

From: null@town.fairfield.ct.us
To: [Board of Selectmen](#)
Subject: New submission for form: Boards and Commissions Interest Form (ID #253)
Date: Friday, November 18, 2022 4:09:12 PM

Boards and Commissions Interest Form

Record #253 submitted from IP address 24.191.40.243 on 11/18/2022 4:09 PM

[View form](#)

ID	253
First Name	Michael
Last Name	Finneran
Street Address	213 Springer Road
Zip Code	06824
Email Address	lakehillsfinns@gmail.com
Cell Phone	203-219-2364
Home Phone	203-870-1406
Work Phone	914-225-0178
Voter Registration Status	Yes
Political Party Affiliation	Independent Party
Board or Commission	Fire Commission
Read the Boards Role	Yes
How You Learned About the Position	Kyran Dunn
Who You Have	Other Person(s)

Spoken To	
Explanation of Interest and Contribution	Kyran Dunn
Resume or Bio	Resume 2022.pdf
Additional Comments	I have lived in CT for 22 years and Fairfield for 12 of them. My wife Julie, love Fairfield and are raising our 5 kids here. All attend the Fairfield Public Schools. It would be an honor to contribute to our community and town.

[Manage](#)

Michael Finneran

Community is Everything

213 Springer Road
Fairfield, CT 06824
203-219-2364
lakehillsfinns@gmail.com

EXPERIENCE

Morgan Stanley, Purchase, NY — Deployment
Manager/Financial Planning Directors- Executive Director

May 2021 - PRESENT

Morgan Stanley, New Haven/Fairfield, CT — Sub-Complex
Manager- Senior Vice President

May 2013 - April 2021

Managed the Morgan Stanley Wealth Business in these markets.

Morgan Stanley, Fairfield/New Haven Counties — Business
Development Manager- First Vice President

June 2009 - April 2013

Helped Grow the Quality of the Morgan Stanley Business in this Region.

EDUCATION

Fordham University, Bronx — B.A.

1993-1997

Volunteer

Lake Hills HomeOwner Association — Past President

Fairfield National Little League- Coach and Manager

PAL Basketball- Basketball Coach

Park and Recreation- Basketball Coach

Fairfield Youth Football- Football Coach and Current Board
Member

School Volunteer Association- Mentor to Bridgeport
Students

St. Pius X- Weekly Usher at Mass

SKILLS

Strong Communicator,
Senior/Executive Level
Business Experience,
Connector and Collaborator

AWARDS

Morgan Stanley Regional and
National Manager of the Year

Naval Achievement Medal

National Defense Ribbon

Good Conduct Ribbon

From: null@town.fairfield.ct.us
To: [Board of Selectmen](#)
Subject: New submission for form: Boards and Commissions Interest Form (ID #255)
Date: Monday, December 12, 2022 10:52:30 AM

Boards and Commissions Interest Form

Record #255 submitted from IP address 47.23.136.12 on 12/12/2022 10:52 AM

[View form](#)

ID	255
First Name	Ginny
Last Name	Klinga
Street Address	208 White Oak Rd
Zip Code	06825
Email Address	ginnyk@pcvf.net
Cell Phone	203-395-6529
Home Phone	203-366-5688
Work Phone	203-366-5461
Voter Registration Status	Yes
Political Party Affiliation	Democratic Party
Board or Commission	Fire Commission
Read the Boards Role	Yes
How You Learned About the Position	Steve Sheinberg
Who You Have Spoken To	Other Person(s)
Explanation of Interest and Contribution	To make a time commitment to my town as I have before in a significant capacity.
Resume or Bio	C6AF792A-6093-4C35-A619-1573055203C4.jpeg
Additional Comments	I will send resume separately if you cannot read .

Manage

Virginia A Klinga
208 White Oak Road
Fairfield, CT. 06825

Email: ginnyk@pcvf.net
ginklinga@gmail.com

203-395-6529(cell)
203-366-5461(office)
203-366-5688(home)

Background: Born and raised in Stratford, CT.
Family of nine children of which I am the middle one.
Parents: Frederick Wren Hurley and Ellen Byron Hennessey Hurley
Husband: Wayne S. Klinga
Children: Christopher Stephen Klinga- born 1983
Curtis James Klinga-1986
Courtney Colleen Klinga-1988

Education:

St. James Elementary
Stratford High School
Marymount College- Associates Applied Science(Merchandising Major)2 Year

School

University of Bridgeport- Business School Graduate-4 yr. degree 1975
Sacred Heart University- MBA program(not completed)

Awards:

DAR award in High School
Elected Class President all 4 years-Stratford High
John Danforth Foundation Award
Numerous Individual Club Awards for Excellence
In Leadership

Employment:

Howland's/ 1972
White Plains, New York
Junior Buyer

Valley Container Salesman #1 1975/8 Years
850 Union Ave
Bridgeport, CT.

From: null@town.fairfield.ct.us
To: [Board of Selectmen](#)
Subject: New submission for form: Boards and Commissions Interest Form (ID #247)
Date: Friday, October 21, 2022 1:49:14 PM

Boards and Commissions Interest Form

Record #247 submitted from IP address 64.251.52.253 on 10/21/2022 1:49 PM

[View form](#)

ID	247
First Name	David
Last Name	Henry
Street Address	47 Edgewood Road
Zip Code	06825
Email Address	davehenry66@gmail.com
Cell Phone	203-218-3275
Home Phone	203-218-3275
Work Phone	203-275-2926
Voter Registration Status	Yes
Political Party Affiliation	Democratic Party
Board or Commission	Harbor Management Commission
Read the Boards Role	Yes
How You Learned About the Position	Town newsletter
Who You Have	Other Person(s)

Spoken To	
Explanation of Interest and Contribution	As the Director of the Aquaculture school in Blackrock and lifelong Fairfield resident, I am interested in serving on this board to assure proper management of our beautiful waterways. I may also have industry connections through my position that can be leveraged for the benefit of the town of Fairfield.
Resume or Bio	Dave Resume 2022.pdf
Additional Comments	

[Manage](#)

Dave J. Henry
47 Edgewood Road
Fairfield, CT 06825
DaveHenry66@gmail.com
203.218.1626

OBJECTIVE	To serve my town of Fairfield in the capacity of an alternate member of the Harbor Management Commission.	
EDUCATION	Sacred Heart University 092 Administrative Certification	07/2008 – 11/2012
	Fairfield University Master of Arts in Teaching	08/2004 – 05/2008
	University of Virginia Bachelor of Arts in Physics	08/2000 – 05/2004
EXPERIENCE	Director, Bridgeport Regional Aquaculture Science and Technology Education Center (BRASTEC) Science Director for Bridgeport Public Schools Bridgeport, CT 2020 – present	
	<ul style="list-style-type: none">- Oversee science teaching and learning for a district of 20,000 students- Revise and develop science curriculum- Adoption of new curriculum resources with Board of Education approval- Oversee and direct the inter-district Aquaculture program- Secured NEASC accreditation for BRASTEC (5/22)- Supervise and evaluate Aquaculture teachers and non-certified staff- Promote the program and recruit students to join	
	Assistant Principal, Fairchild Wheeler Magnet Campus Bridgeport, CT 2015 – 2020	
	<ul style="list-style-type: none">- Engaged in all aspects of high-school administration- Supervised and evaluated teachers and non-certified staff- Assisted in PLCs and staff development- Coordinated Standardized Tests and AP Program- Attended National NGSS Workshop (2/19)- Engaged Science teachers in NGSS related PD- Official Recognition as <i>National Merit School of Excellence</i> by Magnet Schools of America	
	Physics Teacher, Fairfield Warde High School Fairfield, CT 2004 – 2015	
	<ul style="list-style-type: none">- Instructor of all level of physics- Certified by the College Board to teach AP- Served as a co-chair on a NEASC subcommittee- Interviewed candidates for science openings- Coached team to 2nd place at Yale Physics Olympics (2011)	

BID #2023-33R	Town of Fairfield - Summary																	
DESC: On-Call Transportation Engineering Services																		
DATE: 23rd November 2022, 12:00 pm																		
	AKRF Stamford, CT			Beta Group, Inc. Hartford, CT			BL Companies Meriden, CT			M&J Engineering P.C. North Haven, CT			Solli Engineering Monroe, CT			VHB Wetherfield, CT		
	Estimated Hours	Hourly Rate	Total	Estimated Hours	Hourly Rate	Total	Estimated Hours	Hourly Rate	Total	Estimated Hours	Hourly Rate	Total	Estimated Hours	Hourly Rate	Total	Estimated Hours	Hourly Rate	Total
Phase I - Estimated Hours	216	Varies	\$42,620.00	180	\$175.00	\$31,500.00	-	-	-	1202	\$87.49	\$105,161.12*	2,069	\$150.00	\$320,185.00*	238	Varies	\$36,380.00
Phase II - Estimated Hours	32 hours are now reduced to 16 hours as a result of scope review interview	Varies	\$5,860.00	60	\$175.00	\$10,500.00	-	-	-	64	\$128.83	\$8,245.04*	360	\$150.00	\$55,800.00*	8	Varies	\$1,760.00
Expenses	-	-	-	-	-	-	-	-	-	Task 1 Task 2	-	\$4,347.60 \$100.00				-	-	\$7,000.00*
Base Total	232	Varies	\$48,480.00	240	-	\$42,500.00*	*BL Companies submitted hourly rates by job classification. They did not complete the RFP pricing sheet.			1266	-	\$117,841.64	2429	-	\$375,985.00*	246	Varies	\$45,140.00
Additional Project Fees	88* hours removed as a result of scope review interview. Services were beyond RFP scope	Varies	\$17,820.00	-	-	-	-	-	-	O-a** 10 ----- O-b*** 72	\$102.00 ----- \$64.00	\$1,020.19 +\$7,650.00 Expenses ----- \$4,630.91 +13,090.00 Expenses	-	-	-	-	-	-
Notes	(1)*Recommendations and Cost Estimates with 5-Year Plan (2) Out of pocket expenses will be billed at 1.10 times actual cost. Rates are effective through December 31, 2023.			(1) *Addition error. (should total: \$42,000.00) (2) Total fee includes a Lump Sum for all tasks outlined in the RFP, including meetings and miscellaneous direct expenses and will be invoiced monthly on a percent complete basis.			-	-	-	*Addition error. (should total: \$105,162.98 and \$8,245.12) **Complete Up to Date Turning Movement Counts with PEDS ***Overhead Intersection Inspection			*Addition error. (should total: \$310,350.00 + \$54,000.00 = \$364,350.00)			*Direct Expenses Budget.		

APPENDIX A

STANDARD TERMS AND CONDITIONS

1. Services.

- a. Subject to the terms and conditions hereof, the Client hereby engages the Consultant to perform the Services, furnishing the agreed-upon reports, drawings and/or other work product described in the attached Scope of Work and the Consultant hereby agrees to provide the same. The rendering of Services hereunder is premised on the Consultant receiving full and timely access to the Site and Client's personnel as well as receipt of all information from the Client and its agents relating to the Project as reasonably requested by the Consultant from time to time.
- b. The Services are limited to those tasks specified in the Scope of Work. If the Client directs the Consultant to perform, or instructs the Consultant to undertake, work or provide Deliverables that are beyond those specified in the annexed Scope of Work and/or Services described in the Scope of Work (collectively, "Additional Work"), the Consultant may in its discretion agree to undertake to perform the same, but the Client shall pay compensation for such Additional Work separate from and in addition to the compensation provided for Services herein. In the absence of written agreement to the contrary, all Additional Work provided by the Consultant from time to time relating to the Project shall be provided for compensation on a time and material basis at the Consultant's then current standard hourly rates in effect from time to time, but otherwise upon and subject to the terms and conditions of this Agreement.
- c. The Consultant shall determine the continued adequacy of this Agreement in light of occurrences or discoveries that were not originally contemplated by or known to the Consultant. Should the Consultant call for contract renegotiation, the Consultant shall identify the changed conditions necessitating renegotiation, and the Consultant and the Client shall promptly and in good faith enter into renegotiation of this Agreement. If terms cannot be agreed to, then either party has the absolute right to terminate this Agreement by delivery of ten (10) days prior written notice.
- d. Notwithstanding any other provision of this Agreement or any other agreement entered into by Consultant with respect to the Project, Consultant shall not have control or charge of, and shall not be responsible for, construction means, methods, techniques, sequences or procedures, for safety precautions and programs in connection with work or activities at the project site, for the acts or omissions of any contractor, subcontractors or any other persons performing any work or undertaking any activities at the project site, or for the failure of any of them to carry out any work or perform their activities in accordance with their contractual obligations, including, but not limited to, the requirements of any drawings, specifications or other documents prepared by Consultant.

2. Compensation, Invoicing and Payment.

- a. The Client shall reimburse the Consultant for the expenses incurred of the type, and in the manner, described in the Scope of Work. Invoices shall be submitted by the Consultant monthly, are due upon presentation and shall be paid in full within 30 calendar days after the applicable invoice date. If payment is not received in full on or before the applicable due date then the Consultant shall have the right to charge interest on any unpaid amount from the due date in an amount equal to the lesser of 1-1/2% per month or the maximum amount permitted by applicable law, calculated on a daily basis. Payments will be credited first to interest and then to principal. Consultant shall be entitled to recover any and all costs incurred, including reasonable attorneys' fees ("Collection Costs") in connection with its efforts to collect past due sums. The minimum amount of such Collection Costs is agreed to be the lesser of (1) ten percent (10%) of the past due amount, or (2) the maximum amount allowed by law.
- b. The Client shall pay all taxes, fees, assessments and charges applicable to the Services and any Additional Work and any other pass-through charges (other than taxes imposed upon the net income of the Consultant) including, without limitation, all sales, use, gross receipts, excise, transaction, consumption, Valued Added ("VAT"), Goods and Services ("GST"), utility, message, personal property, intangible tax and any other federal, state and local taxes, fees and charges applicable to the Services and Additional Work provided hereunder, including interest and other charges thereon chargeable by the taxing authorities.

3. Performance Standards.

- a. The Consultant shall use reasonable commercial efforts to render the Services, any Additional Work and all other obligations under this Agreement in accordance with (i) the standard of care and skill ordinarily used by reputable members of the same profession practicing under similar circumstances at the same time and in the same locale and (ii) all applicable codes, regulations, ordinances, and laws in effect as of the date of the execution of this Agreement (collectively, "Laws"). Neither the Consultant's entering into this Agreement nor any performance hereunder by the Consultant, or any affiliate or subcontractor thereof, or any of their respective officers, directors, owners or employees or agents shall create any fiduciary obligation owed to the Client or any other person or entity. Client or any other person or entity and any such obligation is hereby fully and expressly disclaimed.
- b. EXCEPT AS EXPRESSLY SET FORTH HEREIN, THE CONSULTANT IS MAKING NO EXPRESS OR IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY, ACCURACY OR FITNESS FOR A PARTICULAR PURPOSE, REGARDING THE SERVICES, ADDITIONAL WORK OR ANY DELIVERABLES.
- c. The Consultant shall not be responsible for the acts or omissions of any subcontractor, supplier or other personnel based on interpretations or clarifications of the Project or the Services or Additional Work to be rendered hereunder by the Client without confirmation thereof by the Consultant.
- d. In the event of an emergency affecting the health or safety of persons or property, the Consultant may act, in its reasonable discretion, to prevent threatened damage, injury or loss to person or property notwithstanding that it may be outside the scope of the Services or Additional Work or not approved in advance by the Client.

4. Indemnification.

- a. The Consultant agrees, to the fullest extent permitted by law, to indemnify and hold the Client, its subsidiaries and affiliates and their respective officers, directors, employees, owners, subcontractors and agents (collectively, the "Client Parties") harmless from any damage, liability, or cost (including reasonable attorneys' fees and costs of defense) to the extent caused by the Consultant's negligence. The indemnification obligation created by this Paragraph is subject in every respect to the limitation of liability provisions in Paragraph 5 of this Agreement.
- b. The Client agrees, to the fullest extent permitted by law, to indemnify and hold the Consultant, its subsidiaries and affiliates and their respective officers, directors, employees, owners, subcontractors and agents (collectively, the "Consultant Parties") harmless from any damage, liability, or cost (including reasonable attorneys' fees and costs of defense) to the extent: caused by the Client's negligence, or arising from or attributable to the failure of the Client to timely and/or properly implement or adhere to recommendations, designs, specifications, work plans or other items specifying or outlining the construction and/or implementation of future work beyond the Scope of Work, Services or Additional Work provided by Consultant in Deliverables.
- c. As a condition precedent to claiming any indemnification hereunder, the applicable indemnified party (i) shall promptly provide the applicable indemnifying party with written notice of any claim sufficiently promptly and in sufficient detail to avoid prejudicing the defense of such claim; (ii) shall not settle or compromise any such claim without the indemnifying party's written consent, which shall not be unreasonably withheld or delayed; and (iii) shall promptly provide reasonable cooperation relating to defending such claim. The indemnified party may, at its own expense, assist in the defense if it so chooses, but shall not be permitted to control such defense or any negotiations relating to the settlement of any such claim so long as the party responsible for indemnification hereunder is actively defending such claim. Notwithstanding clause (ii) above, if the party responsible for indemnification hereunder refuses or fails to timely defend the claim or abandons such defense, the indemnified party (parties) may settle such claim without the prior consent of the indemnifying party and the indemnifying party shall remain fully liable to

indemnify the indemnified party (parties) to the extent that the indemnified party (parties) are otherwise entitled to indemnification for such claim under this Section 4.

- d. No party shall be liable for any claim or cause of action seeking indemnification of any kind under this Section 4, regardless of the type or nature of the damage, liability, claim or cause of action for which indemnification is sought (the “Underlying Claim”), if such indemnification action or claim is brought or asserted more than three years after the Underlying Claim accrued.
- e. NOTWITHSTANDING ANYTHING TO THE CONTRARY SET FORTH IN THIS AGREEMENT OR IN ANY DOCUMENT SIGNED BETWEEN THE PARTIES REGARDING THE SUBJECT MATTER OF THIS AGREEMENT, EITHER PRIOR OR SUBSEQUENT TO THIS AGREEMENT, OR PROVIDED UNDER APPLICABLE LAW, NEITHER PARTY, OR ANY OFFICER, DIRECTOR, OWNER, EMPLOYEE, SHAREHOLDER OR AGENT THEREOF, SHALL BE LIABLE TO THE OTHER, EITHER IN CONTRACT OR IN TORT, FOR ANY LOSS OR INACCURACY OF DATA OR MATERIAL OR FOR ANY CONSEQUENTIAL, INCIDENTAL, INDIRECT, SPECIAL OR PUNITIVE DAMAGES, INCLUDING WITHOUT LIMITATION ANY DELAY DAMAGES, LOSS OF FUTURE REVENUE, INCOME OR PROFITS, OR ANY DIMINUTION OF VALUE, FINANCING COSTS, OR COST OF LOST OPPORTUNITIES, RELATING TO THIS AGREEMENT, EVEN IF THE SAME HAS BEEN SPECIFICALLY ADVISED OF THE POSSIBILITIES OF SUCH DAMAGES, EXCEPT TO THE EXTENT THAT ANY SUCH DAMAGES ARE PAYABLE BY ONE OF THE PARTIES HERETO TO A THIRD PARTY AND THE CLAIM IS ONE FOR WHICH THE PARTY REQUIRED (WHETHER BY JUDGMENT, SETTLEMENT OR OTHERWISE) TO PAY SUCH DAMAGES IS ENTITLED TO INDEMNIFICATION UNDER THIS SECTION 4.

5. Limitation of Liability.

In recognition of the relative risks and benefits of the Project to both the Client and the Consultant, the risks have been allocated such that the Client agrees, to the fullest extent permitted by law, to limit the liability of the Consultant Parties hereunder to the Client Parties and to all construction contractors, subcontractors on the Project and others under the Client’s control for any and all claims, suits, demands, judgments, payments, losses, costs, damages of any nature whatsoever, or expenses from any cause or causes, regardless of the nature or type of action, so that the total aggregate liability of the Consultant Parties shall be limited to and in no event exceed the compensation actually paid to Consultant for services rendered on this Project under this Agreement, or \$100,000, whichever is greater.

