: Indicate complete operating data, system drawings, wiring diagrams, and written detailed operational description of sequences. Submit schedule of valves indicating size, flow, and pressure drop for each valve. For automatic dampers indicate arrangement, velocities, and static pressure drops for each system.
- D. Manufacturer's Instructions: Provide for all manufactured components.
- E. Manufacturer's Qualification Statement.
- F. Installer's Qualification Statement.
- G. Operation and Maintenance Data: Include inspection period, cleaning methods, recommended cleaning materials, and calibration tolerances.
- H. Project Record Documents: Record actual locations of control components, including panels, thermostats, and sensors. Accurately record actual location of control components, including panels, thermostats, and sensors.
  - 1. Revise shop drawings to reflect actual installation and operating sequences.
- I. Warranty: Submit manufacturer's warranty in accordance with Section 01 78 30 and ensure forms have been filled out in Owner's name and registered with manufacturer.
- J. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  - 1. See Section 01 60 00 - Product Requirements, for additional provisions.

1.7 WARRANTY

- A. See Section 01 78 30 – Warranties and Bonds, for warranty requirements.

PART 2 PRODUCTS

2.1 EQUIPMENT - GENERAL

- A. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified and indicated.

2.2 CONTROL PANELS

- A. Unitized cabinet type for each system under automatic control with relays and controls mounted in cabinet and temperature indicators, pressure gauges, pilot lights, push buttons and switches flush on cabinet panel face.

- B. NEMA 250, general purpose utility enclosures with enameled finished face panel.

### 2.3 DAMPERS

- A. Performance: Test in accordance with AMCA 500-D.
- B. Frames: Galvanized steel, welded or riveted with corner reinforcement, minimum 12 gage, 0.1046 inch (2.66 mm).
- C. Blades: Galvanized steel, maximum blade size 8 inches (200 mm) wide, 48 inches (1200 mm) long, minimum 22 gage, 0.0299 inch (0.76 mm), attached to minimum 1/2 inch (13 mm) shafts with set screws.
- D. Blade Seals: Synthetic elastomeric, inflatable, mechanically attached, field replaceable.
- E. Jamb Seals: Spring stainless steel.
- F. Shaft Bearings: Oil impregnated sintered bronze.
- G. Linkage Bearings: Oil impregnated sintered bronze.
- H. Leakage: Less than one percent based on approach velocity of 2000 ft per min (10 m per sec) and 4 inches wg (1.0 kPa).
- I. Maximum Pressure Differential: 6 inches wg (1.5 kPa).
- J. Temperature Limits: Minus 40 to 200 degrees F (Minus 40 to 93 degrees C).

### 2.4 DAMPER OPERATORS

- A. General: Provide smooth proportional control with sufficient power for air velocities 20 percent greater than maximum design velocity and to provide tight seal against maximum system pressures. Provide spring return for two position control and for fail safe operation.
  - 1. Provide one operator for maximum 36 sq ft (3.24 sq m) damper section.
- B. Electric Operators:
  - 1. Spring return, adjustable stroke motor having oil immersed gear train, with auxiliary end switch.

### 2.5 INPUT/OUTPUT SENSORS

- A. General: All sensors located in public areas will be provided with lockable tamper proof enclosures.
- B. Temperature Sensors:
  - 1. Use thermistor or RTD type temperature sensing elements with characteristics resistant to moisture, vibration, and other conditions consistent with the application without affecting accuracy and life expectancy.
  - 2. Construct RTD of nickel or platinum with base resistance of 1000 ohms at 70 degrees F (26 degrees C).
  - 3. 100 ohm platinum RTD is acceptable if used with project DDC controllers.
  - 4. Temperature Sensing Device: Compatible with project DDC controllers.
  - 5. Performance Characteristics:
    - a. RTD:

- 1) Room Sensor Accuracy: Plus/minus 0.50 degrees F (0.28 degrees C) minimum.
  - 2) Duct Averaging Accuracy: Plus/minus 0.50 degrees F (0.28 degrees C) minimum.
  - b. Thermistor:
    - 1) Accuracy (All): Plus/minus 0.36 degrees F (0.20 degrees C) minimum.
    - 2) Range: Minus 25 degrees F (Minus 13 degrees C) through 122 degrees F (50 degrees C) minimum.
    - 3) Heat Dissipation Constant: 2.7 mW per degree C.
  - c. Temperature Transmitter:
    - 1) Accuracy: 0.10 degree F (0.06 degrees C) minimum or plus/minus 0.20 percent of span.
    - 2) Output: 4 to 20 mA.
  - d. Sensing Range:
    - 1) Provide limited range sensors if required to sense the range expected for a respective point.
    - 2) Use RTD type sensors for extended ranges beyond minus 30 degrees F (minus 34.4 degrees) to 230 degrees F (114.4 degrees C).
    - 3) Use temperature transmitters in conjunction with RTD's when RTD's are incompatible with DDC controller direct temperature input.
  - e. Wire Resistance:
    - 1) Use appropriate wire size to limit temperature offset due to wire resistance to 1.0 degree F (0.56 degrees C) or use temperature transmitter when offset is greater than 1.0 degree F (0.56 degrees C) due to wire resistance.
    - 2) Compensate for wire resistance in software input definition when feature is available in the DDC controller.
  - f. Room Sensors: Locking cover matching the pneumatic thermostats used.
  - g. Immersion Temperature Sensors: A sensor encased in a corrosion-resistant probe with an indoor junction box service entry body.
  - h. Room Temperature Sensors:
    - 1) Construct for surface or wall box mounting.
    - 2) Provide the following:
      - (a) Setpoint reset slide switch with an adjustable temperature range.
      - (b) Individual heating/cooling setpoint slide switches.
      - (c) Momentary override request push button for activation of after-hours operation.
  - i. Temperature Averaging Elements:
    - 1) Use on duct sensors for ductwork 10 sq ft (0.93 sq m) or larger.
    - 2) Use averaging elements where prone to stratification with sensor length 8 ft (2.5 m).
    - 3) Provide for all mixed air and heating coil discharge sensors regardless of duct size.
  - j. Insertion Elements:
    - 1) Use in ducts not affected by temperature stratification or smaller than 11 sq inches (1 sq m).
- C. Static Pressure (Air Pressure) Sensors:
1. Unidirectional with ranges not exceeding 150 percent of maximum expected input.
  2. Temperature compensate with typical thermal error or 0.06 percent of full scale in temperature range of 40 to 100 degrees F (5 to 40 degrees C).
  3. Accuracy: One percent of full scale with repeatability 0.3 percent.
  4. Output: 0 to 5 vdc with power at 12 to 28 vdc.
- D. Carbon Dioxide Sensors, Wall:

1. General: Provide non-dispersive infrared (NDIR), diffusion sampling CO2 sensors with integral transducers and linear output.
2. Air Temperature: Range of 32 to 122 degrees F (0 to 50 degrees C).
3. Relative Humidity: Range of 0 to 95 percent (non-condensing).
4. Power Input: Class 2; 12 to 30VDC or 24VAC 50/60 Hz; 100mA max.
5. Calibration Characteristics:
  - a. Automatically compensating algorithm for sensor drift due to sensor degradation.
  - b. Maximum Drift: 2 percent.
  - c. User calibratable with a minimum calibration interval of 5 years.
6. Construction:
  - a. Sensor Chamber: Non-corrosive material for neutral effect on carbon dioxide sample.
  - b. Provide duct mounted sensors with duct probe designed to protect sensing element from dust accumulation and mechanical damage.
  - c. Housing: High impact plastic.
7. Optional Equipment
  - a. Temperature Sensor:
    - 1) Solid state, integrated circuit; Accuracy: Plus/minus 1 degree F (0.5 degrees C); Resolution: 0.2 degrees F (0.1 degrees C); Output Range: 50 to 95 degrees F (10 to 35 degrees C).

## 2.6 TRANSMITTERS

- A. Room Static Pressure Transmitters:
  1. One pipe, direct acting, double bell, scale range 0.01 to 6.0 inch wg (.0025 to 1.5 kPa) positive or negative, and sensitivity of 0.0005 inch wg (0.125 Pa). Transmit electronic signal to receiver with matching scale range.
- B. Air Pressure Transmitters:
  1. General: Provide dry media differential pressure transducers to monitor duct and room pressure.
    - a. Media Compatibility: Dry air.
    - b. Input Power: Class 2; 12 to 30 VDC; 2-wire: 20 mA max.
    - c. Output: Field selectable, 2-wire, loop-powered 4 to 20 mA (DC only, clipped and capped).
    - d. Pressure Ranges: 4 and 7, field selectable.
    - e. Response Time:
      - 1) Standard: T95 in 20 seconds.
      - 2) Fast: T95 in 2 seconds.
      - 3) Switch selectable.
    - f. Mode: Switch selectable, unidirectional.
    - g. Display:
      - 1) Signed 3-1/2 digit LCD, indicates pressure.
    - h. Proof Pressure (pressure differential): 3 psid (20.6 kPa).
    - i. Burst Pressure (pressure differential): 5 psid (34.5 kPa).
    - j. Accuracy: Plus/minus 1 percent f.s. (full scale) of selected range (combined linearity & hysteresis).
    - k. Temperature Effect (per transmitter size):
      - 1) 1 inch w.c. (250 Pa): 2.0 percent per degree C.
      - 2) 10 inch w.c. (2.5 kPa): 0.01 percent per degree C.; (Relative to 25 degrees C) 32 degrees F (0 degrees C) to 122 degrees F (50 degrees C).
    - l. Zero Drift (1-year) (per transmitter size):
      - 1) 1 inch w.c. (250 Pa): 2 percent maximum.



- 2) 10 inch (2.5 kPa): 0.05 percent maximum.
- m. Zero adjust: Pushbutton auto-zero and digital input (2-pos terminal block).
- n. Operating Environment:
  - 1) 32 degrees F (0 degrees C) to 140 degrees F (60 degrees C).
  - 2) 0 to 90 percent RH noncondensing.
- o. Fittings:
  - 1) Brass barb.
  - 2) 0.24 inches (6.1 mm) outer diameter.
  - 3) UL 94 V-O fire retardant ABS.

## 2.7 VARIABLE FREQUENCY DRIVES

- A. Variable Frequency Controllers: Enclosed controllers suitable for operating the indicated loads, in compliance with requirements of NEMA ICS 7. Select unspecified features and options in accordance with NEMA ICS 3.1.
  - 1. Employ microprocessor-based inverter logic isolated from power circuits.
  - 2. Employ pulse-width-modulated inverter system.
  - 3. Design for ability to operate controller with motor disconnected from output.
  - 4. Design to attempt five automatic restarts following fault condition before locking out and requiring manual restart.
- B. Finish: Manufacturer's standard enamel.
- C. Operating Requirements:
  - 1. Rated Input Voltage: 208 volts, three phase, 60 Hertz.
  - 2. Motor Nameplate Voltage: 200 volts, three phase, 60 Hertz.
  - 3. Displacement Power Factor: Between 1.0 and 0.95, lagging, over entire range of operating speed and load.
  - 4. Operating Ambient: 0 degrees C to 40 degrees C.
  - 5. Minimum Efficiency at Full Load: 75 percent.
  - 6. Time to Stop: 15 seconds.
  - 7. Volts Per Hertz Adjustment: Plus or minus 10 percent.
  - 8. Current Limit Adjustment: 60 to 110 percent of rated.
  - 9. Acceleration Rate Adjustment: 0.5 to 30 seconds.
  - 10. Deceleration Rate Adjustment: 1 to 30 seconds.
  - 11. Input Signal: 4 to 20 mA DC.
- D. Components:
  - 1. Display: Provide integral digital display to indicate output voltage, output frequency, and output current.
  - 2. Status indicators: Separate indicators for overcurrent, overvoltage, ground fault, overtemperature, and input power ON.
  - 3. Furnish HAND-OFF-AUTOMATIC selector switch and manual speed control.
  - 4. Include undervoltage release.
- E. Control Power Source: Separate circuit.
- F. Safety Interlocks: Furnish terminals for remote contact to inhibit starting under both manual and automatic mode.
- G. Control Interlocks: Furnish terminals for remote contact to allow starting in automatic mode.

- H. Manual Bypass: Furnish contactor, motor running overload protection, and short circuit protection for full voltage, non-reversing operation of the motor. Include isolation switch to allow maintenance of inverter during bypass operation.
- I. Emergency Stop: Use dynamic brakes for emergency stop function.
- J. Disconnecting Means: Include integral fused disconnect switch on the line side of each controller.
- K. Wiring Terminations: Match conductor materials and sizes indicated.

### PART 3 EXECUTION

#### 3.1 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that systems are ready to receive work.
- C. Beginning of installation means installer accepts existing conditions.
- D. Sequence work to ensure installation of components is complementary to installation of similar components in other systems.
- E. Coordinate installation of system components with installation of mechanical systems equipment such as air handling units and air terminal units.
- F. Ensure installation of components is complementary to installation of similar components.
- G. Coordinate installation of system components with installation of mechanical systems equipment such as air handling units and air terminal units.

#### 3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Check and verify locations of all sensors with plans and room details before installation. Locate 60 inches above finished floor.
- C. Mount control panels adjacent to associated equipment on vibration free walls or free standing angle iron supports. One cabinet may accommodate more than one system in same equipment room. Provide engraved plastic nameplates for instruments and controls inside cabinet and engraved plastic nameplates on cabinet face.
- D. Electrical material and installation, including conduit and electrical wiring, shall be in accordance with appropriate requirements of Division 26.

#### 3.3 MAINTENANCE

- A. See Section 01 70 00 - Execution and Closeout Requirements, for additional requirements relating to maintenance service.
- B. Provide service and maintenance of control system for one year from Date of Substantial Completion.

- C. Provide complete service of controls systems, including call backs, and submit written report of each service call.
- D. In addition to normal service calls, make minimum of three complete normal inspections of approximately four hours duration to inspect, calibrate, and adjust controls.

END OF SECTION 23 09 13

SECTION 23 31 00 - HVAC DUCTS AND CASINGS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor and each Subcontractor and/or supplier providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SECTION INCLUDES

- A. Metal ductwork.
- B. Casing and plenums.

1.3 RELATED REQUIREMENTS

- A. Section 23 05 93 - Testing, Adjusting, and Balancing for HVAC.
- B. Section 23 07 13 - Duct Insulation: External insulation and duct liner.
- C. Section 23 33 00 - Air Duct Accessories.

1.4 REFERENCE STANDARDS

- A. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2014.
- B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2018.
- C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2018b.
- D. NFPA 90A - Standard for the Installation of Air-Conditioning and Ventilating Systems; 2018.
- E. SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible; 2005 (Revised 2009).

1.5 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data for duct materials.
- C. Shop Drawings: Indicate duct fittings, particulars such as gages, sizes, welds, and configuration prior to start of work for low pressure class and higher systems.
- D. Project Record Documents: Record actual locations of ducts and duct fittings. Record changes in fitting location and type. Show additional fittings used.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience, and approved by manufacturer.
- B. Installer Qualifications: Company specializing in performing the type of work specified in this section, with minimum three years of documented experience.

1.7 FIELD CONDITIONS

- A. Do not install duct sealants when temperatures are less than those recommended by sealant manufacturers.
- B. Maintain temperatures within acceptable range during and after installation of duct sealants.

PART 2 PRODUCTS

2.1 DUCT ASSEMBLIES

- A. Regulatory Requirements: Construct ductwork to comply with NFPA 90A standards.
- B. Ducts: Galvanized steel, unless otherwise indicated.
- C. General Exhaust: 1 inch w.g. (250 Pa) pressure class, galvanized steel.

2.2 MATERIALS

- A. Galvanized Steel for Ducts: Hot-dipped galvanized steel sheet, ASTM A653/A653M FS Type B, with G60/Z180 coating.
- B. Joint Sealers and Sealants: Non-hardening, water resistant, mildew and mold resistant.
  - 1. Type: Heavy mastic or liquid used alone or with tape, suitable for joint configuration and compatible with substrates, and recommended by manufacturer for pressure class of ducts.
  - 2. Surface Burning Characteristics: Flame spread index of zero and smoke developed index of zero, when tested in accordance with ASTM E84.
  - 3. Manufacturers:
    - a. Carlisle HVAC Products; Hardcast Iron-Grip 601 Water Based Duct Sealant: [www.carlislehvac.com/#sle](http://www.carlislehvac.com/#sle).
    - b. Ductmate Industries, Inc, a DMI Company; \_\_\_\_\_: [www.ductmate.com/#sle](http://www.ductmate.com/#sle).
    - c. Substitutions: See Section 01 60 00 - Product Requirements.
- C. Hanger Rod: ASTM A36/A36M; steel, galvanized; threaded both ends, threaded one end, or continuously threaded.

2.3 DUCTWORK FABRICATION

- A. Fabricate and support in accordance with SMACNA (DCS) and as indicated.
- B. No variation of duct configuration or size permitted.
- C. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.

- D. Where ducts are connected to exterior wall louvers and duct outlet is smaller than louver frame, provide blank-out panels sealing louver area around duct. Use same material as duct, painted black on exterior side; seal to louver frame and duct.

**PART 3 EXECUTION**

**3.1 INSTALLATION**

- A. Install, support, and seal ducts in accordance with SMACNA (DCS).
- B. During construction provide temporary closures of metal or taped polyethylene on open ductwork to prevent construction dust from entering ductwork system.
- C. Duct sizes indicated are inside clear dimensions. For lined ducts, maintain sizes inside lining.
- D. Provide openings in ductwork where required to accommodate thermometers and controllers. Provide pilot tube openings where required for testing of systems, complete with metal can with spring device or screw to ensure against air leakage. Where openings are provided in insulated ductwork, install insulation material inside a metal ring.
- E. Locate ducts with sufficient space around equipment to allow normal operating and maintenance activities.
- F. Use double nuts and lock washers on threaded rod supports.
- G. At exterior wall louvers, seal duct to louver frame and install blank-out panels.

END OF SECTION 23 31 00

SECTION 23 33 00 - AIR DUCT ACCESSORIES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor and each Subcontractor and/or supplier providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SECTION INCLUDES

- A. Duct test holes.
- B. Flexible duct connections.

1.3 RELATED REQUIREMENTS

- A. Section 23 05 48 - Vibration and Seismic Controls for HVAC.
- B. Section 23 31 00 - HVAC Ducts and Casings.

1.4 REFERENCE STANDARDS

- A. NFPA 90A - Standard for the Installation of Air-Conditioning and Ventilating Systems; 2018.
- B. SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible; 2005 (Revised 2009).