6. Suspension of Services or Additional Work.

If the Project is suspended for more than 30 calendar days in the aggregate (whether consecutive or non-consecutive), the Consultant shall be compensated for all Services and any Additional Work performed and charges incurred prior to receipt of notice to suspend and, if and when the Consultant resumes providing Services and/or Additional Work, a mutually agreed upon equitable adjustment in fees payable to the Consultant shall be made to accommodate the resulting demobilization and remobilization costs. In addition, there shall be a mutually agreed upon equitable adjustment in any applicable performance schedule relating to the Project based on the delay caused by the suspension.

7. Term.

Unless terminated earlier in accordance with Section 8 hereof, this Agreement shall have a term commencing on the date of this Agreement and ending, unless terminated earlier as provided herein, when the Services and any Additional Work relating to the Project are completed or as otherwise set forth in the Scope of Work.

8. Termination.

- a. Either party may terminate this Agreement by delivery of written notice to the other (i) if the other party commits a material breach of this Agreement and fails to remedy such breach within 30 days after receipt of written notice specifying the alleged breach in reasonable detail, (ii) if either party makes an assignment for the benefit of its creditors, or the filing by or against it of a voluntary or involuntary petition under any bankruptcy or insolvency law, under the reorganization or arrangement provisions of the United States Bankruptcy Code, or under the provisions of any law of like import, or the appointment of a trustee or receiver for such party or its property, or (iii) as provided by Section 1(c) hereof.

- b. If full payment is not received by the Consultant by the applicable due date, then the Consultant may, at its sole discretion and without liability to any Consultant Parties, terminate this Agreement or suspend any Services or Additional Work to be performed hereunder upon 10 days prior written notice. If the Project is suspended for any reason for more than 60 calendar days in the aggregate (whether consecutive or non-consecutive), the Consultant may, at its discretion and without liability, terminate this Agreement.
- c. The termination of this Agreement by either party hereto shall not affect, restrict, diminish or remove any rights, obligations or remedies possessed by either party arising under the terms of this Agreement up to and through the effective date of termination hereof. In addition, the following provisions shall survive termination of this Agreement: Sections 4, 5 and 10 through 20, inclusive. The remedies available to each party hereunder are cumulative and termination of this Agreement shall be in addition to and not in lieu of any equitable remedies available.
- d. Upon termination the Consultant shall be paid in full in accordance with the terms of this Agreement for all Services and Additional Work rendered and reimbursable expenses incurred through the date of termination, including reasonable termination costs.

9. Force Majeure.

Except as provided in Section 6 or 7 hereof, neither party shall be liable for damages for any delay or failure to perform its obligations hereunder, if such delay or failure is due to reasons beyond the control of the concerned party or without its fault or negligence, including without limitation, strikes, riots, wars, terrorism, fires, epidemics, quarantine restrictions, unusually severe weather, earthquakes, explosions, acts of God or state or any public enemy or acts mandated by applicable laws, regulation or order, whether valid or invalid, of any governmental body.

10. Non-Solicitation.

Each party agrees that during the term of this Agreement and for one year thereafter it will not solicit, or attempt to solicit, for hire or engagement, directly or indirectly any of the other party's employees or other personnel who have been involved in the provision of Services or Additional Work under this Agreement or otherwise involved in the transactions contemplated hereby.

11. Assignment.

Neither party shall assign its rights, duties or obligations under this Agreement to any person or entity, in whole or in part, without the prior written consent of the other party hereto; provided, however, that either party may assign this Agreement in the event of a merger or consolidation or the sale of all or substantially all of its applicable line of business and Consultant may delegate any of its duties and obligations hereunder if it remains responsible for the performance thereof.

12. Independent Contractor.

Notwithstanding any other provision of this Agreement, Consultant's status shall be that of an independent contractor and not that of a servant, agent, or employee of the Client. Neither party shall hold itself out as, nor claim to be, acting in the capacity of an officer, servant, agent, or employee of the other or that it is authorized to contractually bind the other in any way. The Consultant shall be free to choose the manner in which it performs the Services and Additional Work and furnishes the Deliverables and may delegate and use subcontractors, consultants and suppliers of its choice in satisfying any of its duties and obligations hereunder, provided that the Consultant shall be responsible for any breach of this Agreement by the same.

13. Governing Law; Consent to Jurisdiction.

The rights and obligations of the parties hereunder shall be governed by the laws of the State of Connecticut without regard to principles of conflicts of laws. Each of the parties hereby (a) irrevocably agrees that any legal or equitable action or proceeding arising under or in connection with this Agreement shall be brought exclusively in the courts of the State of Connecticut in the County of Fairfield and the United States District Court of Connecticut except that the foregoing venue shall be non-exclusive with respect to any application for injunctive relief pursuant to Section 18 hereof, (b) accepts for itself and in respect of its property, generally and unconditionally, the jurisdiction of the aforesaid courts and appellate courts thereof, (c) waives personal service of any summons, complaint or other process,

and agrees that the service thereof may be made either (i) in the manner for giving of notices provided for in this Agreement or (ii) in any other manner permitted by law. The parties agree that this Agreement was negotiated and shall not be construed against the party which initially drafted the same.

14. Severability.

If any term or provision of this Agreement shall to any extent be determined to be illegal, invalid or unenforceable under law, regulations or ordinances of any federal, state or local governments to which this agreement is subject, such term or provision shall be deemed severed from this Agreement and the remaining terms and provisions shall remain unaffected thereby.

15. Third Party Claims.

Nothing in this Agreement shall create or shall give to third parties any claim or right of action against the Consultant, its officers, directors, owners, employees and agents.

16. Notices.

All notices required or permitted by this Agreement shall be in writing and shall be delivered personally, by certified or registered mail, return receipt requested, or nationally recognized overnight courier service to the respective addresses set forth above. Either party may, by notice given in the same manner set forth above, designate a different address or addresses to which subsequent notices shall be sent. Notice shall be deemed given upon receipt.

17. Amendment; Waiver.

- a. This Agreement may only be modified or amended by a writing that is signed by both authorized parties.
- b. Any right of any party hereunder may only be waived by a writing that is signed by the authorized party granting the waiver. No course of dealing or trade usage or custom and no course of performance shall be deemed a waiver of any right.
- c. The failure by either party to insist upon strict performance of any of the provisions of this Agreement will in no way constitute a waiver of its rights as set forth in this Agreement, at law or in equity, or a waiver of any other provisions or subsequent default by the other party in the performance or compliance with any of the terms and conditions set forth in this Agreement.

18. Injunctive Relief.

The parties agree that the violation or threatened violation by either party of any of the provisions of Section 10 of this Agreement shall cause immediate and irreparable harm to the other party. In the event of any breach or threatened breach of any of said provisions, each party consents to the entry of preliminary and permanent injunctions by a court of competent jurisdiction prohibiting such party from any violation or threatened violation of such provisions and compelling such party to comply with such provisions, without the requirement of posting any bond. This Section shall not affect nor limit, and any injunctive relief granted pursuant to this Section shall be in addition to, any other remedies available to the other party at law or in equity for any such violation or threatened violation by either party.

19. Entire Agreement.

This Agreement, including any Scope of Work, and any written agreements relating to Additional Work represents the entire Agreement between the parties concerning the subject matter hereof. This Agreement supersedes any other written or oral proposal, representation, communication, letter of intent or other agreement by or on behalf of the parties hereto relating to the subject matter hereof.

20. Counterparts.

This Agreement may be executed by facsimile and in one or more counterparts, each of which shall be deemed an original.



Town of Fairfield

Sullivan Independence Hall
725 Old Post Road

Fairfield, Connecticut 06824
Purchasing Department

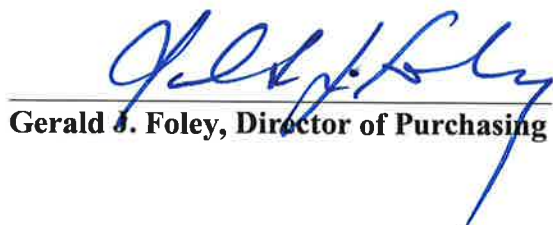
(203) 256-3060
FAX (203) 256-3080

Award Recommendation Resolution:

On Thursday, 22, December 2022, the Purchasing Authority recommended an award of Bid number 2023-85 WPCF Digester Tank Repair, Phase 2 to Tucker Mechanical, Inc., Meriden, CT to provide labor, materials and all else necessary to complete the repairs to the primary Digester Tank at the Water Pollution Control Facility, including all allowances and alternates, as detailed in the bid specifications and submission.

The award of the contract to Tucker Mechanical, Inc. may be subject to the review and approval of the Board of Selectmen.


Brenda L. Kupchick, First Selectwoman


Gerald J. Foley, Director of Purchasing



Town of Fairfield

Sullivan Independence Hall
725 Old Post Road

Fairfield, Connecticut 06824
Purchasing Department

(203) 256-3060
FAX (203) 256-3080



BID #2023-85

WPCF Primary Digester Tank Repairs Phase #2

TOWN OF FAIRFIELD
PURCHASING AUTHORITY
725 OLD POST ROAD
INDEPENDENCE HALL
FAIRFIELD, CT 06824.

Date Submitted 12/15/2022

SEALED BIDS are subject to the standard instructions set forth on the attached sheets. Any modifications must be specifically accepted by the Town of Fairfield, Purchasing Authority.


First Selectwoman

Director of Purchasing
11-22-2022
Date

Bidder:

Tucker Mechanical, Inc.
Doing Business As (Trade Name)
367 Research Parkway
Address

Meriden, CT 06450
Town, State, Zip

Mr. Martin Waung, President & CEO
(Mr/Ms) Name and Title, Printed


Signature

203-630-7200 / 203-630-7330
Telephone Fax

tucker_estimating@emcor.net / jfournier@emcor.net
E-mail

Sealed bids will be received by the Purchasing Authority at the office of the Director of Purchasing, First Floor, Independence Hall, 725 Old Post Road, Fairfield, Connecticut 06824, up to:

11:00am, Thursday, 15th December, 2022

To provide labor, materials, equipment and all else necessary to complete the repairs to the primary digester tank at the Water Pollution Control Facility (WPCF) as detailed in the attached specifications.

NOTES:

1. Bidders are to complete all requested data in the upper right corner of this page and must return this page and the Proposal page with their bid.
2. No bid shall be accepted from, or contracts awarded to, any person/company/affiliate or entity under common control who is in arrears to the Town of Fairfield upon debt, or contract or who has been within the prior five (5) years, a defaulter as surety or otherwise upon obligations to the Town of Fairfield, and shall be determined by the Town.
3. Bid proposals are to be submitted in a sealed envelope and clearly marked "BID #2023-85" on the outside of the envelope, including all outer packaging, such as, DHL, FedEx, UPS, etc.
4. It is the sole responsibility of the bidder to see that the bid is received by the Fairfield Purchasing Department prior to the time and date noted above. Bid proposals are not to be submitted via email or fax.
5. Bid proposals are not to be submitted with plastic binders or covers, nor may the bid proposal contain any plastic inserts or pages.

SECTION 00310BID FORM

PROJECT IDENTIFICATION: WPCF Primary Digester Tank Repairs –
Bid #2023-85

THIS BID IS SUBMITTED TO: Town of Fairfield Purchasing Authority
725 Old Post Road – Independence Hall
Fairfield, CT 06824

ARTICLE 1 – BID RECIPIENT

- 1.01 This Bid is submitted to the Owner, as identified above.
- 1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS

- 2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

- 3.01 In submitting this Bid, Bidder represents that:
- A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:
- | <u>Addendum No.</u> | <u>Addendum, Date</u> |
|---------------------|-----------------------|
| <u>1</u> | <u>12/8/2022</u> |
| <u>2</u> | <u>12/8/2022</u> |
| <u>3</u> | <u>12/12/2022</u> |
- B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings

identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.

- E. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- F. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- G. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- H. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- I. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
 - 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

BID SCHEDULE

Item No.	Estimated Quantity	Brief Description of Item with Unit Price in Words	Unit Price In Figures	Total Estimated Price In Figures
1	LS	Primary Digester Tank Concrete and Cover Seal Repairs complete, except as noted below		
		The sum of \$ <u>870,789</u>		\$ <u>870,789</u>
		<u>Eight hundred Seventy thousand Seven hundred eighty nine dollars</u>		
		Per Lump Sum		
2	LS	Remove and Replace 2-inch SS Gas and Flushing Piping to Bubble Cannons complete, except as noted below		
		The sum of \$ <u>128,779.00</u>		\$ <u>128,779.00</u>
		<u>One Hundred Twenty Eight Thousand Seven Hundred Seventy Nine</u>		
		Per Lump Sum		
3	LS	Remove and Replace Flame Arrestor and Pressure Relief Valve Assembly complete, except as noted below		
		The sum of \$ <u>112,516.00</u>		\$ <u>112,516.00</u>
		<u>One Hundred Twelve Thousand Five Hundred Sixteen</u>		
		Per Lump Sum		
4	LS	Remove and Replace Level Transducer complete, except as noted below		
		The sum of \$ <u>12,824.00</u>		\$ <u>12,824.00</u>
		<u>Twelve Thousand Eight Hundred Twenty Four</u>		
		Per Lump Sum		
5	900 SF*	Remove/Dispose of Loose Tank Liner as marked out, except as noted below		
		The sum of \$ <u>25,903.00</u>	\$ <u>28.79</u>	\$ <u>25,903.00</u>
		<u>Twenty Eight Dollars and Seventy Nine Cents</u>		
		Per Square Foot		

Item No.	Estimated Quantity	Brief Description of Item with Unit Price in Words	Unit Price In Figures	Total Estimated Price In Figures
6	ALL	Undocumented Site Conditions		
		The sum of \$ <u>Twenty-Five</u> <u>Thousand Dollars and No Cents</u>		\$ <u>25,000.00</u>
		Allowance		
7	ALL	System Integrator Services		
		The sum of \$ <u>Five Thousand</u> <u>Dollars and No Cents</u>		\$ <u>5,000.00</u>
		Allowance		

* Indeterminate quantities assumed for comparison of bids. Quantities are not guaranteed. Payment will be based on actual quantities constructed.

SUBTOTAL (BASE BID): Total of Items 1 through 7 above.

(\$ 1,180,811)

(use figures)

One million One hundred and Eighty thousand Eight hundred and ELEVEN DOLLARS

(use words)

BID ALTERNATES

Item No.	Estimated Quantity	Brief Description of Item with Unit Bid Price in Words	Amount In Figures
8	Lump Sum	Bid Alternate A – Provide high pressure water jetting for complete interior liner removal instead of 900 SF of mechanical removal of the liner in Bid Item No. 5.	
		TOTAL BID ALTERNATE A	
		<u>Two Hundred Forty Nine Thousand Nine Hundred Forty Two</u>	\$ <u>249,942.00</u>
		Per Lump Sum	

SUBTOTAL (BID ALTERNATES): Total of Item 8 above.

Two hundred forty NINE thousand

(\$ 249,942)

(Amount in Figures)

NINE hundred forty two dollars

(Amount in Words)

TOTAL BID: Total of Items 1 through 8 above.

ONE Million four hundred AND thirty

(\$ 1,430,753)

(Amount in Figures)

thousand Seven hundred and fifty three dollars

(Amount in Words)

ARTICLE 6 – TIME OF COMPLETION

- 6.01 Bidder agrees that the Work will be substantially complete within 120 calendar days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within 150 calendar days after the date when the Contract Times commence to run.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents are submitted with and made a condition of this Bid:
- A. Town of Fairfield Cover Page, completed and signed;
 - B. Required Bid security;
 - C. List of Proposed Subcontractors and Suppliers;
 - D. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;
 - E. Contractor's License No.: See attached list
 - F. Required Bidder Qualification Statement with supporting data and Project References;

ARTICLE 8 – DEFINED TERMS

- 8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

9.01

BIDDER: *[Indicate correct name of bidding entity]*

Tucker Mechanical, Inc.

By:

[Signature]

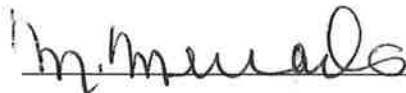


[Printed name] Martin Waung, President & CEO

(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:

[Signature]



[Printed name]

Marilyn Mercado

Title:

Quality Assurance Coordinator

Submittal Date:

12/15/2022

Address for giving notices:

367 Research Parkway, Meriden CT 06450

PLEASE NOTE: After January 1, 2023 our address will be: 795 Brook Street, Rocky Hill, CT 06067

Telephone Number: 203-630-7200

Fax Number: 203-630-7330

Contact Name and e-mail address: Jeffrey Fournier jfournier@emcor.net

203-630-7214

Bidder's License No.: See attached list
(where applicable)



Tucker Mechanical Connecticut Licenses

Classification	License No.	Type	Expiration Date
Heating & Cooling	401939	S1	08/31/2023
Plumbing	287843	P1	10/31/2023
Fire Protection	10665	F1	10/31/2023
Medical Gas & Vacuum Systems	792	MG1	10/31/2023
Mechanical Contractor	MEC.0001213	MEC	08/31/2023
Major Contractor	MCO.0904028	MCO	06/30/2023

Tucker Mechanical Federal ID # 26-3875949

TUCKER MECHANICAL, INC.

SECRETARY CERTIFICATE

I, Hillar Kivi, Secretary of Tucker Mechanical, Inc. a Corporation duly organized and operated under the laws of Connecticut and qualified and authorized to do business in the State of Connecticut, DO HEREBY CERTIFY that the following is a true, correct and accurate copy of a Resolution duly adopted by Written Consent of the Sole Director of such Corporation in favor of such resolution on December 12, 2022.

RESOLVED: That the following Officers of this Corporation, or any one of them individually:

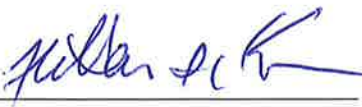
Martin Waung	President and Chief Executive Officer
Hillar Kivi	Sr. Vice President, Chief Financial Officer & Secretary

be and hereby are, authorized, empowered and directed to enter into sign, seal and deliver bids, contracts, change orders, performance bonds and such other instruments in writing as may be necessary on behalf of this Corporation and that all such instruments signed by such officer shall be binding upon this Corporation as its own acts and deeds.

I further CERTIFY that such Resolutions have not been modified, rescinded or revoked since the date on which it was enacted, and it is at present in full force and effect.

IN WITNESS WHEREFORE, the undersigned has affixed his signature and the Corporate Seal of The Corporation this 13th day of December, 2022.

Hillar Kivi


Secretary

**CONSENT
OF THE
SOLE DIRECTOR
OF
TUCKER MECHANICAL, INC.**

The undersigned, being the sole director of Tucker Mechanical, Inc., a Connecticut corporation (the "Corporation"), pursuant to Section 33-749 of the Business Corporation Act of the State of Connecticut does hereby consent to the following resolutions:

RESOLVED: That the following Officers of this Corporation, or any one of them individually:

Martin Waung
Hillar Kivi

President and Chief Executive Officer
Sr. Vice President, Chief Financial
Officer & Secretary

be and hereby are, authorized, empowered and directed to enter into sign, seal and deliver bids, contracts, change orders, performance bonds and such other instruments in writing as may be necessary on behalf of this Corporation and that all such instruments signed by such officer shall be binding upon this Corporation as its own acts and deeds.

IN WITNESS WHEREOF, the undersigned has executed this written consent as of December 12, 2022.



R. Kevin Matz

Secretary of the State of Connecticut

Certificate of Legal Existence

Certificate of Legal Existence Certificate

Date Issued: September 19, 2022

I, the Connecticut Secretary of the State, and keeper of the seal thereof, do hereby certify, that the certificate of incorporation for the below domestic Stock corporation was filed in this office.

A certificate of dissolution has not been filed, the corporation has filed all annual reports, and so far, as indicated by the records of this office, such corporation is in existence.

Business Details

Business Name TUCKER MECHANICAL, INC.