1.5 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide for shop fabricated assemblies including volume control dampers. Include electrical characteristics and connection requirements.
- C. Shop Drawings: Indicate for shop fabricated assemblies including volume control dampers.
- D. Project Record Drawings: Record actual locations of access doors and test holes.
- E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  - 1. See Section 01 60 00 - Product Requirements, for additional provisions.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect dampers from damage to operating linkages and blades.

**PART 2 PRODUCTS**

**2.1 DUCT TEST HOLES**

- A. Permanent Test Holes: Factory fabricated, air tight flanged fittings with screw cap. Provide extended neck fittings to clear insulation.

**2.2 FLEXIBLE DUCT CONNECTIONS**

- A. Fabricate in accordance with SMACNA (DCS) and as indicated.
- B. Flexible Duct Connections: Fabric crimped into metal edging strip.
  - 1. Fabric: UL listed fire-retardant neoprene coated woven glass fiber fabric to NFPA 90A, minimum density 30 oz per sq yd (1.0 kg/sq m).
    - a. Net Fabric Width: Approximately 2 inches (50 mm) wide.
  - 2. Metal: 3 inches (75 mm) wide, 24 gage, 0.0239 inch (0.61 mm) thick galvanized steel.
- C. Maximum Installed Length: 14 inch (356 mm).

**PART 3 EXECUTION**

**3.1 INSTALLATION**

- A. Install accessories in accordance with manufacturer's instructions, NFPA 90A, and follow SMACNA (DCS). Refer to Section 23 31 00 for duct construction and pressure class.
- B. Provide duct test holes where indicated and required for testing and balancing purposes, and as required by the ATC.
- C. At fans and motorized equipment associated with ducts or plenums, provide flexible duct connections immediately adjacent to the equipment.
- D. At equipment supported by vibration isolators, provide flexible duct connections immediately adjacent to the equipment.
  - 1. Refer to Section 23 05 48.

**END OF SECTION 23 33 00**



SECTION 23 33 19 - DUCT SILENCERS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor and each Subcontractor and/or supplier providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SECTION INCLUDES

- A. Duct silencers.
  - 1. Absorptive silencers.

1.3 RELATED REQUIREMENTS

- A. Section 23 31 00 - HVAC Ducts and Casings: Connections to silencers.
- B. Section 23 33 00 - Air Duct Accessories: Flexible duct connections.

1.4 REFERENCE STANDARDS

- A. AHRI 575 - Method of Measuring Machinery Sound Within an Equipment Space; 2008.
- B. AMCA 300 - Reverberant Room Method for Sound Testing of Fans; 2014.
- C. ANSI/ASA S1.4 PART 3 - American National Standard Specification for Electroacoustics - Sound Level Meters - Part 3: Periodic Tests; 2014.
- D. ANSI S1.13 - American National Standard Measurement of Sound Pressure Levels in Air; 2005 (R2010).
- E. ASHRAE Std 62.1 - Ventilation for Acceptable Indoor Air Quality; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- F. ASHRAE Std 68 - Laboratory Method of Testing to Determine the Sound Power in a Duct; 1997.
- G. NEBB (STDS) - Procedural Standard for Measurement of Sound and Vibration; 2015, with Errata (2017).
- H. SMACNA (DCS) - HVAC Duct Construction Standards Metal and Flexible; 2005 (Revised 2009).

1.5 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide catalog information indicating, materials, dimensional data, pressure losses, and acoustical performance.
- C. Shop Drawings: Indicate assembly, materials, thicknesses, dimensional data, pressure losses, acoustical performance, layout, and connection details.

- D. Test Reports: Indicate dynamic insertion loss and noise generation values of silencers.
- E. Manufacturer's Installation Instructions: Indicate installation procedures necessary to maintain integrity of sound isolation.
- F. Manufacturer's Qualification Statement.
- G. Warranty Documentation: Submit manufacturer warranty in accordance with Section 01 78 30 and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.
- B. Perform Work in accordance with AHRI 575, AMCA 300, or ANSI S1.13 standards and recommendations of ASHRAE Std 68.
  - 1. Maintain one copy of each document on site.

PART 2 PRODUCTS

2.1 DUCT SILENCERS

- A. Manufacturers:
  - 1. Basis of Design: Vibro-Coustics
  - 2. Ruskin
  - 3. IAC Acoustics
  - 4. Substitutions: See Section 01 60 00 - Product Requirements
- B. Description: Duct section with sheet metal outer casing, sound absorbing fill material, and inner casing of perforated sheet metal; incorporating interior baffles of similar construction. Fabricate in accordance with SMACNA (DCS) HVAC Duct Construction Standards.
- C. General Requirements:
  - 1. Airstream surfaces installed in a return air plenum to comply with requirements in ASHRAE Std 62.1.
  - 2. Factory-fabricated, field-installed products.
- D. Geometry:
  - 1. Rectangular elbows with splitters or baffles.
- E. Configuration: See equipment schedules on drawings.
- F. Materials:
  - 1. Outer Casing: Minimum 22 gage, 0.0299 inch (0.76 mm) thick galvanized steel stiffened as required, with mastic filled lock formed seams, 2 inch (50 mm) long, 11 gage, 0.1196 inch (3.04 mm) slip joints on both ends.
  - 2. Inner Casing and Splitters: Minimum 24 gage, 0.0239 (0.61 mm) thick perforated galvanized steel.
  - 3. Fill: Glass fiber or mineral wool of minimum 4 lb/cu ft (64 kg/cu m) density.
  - 4. Fill Liner: Bonded glass fiber matting.
- G. Rating: See equipment schedule on drawings

**PART 3 EXECUTION**

**3.1 INSTALLATION**

- A. Install in accordance with manufacturer's instructions.
- B. Support duct silencers independent of ducts. Refer to Section 23 31 00 and Section 23 33 00.

**3.2 FIELD QUALITY CONTROL**

- A. See Section 01 40 00 - Quality Requirements, for additional requirements.
- B. Provide services of an independent testing agency to take noise measurements in accordance with provisions of NEBB (STDS). Use meters meeting requirements of ANSI/ASA S1.4 PART 3.
- C. After start-up, final corrections and balancing of systems take octave band sound measurements over full audio frequency range in areas adjacent to mechanical equipment as directed.
- D. Submit complete report of test results including sound curves.

**END OF SECTION 23 33 19**

SECTION 23 34 13 - AXIAL HVAC FANS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor and each Subcontractor and/or supplier providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SECTION INCLUDES

- A. Propeller fans.
- B. Motors and drives.
- C. Accessories.

1.3 RELATED REQUIREMENTS

- A. Section 23 05 48 - Vibration and Seismic Controls for HVAC.
- B. Section 23 33 00 - Air Duct Accessories: Backdraft dampers.

1.4 REFERENCE STANDARDS

- A. 29 CFR 1910 - Occupational Safety and Health Standards; current edition.

1.5 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on axial fans and accessories including fan curves with specified operating point clearly plotted, power, RPM, sound power levels for both fan inlet and outlet at rated capacity, and electrical characteristics and connection requirements.
- C. Shop Drawings: Indicate assembly of axial fans and accessories including fan curves with specified operating point clearly plotted, sound power levels for both fan inlet and outlet at rated capacity, and electrical characteristics and connection requirements.
- D. Test Reports: Indicate performance data for adjustable axial fan blades for at least five blade settings, including maximum.
- E. Manufacturer's Instructions: Indicate installation instructions.
- F. Maintenance Data: Include instructions for lubrication, motor and drive replacement, spare parts list, and wiring diagrams.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

- B. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect motors, shafts, and bearings from weather and construction dust.

PART 2 PRODUCTS

2.1 PROPELLER FANS

- A. Manufacturers:
  - 1. Basis of Design: Loren Cook Company: [www.lorencook.com/#sle](http://www.lorencook.com/#sle).
  - 2. ACME Engineering and Manufacturing Corporation: [www.acmefan.com/#sle](http://www.acmefan.com/#sle).
  - 3. Carnes, a division of Carnes Company Inc: [www.carnes.com/#sle](http://www.carnes.com/#sle).
  - 4. PennBarry, Division of Air Systems Components: [www.pennbarry.com/#sle](http://www.pennbarry.com/#sle).
  - 5. Twin City Fan & Blower: [www.tcf.com/#sle](http://www.tcf.com/#sle).
  - 6. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Performance: See equipment schedule on drawings
- C. Impeller: Shaped steel or steel reinforced aluminum blade with heavy hubs, statically and dynamically balanced, keyed and locked to shaft, directly connected to motor or provided with V-belt drive.
- D. Frame: One piece, square steel with die formed venturi orifice, mounting flanges and supports, with baked enamel finish.
- E. Accessories:
  - 1. Safety Screens: Expanded galvanized metal over inlet, motor, drive; to comply with 29 CFR 1910.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install with resilient mountings and with flexible electrical leads; refer to Section 23 05 48.
- C. Install flexible connections specified in Section 23 33 00 between fan inlet and outlet and discharge ductwork and inlet silencers. Ensure metal bands of connectors are parallel with minimum one inch (25 mm) flex between ductwork and fan while running.
- D. Provide safety screen where inlet or outlet is exposed.

END OF SECTION 23 34 13

SECTION 23 37 00 - AIR OUTLETS AND INLETS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor and each Subcontractor and/or supplier providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SECTION INCLUDES

- A. Louvers.