Business ALEI US-CT.BER:0930005

Formation Date 03/04/2008



Secretary of the State

Business ALEI: US-CT.BER:0930005

Note: To verify this certificate, visit Business.ct.gov

Certificate Number: C-00061591

Document A310™ – 2010

Conforms with The American Institute of Architects AIA Document 310

Bid Bond

CONTRACTOR:

(Name, legal status and address)

Tucker Mechanical, Inc.
367 Research Parkway
Meriden, CT 06450-7148

SURETY:

(Name, legal status and principal place of business)

Travelers Casualty and Surety Company of America
One Tower Square
Hartford, CT 06183

Mailing Address for Notices

One Tower Square
Hartford, CT 06183

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

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

OWNER:

(Name, legal status and address)

Town of Fairfield
Purchasing Authority
725 Old Post Road
Independence Hall
Fairfield, CT 06824

BOND AMOUNT: 5%

Five Percent of Amount Bid

PROJECT:

(Name, location or address, and Project number, if any)

BID #2023-85

WPCF Primary Digester Tank Repairs Phase #2

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this 8th day of December, 2022.


(Witness)

Tucker Mechanical, Inc.
(Principal) (Seal)

By: 
(Title) President + CEO


(Witness)

Travelers Casualty and Surety Company of America
(Surety) (Seal)

By: 
(Title) Camille Maitland, Attorney-in-Fact



**Travelers Casualty and Surety Company of America
Travelers Casualty and Surety Company
St. Paul Fire and Marine Insurance Company**

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **Camille Maitland** of **UNIONDALE**, **New York**, their true and lawful Attorney(s)-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **21st** day of **April**, 2021.



State of Connecticut

City of Hartford ss.

By: _____

Robert L. Raney
Robert L. Raney, Senior Vice President

On this the **21st** day of **April**, 2021, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of each of the Companies, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of said Companies by himself as a duly authorized officer.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June**, 2026



Anna P. Nowik
Anna P. Nowik, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of each of the Companies, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes**, the undersigned, Assistant Secretary of each of the Companies, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this **8th** day of **December**, 2022.



Kevin E. Hughes
Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.

Please refer to the above-named Attorney(s)-in-Fact and the details of the bond to which this Power of Attorney is attached.

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA

HARTFORD, CT 06183

PRINCIPAL'S ACKNOWLEDGMENT

State of CT, County of New Haven ss.

On this 14th day of December in the year 2022 before me, the undersigned, personally appeared Marko Wany, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, and that by his/her signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

Marilyn Mercado
Notary Public-Connecticut
My Commission Expires
August 31, 2023

Marilyn Mercado
Notary Public

SURETY COMPANY'S ACKNOWLEDGMENT

State of NEW YORK, County of NASSAU } ss.

On this 8th day of December in the year 2022, before me, the undersigned, personally appeared Camille Maitland, personally known to me, and who, being by me duly sworn, did depose and say: That he/she resides in Nassau County, New York; that he/she is Attorney-in-Fact of **TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA**, the corporation described in and which executed the within instrument; that he/she knows the corporate seal of said Company; that the seal affixed to said instrument is such corporate seal; and that he/she signed said instrument as Attorney-in-Fact by authority of the Board of Directors of said Company; and affiant did further depose and say that the Superintendent of the State of New York Department of Financial Services has, pursuant to Section 1111 of the New York Insurance Law, issued to **TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA** his/her certificate that said Company is qualified to become and be accepted as surety or guarantor on all bonds, undertakings, recognizances, guaranties, and other obligations required or permitted by law; and that such certificate has not been revoked.

Nelly Renchiwicz M
Notary Public

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA

HARTFORD, CONNECTICUT 06183

FINANCIAL STATEMENT AS OF DECEMBER 31, 2021

AS FILED IN THE STATE OF NEW YORK

CAPITAL STOCK \$ 6,480,000

NELLY RENCHIWICH M
Notary Public-State of New York
No. 01RE6218158
Qualified in Nassau County
Commission Expires March 1, 2026

ASSETS		LIABILITIES & SURPLUS	
BONDS	\$ 4,427,068,873	LOSSES	\$ 1,224,258,147
STOCKS	90,892,083	LOSS ADJUSTMENT EXPENSES	157,266,812
CASH AND INVESTED CASH	3,976,380	COMMISSIONS	49,977,644
OTHER INVESTED ASSETS	4,609,133	OTHER EXPENSES	46,607,590
SECURITIES LENDING REINVESTED COLLATERAL ASSETS	7,433,086	TAXES, LICENSES AND FEES	16,655,025
INVESTMENT INCOME DUE AND ACCRUED	37,877,324	CURRENT FEDERAL AND FOREIGN INCOME TAXES	1,972,277
PREMIUM BALANCES	294,081,729	UNEARNED PREMIUMS	1,212,347,629
REINSURANCE RECOVERABLE	70,677,646	ADVANCE PREMIUM	1,824,313
NET DEFERRED TAX ASSET	60,156,960	POLICYHOLDER DIVIDENDS	14,256,052
OTHER ASSETS	3,286,703	CEDED REINSURANCE NET PREMIUMS PAYABLE	47,473,619
		AMOUNTS WITHHELD / RETAINED BY COMPANY FOR OTHERS	42,097,038
		REMITTANCES AND ITEMS NOT ALLOCATED	10,579,448
		PROVISION FOR REINSURANCE	6,873,132
		PAYABLE TO PARENT, SUBSIDIARIES AND AFFILIATES	40,373,235
		PAYABLE FOR SECURITIES LENDING	7,433,086
		ESCHEAT LIABILITY	537,132
		RETROACTIVE REINSURANCE RESERVE ASSUMED	816,092
		OTHER ACCRUED EXPENSES AND LIABILITIES	250,005
		TOTAL LIABILITIES	\$ 2,881,598,277
		CAPITAL STOCK	\$ 6,480,000
		PAID IN SURPLUS	433,803,760
		OTHER SURPLUS	1,678,177,878
		TOTAL SURPLUS TO POLICYHOLDERS	\$ 2,118,461,638
TOTAL ASSETS	\$ 5,000,059,915	TOTAL LIABILITIES & SURPLUS	\$ 5,000,059,915

REFERENCE #1:

Name of Company Carlin Contracting Phone _____
Contact Person Roger Barshan Cell 860-460-5916
Company Address 44 Boston Post Road, Waterford, CT Email _____
Project, Location, & Date Completed Hartford MDC Wet Weather Expansion
Completed 2019

REFERENCE #2:

Name of Company Carlin Contracting Phone _____
Contact Person Bruce Miller Cell 860-460-6130
Company Address 44 Boston Post Road, Waterford, CT Email _____
Project, Location, & Date Completed Southington Waste Pollution Control Plant Phosphorus Upgrade
Completed 2021

REFERENCE #3:

Name of Company _____ Phone _____
Contact Person _____ Cell _____
Company Address _____ Email _____
Project, Location, & Date Completed _____

REFERENCE #4:

Name of Company _____ Phone _____
Contact Person _____ Cell _____
Company Address _____ Email _____
Project, Location, & Date Completed _____

REFERENCE #5:

Name of Company _____ Phone _____
Contact Person _____ Cell _____
Company Address _____ Email _____
Project, Location, & Date Completed _____

SUBCONTRACTORS

Please note the below is preliminary information and the remaining information will be forwarded if awarded the project.

Provide subcontractor details if any are to be employed as part of this contract, including labor rates:

SUBCONTRACTOR #1:

Name of Company Carvalho & McDowell Construction, Inc. Fed ID # _____

Contact Person _____ Title _____

Company Address 24 Custer Street, West Hartford, CT Phone 860-231-7110

Trade Concrete Email _____

Rates: Supervisor \$ _____ /hr Foreman \$ _____ /hr Journeyman \$ _____ /hr Apprentice \$ _____ /hr

SUBCONTRACTOR #2:

Name of Company Giliberto & Sons, LLC Fed ID # _____

Contact Person _____ Title _____

Company Address 80 Airport Road, Hartford CT 06114 Phone 860-969-2977

Trade Sealant Email _____

Rates: Supervisor \$ _____ /hr Foreman \$ _____ /hr Journeyman \$ _____ /hr Apprentice \$ _____ /hr

SUBCONTRACTOR #3:

Name of Company Aaron Associates of CT, Inc. Fed ID # _____

Contact Person _____ Title _____

Company Address 2 Mattoon Road, Waterbury, CT 06708 Phone 203-753-1536

Trade Instrumentation Email _____

Rates: Supervisor \$ _____ /hr Foreman \$ _____ /hr Journeyman \$ _____ /hr Apprentice \$ _____ /hr

SUBCONTRACTOR #4:

Name of Company Decco International LLC Fed ID # _____

Contact Person _____ Title _____

Company Address 67 Poland Street, Bridgeport, CT 06605 Phone 203-334-5100

Trade Lining Removal Email _____

Rates: Supervisor \$ _____ /hr Foreman \$ _____ /hr Journeyman \$ _____ /hr Apprentice \$ _____ /hr

NOTE: All sub-Contractors are subject to approval by the Town of Fairfield and are required to provide Fed ID #.

Holzner Electric
49 Cannon Street
Bridgeport, CT 06604
203-336-0740
Trade: Electrical

BID # 2023-85	Town of Fairfield - Bid Results
DESC WPCF Digester Tank Repair-Phase 2	
DATE 12/15/2022	
TIME 11:00 AM	

		Tucker Mechanical, Inc. Meriden, CT		C.H. Nickerson & Co, Inc Torrington, CT	
		UNIT PRICE	TOTAL ESTIMATE	UNIT PRICE	TOTAL ESTIMATE
1	Primary Digester Tank Concrete and Cover Seal Repairs complete, except as noted below.		\$870,789.00		\$1,213,106.00
2	Remove and Replace 2-inch SS Gas and Flushing Piping to Bubble Cannons complete, except as noted below.		\$128,779.00		\$30,000.00
3	Remove and Replace Flame Arrestor and Pressure Relief Valve Assembly complete, except as noted below.		\$112,516.00		\$65,000.00
4	Remove and Replace Level Transducer complete, except as noted below		\$12,824.00		\$22,000.00
5	Remove/Dispose of Loose Tank Liner as marked out, except as noted below. 900SF	\$28.79	\$25,903.00	\$28.00	\$25,200.00
Allowances					
6	Undocumented Site Conditions \$25,000 *Payment will be based on actual quantities constructed.		\$25,000.00		\$25,000.00
7	System Integrator Services \$5,000 *Payment will be based on actual quantities constructed.		\$5,000.00		\$5,000.00
Subtotal (Base Bid): Total of Items 1-7			\$1,180,811.00		\$1,385,306.00
Bid Alternates					
8	Bid Alternate A - Provide high pressure water jetting for complete interior liner removal instead of 900 SF of mechanical removal of the liner in Bid Item 5.		\$249,942.00		\$130,200.00
Subtotal (Bid Alternates): Total of Item 8			\$249,942.00		\$130,200.00
Total Bid: Total of Items 1-8			1,430,753.00		\$1,515,506.00
Bid Bond included			YES		YES

SECTION 00510SUGGESTED FORM OF AGREEMENT
BETWEEN OWNER AND CONTRACTORFOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

THIS AGREEMENT is by and

between

Town of Fairfield

("Owner") and

Tucker Mechanical, Inc.

("Contractor").

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

- 1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

WPCF Primary Digester Tank Repairs Phase #2

ARTICLE 2 – THE PROJECT

- 2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: Primary Digester Tank Concrete, piping and coating repairs.

ARTICLE 3 – ENGINEER

- 3.01 The Project has been designed by Wright-Pierce.
- 3.02 The Owner has retained Wright-Pierce ("Engineer") to act as Owner's representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES4.01 *Time of the Essence*

- A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 *Contract Times: Days*

- A. The Work will be substantially completed within 120 days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within 150 days after the date when the Contract Times commence to run.
- B. Parts of the Work shall be substantially completed on or before the following milestone(s):
1. Digester Repairs complete associated with Bid Item No. 1, 2, 4, 5, 6, 7 & 8 (Bid Alternate A) shall be completed within 120 days after the date when the Contract Times commence to run.
 2. Digester Repair Bid Item No. 3 shall be completed within 30 days upon delivery of all materials.

4.03 *Liquidated Damages*

- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):
1. Substantial Completion: Contractor shall pay Owner \$500 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.
 2. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner \$500 for each day that expires after such time until the Work is completed and ready for final payment.
 3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.

4.04 *Special Damages*

- A. In addition to the amount provided for liquidated damages, Contractor shall reimburse Owner (1) for any fines or penalties imposed on Owner as a direct result of the Contractor's failure to attain Substantial Completion according to the Contract Times, and (2) for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Substantial Completion (as duly adjusted pursuant to the Contract), until the Work is substantially complete.
- B. After Contractor achieves Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times, Contractor shall reimburse Owner for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Work to be completed and ready for final payment (as duly adjusted pursuant to the Contract), until the Work is completed and ready for final payment.

ARTICLE 5 – CONTRACT PRICE

- 5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:
- A. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

- A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the 30th day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.
 - 1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract
 - a. 95 percent of Work completed (with the balance being retainage); and
 - b. 95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
- B. Upon Substantial Completion of the entire construction to be provided under the Contract Documents, Owner shall pay an amount sufficient to increase total payments to Contractor to 100 percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 200 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

6.03 *Final Payment*

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 15.06.

ARTICLE 7 – INTEREST

7.01 NOT USED

ARTICLE 9 – CONTRACTOR'S REPRESENTATIONS

- 9.01 In order to induce Owner to enter into this Contract, Contractor makes the following representations:
 - A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.
 - B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - C. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
 - D. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information,

observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor's safety precautions and programs.

- E. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
- F. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- G. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- H. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- I. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 10 – CONTRACT DOCUMENTS

10.01 *Contents*

- A. The Contract Documents consist of the following:
 - 1. This Agreement
 - 2. Performance bond
 - 3. Payment bond
 - 4. Other bonds.
 - a. NA
 - 5. Town of Fairfield Terms and Conditions Bid #2023-85
 - 6. General Conditions
 - 7. Supplementary Conditions
 - 8. Specifications as listed in the table of contents of the Project Manual.
 - 9. Drawings (not attached but incorporated by reference)
 - 10. Addenda No. 1, 2 & 3.
 - 11. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid
 - 12. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
 - a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Change Orders.

- d. Field Orders.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 11 – MISCELLANEOUS

11.01 *Terms*

- A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

11.02 *Assignment of Contract*

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

11.03 *Successors and Assigns*

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

11.04 *Severability*

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

11.05 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:
 - 1. “corrupt practice” means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 - 2. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and

4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on _____ (which is the Effective Date of the Contract).

OWNER:

CONTRACTOR:

By: _____

By: _____

Title: _____

Title: _____

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: _____

Attest: _____

Title: _____

Title: _____

Address for giving notices:

Address for giving notices:

License No.: _____
(where applicable)

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

TOWN OF FAIRFIELD, CONNECTICUT

CONTRACT DRAWINGS FOR

WATER POLLUTION CONTROL FACILITY

PRIMARY DIGESTER TANK PHASE 2 REPAIRS

BID NO. 2023-85

NOVEMBER 2022

DRAWING INDEX

GENERAL

--- COVER SHEET

CIVIL

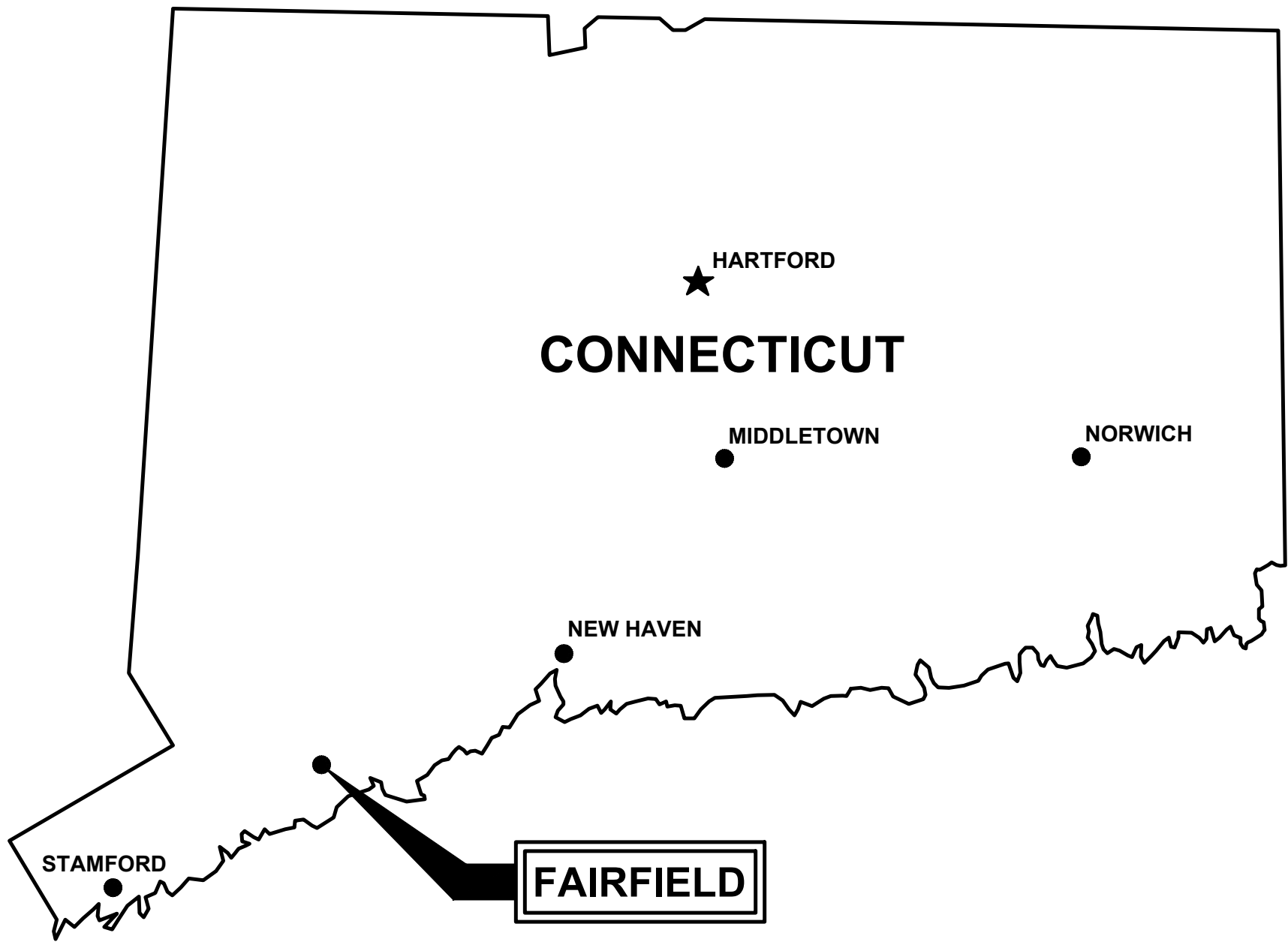
C-1 SITE KEY PLAN

STRUCTURAL

S-1 TYPICAL STRUCTURAL NOTES
S-2 DIGESTER COVER - COVER PLAN AND SECTIONS
S-3 DIGESTER COVER - DETAILS

PROCESS

PR-1 PRIMARY DIGESTER - ROOF PLAN
PR-2 PRIMARY DIGESTER - SECTION



LOCATION PLAN
SCALE: 1"=2,000'



WRIGHT-PIERCE 
Engineering a Better Environment

860.343.8297 | www.wright-pierce.com


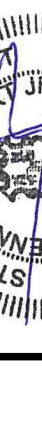


0 40 80

SITE KEY PLAN

SCALE: 1"=40'

1. LIMIT OF WORK AREAS DEFINES THE AVAILABLE AREA FOR STORAGE, STAGING, AND Dewatering SYSTEM SETUP. IT IS SUGGESTED TO INSTALL ANY REQUIRED Dewatering EQUIPMENT IN THE PAVED AREA ON THE SOUTH OF THE SEPTAGE RECEIVING BUILDING.
2. THE ACCESS ROAD BETWEEN THE COMPOSTING FACILITY AND PRIMARY DIGESTER MAY BE SHUT-DOWN DURING THE WORK-DAY WITH PRIOR NOTIFICATION TO WPCF STAFF. CONTRACTOR SHALL MAINTAIN A CLEAR PATH TO THE METHANOL STORAGE AREA EAST OF THE SEPTAGE RECEIVING BUILDING.
3. CONTRACTOR IS REQUIRED TO RESTORE ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITION AND LOAM/SEED ALL GRASS AREAS WITHIN THE LIMIT OF WORK AREA.

DRAWING	TOWN OF FAIRFIELD, CONNECTICUT WATER POLLUTION CONTROL FACILITY PRIMARY DIGESTER TANK PHASE 2 REPAIRS	 860.343.8297 www.wright-pierce.com 169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457	 23-33-11	PROJECT NO: 21084 DESIGNED: D.DIERVERT CAD COORD: ELAIGNER CAD: ELAIGNER CHECKED: D.DIERVERT DATE: AUGUST 2022 APPROVED: D.DIERVERT DATE: NOVEMBER 2022 SUBMISSION: CONTRACT DRAWINGS	NO	REV/ISSIONS	APPD. DATE
	C-1						

STRUCTURAL NOTES

GENERAL NOTES:

1. EXISTING INFORMATION TAKEN FROM THE FOLLOWING DRAWINGS:

1.1. TOWN OF FAIRFIELD, CONNECTICUT, WATER POLLUTION CONTROL FACILITY UPGRADE, CONTRACT NO. 2, BID NO. 99-15, JULY 1998, BY STEARNS & WHEELER, LLC.

1.2. PROPOSED SEWERAGE WORKS, TOWN OF FAIRFIELD, FAIRFIELD COUNTY, CONN., CONTRACT II - SEWERAGE TREATMENT PLANT, 1950, BY BOWE, ALBERTSON & ASSOCIATES.

1.3. SHOP DRAWINGS BY ENVIRODYNE SYSTEMS INC., SHOP ORDER NO. 6206 (A), 1999-2000
2. GENERAL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
3. DO NOT SCALE DIMENSIONS FROM THE DRAWINGS. WRITTEN DIMENSIONS SHALL PREVAIL. REPORT ALL DISCREPANCIES TO THE ENGINEER.
4. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH SHOP DRAWINGS (REVIEWED WITH NO EXCEPTIONS TAKEN) AND SPECIFICATIONS.

CONCRETE DEMOLITION NOTES:

1. REFERENCE SPECIFICATION - 02050.
2. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND DISPOSING OF ALL CONCRETE AND MATERIALS INDICATED TO BE DEMOLISHED UNLESS OTHERWISE INDICATED.
3. DETAILS AND SECTIONS SHOWN FOR REMOVING OR MODIFYING CONCRETE ARE BASED ON EXISTING REFERENCED DRAWINGS. IF CONDITIONS DIFFER FROM THOSE SHOWN ON THE REFERENCED DRAWINGS, GENERAL CONTRACTOR SHALL NOTIFY ENGINEER PRIOR TO BEGINNING THE DEMOLITION WORK.
4. GENERAL CONTRACTOR SHALL COORDINATE DEMOLITION WITH THE ASSOCIATED NEW WORK AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
5. EXCEPT FOR REMOVAL OF CONCRETE FROM AROUND REINFORCEMENT TO REMAIN, USE OF HEAVY DUTY PNEUMATIC HAMMERS ARE NOT PERMITTED TO REMOVE THE EXISTING CONCRETE. UNLESS OTHERWISE PERMITTED, SAW CUTTING WILL BE REQUIRED FOR CUTTING EXISTING CONCRETE. GENERAL CONTRACTOR SHALL USE CAUTION TO AVOID DAMAGING EXISTING CONCRETE STRUCTURES TO REMAIN.
6. GENERAL CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING STRUCTURES AS A RESULT OF CONTRACTOR ACTIVITIES AT NO ADDITIONAL COST TO THE OWNER.
7. GENERAL CONTRACTOR SHALL THOROUGHLY CLEAN EXISTING CONCRETE TO BE MODIFIED PRIOR TO STARTING WORK.

CAST-IN-PLACE REINFORCED CONCRETE NOTES:

1. REFERENCE SPECIFICATIONS - DIVISION 3
2. REINFORCED CONCRETE IS IN ACCORDANCE WITH: ACI 350-20 CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES.
3. MINIMUM CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS: f'c = 4,500 PSI
4. MAXIMUM W/CM = 0.42 AND MINIMUM W/CM = 0.39
5. REINFORCEMENT SHALL BE NEW BILLET STEEL CONFORMING TO ASTM SPECIFICATION A615 GRADE 60 DEFORMED BARS. FABRICATION SHALL BE IN ACCORDANCE WITH THE CRSI CODE OF STANDARD PRACTICE.
6. REINFORCEMENT SHALL HAVE 2 INCH CLEAR CONCRETE COVER.
7. MATCH ANY EXISTING CORNER CHAMFERS.
8. REINFORCEMENT HOOKS SHALL BE ACI STANDARD LENGTH UNLESS SHOWN OTHERWISE.
9. INDEPENDENT TESTING LABORATORY WILL PERFORM TESTS FOR ALL CONCRETE TRUCKS IN ACCORDANCE WITH SPECIFICATION SECTION 03305.
10. IF USED, FORM TIES SHALL INCLUDE END CONES AND WATERSTOP WASHERS.

LEGEND			
PLAN	SECTION	TEXT	
<div><div></div>EXISTING STRUCTURE</div>	<div><div></div>EXISTING STRUCTURE</div>	<div><div>CONCRETE WALL</div>EXISTING STRUCTURE</div>	
<div><div></div>EXISTING STRUCTURE TO BE DEMOLISHED</div>	<div><div></div>EXISTING CAST-IN-PLACE CONCRETE</div>	<div><div>CONCRETE WALL</div>PROPOSED WORK</div>	
<div><div></div>STRUCTURE</div>	<div><div></div>CAST-IN-PLACE CONCRETE</div>	<div><div>1"</div>DIMENSION OF EXISTING STRUCTURE</div>	
<div><div></div>GUARD</div>			
<div><div></div>HIDDEN OBJECT</div>		<div><div>1"</div>DIMENSION OF NEW STRUCTURE</div>	

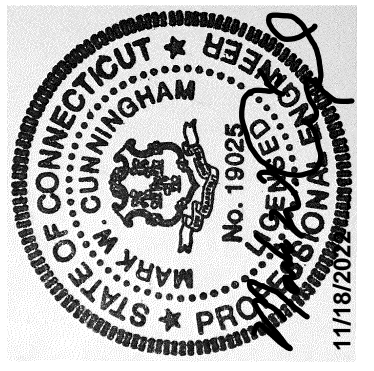
MINIMUM REINFORCING BAR SPLICE LENGTHS (IN.)		
fy=60,000 f'c=4,500		
BAR SIZE	TOP BARS	OTHER BARS
4	19	14
5	24	18
6	28	21
7	41	31
8	46	35
9	58	44
10	71	54
11	85	65


- NOTES:
1. THIS TABLE IS BASED ON NORMAL WEIGHT CONCRETE, UNCOATED BARS.
2. TOP BARS = HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BARS.

ABBREVIATIONS

ADDITIONAL, ALTERNATE	ADD ALT
ALUMINUM	ALUM, &
AND	&
ANGLE	∠
ARCHITECTURAL	∠ ARCH
AT	@
BACK TO BACK	b/b
BAR DIAMETER	db
BEAM	BM
BOTTOM	BOT, B/
BOTTOM OF FOOTING/FOUNDATION	BOF
CENTER	CTR
CENTERLINE	CL
CLEAR	CLR
COLUMN	COL
CONCRETE	CONC
CONCRETE MASONRY UNIT	CMU
CONSTRUCTION JOINT	CNJ
CONTINUOUS	CONT
CONTROLLED LOW STRENGTH MATERIAL (FLOWABLE FILL)	CLSM
CORNER	COR
CROSS BRACING	CB
DETAIL	DET
DIAMETER	DIA, Ø
DOWEL	DWL
DOWEL BAR SPLICERS	DBS
DOWEL INSERT	DI
DOWN	DN
DRY FILM THICKNESS	DFT
EACH	EA
EACH FACE	EF
EACH SIDE	ES
EACH WAY	EW
ELECTRICAL	ELEC
ELEVATION	ELEV, EL
EQUAL	EQ
EXPANSION JOINT	EJ
EXPANSION	EXP
EXTERIOR	EXT
FEET	FT
FLOOR DRAIN	FD
FIBERGLASS REINFORCED PLASTIC	FRP
GALVANIZED	GALV
GAUGE	GA
GRATING	GRTG
HIGH POINT	HP
HORIZONTAL	HOR
HOT DIPPED GALVANIZED	HDG
INSIDE DIAMETER	ID
INSIDE FACE	IF
INSULATION	INSUL
ISOLATION JOINT	IJ
JOINT	JT
LOW POINT	LP
MANUFACTURER	MFR
MATCHING	MATCH
MAXIMUM	MAX
MECHANICAL	MECH
MINIMUM	MIN
MODULAR OPENING	MO
MOUNTED	MTD
NOT TO SCALE	NTS
NUMBER	NO
ON CENTER	OC
OPENING	OPNG
OUTSIDE DIAMETER	OD
OUTSIDE FACE	OF
PERIMETER	PERIM
PLATE	PL
POUND	#
POUNDS PER SQUARE FOOT	PSF
POUNDS PER SQUARE INCH	PSI
PREMOLDED FILLER	PMF
PROCESS	PROC
PROJECTION	PROJ
REINFORCEMENT REQUIRED	REINF REQ'D
RISER	R
SCHEDULE	SCH
SECTION	SECT
SHEET	SHT
SIMILAR	SIM
SLOPE	SL
SPACE(ING)	SP
SPECIFICATION	SPEC
SQUARE	SQ
SYMMETRICAL	SYM
STANDARD	STD, STND
STRUCTURAL	STRUCT
STAINLESS STEEL	SS
STEEL	STL
THICKNESS	THK
TOP	T, T/
TOP & BOTTOM	T & B
TOP OF CONCRETE	T/ CONC, TOC
TOP OF FOOTING/FOUNDATION	TOF
TOP OF PLATE	T/ PL
TOP OF STEEL	T/ STL, TOS
TREAD	TR
TYPICAL	TYP
UNLESS OTHERWISE NOTED	UON
WATERSTOP	WS
WELDED WIRE FABRIC	WWF
WIDE	W
WITH	W/
WITHOUT	W/O

PROJECT NO: 21084
DESIGNED: M.CUNNINGHAM
CAD COORD: ELAENER
CAD: T.SCALIA
CHECKED: D.SKIDGEL
DATE: JUNE 2022
APPROVED: M.CUNNINGHAM
DATE: NOVEMBER 2022
SUBMISSION: CONTRACT DRAWINGS





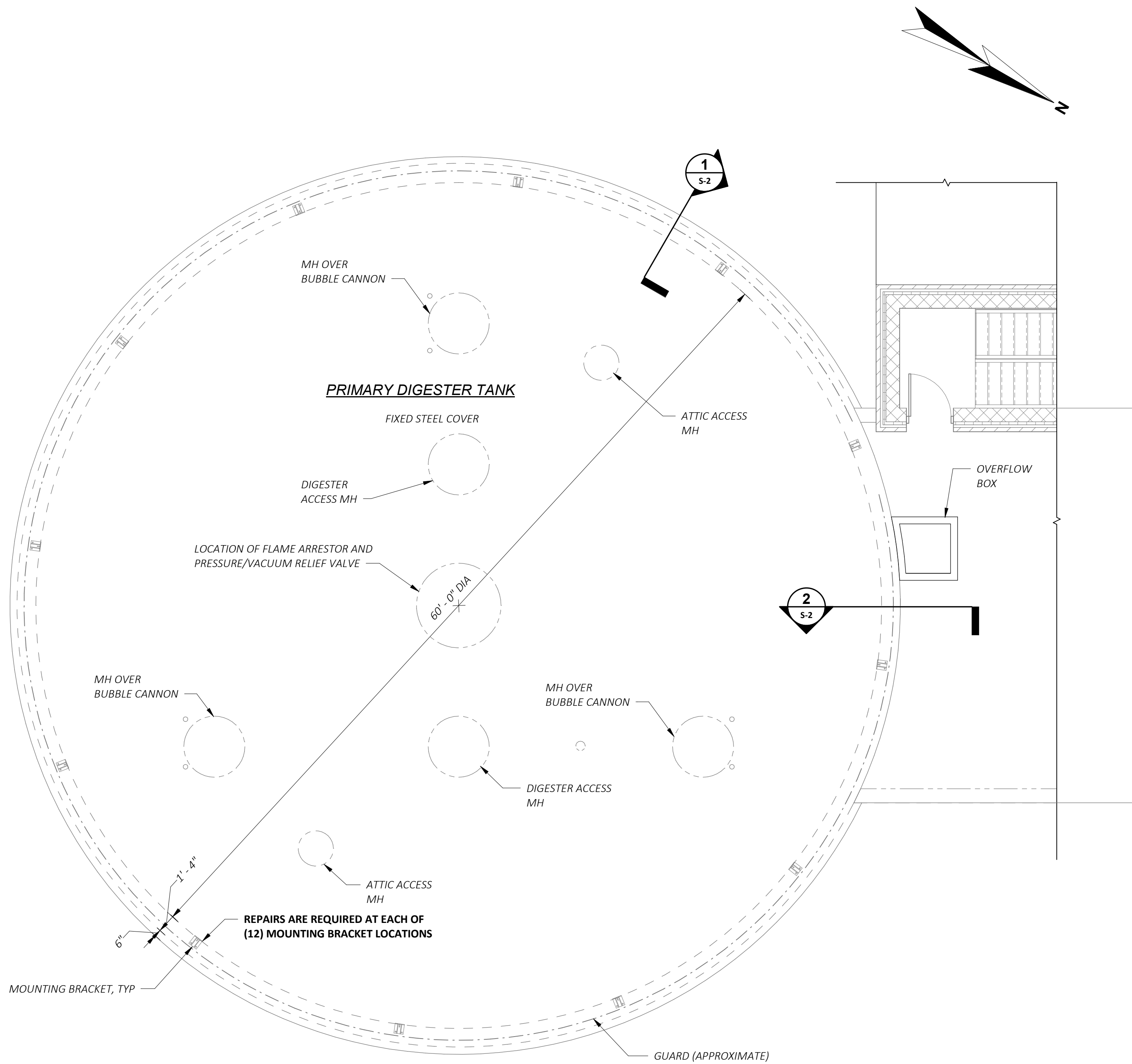
860.343.8297 | www.wright-pierce.com
169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457

TOWN OF FAIRFIELD, CONNECTICUT
WATER POLLUTION CONTROL FACILITY
PRIMARY DIGESTER TANK
PHASE 2 REPAIRS

TYPICAL STRUCTURAL NOTES

DRAWING
S-1

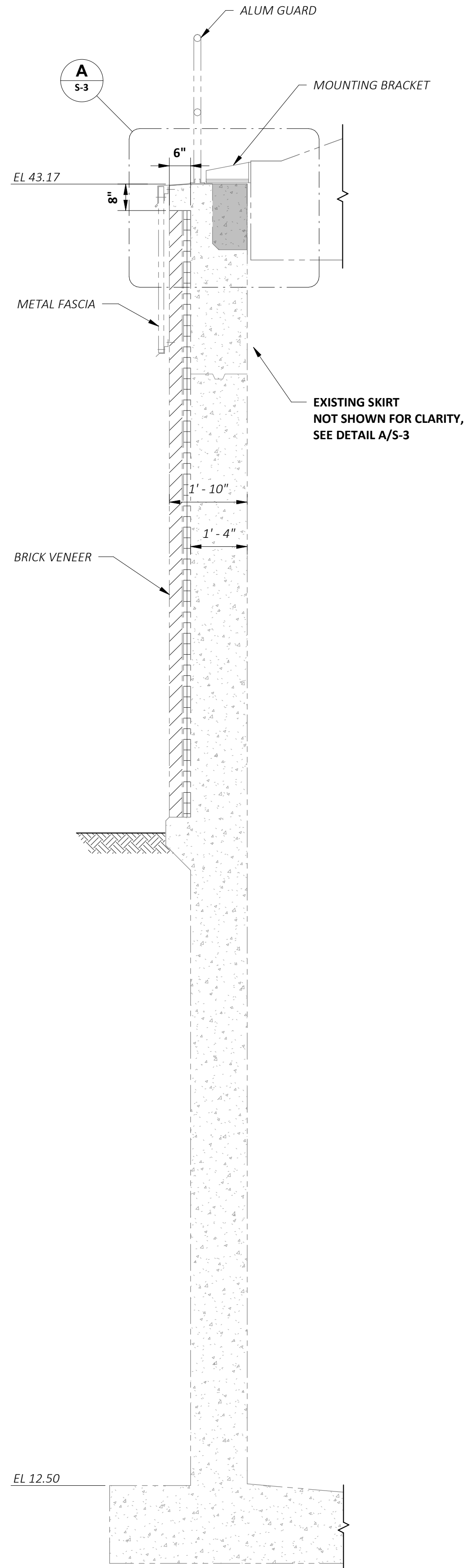
NO	1	2	3	4	5
REVISIONS	DATE	DATE	DATE	DATE	DATE



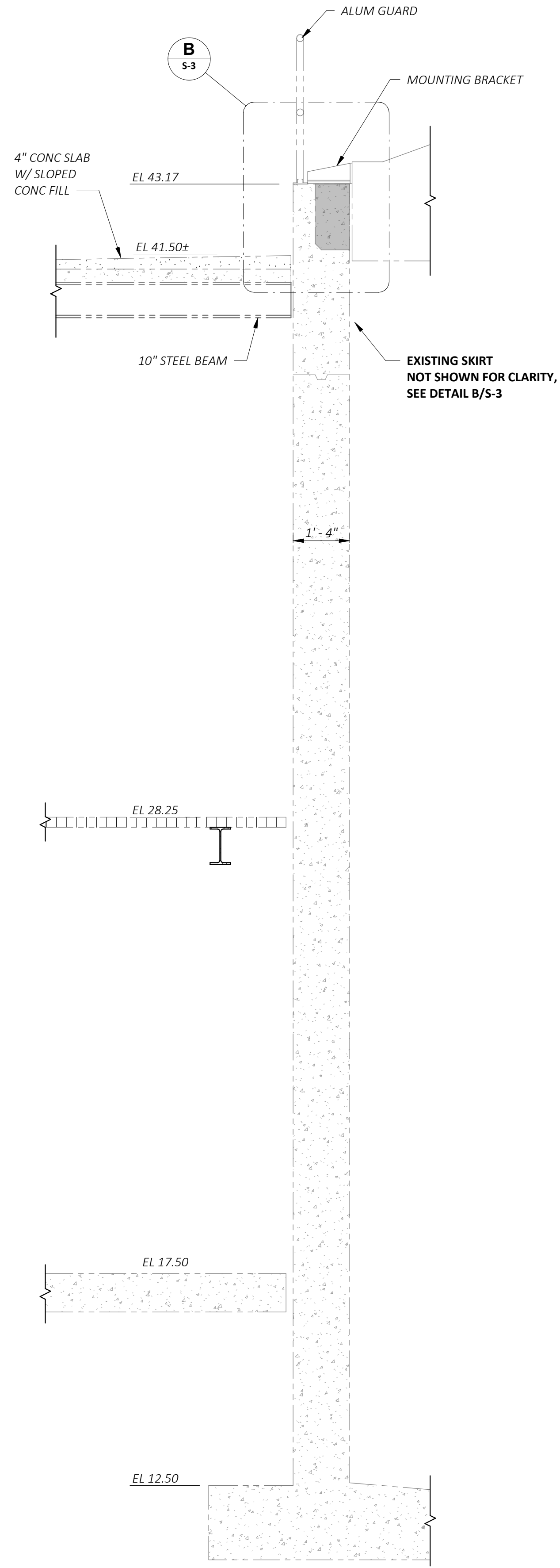
COVER PLAN
SCALE: 3/16" = 1'-0"

NOTES:

- FOR GENERAL STRUCTURAL NOTES SEE DRAWING S-1.
- THIS WORK COMPRISES AN IN-KIND RE-INSTALLATION OF THE EXISTING TANK COVER ONLY.
- UPON COMPLETION OF THE WORK, IF THE DIGESTER IS SUBJECT TO A PRESSURE GREATER THAN ITS ORIGINAL DESIGN PRESSURE, OR TO A PRESSURE COMPARABLE TO THE PRESSURE THAT CAUSED THE ANCHORAGE FAILURE BEING REPAIRED, A SIMILAR FAILURE WOULD BE EXPECTED TO OCCUR.
- CONTRACTOR SHALL LIFT AND PROVIDE TEMPORARY ELEVATED SUPPORT FOR THE COVER IN ORDER TO PERFORM THE WORK.
- AFTER SUCH ELEVATED TEMPORARY SUPPORT IS PROVIDED, THE ENGINEER WILL INSPECT DAMAGED AREAS TO EVALUATE IF ANY MODIFICATIONS TO THE WORK ARE REQUIRED.
- MOUNTING BRACKET LOCATIONS ARE APPROXIMATE ONLY.
- THE WORK INCLUDES, BUT IS NOT NECESSARILY LIMITED TO THE FOLLOWING (REFER TO C AND PR DRAWINGS FOR ADDITIONAL REQUIREMENTS):
 - PROVIDING TEMPORARY ELEVATED SUPPORT OF THE COVER TO PERFORM AND OBSERVE THE WORK.
 - SAWCUTTING PERIMETER AND REMOVAL OF CONCRETE FROM AROUND EXISTING REINFORCEMENT TO REMAIN AT LOCATIONS OF ALL CRACKED, SPALLED, OR OTHERWISE DAMAGED CONCRETE AS INDICATED AT ALL ANCHORAGE LOCATIONS. REMOVAL OF ALL EXISTING ANCHOR RODS. ASSUME AVERAGE CONCRETE REMOVAL WIDTH OF 3- FEET AT ALL ANCHORAGE LOCATIONS.
 - PREPARING CONCRETE SUBSTRATE AS SPECIFIED IN SECTION 03320.
 - DRILLING AND EPOXY-GROUTING ADDITIONAL REINFORCEMENT AS SHOWN, AND AS SPECIFIED IN SECTION 03155.
 - APPLICATION OF BONDING AGENT AS SPECIFIED IN SECTION 03150 AND PLACEMENT OF NEW CONCRETE AT LOCATIONS WHERE CONCRETE IS REMOVED PER ITEM 7.2.
 - INSTALLATION OF NEW POST-INSTALLED ANCHOR RODS AT ALL SUPPORT BRACKETS AS SPECIFIED IN SECTION 03155.
 - RE-USE OF ALL EXISTING SUPPORT BRACKETS, SLIDE PADS, PLATE WASHERS, AND BEARING PLATES. IF ANY SUCH ITEMS ARE DAMAGED SO AS TO BE UNUSABLE, PROVIDE IN-KIND REPLACEMENT AND NOTIFY THE ENGINEER.
 - RESETTING AND SHIMMING BEARING PLATES AND PROVIDING NON-SHRINK GROUT FOR FULL BEARING.
 - REMOVAL AND IN-KIND REPLACEMENT OF ALL FILLER (I.E., COVER SEAL) MATERIALS BETWEEN THE DIGESTER INTERIOR STEEL SKIRT AND THE INTERIOR FACE OF THE DIGESTER WALL. THE COVER SEAL DETAIL ON 1998 STEARNS & WHEELER DRAWING M-27 SHOWS FROM TOP TO BOTTOM: "SEALANT, BACKER ROD, PERLITE, 140°F - 150°F SOFTENING POINT 'DEAD LEVEL' COAL TAR, AND 2" OAKUM CAULK". SAND WAS DISLODGED WHEN THE COVER WAS DISPLACED UPWARD.
 - REMOVAL AND RE-ANCHORAGE OF EXISTING GUARDS IF AND WHERE NECESSARY TO PERFORM THE WORK.
 - REMOVAL AND RE-INSTALLATION OF EXISTING METAL FASCIA IF AND WHERE NECESSARY TO PERFORM THE WORK.
 - REMOVAL AND RE-INSTALLATION OF TOP OF WALL METAL FLASHING EXTENDING OVER THE FASCIA WHERE NECESSARY TO PERFORM THE WORK, AND REPLACEMENT OF SEALANT.
 - LOWERING AND RE-ANCHORING THE DIGESTER COVER.
 - REMOVAL OF LIGHTNING GROUNDING CABLE ALONG TOP OF TANK WALL AT PERIMETER OF COVER AS REQUIRED TO PERFORM THE WORK AND REINSTALLATION OF LIGHTNING PROTECTION SYSTEM AS NOTED ON PR DRAWINGS.



SECTION 1 S-2
SCALE: 1/2" = 1'-0"

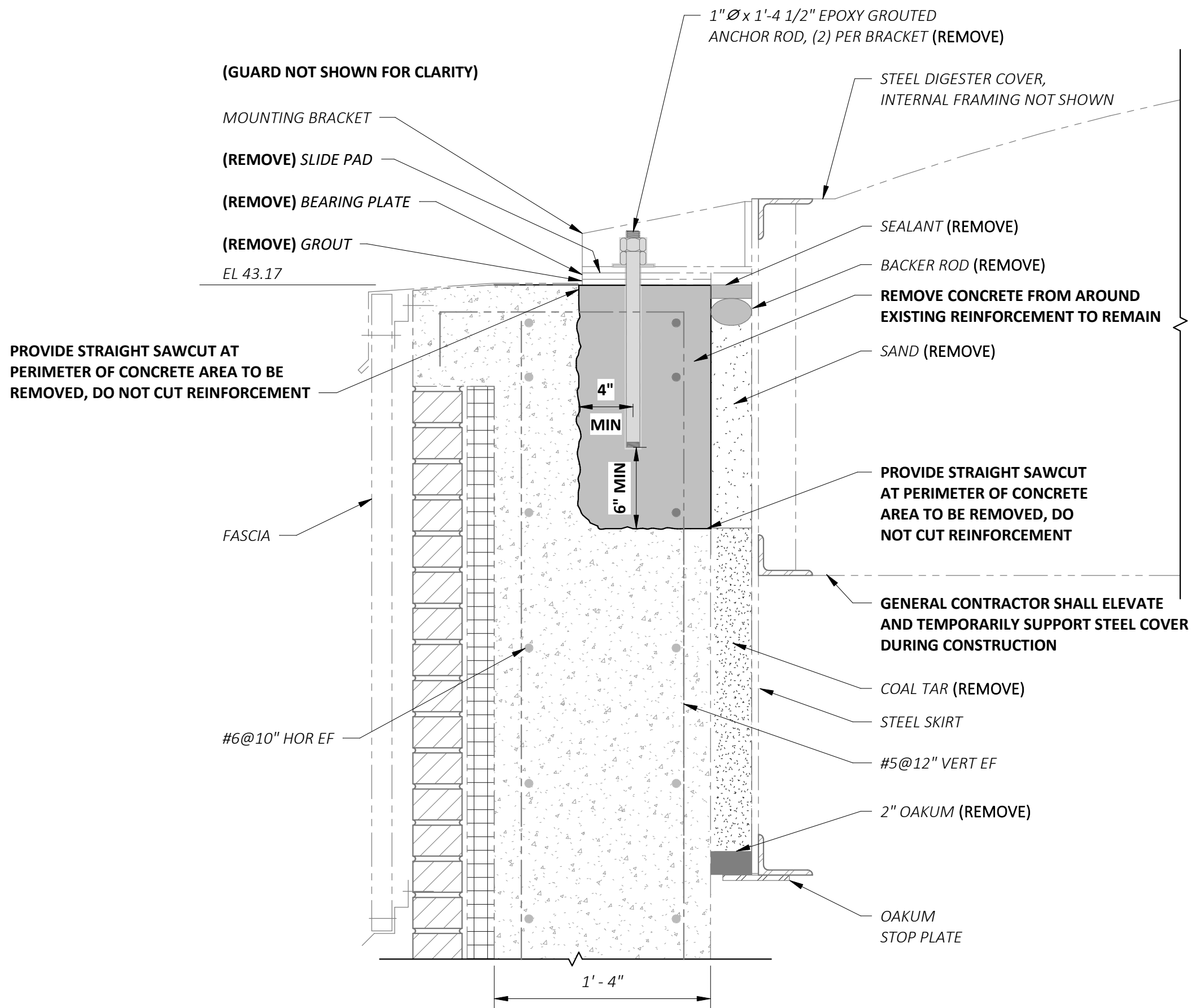


SECTION 2 S-2
SCALE: 1/2" = 1'-0"

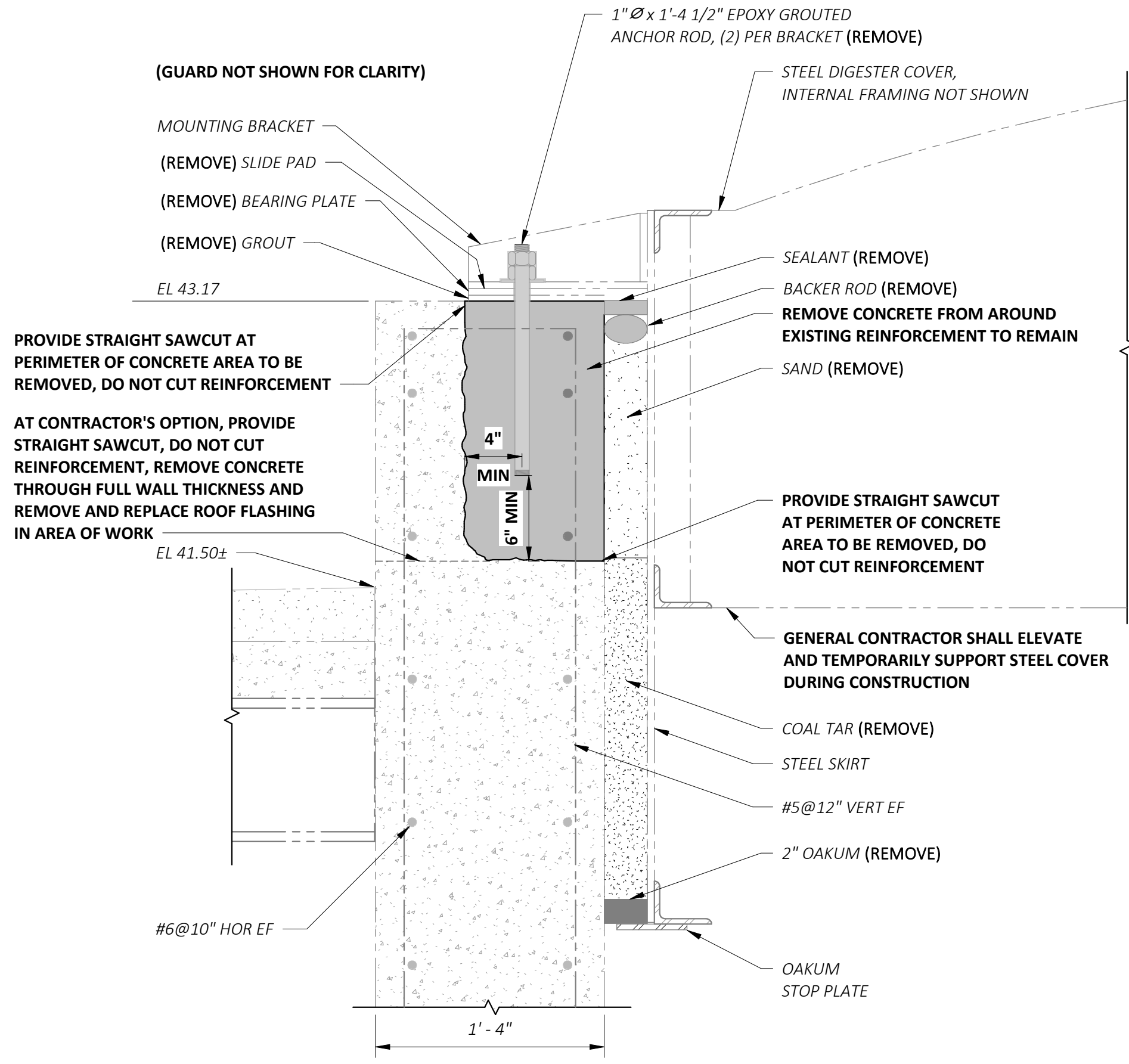
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PROJECT NO: 21084 DESIGNED: M.CUNNINGHAM CAD COORD: ELAHER CAD: T.SCALIA CHECKED: D.SKIDGEL DATE: JUNE 2022 APPROVED: M.CUNNINGHAM DATE: NOVEMBER 2022 SUBMISSION: CONTRACT DRAWINGS			
WRIGHT-PIERCE 860.343.8297 www.wright-pierce.com 169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457			
TOWN OF FAIRFIELD, CONNECTICUT WATER POLLUTION CONTROL FACILITY PRIMARY DIGESTER TANK PHASE 2 REPAIRS		DIGESTER COVER COVER PLAN AND SECTIONS	
DRAWING		S-2	

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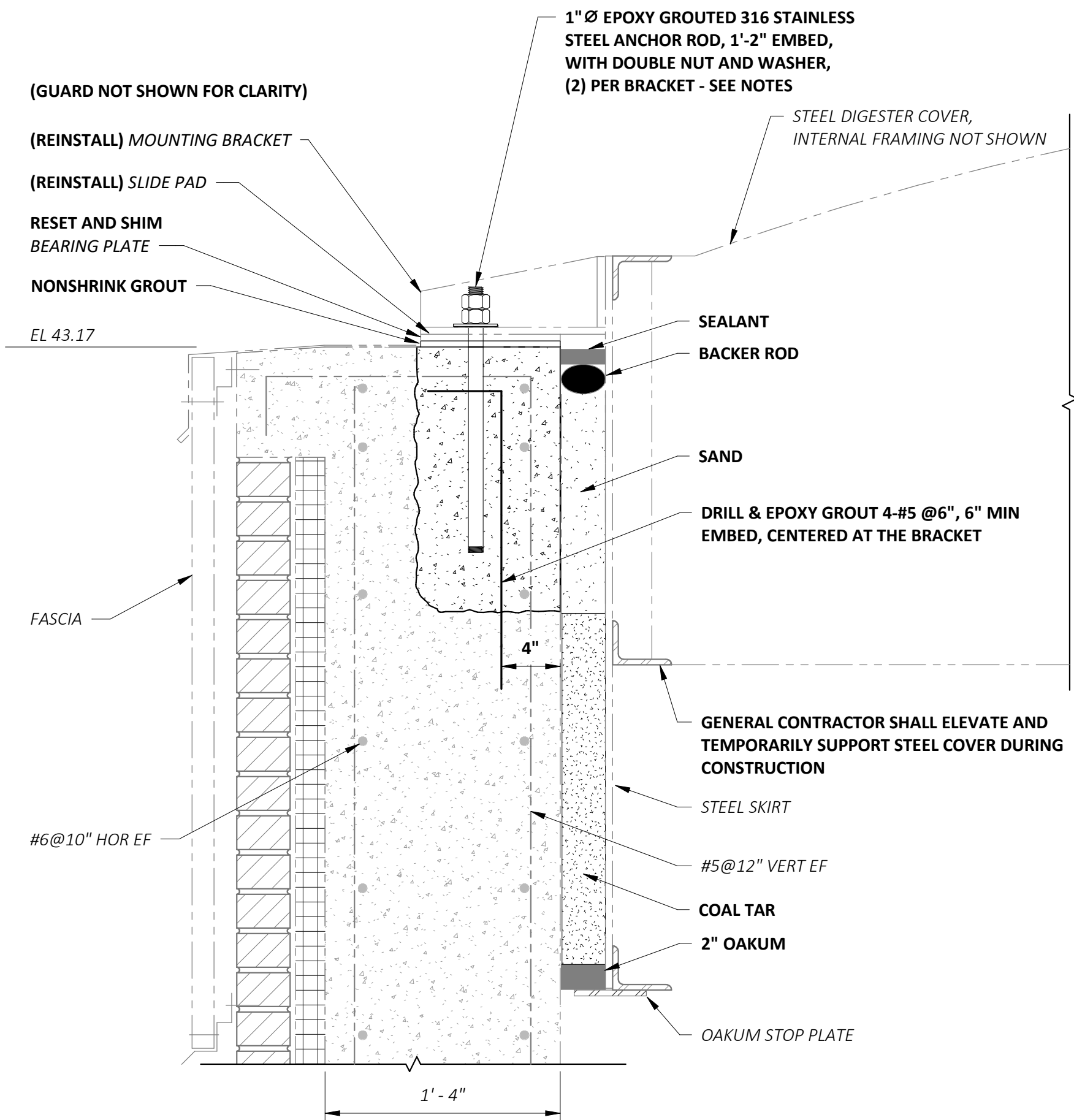
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A DEMOLITION
SCALE: 1 1/2" = 1'-0"

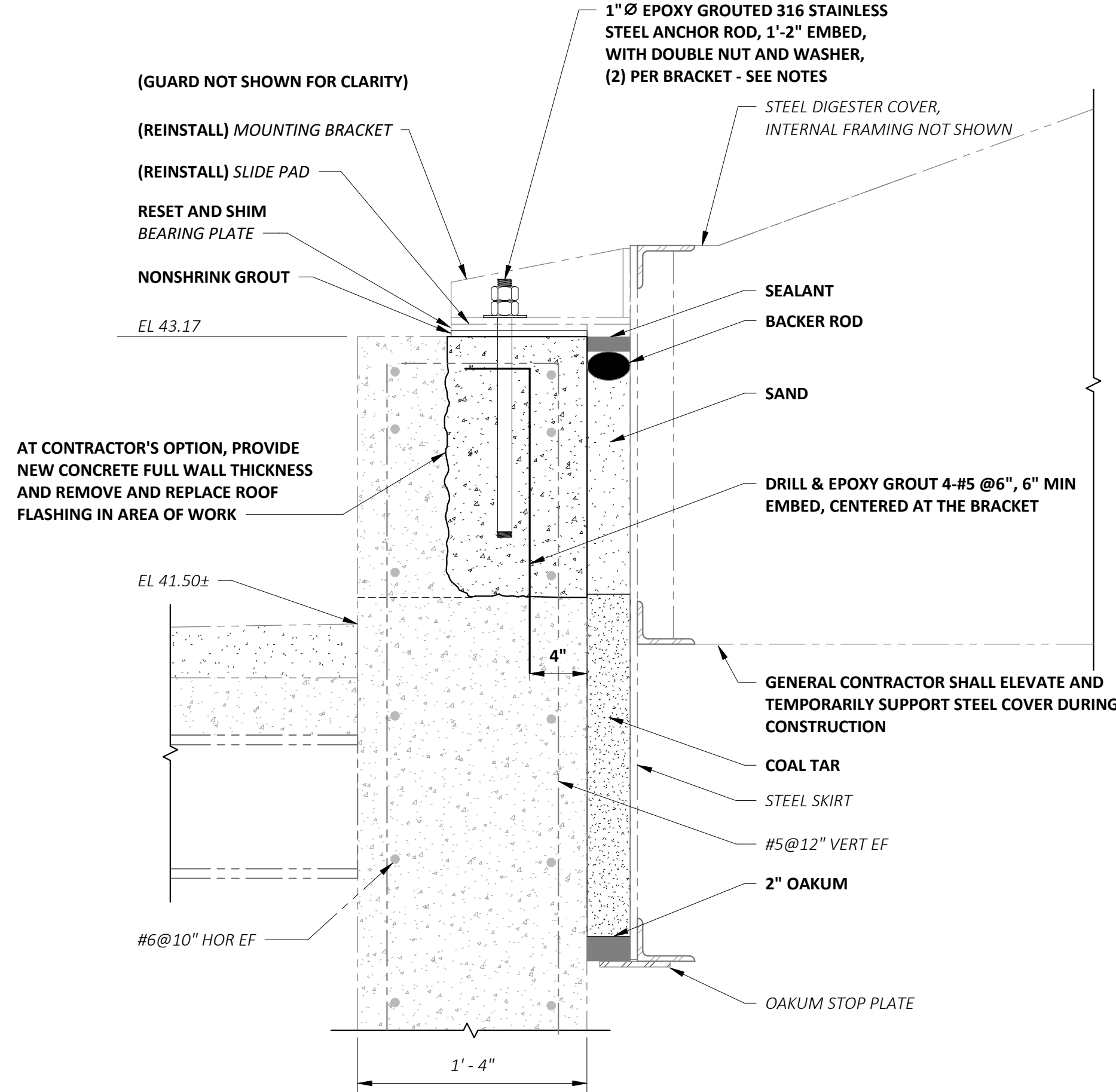


B DEMOLITION
SCALE: 1 1/2" = 1'-0"



- NOTES:
1. ANCHOR RODS - HILTI RE-500 V3 EPOXY ADHESIVE ANCHORS, OR EQUAL.
 2. FINGER TIGHTEN FIRST NUT AGAINST WASHER AND LOCK IN PLACE WITH JAM NUT.