1.3 REFERENCE STANDARDS

- A. AMCA 500-L - Laboratory Methods of Testing Louvers for Rating; 2015.

1.4 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide data for equipment required for this project. Review louvers as to size, finish, and type of mounting prior to submission. Submit schedule of louvers showing type, size, location, application, and noise level.
- C. Project Record Documents: Record actual locations of air outlets and inlets.

1.5 QUALITY ASSURANCE

- A. Test and rate louver performance in accordance with AMCA 500-L.
- B. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design: Ruskin
- B. American Louver Company; ALC Grilles and Registers: [www.americanlouver.com/#sle](http://www.americanlouver.com/#sle).
- C. Greenheck
- D. Substitutions: See Section 01 60 00 - Product Requirements.

2.2 LOUVERS

- A. Type: 4 inch (100 mm) deep with blades on 45 degree slope with center baffle and return bend, heavy channel frame, 1/2 inch (13 mm) square mesh screen over exhaust and 1/2 inch (13 mm) square mesh screen over intake.

- B. Color: To be selected by Architect from manufacturer's standard range.
- C. Fabrication: 12 gage, 0.1046 inch (2.66 mm) thick extruded aluminum, welded assembly, with factory prime coat finish.

**PART 3 EXECUTION**

**3.1 INSTALLATION**

- A. Install in accordance with manufacturer's instructions.
- B. Refer to details on drawings for installation requirements of louvers.

**END OF SECTION 23 37 00**

SECTION 26 05 19 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor and each Subcontractor and/or supplier providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SECTION INCLUDES

- A. Single conductor building wire.
- B. Wiring connectors.
- C. Electrical tape.
- D. Wire pulling lubricant.

1.3 RELATED REQUIREMENTS

- A. Section 07 84 00 - Firestopping.
- B. Section 26 05 26 - Grounding and Bonding for Electrical Systems: Additional requirements for grounding conductors and grounding connectors.

1.4 REFERENCE STANDARDS

- A. ASTM B3 - Standard Specification for Soft or Annealed Copper Wire; 2013 (Reapproved 2018).
- B. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2015.
- C. NETA ATS - Acceptance Testing Specifications for Electrical Power Equipment and Systems; 2017.
- D. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- E. UL 83 - Thermoplastic-Insulated Wires and Cables; Current Edition, Including All Revisions.
- F. UL 486A-486B - Wire Connectors; Current Edition, Including All Revisions.
- G. UL 510 - Polyvinyl Chloride, Polyethylene, and Rubber Insulating Tape; Current Edition, Including All Revisions.

1.5 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for conductors and cables, including detailed information on materials, construction, ratings, listings, and available sizes, configurations, and stranding. Identify used items is required.



1.6 QUALITY ASSURANCE

- A. Comply with requirements of NFPA 70.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store conductors and cables in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.1 CONDUCTOR AND CABLE APPLICATIONS

- A. Provide single conductor building wire installed in suitable raceway unless otherwise indicated, permitted, or required.

2.2 CONDUCTOR AND CABLE GENERAL REQUIREMENTS

- A. Provide products that comply with requirements of NFPA 70.
- B. Provide products listed, classified, and labeled as suitable for the purpose intended.
- C. Provide new conductors and cables manufactured not more than one year prior to installation.
- D. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, etc. as required for a complete operating system.
- E. Thermoplastic-Insulated Conductors and Cables: Listed and labeled as complying with UL 83.
- F. Conductors for Grounding and Bonding: Also comply with Section 26 05 26.
- G. Conductors and Cables Installed Exposed in Spaces Used for Environmental Air (only where specifically permitted): Plenum rated, listed and labeled as suitable for use in return air plenums.
- H. Conductor Material:
  - 1. Provide copper conductors only. Aluminum conductors are not acceptable for this project. Conductor sizes indicated are based on copper.
  - 2. Copper Conductors: Soft drawn annealed, 98 percent conductivity, uncoated copper conductors complying with ASTM B3, ASTM B8, or ASTM B787/B787M unless otherwise indicated.
- I. Minimum Conductor Size:
  - 1. Branch Circuits: 12 AWG.
    - a. Exceptions:
      - 1) 20 A, 120 V circuits longer than 75 feet (23 m): 10 AWG, for voltage drop.
      - 2) 20 A, 120 V circuits longer than 150 feet (46 m): 8 AWG, for voltage drop.
- J. Conductor Color Coding:
  - 1. Color code conductors as indicated unless otherwise required by the authority having jurisdiction. Maintain consistent color coding throughout project.
  - 2. Color Coding Method: Integrally colored insulation.
  - 3. Color Code:
    - a. 208Y/120 V, 3 Phase, 4 Wire System:

- 1) Phase A: Black.
  - 2) Phase B: Red.
  - 3) Phase C: Blue.
  - 4) Neutral/Grounded: White.
- b. Equipment Ground, All Systems: Green.

### 2.3 SINGLE CONDUCTOR BUILDING WIRE

- A. Manufacturers:
1. Copper Building Wire:
    - a. Cerro Wire LLC: [www.cerrowire.com/#sle](http://www.cerrowire.com/#sle).
    - b. Encore Wire Corporation: [www.encorewire.com/#sle](http://www.encorewire.com/#sle).
    - c. Southwire Company: [www.southwire.com/#sle](http://www.southwire.com/#sle).
- B. Description: Single conductor insulated wire.
- C. Conductor Stranding:
1. Feeders and Branch Circuits:
    - a. Size 10 AWG and Smaller: Solid.
    - b. Size 8 AWG and Larger: Stranded.
- D. Insulation Voltage Rating: 600 V.
- E. Insulation:
1. Copper Building Wire: Type THHN/THWN or THHN/THWN-2, except as indicated below.

### 2.4 WIRING CONNECTORS

- A. Description: Wiring connectors appropriate for the application, suitable for use with the conductors to be connected, and listed as complying with UL 486A-486B or UL 486C as applicable.
- B. Crimped Terminals: Nylon-insulated, with insulation grip and terminal configuration suitable for connection to be made.
1. Manufacturers:
    - a. Burndy LLC: [www.burndy.com/#sle](http://www.burndy.com/#sle).
    - b. IlSCO: [www.ilSCO.com/#sle](http://www.ilSCO.com/#sle).
    - c. Thomas & Betts Corporation: [www.tnb.com/#sle](http://www.tnb.com/#sle).

### 2.5 WIRING ACCESSORIES

- A. Electrical Tape:
1. Vinyl Insulating Electrical Tape: Complying with ASTM D3005 and listed as complying with UL 510; minimum thickness of 7 mil (0.18 mm); resistant to abrasion, corrosion, and sunlight; conformable for application down to 0 degrees F (-18 degrees C) and suitable for continuous temperature environment up to 221 degrees F (105 degrees C).
- B. Wire Pulling Lubricant: Listed; suitable for use with the conductors or cables to be installed and suitable for use at the installation temperature.
1. Manufacturers:
    - a. 3M: [www.3m.com/#sle](http://www.3m.com/#sle).
    - b. American Polywater Corporation: [www.polywater.com/#sle](http://www.polywater.com/#sle).
    - c. Ideal Industries, Inc: [www.idealindustries.com/#sle](http://www.idealindustries.com/#sle).

**PART 3 EXECUTION**

**3.1 EXAMINATION**

- A. Verify that work likely to damage wire and cable has been completed.
- B. Verify that raceways, boxes, and equipment enclosures are installed and are properly sized to accommodate conductors and cables in accordance with NFPA 70.
- C. Verify that conditions are satisfactory for installation prior to starting work.

**3.2 PREPARATION**

- A. Clean raceways thoroughly to remove foreign materials before installing conductors and cables.

**3.3 INSTALLATION**

- A. Install products in accordance with manufacturer's instructions.
- B. Perform work in accordance with NECA 1 (general workmanship).
- C. Installation in Raceway:
  - 1. Tape ends of conductors and cables to prevent infiltration of moisture and other contaminants.
  - 2. Pull all conductors and cables together into raceway at same time.
  - 3. Do not damage conductors and cables or exceed manufacturer's recommended maximum pulling tension and sidewall pressure.
  - 4. Use suitable wire pulling lubricant where necessary, except when lubricant is not recommended by the manufacturer.
- D. Secure and support conductors and cables in accordance with NFPA 70 using suitable supports and methods approved by the authority having jurisdiction. Provide independent support from building structure. Do not provide support from raceways, piping, ductwork, or other systems.
  - 1. Installation in Vertical Raceways: Provide supports where vertical rise exceeds permissible limits.
- E. Install conductors with a minimum of 12 inches (300 mm) of slack at each outlet.
- F. Neatly train and bundle conductors inside boxes, wireways, panelboards and other equipment enclosures.
- G. Group or otherwise identify neutral/grounded conductors with associated ungrounded conductors inside enclosures in accordance with NFPA 70.
- H. Make wiring connections using specified wiring connectors.
  - 1. Make splices and taps only in accessible boxes. Do not pull splices into raceways or make splices in conduit bodies or wiring gutters.
  - 2. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors.
  - 3. Do not remove conductor strands to facilitate insertion into connector.
  - 4. Clean contact surfaces on conductors and connectors to suitable remove corrosion, oxides, and other contaminates. Do not use wire brush on plated connector surfaces.

- I. Insulate splices and taps that are made with uninsulated connectors using methods suitable for the application, with insulation and mechanical strength at least equivalent to unspliced conductors.
- J. Insulate ends of spare conductors using vinyl insulating electrical tape.
- K. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07 84 00.
- L. Unless specifically indicated to be excluded, provide final connections to all equipment and devices, including those furnished by others, as required for a complete operating system.

3.4 FIELD QUALITY CONTROL

- A. Inspect and test in accordance with NETA ATS, except Section 4.
- B. Perform inspections and tests listed in NETA ATS, Section 7.3.2. The insulation resistance test is required for all conductors. The resistance test for parallel conductors listed as optional is not required.
- C. Correct deficiencies and replace damaged or defective conductors and cables.

END OF SECTION 26 05 19

SECTION 26 05 26 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor and each Subcontractor and/or supplier providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SECTION INCLUDES

- A. Conductors for grounding and bonding.

1.3 RELATED REQUIREMENTS

- A. Section 26 05 19 - Low-Voltage Electrical Power Conductors and Cables: Additional requirements for conductors for grounding and bonding, including conductor color coding.

1.4 REFERENCE STANDARDS

- A. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2015.
- B. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- C. UL 467 - Grounding and Bonding Equipment; Current Edition, Including All Revisions.

1.5 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittals procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for grounding and bonding system components.

PART 2 PRODUCTS

2.1 GROUNDING AND BONDING REQUIREMENTS

- A. Do not use products for applications other than as permitted by NFPA 70 and product listing.
- B. Unless specifically indicated to be excluded, provide all required components, conductors, connectors, conduit, boxes, fittings, supports, accessories, etc. as necessary for a complete grounding and bonding system.
- C. Where conductor size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.
- D. Bonding and Equipment Grounding:
  - 1. Provide bonding for equipment grounding conductors, equipment ground busses, metallic equipment enclosures, metallic raceways and boxes, device grounding terminals, and other normally non-current-carrying conductive materials enclosing electrical

conductors/equipment or likely to become energized as indicated and in accordance with NFPA 70.

2. Provide insulated equipment grounding conductor in each feeder and branch circuit raceway. Do not use raceways as sole equipment grounding conductor.
3. Where circuit conductor sizes are increased for voltage drop, increase size of equipment grounding conductor proportionally in accordance with NFPA 70.
4. Terminate branch circuit equipment grounding conductors on solidly bonded equipment ground bus only. Do not terminate on neutral (grounded) or isolated/insulated ground bus.

## 2.2 GROUNDING AND BONDING COMPONENTS

- A. Conductors for Grounding and Bonding, in Addition to Requirements of Section 26 05 26:
  1. Use insulated copper conductors unless otherwise indicated.

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Perform work in accordance with NECA 1 (general workmanship).
- C. Make grounding and bonding connections using specified connectors.
  1. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors. Do not remove conductor strands to facilitate insertion into connector.
  2. Remove nonconductive paint, enamel, or similar coating at threads, contact points, and contact surfaces.
  3. Mechanical Connectors: Secure connections according to manufacturer's recommended torque settings.

END OF SECTION 26 05 26

SECTION 26 05 29 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor and each Subcontractor and/or supplier providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SECTION INCLUDES

- A. Support and attachment requirements and components for equipment, conduit, cable, boxes, and other electrical work.

1.3 RELATED REQUIREMENTS

- A. Section 26 05 33.13 - Conduit for Electrical Systems: Additional support and attachment requirements for conduits.

1.4 REFERENCE STANDARDS

- A. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2017.
- B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2016a.
- C. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2015.
- D. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.5 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
  - 1. Coordinate the work with other trades to provide additional framing and materials required for installation.
  - 2. Coordinate compatibility of support and attachment components with mounting surfaces at the installed locations.

1.6 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Include details for fabricated hangers and supports where materials or methods other than those indicated are proposed for substitution.

1.7 QUALITY ASSURANCE

- A. Comply with NFPA 70.
- B. Comply with applicable building code.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.1 SUPPORT AND ATTACHMENT COMPONENTS

- A. General Requirements:
  - 1. Provide all required hangers, supports, anchors, fasteners, fittings, accessories, and hardware as necessary for the complete installation of electrical work.
  - 2. Provide products listed, classified, and labeled as suitable for the purpose intended, where applicable.
  - 3. Where support and attachment component types and sizes are not indicated, select in accordance with manufacturer's application criteria as required for the load to be supported with a minimum safety factor of 1.5. Include consideration for vibration, equipment operation, and shock loads where applicable.
  - 4. Do not use products for applications other than as permitted by NFPA 70 and product listing.
  - 5. Steel Components: Use corrosion resistant materials suitable for the environment where installed.
    - a. Zinc-Plated Steel: Electroplated in accordance with ASTM B633.
- B. Conduit and Cable Supports: Straps, clamps, etc. suitable for the conduit or cable to be supported.
  - 1. Conduit Straps: One-hole or two-hole type; steel. Use below 8 feet.
  - 2. Conduit Clamps: Bolted type unless otherwise indicated. Use above 8 feet.
  - 3. Manufacturers:
    - a. Erico International Corporation: [www.erico.com/#sle](http://www.erico.com/#sle).
    - b. O-Z/Gedney, a brand of Emerson Electric Co: [www.emerson.com/#sle](http://www.emerson.com/#sle).
    - c. Thomas & Betts Corporation: [www.tnb.com/#sle](http://www.tnb.com/#sle).
- C. Metal Channel (Strut) Framing Systems: Factory-fabricated continuous-slot metal channel (strut) and associated fittings, accessories, and hardware required for field-assembly of supports.
- D. Anchors and Fasteners:
  - 1. Unless otherwise indicated and where not otherwise restricted, use the anchor and fastener types indicated for the specified applications.
  - 2. Concrete: Use preset concrete inserts, expansion anchors, or screw anchors.
  - 3. Solid or Grout-Filled Masonry: Use expansion anchors or screw anchors.
  - 4. Hollow Masonry: Use toggle bolts.
  - 5. Hollow Stud Walls: Use toggle bolts.
  - 6. Wood: Use wood screws.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that mounting surfaces are ready to receive support and attachment components.
- B. Verify that conditions are satisfactory for installation prior to starting work.



3.2 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Perform work in accordance with NECA 1 (general workmanship).
- C. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.
- D. Unless specifically indicated or approved by Architect, do not provide support from suspended ceiling support system or ceiling grid.
- E. Unless specifically indicated or approved by Architect, do not provide support from roof deck.
- F. Equipment Support and Attachment:
  - 1. Use metal channel (strut) secured to studs to support equipment surface-mounted on hollow stud walls when wall strength is not sufficient to resist pull-out.
  - 2. Use metal channel (strut) to support surface-mounted equipment in wet or damp locations to provide space between equipment and mounting surface.
- G. Conduit Support and Attachment: Also comply with Section 26 05 33.13.
- H. Secure fasteners according to manufacturer's recommended torque settings.

END OF SECTION 26 05 29

SECTION 26 05 33.13 - CONDUIT FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor and each Subcontractor and/or supplier providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SECTION INCLUDES

- A. Liquidtight flexible metal conduit (LFMC).
- B. Electrical metallic tubing (EMT).
- C. Conduit fittings.
- D. Accessories.

1.3 RELATED REQUIREMENTS

- A. Section 07 84 13 – Penetration Firestopping.
- B. Section 26 05 26 - Grounding and Bonding for Electrical Systems.
- C. Section 26 05 29 - Hangers and Supports for Electrical Systems.
- D. Section 26 05 33.16 - Boxes for Electrical Systems.
- E. Section 26 05 53 - Identification for Electrical Systems: Identification products and requirements.

1.4 REFERENCE STANDARDS

- A. ANSI C80.3 - American National Standard for Electrical Metallic Tubing -- Steel (EMT-S); 2015.
- B. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2015.
- C. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable; 2014.
- D. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- E. UL 360 - Liquid-Tight Flexible Steel Conduit; Current Edition, Including All Revisions.
- F. UL 514B - Conduit, Tubing, and Cable Fittings; Current Edition, Including All Revisions.
- G. UL 797 - Electrical Metallic Tubing-Steel; Current Edition, Including All Revisions.

1.5 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:

1. Coordinate minimum sizes of conduits with the actual conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
2. Coordinate the arrangement of conduits with structural members, ductwork, piping, equipment and other potential conflicts installed under other sections or by others.
3. Verify exact conduit termination locations required for boxes, enclosures, and equipment installed under other sections or by others.

B. Sequencing:

1. Do not begin installation of conductors and cables until installation of conduit is complete between outlet, junction and splicing points.

1.6 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittals procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for conduits and fittings. Identify exact items.

1.7 QUALITY ASSURANCE

- A. Comply with requirements of NFPA 70.

PART 2 PRODUCTS

2.1 CONDUIT APPLICATIONS

- A. Do not use conduit and associated fittings for applications other than as permitted by NFPA 70 and product listing.
- B. Unless otherwise indicated and where not otherwise restricted, use the conduit types indicated for the specified applications. Where more than one listed application applies, comply with the most restrictive requirements. Where conduit type for a particular application is not specified, use galvanized steel rigid metal conduit.
- C. Exposed, Interior, Subject to Physical Damage: Use galvanized steel rigid metal conduit or intermediate metal conduit (IMC).