A REPAIR
SCALE: 1 1/2" = 1'-0"



- NOTES:
1. ANCHOR RODS - HILTI RE-500 V3 EPOXY ADHESIVE ANCHORS, OR EQUAL.
 2. FINGER TIGHTEN FIRST NUT AGAINST WASHER AND LOCK IN PLACE WITH JAM NUT.

B REPAIR
SCALE: 1 1/2" = 1'-0"



PHOTO 1



PHOTO 2



PHOTO 3

CONDITION OF SOME EXISTING ANCHORS

- NOTES:
1. FOR GENERAL STRUCTURAL NOTES SEE DRAWING S-1

PROJECT NO. 21084	DESIGNED BY: M.CUNNINGHAM	NO. 1	APPD. DATE
CAD COORD: ELAIGNER	CAD: T.SCALA	2	
CHECKED: D.SKIDGEL	DATE: JUNE 2022	3	
APPROVED: M.CUNNINGHAM	DATE: NOVEMBER 2022	4	
SUBMISSION: CONTRACT DRAWINGS		5	

TOWN OF FAIRFIELD, CONNECTICUT
WATER POLLUTION CONTROL FACILITY
PRIMARY DIGESTER TANK
PHASE 2 REPAIRS

DIGESTER COVER
DETAILS

DRAWING S-3

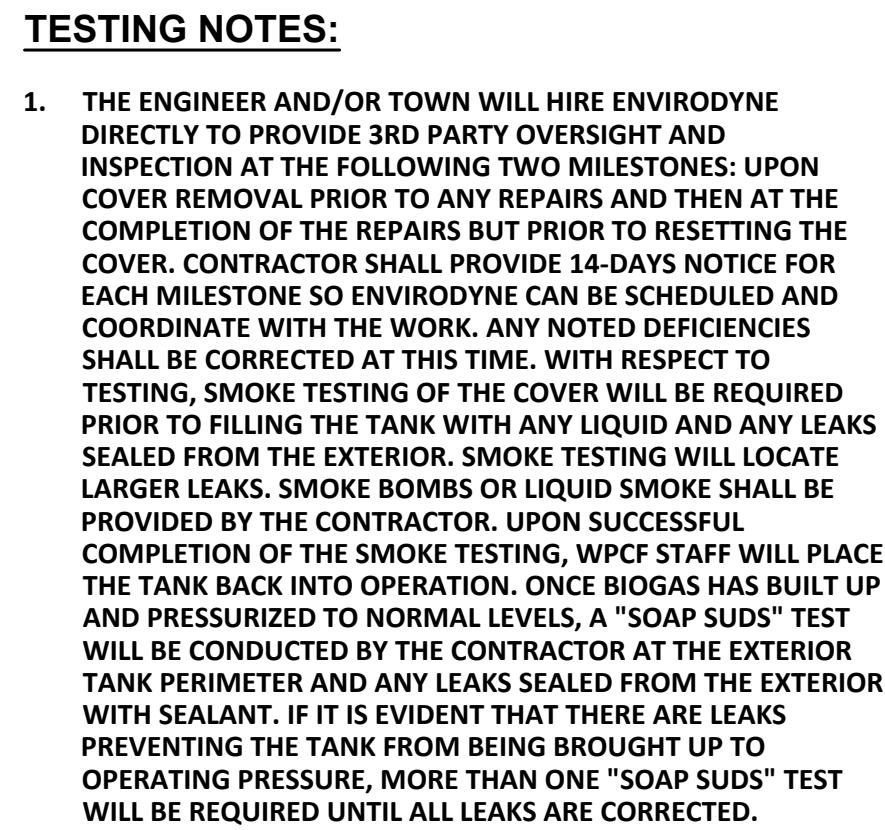


PHOTO
DIGESTER ROOF

PHOTO
DIGESTER ROOF



PHOTO

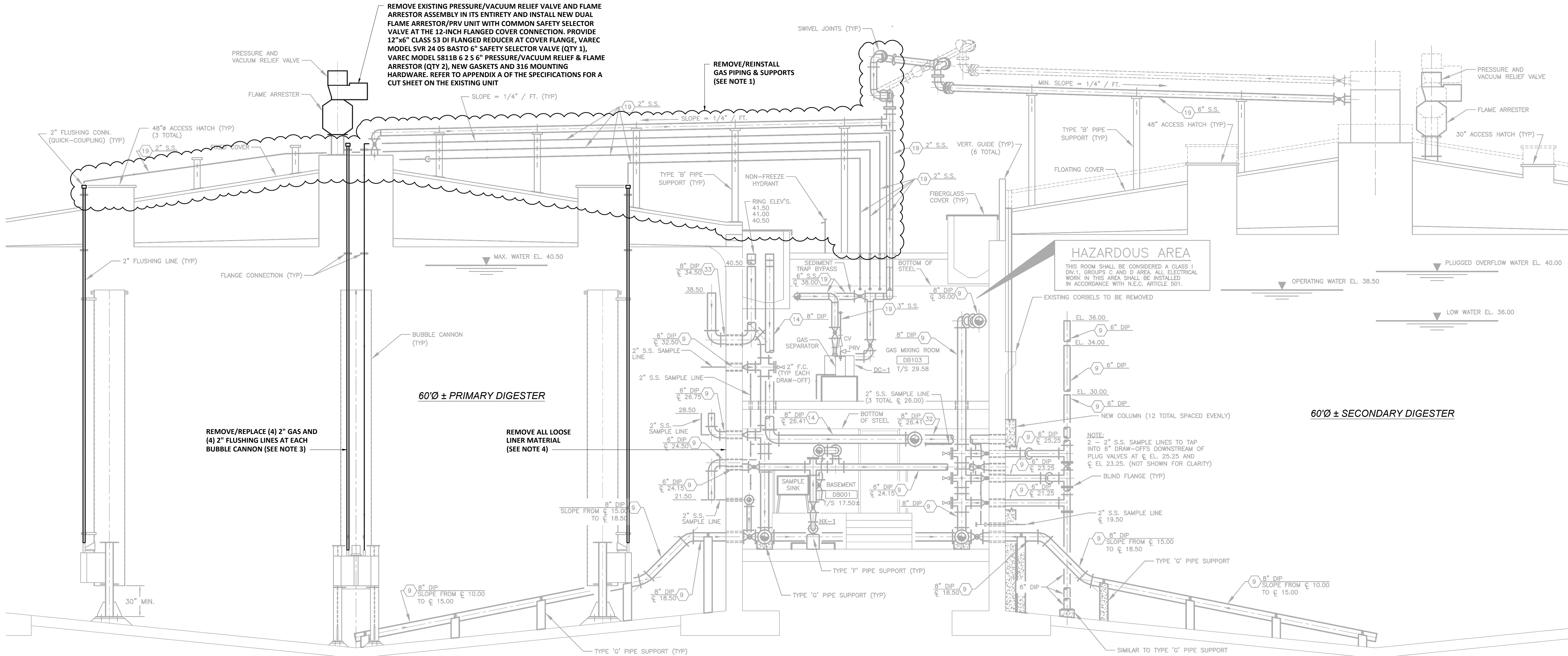
PHOTO

RELIEF VALVE & FLAME ARRESTOR

1. ALL EQUIPMENT AND PIPING LAYOUT DIMENSIONS SHALL BE FIELD VERIFIED AND COORDINATED WITH EQUIPMENT SUPPLIED, AND/OR EXISTING CONDITIONS. SOME INFORMATION ASSOCIATED WITH EXISTING STRUCTURES, PIPING AND EQUIPMENT LOCATIONS, ELEVATIONS AND SIZES, WERE TAKEN FROM THE RECORD DRAWINGS FOR THE TOWN OF FAIRFIELD, CONNECTICUT, WATER POLLUTION CONTROL FACILITIES UPGRADE, CONTRACT NO. 2, DATED JULY 1998. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AS REQUIRED PRIOR TO BEGINNING CONSTRUCTION OF NEW FACILITIES, EQUIPMENT OR PIPING THAT MAY BE AFFECTED. IN SOME SPECIFIC INSTANCES, WHERE SPECIAL ATTENTION MAY BE REQUIRED BY THE CONTRACTOR, SOME DIMENSIONS, ELEVATIONS, ETC. HAVE BEEN NOTED WITH AN "X". THIS DOES NOT HOWEVER, LIMIT THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND COORDINATE ALL NECESSARY INFORMATION FOR CONSTRUCTION.
2. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DIMENSIONS, LAYOUT OR ELEVATION CHANGES REQUIRED TO SUIT THE SPECIFIC EQUIPMENT BEING PROVIDED UNDER THIS CONTRACT. WHEN SUCH EQUIPMENT REQUIRES PIPES, PIPERS, CURBING, ETC., THAT DIFFERS FROM THAT SHOWN ON THE CONSTRUCTION DRAWINGS, THE CONTRACTOR SHALL COORDINATE THE STEEL REINFORCING SHOP DRAWINGS ACCORDINGLY.
3. PIPES 3-INCH IN DIAMETER AND UNDER SHALL HAVE UNIONS INSTALLED ADJACENT TO EQUIPMENT AND TANKS, UNLESS OTHERWISE NOTED ON DRAWINGS. FLANGES ARE ACCEPTABLE ON 3-INCH DIAMETER PIPING.
4. ALL PIPES SHALL BE ADEQUATELY RESTRAINED AND SUPPORTED.
5. AFTER INSTALLATION, ALL PIPELINES SHALL BE PRESSURE TESTED FOR TIGHTNESS. ALL LEAKS SHALL BE CORRECTED AND RETESTED UNTIL PRESSURE TEST IS SATISFACTORILY COMPLETED.
6. ALL PENETRATIONS BETWEEN CLASS 1, DIVISION 1 AREAS AND UNCLASSIFIED AREAS SHALL BE GAS TIGHT.
7. WHERE NEW PIPING IS TO BE CONNECTED TO EXISTING PIPING, THE CONTRACTOR SHALL FURNISH, AND INSTALL ADAPTERS, FITTINGS AND ADDITIONAL PIPE AS REQUIRED TO COMPLETE THE INSTALLATION. THE USE OF UNI-FLANGES WILL NOT BE ALLOWED UNLESS INDICATED ON THE DRAWINGS.
8. ALL STAINLESS STEEL FASTENERS FOR PIPING, EQUIPMENT, SUPPORTS, ETC., SHALL BE HAND TIGHTENED IN ORDER TO LIMIT THE POTENTIAL FOR GALLING.
9. CONTRACTOR TO NOTE THAT ALL EXISTING INFORMATION ON THE DRAWINGS IS SHOWN WITH A LIGHTER LINE WEIGHT AND INDICATED WITH A SLANTED TYPE TEXT. THE EXCEPTION IS WHEN SCANNED IMAGES ARE UTILIZED FROM THE PREVIOUS CONSTRUCTION PROJECTS NOTED IN GENERAL NOTE NO. 1. ABOVE. WHEN REVIEWING DRAWINGS NOTED AS "SCANNED" UNDER DRAWING TITLE, THE CONTRACTOR SHALL IGNORE ANY REFERENCE TO PREVIOUS CONTRACT WORK. SCANNED IMAGES ARE NOT TO SCALE; HOWEVER, AN APPROXIMATE SCALE MAY BE GIVEN FOR CONVENIENCE.
10. PHOTO TAGS, AS SHOWN ON THE PLAN, INDICATE THE LOCATION AND DIRECTION FROM WHICH THE PHOTO WAS TAKEN.

1. REFER TO INDIVIDUAL DRAWINGS FOR SPECIFIC DEMOLITION NOTES.
2. _____ INDICATES EXISTING PIPING/EQUIPMENT TO REMAIN FOR RE-USE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL DEMOLISHED PIPING, EQUIPMENT AND MATERIALS. THE OWNER RESERVES THE RIGHT TO RETAIN PIPING, EQUIPMENT AND/OR MATERIALS ON SITE FOR THEIR USE AS SPECIFIED IN SPECIFICATION SECTION 02050. SUCH MATERIAL TO BE RETAINED SHALL BE PLACED IN AN ON-SITE STORAGE AREA, REVIEWED/COORDINATED WITH, AND ACCEPTABLE TO THE OWNER AND ENGINEER. RETAINED EQUIPMENT SHALL BE REMOVED IN SUCH A WAY AS NECESSARY TO MAINTAIN ITS FUNCTIONAL AND PHYSICAL INTEGRITY.
4. THE CONTRACTOR SHALL KEEP A RECORD OF DEMOLITION AND LOCATION OF UTILITIES FOUND AS PART OF THE PROJECT RECORD DOCUMENTS.
5. REFER TO THE DEMOLITION SPECIFICATION SECTION 02050, SUMMARY OF WORK SPECIFICATION SECTION 01010, AND STRUCTURAL AND PROCESS DEMOLITION DRAWINGS FOR ADDITIONAL INFORMATION REGARDING DEMOLITION REQUIREMENTS AND CONSTRUCTION SEQUENCING.
6. REFER TO DRAWINGS FOR ADDITIONAL INFORMATION REGARDING EXISTING UTILITIES. THE SIZES, LOCATIONS, AND MATERIALS OF CONSTRUCTION INDICATED ARE FROM THE BEST AVAILABLE INFORMATION AND MAY NOT BE COMPLETE OR ACCURATE. ALL SIZES, LOCATIONS, AND MATERIALS OF CONSTRUCTION SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD AS REQUIRED. ALL EXISTING UTILITIES THAT ARE TO REMAIN, AND ARE DAMAGED BY THE CONTRACTORS ACTIVITIES, SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
7. SEVERING THE EXISTING UTILITIES FOR ABANDONMENT, OR REMOVAL OF A SEGMENT FROM SERVICE, SHALL BE PERFORMED IN SUCH A MANNER AS TO ALLOW THE REMAINING ACTIVE SEGMENT TO CONTINUE IN ITS INTENDED SERVICE. CAP ACTIVE SEGMENTS WITH APPROPRIATE FITTING, JOINT RESTRAINT, ETC. TO ENSURE THEIR INTEGRITY. THE METHOD OF CAPPING SHALL BE REVIEWED WITH, AND ACCEPTABLE TO, THE ENGINEER.

DRAWING	<p>TOWN OF FAIRFIELD, CONNECTICUT WATER POLLUTION CONTROL FACILITY PRIMARY DIGESTER TANK PHASE 2 REPAIRS</p>	 <p>WRIGHT-PIERCE 860.343.8297 www.wright-pierce.com 169 MAIN STREET, 700 PLAZA MIDDLESEX, MIDDLETOWN, CT 06457</p>		<p>PROJECT NO: 21084 DESIGNED: D.DIERYT CAD COORD: ELAIGNER CAD: ELAIGNER CHECKED: D.DIERYT DATE: AUGUST 2022 APPROVED: D.DIERYT DATE: NOVEMBER 2022 SUBMISSION: CONTRACT DRAWINGS</p>	NO	REV/ISSIONS	APPD. DATE
	<p>PRIMARY DIGESTER ROOF PLAN</p>				△		



1
PR-1
SECTION
SCALE: "SCANNED"
APPROX: 1/4"=1'-0"

TESTING NOTES:

- THE ENGINEER AND/OR TOWN WILL HIRE ENVIRODYNE DIRECTLY TO PROVIDE 3RD PARTY OVERSIGHT AND INSPECTION AT THE FOLLOWING TWO MILESTONES: UPON COVER REMOVAL PRIOR TO ANY REPAIRS AND THEN AT THE COMPLETION OF THE REPAIRS BUT PRIOR TO RESETTING THE COVER. CONTRACTOR SHALL PROVIDE 14-DAYS NOTICE FOR EACH MILESTONE SO ENVIRODYNE CAN BE SCHEDULED AND COORDINATE WITH THE WORK. ANY NOTED DEFICIENCIES SHALL BE CORRECTED AT THIS TIME. WITH RESPECT TO TESTING, SMOKE TESTING OF THE COVER WILL BE REQUIRED PRIOR TO FILLING THE TANK WITH ANY LIQUID AND ANY LEAKS SEALED FROM THE EXTERIOR. SMOKE TESTING WILL LOCATE LARGER LEAKS. SMOKE BOMBS OR LIQUID SMOKE SHALL BE PROVIDED BY THE CONTRACTOR. UPON SUCCESSFUL COMPLETION OF THE SMOKE TESTING, WPCF STAFF WILL PLACE THE TANK BACK INTO OPERATION. ONCE BIOGAS HAS BUILT UP AND PRESSURIZED TO NORMAL LEVELS, A "SOAP SUDS" TEST WILL BE CONDUCTED BY THE CONTRACTOR AT THE EXTERIOR TANK PERIMETER AND ANY LEAKS SEALED FROM THE EXTERIOR WITH SEALANT. IF IT IS EVIDENT THAT THERE ARE LEAKS PREVENTING THE TANK FROM BEING BROUGHT UP TO OPERATING PRESSURE, MORE THAN ONE "SOAP SUDS" TEST WILL BE REQUIRED UNTIL ALL LEAKS ARE CORRECTED.

NOTES:

- CONTRACTOR TO COORDINATE REMOVAL OF (4) 2" CANNON MIXER DIGESTER GAS PIPES AND (1) 6" DIGESTER GAS TRANSFER PIPE TO ALLOW FOR RAISING OR REMOVAL OF THE FIXED COVER. PIPING MAY BE CUT ANYWHERE ALONG THE IDENTIFIED RUN, INSULATION REMOVED, AND HEAT TRACE WIRES PULLED BACK AND COILED UP. SUGGESTED LOCATION FOR CUTTING IS AT THE TANK PERIMETER SUPPORT. PIPING IS 316 SS. COORDINATE WITH WPCF STAFF TO ENSURE ALL PIPING IS EVACUATED BEFORE DISCONNECTING. UPON PROJECT COMPLETION, RECONNECT ALL PIPING, PRESSURE TEST, REINSTALL HEAT TRACE WIRES AND INSTALL NEW INSULATION ALONG ALL GAS PIPING RUNS.
- REMOVE EXISTING LIGHTNING PROTECTION SYSTEM AT PRIMARY DIGESTER TANK PERIMETER TO ALLOW FOR REPAIR WORK. SPECIALIZED LIGHTNING PROTECTION CONTRACTOR SHALL REINSTALL EXISTING SYSTEM AFTER ALL WORK IS COMPLETED. REFER TO APPENDIX B OF THE SPECIFICATIONS FOR THE AS-BUILT LIGHTNING PROTECTION SYSTEM.
- REMOVE AND REPLACE 2-INCH SS DIGESTER GAS PIPING (TYP 4) AND 2-INCH SS FLUSHING PIPING (TYP 4) FROM 1-FOOT ABOVE THE COVER EXTERIOR, THROUGH THE COVER, AND TO THE CONNECTION POINT OF THE BUBBLE CANNONS AT THE BOTTOM OF THE TANK. PROVIDE ALL FITTINGS, ADAPTORS, SEALS, WELDING AND PIPE TESTING AS REQUIRED. THIS WORK IS TYPICAL AT ALL FOUR BUBBLE CANNONS FOR A TOTAL OF EIGHT PIPES. REFER TO APPENDIX D OF THE CONTRACT SPECIFICATIONS FOR INTERIOR TANK PHOTOS.
- MECHANICALLY SCRAPE AND REMOVE ALL LOOSE LINER MATERIAL ON INTERIOR TANK WALLS AROUND THE FULL INTERIOR TANK PERIMETER. ANY FULLY ADHERED LINER SHALL REMAIN IN PLACE. EXISTING LINER IS AN EPOXY-COAL TAR (HI-BUILD TNE-M-TAR BY TNE-MEC) APPLIED DURING THE 2000 UPGRADE PROJECT. REFER TO APPENDIX D OF THE CONTRACT SPECIFICATIONS FOR INTERIOR TANK PHOTOS.