2.2 CONDUIT REQUIREMENTS

- A. Existing Work: Where existing conduits are indicated to be reused, they may be reused only where they comply with specified requirements, are free from corrosion, and integrity is verified by pulling a mandrel through them.
- B. Provide all conduit, fittings, supports, and accessories required for a complete raceway system.
- C. Provide products listed, classified, and labeled as suitable for the purpose intended.
- D. Minimum Conduit Size, Unless Otherwise Indicated:
  1. Branch Circuit Homeruns: 3/4 inch (21 mm) trade size.
- E. Where conduit size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

2.3 LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC)

- A. Manufacturers:
  - 1. AFC Cable Systems, Inc: [www.afcweb.com/#sle](http://www.afcweb.com/#sle).
  - 2. Electri-Flex Company: [www.electriflex.com/#sle](http://www.electriflex.com/#sle).
  - 3. International Metal Hose: [www.metalhose.com/#sle](http://www.metalhose.com/#sle).
- B. Description: NFPA 70, Type LFMC polyvinyl chloride (PVC) jacketed steel flexible metal conduit listed and labeled as complying with UL 360.
- C. Fittings:
  - 1. Manufacturers:
    - a. Bridgeport Fittings Inc: [www.bptfittings.com/#sle](http://www.bptfittings.com/#sle).
    - b. O-Z/Gedney, a brand of Emerson Electric Co: [www.emerson.com/#sle](http://www.emerson.com/#sle).
    - c. Thomas & Betts Corporation: [www.tnb.com/#sle](http://www.tnb.com/#sle).
  - 2. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
  - 3. Material: Use steel or malleable iron.
    - a. Do not use die cast zinc fittings.

2.4 ELECTRICAL METALLIC TUBING (EMT)

- A. Manufacturers:
  - 1. Allied Tube & Conduit: [www.alliedeg.com/#sle](http://www.alliedeg.com/#sle).
  - 2. Republic Conduit: [www.republic-conduit.com/#sle](http://www.republic-conduit.com/#sle).
  - 3. Wheatland Tube, a Division of Zekelman Industries: [www.wheatland.com/#sle](http://www.wheatland.com/#sle).
- B. Description: NFPA 70, Type EMT steel electrical metallic tubing complying with ANSI C80.3 and listed and labeled as complying with UL 797.
- C. Fittings:
  - 1. Manufacturers:
    - a. Bridgeport Fittings Inc: [www.bptfittings.com/#sle](http://www.bptfittings.com/#sle).
    - b. O-Z/Gedney, a brand of Emerson Electric Co: [www.emerson.com/#sle](http://www.emerson.com/#sle).
    - c. Thomas & Betts Corporation: [www.tnb.com/#sle](http://www.tnb.com/#sle).
  - 2. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
  - 3. Material: Use steel or malleable iron.
    - a. Do not use die cast zinc fittings.
  - 4. Connectors and Couplings: Use compression (gland) or set-screw type.
    - a. Do not use indenter type connectors and couplings.

2.5 ACCESSORIES

- A. Pull Strings: Use nylon cord with average breaking strength of not less than 200 pound-force (890 N).

**PART 3 EXECUTION**

**3.1 INSTALLATION**

- A. Install products in accordance with manufacturer's instructions.
- B. Perform work in accordance with NECA 1 (general workmanship).
- C. Conduit Routing:
  - 1. Unless dimensioned, conduit routing indicated is diagrammatic.
  - 2. When conduit destination is indicated without specific routing, determine exact routing required.
  - 3. Conduits in the following areas may be exposed, unless otherwise indicated:
    - a. Electrical rooms.
    - b. Mechanical equipment rooms.
    - c. Within joists in areas with no ceiling.
  - 4. Unless otherwise approved, do not route conduits exposed:
    - a. Across floors.
    - b. Across roofs.
    - c. Across top of parapet walls.
    - d. Across building exterior surfaces.
  - 5. Arrange conduit to maintain adequate headroom, clearances, and access.
  - 6. Arrange conduit to provide no more than the equivalent of four 90 degree bends between pull points.
  - 7. Route conduits above water and drain piping where possible.
  - 8. Maintain minimum clearance of 6 inches (150 mm) between conduits and piping for other systems.
  - 9. Maintain minimum clearance of 12 inches (300 mm) between conduits and hot surfaces. This includes, but is not limited to:
    - a. Heaters.
    - b. Hot water piping.
    - c. Flues.
  - 10. Group parallel conduits in the same area together on a common rack.
- D. Conduit Support:
  - 1. Secure and support conduits in accordance with NFPA 70 and Section 26 05 29 using suitable supports and methods approved by the authority having jurisdiction.
  - 2. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.
  - 3. Use conduit strap to support single surface-mounted conduit.
    - a. Use clamp back spacer with conduit strap for damp and wet locations to provide space between conduit and mounting surface.
  - 4. Use metal channel (strut) with accessory conduit clamps to support multiple parallel surface-mounted conduits.
  - 5. Use conduit clamp to support single conduit from beam clamp or threaded rod.
  - 6. Use trapeze hangers assembled from threaded rods and metal channel (strut) with accessory conduit clamps to support multiple parallel suspended conduits.
  - 7. Use of wire for support of conduits is not permitted.
    - a. For securing conduits to studs in hollow stud walls.
    - b. For suspending conduits supported by spring steel conduit clips (only where specifically indicated or permitted).
  - 8. Where conduit support intervals specified in NFPA 70 and NECA standards differ, comply with the most stringent requirements.

- E. Connections and Terminations:
  - 1. Use suitable adapters where required to transition from one type of conduit to another.
  - 2. Provide drip loops for liquidtight flexible conduit connections to prevent drainage of liquid into connectors.
  - 3. Provide insulating bushings or insulated throats at all conduit terminations to protect conductors.
  - 4. Secure joints and connections to provide maximum mechanical strength and electrical continuity.
  
- F. Penetrations:
  - 1. Do not penetrate or otherwise notch or cut structural members, including footings and grade beams, without approval of Structural Engineer.
  - 2. Make penetrations perpendicular to surfaces unless otherwise indicated.
  - 3. Provide sleeves for penetrations as indicated or as required to facilitate installation. Set sleeves flush with exposed surfaces unless otherwise indicated or required.
  - 4. Where conduits penetrate waterproof membrane, seal as required to maintain integrity of membrane.
  - 5. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07 84 00.
  
- G. Provide pull string in all empty conduits and in conduits where conductors and cables are to be installed by others. Leave minimum slack of 12 inches (300 mm) at each end.
  
- H. Provide grounding and bonding in accordance with Section 26 05 26.

### 3.2 CLEANING

- A. Clean interior of conduits to remove moisture and foreign matter.

END OF SECTION 26 05 33.13

SECTION 26 05 33.16 - BOXES FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor and each Subcontractor and/or supplier providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SECTION INCLUDES

- A. Outlet and device boxes up to 100 cubic inches (1,650 cu cm), including those used as junction and pull boxes.
- B. Cabinets and enclosures, including junction and pull boxes larger than 100 cubic inches (1,650 cu cm).

1.3 RELATED REQUIREMENTS

- A. Section 26 05 26 - Grounding and Bonding for Electrical Systems.
- B. Section 26 05 29 - Hangers and Supports for Electrical Systems.
- C. Section 26 05 33.13 - Conduit for Electrical Systems:
  - 1. Conduit bodies and other fittings.

1.4 REFERENCE STANDARDS

- A. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2015.
- B. NECA 130 - Standard for Installing and Maintaining Wiring Devices; 2010.
- C. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable; 2014.
- D. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.5 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
  - 1. Coordinate arrangement of electrical equipment with the dimensions and clearance requirements of the actual equipment to be installed.
  - 2. Coordinate minimum sizes of boxes with the actual installed arrangement of conductors, clamps, support fittings, and devices, calculated according to NFPA 70.
  - 3. Coordinate the work with other trades to preserve insulation integrity.

1.6 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for cabinets and enclosures, boxes for hazardous (classified) locations, floor boxes, and underground boxes/enclosures. Identify each item.

1.7 QUALITY ASSURANCE

- A. Comply with requirements of NFPA 70.

PART 2 PRODUCTS

2.1 BOXES

- A. General Requirements:
  - 1. Do not use boxes and associated accessories for applications other than as permitted by NFPA 70 and product listing.
  - 2. Provide all boxes, fittings, supports, and accessories required for a complete raceway system and to accommodate devices and equipment to be installed.
  - 3. Provide products listed, classified, and labeled as suitable for the purpose intended.
  - 4. Where box size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.
  - 5. Provide grounding terminals within boxes where equipment grounding conductors terminate.
- B. Outlet and Device Boxes Up to 100 cubic inches (1,650 cu cm), Including Those Used as Junction and Pull Boxes:
  - 1. Use sheet-steel boxes for dry locations unless otherwise indicated or required.
  - 2. Sheet-Steel Boxes: Comply with NEMA OS 1, and list and label as complying with UL 514A.
  - 3. Wall Plates: Comply with Section 26 27 26.
  - 4. Manufacturers:
    - a. Hubbell Incorporated; RACO Products: [www.hubbell-rtb.com/#sle](http://www.hubbell-rtb.com/#sle).
    - b. O-Z/Gedney, a brand of Emerson Electric Co: [www.emerson.com/#sle](http://www.emerson.com/#sle).
    - c. Thomas & Betts Corporation: [www.tnb.com/#sle](http://www.tnb.com/#sle).

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that mounting surfaces are ready to receive boxes.
- B. Verify that conditions are satisfactory for installation prior to starting work.

3.2 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Install boxes in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130, including mounting heights specified in those standards where mounting heights are not indicated.
- C. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.



D. Box Supports:

1. Secure and support boxes in accordance with NFPA 70 and Section 26 05 29 using suitable supports and methods approved by the authority having jurisdiction.
2. Provide independent support from building structure except for cast metal boxes (other than boxes used for fixture support) supported by threaded conduit connections in accordance with NFPA 70. Do not provide support from piping, ductwork, or other systems.

E. Install boxes plumb and level.

F. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07 84 00.

G. Close unused box openings.

H. Provide grounding and bonding in accordance with Section 26 05 26.

END OF SECTION 26 05 33.16

SECTION 26 28 13 - FUSES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor and each Subcontractor and/or supplier providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SECTION INCLUDES

- A. Fuses.

1.3 RELATED REQUIREMENTS

- A. Section 26 28 16.16 - Enclosed Switches: Fusible switches.
- B. Section 26 29 13 - Enclosed Controllers: Fusible switches.

1.4 REFERENCE STANDARDS

- A. NEMA FU 1 - Low Voltage Cartridge Fuses; 2012.
- B. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- C. UL 248-1 - Low-Voltage Fuses - Part 1: General Requirements; Current Edition, Including All Revisions.
- D. UL 248-12 - Low-Voltage Fuses - Part 12: Class R Fuses; Current Edition, Including All Revisions.

1.5 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
  - 1. Coordinate fuse clips furnished in equipment provided under other sections for compatibility with indicated fuses.
    - a. Fusible Enclosed Switches: See Section 26 28 16.16.
    - b. Fusible Switches for Enclosed Motor Controllers: See Section 26 29 13.
  - 2. Coordinate fuse requirements according to manufacturer's recommendations and nameplate data for actual equipment to be installed.

1.6 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's standard data sheets including voltage and current ratings, interrupting ratings, time-current curves, and current limitation curves.

1.7 QUALITY ASSURANCE

- A. Comply with requirements of NFPA 70.

- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Bussmann, a division of Eaton Corporation: [www.cooperindustries.com/#sle](http://www.cooperindustries.com/#sle).
- B. Littelfuse, Inc: [www.littelfuse.com/#sle](http://www.littelfuse.com/#sle).
- C. Mersen: [ep-us.mersen.com/#sle](http://ep-us.mersen.com/#sle).

### 2.2 APPLICATIONS

- A. Individual Motor Branch Circuits: Class RK1, time-delay.

### 2.3 FUSES

- A. Provide products listed, classified, and labeled as suitable for the purpose intended.
- B. Unless specifically indicated to be excluded, provide fuses for all fusible equipment as required for a complete operating system.
- C. Provide fuses of the same type, rating, and manufacturer within the same switch.
- D. Comply with UL 248-1.
- E. Unless otherwise indicated, provide cartridge type fuses complying with NEMA FU 1, Class and ratings as indicated.
- F. Voltage Rating: Suitable for circuit voltage.
- G. Class R Fuses: Comply with UL 248-12.
  - 1. Class RK1, Time-Delay Fuses:

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify that fuse ratings are consistent with circuit voltage and manufacturer's recommendations and nameplate data for equipment.
- B. Verify that conditions are satisfactory for installation prior to starting work.

### 3.2 INSTALLATION

- A. Do not install fuses until circuits are ready to be energized.
- B. Install fuses with label oriented such that manufacturer, type, and size are easily read.

END OF SECTION 26 28 13

SECTION 26 29 13 - ENCLOSED CONTROLLERS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The Contractor and each Subcontractor and/or supplier providing goods or services referenced in or related to this Section shall also be bound by the Documents identified in Division 01 Section "Summary", Paragraph 1.1A, entitled "Related Documents."

1.2 SECTION INCLUDES

- A. Enclosed NEMA controllers for low-voltage (600 V and less) applications:
  - 1. Magnetic motor starters.
- B. Overcurrent protective devices for motor controllers, including overload relays.
- C. Control accessories:
  - 1. Auxiliary contacts.
  - 2. Pilot devices.
  - 3. Control power transformers.
  - 4. Control terminal blocks.

1.3 RELATED REQUIREMENTS

- A. Section 26 05 26 - Grounding and Bonding for Electrical Systems.
- B. Section 26 05 29 - Hangers and Supports for Electrical Systems.
- C. Section 26 28 13 - Fuses: Fuses for fusible switches.

1.4 REFERENCE STANDARDS

- A. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2015.
- B. NEMA ICS 2 - Industrial Control and Systems Controllers, Contactors and Overload Relays Rated 600 Volts; 2000, with Errata (2008).
- C. NEMA ICS 5 - Industrial Control and Systems: Control Circuit and Pilot Devices; 2017.
- D. NEMA KS 1 - Heavy Duty Enclosed and Dead-Front Switches (600 Volts Maximum); 2013.
- E. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- F. UL 98 - Enclosed and Dead-Front Switches; Current Edition, Including All Revisions.

1.5 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
  - 1. Coordinate the work with other trades to avoid placement of ductwork, piping, equipment, or other potential obstructions within the dedicated equipment spaces and working clearances required by NFPA 70.

2. Coordinate the work to provide motor controllers and associated overload relays suitable for use with the actual motors to be installed.
3. Coordinate the work to provide controllers and associated wiring suitable for interface with control devices to be installed.
4. Coordinate arrangement of electrical equipment with the dimensions and clearance requirements of the actual equipment to be installed.
5. Verify with manufacturer that conductor terminations are suitable for use with the conductors to be installed.

#### 1.6 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for motor controllers, enclosures, overcurrent protective devices, and other installed components and accessories.
  1. Include characteristic trip curves for each type and rating of overcurrent protective device upon request.
- C. Shop Drawings: Indicate dimensions, voltage, controller sizes, short circuit current ratings, conduit entry locations, conductor terminal information, and installed features and accessories.
  1. Include wiring diagrams showing all factory and field connections.
- D. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  1. See Section 01 60 00 - Product Requirements, for additional provisions.

#### 1.7 QUALITY ASSURANCE

- A. Comply with requirements of NFPA 70.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

#### 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store in a clean, dry space. Maintain factory wrapping or provide an additional heavy canvas or heavy plastic cover to protect units from dirt, water, construction debris, and traffic.
- B. Handle carefully in accordance with manufacturer's written instructions to avoid damage to internal components, enclosure, and finish.

#### 1.9 FIELD CONDITIONS

- A. Maintain field conditions within required service conditions during and after installation.

### PART 2 PRODUCTS

#### 2.1 MANUFACTURERS

- A. Eaton Corporation: [www.eaton.com/#sle](http://www.eaton.com/#sle).
- B. Rockwell Automation, Inc; Allen-Bradley Products: [ab.rockwellautomation.com/#sle](http://ab.rockwellautomation.com/#sle).
- C. Schneider Electric; Square D Products: [www.schneider-electric.us/#sle](http://www.schneider-electric.us/#sle).

## 2.2 ENCLOSED CONTROLLERS

- A. Provide enclosed controller assemblies consisting of all required components, control power transformers, instrumentation and control wiring, accessories, etc. as necessary for a complete operating system.
- B. Provide products listed, classified, and labeled as suitable for the purpose intended.
- C. Description: Enclosed controllers complying with NEMA ICS 2, and listed and labeled as complying with UL 60947-1 and UL 60947-4-1; ratings, configurations and features as indicated on the drawings.
- D. Conductor Terminations: Suitable for use with the conductors to be installed.
- E. Enclosures:
  - 1. Comply with NEMA ICS 6.
  - 2. Environment Type per NEMA 250: Unless otherwise indicated, as specified for the following installation locations:
    - a. Indoor Clean, Dry Locations: Type 1 or Type 12.
  - 3. Finish: Manufacturer's standard unless otherwise indicated.
- F. Instrument Transformers:
  - 1. Comply with IEEE C57.13.
  - 2. Potential Transformers: Include primary and secondary fuses with disconnecting means.
- G. Magnetic Motor Starters: Combination type unless otherwise indicated.
  - 1. Combination Magnetic Motor Starters: NEMA ICS 2, Class A combination motor controllers with magnetic contactor(s), externally operable disconnect and overload relay(s).
  - 2. Configuration: Full-voltage non-reversing unless otherwise indicated.
  - 3. Minimum Starter Size: NEMA Size 0.
  - 4. Disconnects: Disconnect switch type.
    - a. Circuit Breakers: Motor circuit protectors (magnetic-only) unless otherwise indicated or required.
    - b. Disconnect Switches: Fusible type unless otherwise indicated.
    - c. Provide externally operable handle with means for locking in the OFF position. Provide safety interlock to prevent opening the cover with the disconnect in the ON position with capability of overriding interlock for testing purposes.
    - d. Provide auxiliary interlock for disconnection of external control power sources where applicable.
  - 5. Overload Relays: Bimetallic thermal type unless otherwise indicated.
  - 6. Pilot Devices Required:
    - a. Furnish local pilot devices for each unit as specified below unless otherwise indicated on drawings.
    - b. Single-Speed, Non-Reversing Starters:
      - 1) Pushbuttons: START-STOP.
      - 2) Selector Switches: HAND/OFF/AUTO.
      - 3) Indicating Lights: Red ON, Green OFF.

## 2.3 OVERCURRENT PROTECTIVE DEVICES

- A. Overload Relays:
  - 1. Provide overload relays and, where applicable, associated current elements/heaters, selected according to actual installed motor nameplate data, in accordance with

manufacturer's recommendations and NFPA 70; include consideration for motor service factor and ambient temperature correction, where applicable.