REVISIONS		APPD	DATE
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PROJECT NO: 21084 DESIGNED: D.DIEVERT CAD COORD: ELAIGNER CAD: ELAIGNER CHECKED: ELAIGNER DATE: AUGUST 2022 APPROVED: D.DIEVERT DATE: NOVEMBER 2022 SUBMISSION: CONTRACT DRAWINGS			
TOWN OF FAIRFIELD, CONNECTICUT WATER POLLUTION CONTROL FACILITY PRIMARY DIGESTER TANK PHASE 2 REPAIRS		PRIMARY DIGESTER SECTION	
DRAWING		PR-2	

WPCF PRIMARY DIGESTER TANK REPAIRS

FAIRFIELD WPCF

FAIRFIELD, CT

**BIDDING/CONTRACT DOCUMENTS
AND TECHNICAL SPECIFICATIONS**

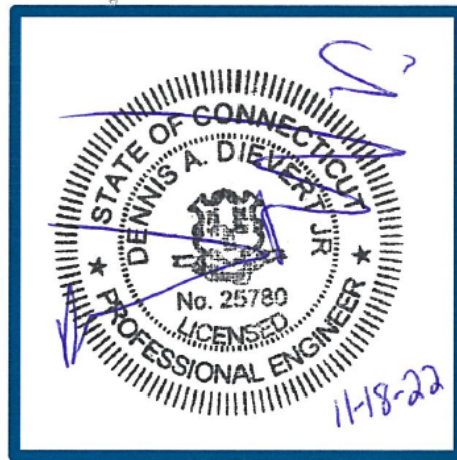
NOVEMBER 2022

BID # 2023-85

WP PROJECT # 21084

FAIRFIELD WPCF
FAIRFIELD, CONNECTICUT
BIDDING/CONTRACT DOCUMENTS
AND TECHNICAL SPECIFICATIONS
FOR
WPCF PRIMARY DIGESTER TANK REPAIRS

NOVEMBER 2022



Prepared By:

Wright-Pierce
169 Main Street – 700 Plaza
Middletown, Connecticut
Phone: 860-343-8297

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00510	Agreement
00700	General Conditions
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00800	SC-32 Wage Rates
00800	SC-32a Wage Rates

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01340	Submittals
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SECTION 00310BID FORM

PROJECT IDENTIFICATION: WPCF Primary Digester Tank Repairs –
Bid #2023-85

THIS BID IS SUBMITTED TO: Town of Fairfield Purchasing Authority
725 Old Post Road – Independence Hall
Fairfield, CT 06824

ARTICLE 1 – BID RECIPIENT

- 1.01 This Bid is submitted to the Owner, as identified above.
- 1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS

- 2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

- 3.01 In submitting this Bid, Bidder represents that:
- A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

Addendum No.Addendum, Date

_____	_____
_____	_____
_____	_____

- B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings

identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.

- E. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- F. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- G. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- H. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- I. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
 - 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

BID SCHEDULE

Item No.	Estimated Quantity	Brief Description of Item with Unit Price in Words	Unit Price In Figures	Total Estimated Price In Figures
1	LS	Primary Digester Tank Concrete and Cover Seal Repairs complete, except as noted below		
		The sum of \$ _____		\$ _____
Per Lump Sum				
2	LS	Remove and Replace 2-inch SS Gas and Flushing Piping to Bubble Cannons complete, except as noted below		
		The sum of \$ _____		\$ _____
Per Lump Sum				
3	LS	Remove and Replace Flame Arrestor and Pressure Relief Valve Assembly complete, except as noted below		
		The sum of \$ _____		\$ _____
Per Lump Sum				
4	LS	Remove and Replace Level Transducer complete, except as noted below		
		The sum of \$ _____		\$ _____
Per Lump Sum				
5	LS	Remove and Dispose of Loose Tank Liner complete, except as noted below		
		The sum of \$ _____		\$ _____
Per Lump Sum				

Item No.	Estimated Quantity	Brief Description of Item with Unit Price in Words	Unit Price In Figures	Total Estimated Price In Figures
6	ALL	Undocumented Site Conditions		
		The sum of \$ <u>Twenty-Five</u> <u>Thousand Dollars and No Cents</u>		\$ <u>25,000.00</u>
		Allowance		
7	ALL	System Integrator Services		
		The sum of \$ <u>Five Thousand</u> <u>Dollars and No Cents</u>		\$ <u>5,000.00</u>
		Allowance		

* Indeterminate quantities assumed for comparison of bids. Quantities are not guaranteed. Payment will be based on actual quantities constructed.

TOTAL BID: Total of Items 1 through 7 above.

_____ (\$_____)

(use figures)

(use words)

ARTICLE 6 – TIME OF COMPLETION

- 6.01 Bidder agrees that the Work will be substantially complete within 120 calendar days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within 150 calendar days after the date when the Contract Times commence to run.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents are submitted with and made a condition of this Bid:
- A. Town of Fairfield Cover Page, completed and signed;
 - B. Required Bid security;
 - C. List of Proposed Subcontractors and Suppliers;
 - D. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;
 - E. Contractor's License No.:
 - F. Required Bidder Qualification Statement with supporting data and Project References;

ARTICLE 8 – DEFINED TERMS

- 8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

9.01

BIDDER: *[Indicate correct name of bidding entity]*

By:

[Signature] _____

[Printed name] _____

(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:

[Signature] _____

[Printed name] _____

Title: _____

Submittal Date: _____

Address for giving notices:

Telephone Number:

Fax Number:

Contact Name and e-mail address:

Bidder's License No.:

(where applicable)

SECTION 00510SUGGESTED FORM OF AGREEMENT
BETWEEN OWNER AND CONTRACTORFOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

THIS AGREEMENT is by and

between

_____ (“Owner”) and

_____ (“Contractor”).

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

- 1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

WPCF Primary Digester Tank Repairs

ARTICLE 2 – THE PROJECT

- 2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: Primary Digester Tank Repairs

ARTICLE 3 – ENGINEER

- 3.01 The Project has been designed by Wright-Pierce.
- 3.02 The Owner has retained Wright-Pierce (“Engineer”) to act as Owner’s representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

- 4.01 *Time of the Essence*
- A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.
- 4.02 *Contract Times: Days*
- A. The Work will be substantially completed within 120 days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within 150 days after the date when the Contract Times commence to run.
- 4.03 *Liquidated Damages*
- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of

requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

1. Substantial Completion: Contractor shall pay Owner \$500 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.
2. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner \$500 for each day that expires after such time until the Work is completed and ready for final payment.
3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.

4.04 *Special Damages*

- A. In addition to the amount provided for liquidated damages, Contractor shall reimburse Owner (1) for any fines or penalties imposed on Owner as a direct result of the Contractor's failure to attain Substantial Completion according to the Contract Times, and (2) for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Substantial Completion (as duly adjusted pursuant to the Contract), until the Work is substantially complete.
- B. After Contractor achieves Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times, Contractor shall reimburse Owner for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Work to be completed and ready for final payment (as duly adjusted pursuant to the Contract), until the Work is completed and ready for final payment.

ARTICLE 5 – CONTRACT PRICE

- 5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:
 - A. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

- A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the 30th day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based

on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract
 - a. 95 percent of Work completed (with the balance being retainage); and
 - b. 95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
- B. Upon Substantial Completion of the entire construction to be provided under the Contract Documents, Owner shall pay an amount sufficient to increase total payments to Contractor to 100 percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 200 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

6.03 *Final Payment*

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 15.06.

ARTICLE 7 – INTEREST

7.01 NOT USED

ARTICLE 9 – CONTRACTOR'S REPRESENTATIONS

- 9.01 In order to induce Owner to enter into this Contract, Contractor makes the following representations:
 - A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.
 - B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - C. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
 - D. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor's safety precautions and programs.
 - E. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.

- F. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- G. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- H. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- I. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 10 – CONTRACT DOCUMENTS

10.01 *Contents*

- A. The Contract Documents consist of the following:
 - 1. This Agreement
 - 2. Performance bond
 - 3. Payment bond
 - 4. Other bonds.
 - a. NA
 - 5. General Conditions
 - 6. Supplementary Conditions
 - 7. Specifications as listed in the table of contents of the Project Manual.
 - 8. Drawings (not attached but incorporated by reference)
 - 9. Addenda No. ____.
 - 10. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid
 - 11. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
 - a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Change Orders.
 - d. Field Orders.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 11 – MISCELLANEOUS

11.01 *Terms*

- A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

11.02 *Assignment of Contract*

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

11.03 *Successors and Assigns*

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

11.04 *Severability*

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

11.05 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:
 - 1. “corrupt practice” means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 - 2. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
 - 4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on _____ (which is the Effective Date of the Contract).

OWNER:

CONTRACTOR:

By: _____

By: _____

Title: _____

Title: _____

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: _____

Attest: _____

Title: _____

Title: _____

Address for giving notices:

Address for giving notices:

License No.: _____
(where applicable)

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by



Issued and Published Jointly by



These General Conditions have been prepared for use with the Agreement Between Owner and Contractor for Construction Contract (EJCDC® C-520, Stipulated Sum, or C-525, Cost-Plus, 2013 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other.

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer

has declined to address. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. (“CERCLA”); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5501 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. (“RCRA”); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. *Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.
13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
17. *Cost of the Work*—See Paragraph 13.01 for definition.
18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
20. *Engineer*—The individual or entity named as such in the Agreement.
21. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
22. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
25. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.
26. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
27. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
28. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
29. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
30. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or "RPR" includes any assistants or field staff of Resident Project Representative.
33. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer's review of the submittals and the performance of related construction activities.
35. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
36. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.

37. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by Owner which are designated for the use of Contractor.
38. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
39. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
40. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
41. *Successful Bidder*—The Bidder who’s Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
43. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.
45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
46. *Unit Price Work*—Work to be paid for on the basis of unit prices.
47. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

48. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 Terminology

- A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:*
1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day:*
1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:*
1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or 15.04).
- E. *Furnish, Install, Perform, Provide:*
1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words "furnish," "install," "perform," or "provide," then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. *Bonds*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Contractor's Insurance*: When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be provided by Contractor in accordance with Article 6.
- C. *Evidence of Owner's Insurance*: After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully executed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review:
 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
 2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.
- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or

computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

3.02 *Reference Standards*

- A. Standards Specifications, Codes, Laws and Regulations
 - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 - 2. No provision of any such standard specification, manual, reference standard, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

- A. *Reporting Discrepancies:*
 - 1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict,

error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.
- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
 - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
 - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Contract, whichever date is earlier.

4.02 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to such date.

4.03 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
 1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 2. abnormal weather conditions;
 3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
 4. acts of war or terrorism.
- D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.
- E. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.
- F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.

- G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within 30 days of the commencement of the delaying, disrupting, or interfering event.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

- 1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
- 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part

by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading of Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
 - 1. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;
 - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and
 - 3. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
 - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
 - 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 - 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site either:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or
 2. is of such a nature as to require a change in the Drawings or Specifications; or
 3. differs materially from that shown or indicated in the Contract Documents; or
 4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Possible Price and Times Adjustments:*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,

- c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise; or
 - b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 5.04.A.
3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:
 1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and
 2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
 - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 - d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then Contractor shall, promptly after

becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.

- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer's findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Possible Price and Times Adjustments:*
 - 1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
 - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times; and
 - d. Contractor gave the notice required in Paragraph 5.05.B.
 - 2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
 - 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.

5.06 *Hazardous Environmental Conditions at Site*

- A. *Reports and Drawings*: The Supplementary Conditions identify:
1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
 2. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.

- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.
- H. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.H shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.
- E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is

maintaining the policies, coverages, and endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 *Contractor's Insurance*

- A. *Workers' Compensation:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
 - 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
 - 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).

4. Foreign voluntary worker compensation (if applicable).
- B. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
 2. claims for damages insured by reasonably available personal injury liability coverage.
 3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- C. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage:
 - a. Such insurance shall be maintained for three years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
 2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
 3. Broad form property damage coverage.
 4. Severability of interest.
 5. Underground, explosion, and collapse coverage.
 6. Personal injury coverage.
 7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.
 8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- D. *Automobile liability:* Contractor shall purchase and maintain automobile liability insurance against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.
- E. *Umbrella or excess liability:* Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.
- F. *Contractor's pollution liability insurance:* Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result

of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.

- G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner and Engineer, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.
- I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:
 - 1. include at least the specific coverages provided in this Article.
 - 2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
 - 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.
 - 4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.
 - 5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.04 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.
- B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

6.05 *Property Insurance*

- A. *Builder's Risk:* Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 - 1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."
 - 2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.
 - 3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
 - 4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).

5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
 6. extend to cover damage or loss to insured property while in transit.
 7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
 8. allow for the waiver of the insurer's subrogation rights, as set forth below.
 9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
 10. not include a co-insurance clause.
 11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
 12. include performance/hot testing and start-up.
 13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change:* All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.
- C. *Deductibles:* The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- D. *Partial Occupancy or Use by Owner:* If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
- E. *Additional Insurance:* If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property:* If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

6.06 *Waiver of Rights*

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for:
 - 1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 - 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

6.07 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the

policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.

- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and

guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.04 "Or Equals"

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) it has a proven record of performance and availability of responsive service; and
 - 4) it is not objectionable to Owner.
 - b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense:* Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.

- D. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 Substitutes

- A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.
 - 1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.
 - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
 - 3. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - a. shall certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design,
 - 2) be similar in substance to that specified, and
 - 3) be suited to the same use as that specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,
 - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from that specified, and

- 2) available engineering, sales, maintenance, repair, and replacement services.
- d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- E. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.

- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.
- H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.
- J. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.
- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.

O. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier, or other individual or entity; nor
2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.08 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work

7.09 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

7.10 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.12 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
 - C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
 - D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
 - E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
 - F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
 - G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.13 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

7.14 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or

exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

7.16 *Shop Drawings, Samples, and Other Submittals*

A. *Shop Drawing and Sample Submittal Requirements:*

1. Before submitting a Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.
3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.

- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Contractor shall submit the number of copies required in the Specifications.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to

provide and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.D.

2. *Samples:*

- a. Contractor shall submit the number of Samples required in the Specifications.
- b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 7.16.D.

3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.
3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
4. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order.
5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.

8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.
2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 1. observations by Engineer;
 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 4. use or occupancy of the Work or any part thereof by Owner;
 5. any review and approval of a Shop Drawing or Sample submittal;
 6. the issuance of a notice of acceptability by Engineer;
 7. any inspection, test, or approval by others; or
 8. any correction of defective Work by Owner.

- D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

7.19 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.
- B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop

Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

ARTICLE 8 – OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. an itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. the extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

- A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.
- C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.

- D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9 – OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 *Replacement of Engineer*

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents shall be that of the former Engineer.

9.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
- C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

10.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.08. Particularly, but without limitation, during

or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 *Rejecting Defective Work*

- A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 *Shop Drawings, Change Orders and Payments*

- A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
- B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.
- C. Engineer's authority as to Change Orders is set forth in Article 11.
- D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.07 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.08 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.

10.09 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
 - 1. *Change Orders:*
 - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
 - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.
 - 2. *Work Change Directives:* A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an

adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.

3. *Field Orders*: Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.03 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

11.04 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:
 1. where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or
 2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or
 3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on

the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).

C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or
2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.01.C.2.a and 11.01.C.2.b is that the Contractor's fee shall be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total fee to be paid by Owner shall be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the work;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12.
- B. An adjustment of the Contract Times shall be subject to the limitations set forth in Paragraph 4.05, concerning delays in Contractor's progress.

11.06 *Change Proposals*

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under

the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.

1. *Procedures:* Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than 30 days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
 2. *Engineer's Action:* Engineer will review each Change Proposal and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.
 3. *Binding Decision:* Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- B. *Resolution of Certain Change Proposals:* If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and
 4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.

- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12 – CLAIMS

12.01 *Claims*

- A. *Claims Process:* The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:
 - 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 - 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and
 - 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.
- B. *Submittal of Claim:* The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.
- C. *Review and Resolution:* The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation:*
 - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.
 - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim

submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.

3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 *Cost of the Work*

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
 2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:
 1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, and vacation and holiday pay applicable

thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
 - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes

other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
- 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee:* When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.

E. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

- B. *Cash Allowances*: Contractor agrees that:
 - 1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance*: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

13.03 *Unit Price Work*

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.
- E. Within 30 days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
 - 1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 - 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 - 3. by manufacturers of equipment furnished under the Contract Documents;
 - 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 - 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to

cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require special inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.

- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
 - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will

include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 *Progress Payments*

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments:*
 - 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
 - 2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
 - 3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.
- C. *Review of Applications:*
 - 1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
 - 2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

- a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or

- e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due:*

- 1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. *Reductions in Payment by Owner:*

- 1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
 - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. the Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. the Contract Price has been reduced by Change Orders;
 - i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
 - j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - l. there are other items entitling Owner to a set off against the amount recommended.
- 2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount

remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.

- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. At any time Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through E for that part of the Work.
 - 2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
 - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
 - 4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.05 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *Final Payment*

- A. *Application for Payment:*
 - 1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of

inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects or will so pass upon final payment.
 - d. a list of all disputes that Contractor believes are unsettled; and
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

- C. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.
- D. *Payment Becomes Due:* Thirty days after the presentation to Owner of the final Application for Payment and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation,

including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 *Waiver of Claims*

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such other adjacent areas;
 - 2. correct such defective Work;
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

- E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
 - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);
 - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:
 - 1. declare Contractor to be in default, and give Contractor (and any surety) notice that the Contract is terminated; and
 - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses,

and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate for Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for

expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this Article:
 - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and
 - 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this Article, Owner or Contractor may:
 - 1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or
 - 2. agree with the other party to submit the dispute to another dispute resolution process; or
 - 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18 – MISCELLANEOUS

18.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
 - 1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
 - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the sender of the notice.

18.02 *Computation of Times*

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

18.07 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SECTION 00800SUPPLEMENTARY CONDITIONSSupplementary Conditions

These Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract Funding Agency Edition, EJCDC C-700 (2013 Edition). All provisions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof. The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added thereto.

Contents of Supplementary Conditions

<u>Section No.</u>	<u>Section Title</u>	<u>Page No.</u>
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Should there be any conflicts between this section and the Town of Fairfield's Terms and Conditions, the Towns Terms and Conditions Prevail.

SC-1 DEFINITIONS AND TERMINOLOGY

SC-1.01.A.3. APPLICATION FOR PAYMENT

Add the following language to the end of Paragraph 1.01.A.3:

The Application for Payment form to be used on this Project is EJCDC No. C-620 or similar approved format. The Agency must approve all Applications for Payment before payment is made.

SC-1.01.A.8. CHANGE ORDER

Add the following language to the end of Paragraph 1.01.A.8:

The Change Order form to be used on this Project is EJCDC No. C-941. Agency approval is required before Change Orders are effective.

Add the following language to the end of Paragraph 1.01.A.8:

The Change Order form to be used on this Project is the modified version of EJCDC No. C-941 provided in these specifications.

SC-1.01.A.20. ENGINEER

Add the following language to the end of Paragraph 1.01.A.20:

The Engineer's Consultants on this Project are as follows: Wright-Pierce

SC-1.01 A.28 OWNER

Add the following to the end of Paragraph 1.01.A.28 of the General Conditions:

Owner is referred to as Grantee in certain sections of these Contract Documents. Owner and Grantee are one and the same.

SC-1.01 A.48 WORK CHANGE DIRECTIVE

Add the following language at the end of the last sentence of Paragraph 1.01.A.48

48. A Work Change Directive cannot change Contract Price or Contract Times without a subsequent Change Order.

SC-1.01.A.40 SUBSTANTIAL COMPLETION

Add the following to the end of the paragraph:

“Substantial Completion shall only be granted for Milestones identified in the Agreement.”