2. Resettable.
    - a. Employ manual reset unless otherwise indicated.
    - b. Do not employ automatic reset with two-wire control.
  3. Bimetallic Thermal Overload Relays:
    - a. Interchangeable current elements/heaters.
- B. Fusible Disconnect Switches:
1. Description: Quick-make, quick-break, dead-front fusible switch units complying with NEMA KS 1, and listed and labeled as complying with UL 98; ratings, configurations, and features as indicated on the drawings.
  2. Fuse Clips: As required to accept indicated fuses.
    - a. Where NEMA Class R fuses are installed, provide rejection feature to prevent installation of fuses other than Class R.
  3. Provide externally operable handle with means for locking in the OFF position. Provide means for locking switch cover in the closed position. Provide safety interlock to prevent opening the cover with the switch in the ON position with capability of overriding interlock for testing purposes.

## 2.4 CONTROL ACCESSORIES

- A. Auxiliary Contacts:
1. Comply with NEMA ICS 5.
  2. Provide number and type of contacts indicated or required to perform necessary functions, including holding (seal-in) circuit and interlocking, plus one normally open (NO) and one normally closed (NC) spare contact for each magnetic motor starter, minimum. Coordinate with control contractor for exact requirements.
- B. Pilot Devices:
1. Comply with NEMA ICS 5; heavy-duty type.
  2. Nominal Size: 30 mm.
  3. Pushbuttons: Unless otherwise indicated, provide momentary, non-illuminated type with flush button operator; normally open or normally closed as indicated or as required.
  4. Selector Switches: Unless otherwise indicated, provide maintained, non-illuminated type with knob operator; number of switch positions as indicated or as required.
  5. Provide LED lamp source for indicating lights and illuminated devices.
  6. Coordinate with control contractor for exact requirements.
- C. Control Power Transformers:
1. Size to accommodate burden of contactor coil(s) and all connected auxiliary devices. coordinate with control
  2. Include primary and secondary fuses.
- D. Control Terminal Blocks: Include 25 percent spare terminals.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that ratings of enclosed controllers are consistent with the indicated requirements.

- C. Verify that mounting surfaces are ready to receive enclosed controllers.
- D. Verify that conditions are satisfactory for installation prior to starting work.

3.2        **INSTALLATION**

- A. Install products in accordance with manufacturer's instructions.
- B. Install controllers in accordance with NECA 1 (general workmanship).
- C. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.
- D. Provide required support and attachment in accordance with Section 26 05 29.
- E. Install enclosed controllers plumb and level.
- F. Provide grounding and bonding in accordance with Section 26 05 26.
- G. Install all field-installed devices, components, and accessories.
- H. Provide fuses complying with Section 26 28 13 for fusible switches as indicated.
- I. Where accessories are not self-powered, provide control power source as indicated or as required to complete installation. Control power shall be terminated by controls contractor.

END OF SECTION 26 29 13



# Section 50 10 00

## Existing Conditions Information

<b>PROJECT-SPECIFIC AVAILABLE INFORMATION</b>	<b>Page Count</b>
Test Report: Asbestos Analysis of Bulk Materials	2



**EMSL Analytical, Inc.**

29 North Plains Highway, Unit # 4 Wallingford, CT 06492  
Tel/Fax: (203) 284-5948 / (203) 284-5978  
http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order: 242001353  
Customer ID: ATCE54  
Customer PO: 19-10133-0001  
Project ID:

**Attention:** Ed Fennell  
ATC Group Services LLC  
290 Roberts Street  
Suite 301  
East Hartford, CT 06108  
**Project:** LYMAN HALL, 501 CRESCENT ST. NEW HAVEN, CT

**Phone:** (860) 282-9924  
**Fax:** (860) 282-9826  
**Received Date:** 02/26/2020 12:15 PM  
**Analysis Date:** 02/29/2020  
**Collected Date:** 02/26/2020

**Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy**

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
LH022620-1A 242001353-0001	B33-PLENUM ENT. - 12"X12" ACOUSTICAL GLUE ON TILES (WALL + CEILING)	Gray Fibrous Homogeneous	5% Cellulose 15% Min. Wool	80% Non-fibrous (Other)	None Detected
<i>Result includes a small amount of inseparable attached material</i>					
LH022620-1B 242001353-0002	B33-PLENUM ENT. - 12"X12" ACOUSTICAL GLUE ON TILES (WALL + CEILING)	Gray/White Fibrous Homogeneous	5% Cellulose 15% Min. Wool	80% Non-fibrous (Other)	None Detected
<i>Result includes a small amount of inseparable attached material.</i>					
LH022620-2A 242001353-0003	B33-PLENUM ENT. - 12"X12" ACOUSTICAL TILE UNDERLAYMENT	White Fibrous Homogeneous	10% Cellulose 60% Min. Wool	30% Non-fibrous (Other)	None Detected
LH022620-2B 242001353-0004	B33-PLENUM ENT. - 12"X12" ACOUSTICAL TILE UNDERLAYMENT	Gray Fibrous Homogeneous	15% Cellulose 60% Min. Wool	25% Non-fibrous (Other)	None Detected
LH022620-3A 242001353-0005	B33-PLENUM ENT. - 12"X12" ACOUSTICAL TILE BROWN GLUE DAUBM	Brown Non-Fibrous Homogeneous	7% Fibrous (Other)	93% Non-fibrous (Other)	None Detected
LH022620-3B 242001353-0006	B33-PLENUM ENT. - 12"X12" ACOUSTICAL TILE BROWN GLUE DAUBM	Brown Non-Fibrous Homogeneous	5% Fibrous (Other)	95% Non-fibrous (Other)	None Detected
LH022620-4A 242001353-0007	B33-PLENUM CORNER DUCT - INTERIOR DUCT INSULATION ADHESIVE (YELLOW)	Yellow Fibrous Homogeneous	5% Cellulose 15% Glass	80% Non-fibrous (Other)	None Detected
<i>Result includes a small amount of inseparable attached material</i>					
LH022620-4B 242001353-0008	B33-PLENUM CORNER DUCT - INTERIOR DUCT INSULATION ADHESIVE (YELLOW)	Yellow Fibrous Homogeneous	3% Cellulose 15% Glass	82% Non-fibrous (Other)	None Detected
<i>Result includes a small amount of inseparable attached material.</i>					
LH022620-5A 242001353-0009	B33-PLENUM CEILING DUCT - RED INSULATION ADHESIVE (INTERIOR)	Red Non-Fibrous Homogeneous	4% Cellulose	96% Non-fibrous (Other)	None Detected

Initial report from: 02/29/2020 16:32:51




**EMSL Analytical, Inc.**  
29 North Plains Highway, Unit # 4 Wallingford, CT 06492  
Tel/Fax: (203) 284-5948 / (203) 284-5978  
<http://www.EMSL.com/wallingfordlab@emsl.com>

EMSL Order: 242001353  
Customer ID: ATCE54  
Customer PO: 19-10133-0001  
Project ID:

**Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy**

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
LH022620-5B 242001353-0010	B33-PLENUM CEILING DUCT - RED INSULATION ADHESIVE (INTERIOR)	Red Non-Fibrous Homogeneous	3% Cellulose 2% Glass	95% Non-fibrous (Other)	None Detected
LH022620-6A 242001353-0011	B33-PLENUM CEILING DUCT - TAN INSULATION ADHESIVE	Tan/Yellow Non-Fibrous Homogeneous	3% Cellulose 5% Glass	92% Non-fibrous (Other)	None Detected
LH022620-6B 242001353-0012	B33-PLENUM CEILING DUCT - TAN INSULATION ADHESIVE	Tan Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
LH022620-7A 242001353-0013	B33-PLENUM CEILING DUCT - PIN ADHESIVE (BLACK)	Black Fibrous Homogeneous	10% Glass	90% Non-fibrous (Other)	None Detected
LH022620-7B 242001353-0014	B33-PLENUM CEILING DUCT - PIN ADHESIVE (BLACK)	Black Non-Fibrous Homogeneous	5% Cellulose 10% Glass	85% Non-fibrous (Other)	None Detected
LH022620-8A 242001353-0015	B33-PLENUM - PARGING ON CONCRETE WALLS	Gray Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
LH022620-8B 242001353-0016	B33-PLENUM - PARGING ON CONCRETE WALLS	Gray Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
LH022620-8C 242001353-0017	B33-PLENUM - PARGING ON CONCRETE WALLS	Gray/Tan Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
LH022620-8D 242001353-0018	B33-PLENUM - PARGING ON CONCRETE WALLS	Gray Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
LH022620-8E 242001353-0019	B33-PLENUM - PARGING ON CONCRETE WALLS	Gray Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected

Analyst(s)  
Angela Catalano (10)  
Leslie Tetrick (9)

  
\_\_\_\_\_  
Danny Sandhu, Asbestos Laboratory Manager  
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method"), but augmented with procedures outlined in the 1993 ("final") version of the method. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. All samples received in acceptable condition unless otherwise noted. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. EMSL recommends gravimetric reduction for all non-friable organically bound materials prior to analysis. Estimation of uncertainty is available on request.  
Samples analyzed by EMSL Analytical, Inc. Wallingford, CT NVLAP Lab Code 200700-0.

Initial report from: 02/29/2020 16:32:51