SC-1.01 A.49 ABNORMAL WEATHER CONDITIONS

Add the following new paragraph after Paragraph 1.01.A.48

49. Abnormal Weather Conditions – Conditions of extreme or unusual weather for a given region, elevation, or season as determined by Engineer. Extreme or unusual weather that is that is typical for a given region, elevation, or season should not be considered Abnormal Weather Conditions.

SC-1.01 A.49 NON-RESIDENT CONTRACTOR

Add the following paragraph immediately after Paragraph 1.01.A.48 of the General Conditions, which is to read as follows:

51. Non-Resident Contractor -
- a. A person who is not a resident in the State where the proposed construction is to be located, or
 - b. Any partnership that has no member thereof resident in the State where the proposed construction is to be located.
 - c. Any corporation established under laws other than those of the State in which the proposed construction is located.

SC-2.01 DELIVERY OF BONDS AND EVIDENCE OF INSURANCE

Add a new paragraph immediately after Paragraph 2.01.C of the General Conditions, which is to read as follows:

- D. *Non-Resident Contractor*: The Contractor, if a corporation established under laws other than the State in which the proposed construction is located, shall file with the Owner, notice of the name of its resident attorney, appointed as required by the laws of the State in which the proposed construction is located. The Contractor, if a resident of a State other than that in which the proposed construction is located and not a corporation, shall file, at the time of execution of the Agreement, with the Owner a written appointment of a resident of the State in which the construction is located, having an office or place of business therein, to be his true and lawful attorney upon whom all lawful processes in any actions or proceedings against him may be served; and in such writing, which shall set forth said attorney's place of residence, shall agree that any lawful process against him which is served on said attorney shall be of the same legal force and validity as if served on him and that the authority shall continue in force so long as any liability remains outstanding against him in said State. The power of attorney shall be filed in the office of the Secretary of State if required, and copies certified by the Secretary shall be sufficient evidence thereof. Such appointment shall continue in force until revoked by an instrument in writing, designating in a like manner some other person upon whom such processes may be served, which instrument shall be filed in the manner provided herein for the original appointment.
- D. *Non-Resident Contractor*: The Contractor, if not a resident of the State of Connecticut, or, in the case of a partnership, the partners, if not residents, hereby appoints the Secretary of State of the State of Connecticut, and his successors in office as agent for service of process for any action arising out of or as a result of this Contract; such appointment to be in effect throughout the life of this Contract, and six (6) years thereafter.

SC-2.02 COPIES OF DOCUMENTS

Delete Paragraph 2.02.A in its entirety and insert the following in its place:

- A. Owner shall furnish to Contractor up to 4 printed or hard copies of the Drawings and Project Manual and one set in electronic pdf format. Additional copies will be furnished upon request at the cost of reproduction.

SC 3.01 INTENT

Add a new paragraph immediately after Paragraph 3.01.E of the General Conditions which is to read as follows:

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

SC-4.01 COMMENCEMENT OF CONTRACT TIMES; NOTICE TO PROCEED

Delete Paragraph 4.01.A in its entirety and insert the following in its place:

- A. The Contract Times will commence to run on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement.

Amend the last sentence of Paragraph 4.01.A by deleting the following words:

In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Contract, whichever date is earlier.

SC 4.03 REFERENCE POINTS

Add a new paragraph immediately after Paragraph 4.03A of the General Conditions which is to read as follows:

- B. Engineer may check the lines, elevations, reference marks, batter boards, etc., set by Contractor, and Contractor shall correct any errors disclosed by such check. Such a check shall not be considered as approval of Contractor's work and shall not relieve Contractor of the responsibility for accurate construction of the entire Work. Contractor shall furnish personnel to assist Engineer in checking lines and grades.

SC 4.05.C.2 DELAYS IN CONTRACTOR'S PROGRESS

Amend Paragraph 4.05.C.2 by striking out the following text: "abnormal weather conditions;" and inserting the following text: Abnormal Weather Conditions;

SC-5.03 SUBSURFACE AND PHYSICAL CONDITIONS

Delete Paragraphs 5.03.A and 5.03.B in their entirety and insert the following:

- A. No reports of explorations or tests of subsurface conditions at or adjacent to the Site, or drawings of physical conditions relating to existing surface or subsurface structures at the Site, are known to Owner.

SC-5.06 HAZARDOUS ENVIRONMENTAL CONDITIONS

Delete Paragraphs 5.06.A and 5.06.B in their entirety and insert the following:

- A. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.
B. Not Used.

SC-6.03 CONTRACTOR'S LIABILITY INSURANCE

See Town of Fairfield Terms and Conditions for Insurance Requirements.

SC-7.02 LABOR; WORKING HOURS

Add the following sentence to the end of Paragraph 7.02.B.

"Regular working hours shall be 7:00am to 4:00 pm, Monday through Friday."

Add the following new paragraph immediately after Paragraph 7.02.B:

- C. Contractor shall be responsible for the cost of any overtime pay or other expense incurred by the Owner for Engineer's services (including those of the Resident Project Representative, if any), Owner's representative, and construction observation services, occasioned by the performance of Work on Saturday, Sunday, any legal holiday, or as overtime on any regular work day. If Contractor is responsible but does not pay, or if the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.

SC-7.04 "OR EQUALS"

Amend the third sentence of Paragraph 7.04A by striking out the following words: Unless the specifications or description contains or is followed by words reading that no like, equivalent, or 'or-equal' item is permitted.

Amend the last sentence of Paragraph 7.04.A.1.a.3 by striking out "and;" and adding a period at the end of Paragraph 7.04.A.1.a.3.

Delete Paragraph 7.04.A.1.a.4 in its entirety and insert the following in its place: [Deleted]

Add a new paragraph SC-7.04.B.1 immediately after paragraph 7.04.B of the General Conditions, which is to read as follows:

1. It shall be Contractor's responsibility to coordinate all submittals to Engineer for approval to eliminate any conflicts which might arise due to the use of "or equal" items. Any additional costs incidental to the use of "or equal" items shall be paid by Contractor.

SC-7.05 SUBSTITUTES

Add a new paragraph SC-7.05.E.1 immediately after paragraph 7.05.E of the General Conditions, which is to read as follows:

1. It shall be Contractor's responsibility to coordinate all submittals to Engineer for approval to eliminate any conflicts which might arise due to the use of "or equal" items. Any additional costs incidental to the use of "or equal" items shall be paid by Contractor.

SC-7.08 PERMITS

See Town of Fairfield Terms and Conditions for Insurance Requirements.

SC-7.09 TAXES

See Town of Fairfield Terms and Conditions for Insurance Requirements.

SC-7.12 SAFETY AND PROTECTION

Add a new paragraph immediately following Paragraph 7.12.C to read as follows:

- D. Safety provisions for confined space entry shall follow General Industry Standard CFR Title 29 Part 1910.146.

SC-7.17 CONTRACTOR'S GENERAL WARRANTY AND GUARANTEE

Add a new paragraph immediately after Paragraph 7.17.D of the General Conditions:

- E. CONTRACTOR shall guarantee all materials and equipment furnished and Work performed for a period of one (1) year from the date of Substantial Completion. CONTRACTOR warrants and guarantees for a period of one (1) year from the date of Substantial Completion of the systems that the completed systems are free from all defects due to faulty materials or workmanship and CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the system resulting from such defects. OWNER will give notice of observed defects with reasonable promptness. In the event that CONTRACTOR should fail to make such repairs, adjustments, or other work that may be made necessary by such defects, OWNER may do so and charge CONTRACTOR the cost thereby incurred. The Performance Bond shall remain in full force and effect through the guarantee period."

SC-8.04 CLAIMS BETWEEN CONTRACTORS

Add the following new paragraph immediately after Paragraph 8.03:

- A. Should Contractor cause damage to the work or property of any other contractor at the Site, or should any claim arising out of Contractor's performance of the Work at the Site be made by any other contractor against Contractor, Owner, Engineer, or the construction coordinator, then Contractor (without involving Owner, Engineer, or construction coordinator) shall either (1) remedy the damage, (2) agree to compensate the other contractor for remedy of the damage, or (3) remedy the damage and attempt to settle with such other contractor by agreement, or otherwise resolve the dispute by arbitration or at law.
- B. Contractor shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner, Engineer, the construction coordinator and the officers, directors, partners, employees, agents and other consultants and subcontractors of each and any of them from and against all claims, costs, losses and damages (including, but not limited to, fees and charges of engineers, architects, attorneys, and other professionals and court and arbitration costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any other contractor against Owner, Engineer, consultants, or the construction coordinator to the extent said claim is based on or arises out of Contractor's performance of the Work. Should another contractor cause damage to the Work or property of Contractor or should the performance of work by any other contractor at the Site give rise to any other Claim,

- Contractor shall not institute any action, legal or equitable, against Owner, Engineer, or the construction coordinator or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any arbiter which seeks to impose liability on or to recover damages from Owner, Engineer, or the construction coordinator on account of any such damage or Claim.
- C. If Contractor is delayed at any time in performing or furnishing the Work by any act or neglect of another contractor, and Owner and Contractor are unable to agree as to the extent of any adjustment in Contract Times attributable thereto, Contractor may make a Claim for an extension of times in accordance with Article 11. An extension of the Contract Times shall be Contractor's exclusive remedy with respect to Owner, Engineer, and construction coordinator for any delay, disruption, interference, or hindrance caused by any other contractor. This paragraph does not prevent recovery from Owner, Engineer, or construction coordinator for activities that are their respective responsibilities.

SC-9.11 EVIDENCE OF FINANCIAL ARRANGEMENTS

Add the following new paragraph immediately after Paragraph 9.11.A:

- B. On request of Contractor prior to the execution of any Change Order involving a significant increase in the Contract Price, Owner shall furnish to Contractor reasonable evidence that adequate financial arrangements have been made by Owner to enable Owner to fulfill the increased financial obligations to be undertaken by Owner as a result of such Change Order.

SC-10.03 PROJECT REPRESENTATIVE

Add a new paragraph immediately after paragraph 10.03.A of the General Conditions which is to read as follows:

- B. Resident Project Representative is Engineer's agent at the site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding Resident Project Representative's actions. Resident Project Representative's dealings in matters pertaining to the on-site work shall in general be with Engineer and Contractor keeping Owner advised as necessary. Resident Project Representative's dealings with subcontractors shall only be through or with the full knowledge and approval of Contractor. Resident Project Representative shall generally communicate with Owner with the knowledge of and under the direction of Engineer.
- 1 Duties and Responsibilities of Resident Project Representative:
 - 1.1 Schedules: Review the progress schedule, schedule of Shop Drawing submittals and schedule of values prepared by Contractor and consult with Engineer concerning acceptability.
 - 1.2 Conferences and Meetings: Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences and other project-related meetings, and prepare and circulate copies of minutes thereof.
 - 1.3 Liaison:
 - a. Serve as Engineer's liaison with Contractor, working principally through Contractor's superintendent and assist in understanding the intent of the

- Contract Documents; and assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-site operations.
- b. Assist in obtaining from Owner additional details or information, when required for proper execution of the Work.

1.4 Shop Drawings and Samples:

- a. Record date of receipt of Shop Drawings and samples.
- b. Receive samples which are furnished at the site by Contractor, and notify Engineer of availability of samples for examination.
- c. Advise Engineer and Contractor of the commencement of any Work requiring a Shop Drawing or sample if the submittal has not been reviewed by Engineer.

1.5 Review of Work, Rejection of Defective Work, Inspections and Tests:

- a. Conduct on-site observations of the Work in progress to assist Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.
- b. Report to Engineer whenever Resident Project Representative believes that any Work is unsatisfactory, faulty or defective or does not conform to the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer of Work that Resident Project Representative believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
- c. Verify that tests, equipment and systems startups and operating and maintenance training are conducted in the presence of appropriate personnel, and that Contractor maintains adequate records thereof; and observe, record and report to Engineer appropriate details relative to the test procedures and startups.
- d. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections and report to Engineer.

1.6 Interpretation of Contract Documents: Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.

1.7 Modifications: Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report with recommendations to Engineer. Transmit to the Contractor decisions as issued by Engineer.

1.8 Records:

- a. Maintain at the job site orderly files for correspondence, reports of job conferences, Shop Drawings and samples, reproductions of original Contract Documents including all Work Directive Changes, Addenda, Change Orders, Field Orders, additional Drawings issued subsequent to the execution of the Contract, Engineer's clarifications and interpretations of the Contract Documents, progress reports, and other Project related documents.
- b. Keep a diary or log book recording Contractor hours on the job site, weather conditions, data relative to questions of Work Directive Changes, Change

Orders or changed conditions, list of job site visitors, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to Engineer.

- c. Record names, address and telephone numbers of all contractors, subcontractors and major suppliers of materials and equipment.

1.9 Reports:

- a. Furnish Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the progress schedule and schedule of Shop Drawing and sample submittals.
- b. Consult with Engineer in advance of scheduled major tests, inspections or start of important phases of the Work.
- c. Draft proposed Change Orders and Work Directive Changes, obtaining backup material from Contractor and recommend to Engineer Change Orders, Work Directive Changes, and Field Orders.
- d. Report immediately to Engineer and Owner upon the occurrence of any accident.

1.10 Payment Requests: Review applications for payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the schedule of values, Work completed and materials and equipment delivered at the site but not incorporated in the Work.

1.11 Certificates, Maintenance and Operation Manuals: During the course of the Work, verify that certificates, maintenance and operation manuals and other data required to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have this material delivered to Engineer for review and forwarding to Owner prior to final payment for the Work.

1.12 Completion:

- a. Before Engineer issues a Certificate of Substantial Completion, submit to Contractor a list of observed items requiring completion or correction.
- b. Conduct final inspection in the company of Engineer, Owner and Contractor and prepare a final list of items to be completed or corrected.
- c. Observe that all items on final list have been completed or corrected and make recommendations to Engineer concerning acceptance.

2 Limitations of Authority of the Resident Project Representative:

2.1 Shall not authorize any deviation from the Contract Documents or substitution of materials or equipment, unless authorized by Engineer.

2.2 Shall not exceed limitations of Engineer's authority as set forth in the Contract Documents.

2.3 Shall not undertake any of the responsibilities of Contractor, subcontractors or Contractor's superintendent.

2.4 Shall not advise on, issue directions relative to or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction unless such advice or directions are specifically required by the Contract Documents.

2.5 Shall not advise on, issue directions regarding or assume control over safety

- precautions and programs in connection with the Work.
- 2.6 Shall not accept Shop Drawing or sample submittals from anyone other than Contractor.
- 2.7 Shall not authorize Owner to occupy the Project in whole or in part.
- 2.8 Shall not participate in specialized field or laboratory tests or inspections conducted by others except as specifically authorized by Engineer.

SC-11.04 CHANGE OF CONTRACT PRICE

In subparagraph 11.04.C.2.c., the following changes shall be made:

- DELETE the phrase “Paragraphs 11.01.C.2.a and 11.01.C.2.b” and REPLACE with the phrase “Paragraphs 11.04.C.2.a and 11.04.C.2.b”
- DELETE the phrase “Paragraphs 13.01.A.1 and 13.01.A.2” and REPLACE with the phrase “Paragraphs 13.01.B.1 and 13.01.B.2”

At the end of subparagraph 11.04.C.2.b, prior to the semicolon, add the following words:
“calculated on Subcontractor’s actual cost before Subcontractor’s fee is added”.

At the end of subparagraph 11.04.C.2.c, prior to the semicolon, add the following words:
“calculated on the actual cost of the work performed before any tier Subcontractor’s fee is added. The total fee on actual work shall not exceed 20%.”

Add a new paragraph immediately after paragraph 11.04.C.2.f, of the General Conditions which is to read as follows:

- g. To the sum of the costs and mark ups provided in this Article, a maximum of 2.5 percent may be added as compensation for bonds and insurance.

SC-13.01 COST OF THE WORK

Add a new paragraph immediately after Paragraph 13.01.B.1, of the General Conditions which is to read as follows:

- a. CONTRACTOR shall establish, in the Agreement, the Direct Labor Cost percentage. This percentage, where approved by OWNER, will be used in the determination of the Direct Labor Cost listed in the Change Order Form. The Direct Labor Costs are defined to include social security contributions, unemployment, excise and payroll taxes, workers' and workmen's compensation, health and retirement benefits, sick leave, vacation and holiday pay, and cost of premiums for all additional insurance required because of changes in the Work.

Delete Paragraph 13.01.B.5.c in its entirety and insert the following in its place:

- c. Construction Equipment and Machinery:
- (1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - (2) Costs for equipment and machinery owned by Contractor will be paid at a rate shown for such equipment in the “Blue Book Rates” from Equipment Watch™,

with location adjustments / which is customary for such equipment in the area of the Project. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs. Costs will include the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, shall cease to accrue when the use thereof is no longer necessary for the changed Work. Equipment or machinery with a value of less than \$1,000 will be considered small tools.

SC 13.02 ALLOWANCES

Delete Paragraphs 13.02.A, B and C of the General Conditions in their entirety.

Delete Paragraph 13.02.C in its entirety and insert the following in its place: “[Deleted]”

SC 13.03 UNIT PRICE WORK

Delete Paragraph 13.03.E in its entirety and insert the following in its place:

- E. The unit price of an item of Unit Price Work shall be subject to reevaluation and adjustment under the following conditions:
 - 1. if the Bid price of a particular item of Unit Price Work amounts to 20 percent or more of the Contract Price and the variation in the quantity of that particular item of Unit Price Work performed by Contractor differs by more than 20 percent from the estimated quantity of such item indicated in the Agreement; and
 - 2. if there is no corresponding adjustment with respect to any other item of Work; and
 - 3. if Contractor believes that Contractor has incurred additional expense as a result thereof or if Owner believes that the quantity variation entitles Owner to an adjustment in the unit price, either Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Article 10 if the parties are unable to agree as to the effect of any such variations in the quantity of Unit Price Work performed.

SC 14.06 OWNER MAY STOP THE WORK

Add a new paragraph immediately after paragraph 14.06.A of the General Conditions to read as follows:

- B. If OWNER stops Work under Paragraph 14.06.A, CONTRACTOR shall be entitled to no extension of Contract Time or increase in Contract Price.

SC 14.07 OWNER MAY CORRECT DEFECTIVE WORK

Delete the word "seven" in the first sentence of Paragraph 14.07.A, and replace with the word "twenty-one."

SC-15.01 PROGRESS PAYMENTS

Amend the second sentence of Paragraph 15.01.B.1 by striking out the following text: “a bill of sale, invoice, or other.”

Add the following language at the end of Paragraph 15.01.B.3: No payments will be made that would deplete the retainage, place in escrow any funds that are required for retainage, or invest retainage for the benefit of the Contractor.”

Add the following new Paragraph after Paragraph 15.01.B.3:

4. The Application for Payment form to be used on this Project is EJCDC C-620. The Agency must approve all Applications for Payment before payment is made.

Delete Paragraph 15.01.D.1 in its entirety and insert the following in its place:

D. The Application for Payment with Engineer’s recommendations will be presented to the Owner and Agency for consideration. If both the Owner and Agency find the Application for Payment acceptable, the recommended amount less any reduction under the provisions of Paragraph 15.01.E will become due twenty (20) days after the Application for Payment is presented to the Owner, and the Owner will make payment to the Contractor.

Add new paragraphs immediately after paragraph 15.01.B.3 of the General Conditions which are to read as follows:

4. CONTRACTOR shall furnish evidence that payment received on the basis of materials and equipment not incorporated and suitably stored, has in fact been paid to the respective supplier(s) within sixty days of payment by OWNER. Failure to provide such evidence of payment may result in the withdrawal of previous approval(s) and removal of the cost of related materials and equipment from the next submitted Application for Payment.
5. The ENGINEER shall receive and review, in connection with its review of the CONTRACTOR's applications for payment, the weekly payroll records required to be submitted by the CONTRACTOR pursuant to MGL Chapter 149, Section 27B. Such review shall be for the purpose of determining that the amount of wages paid to laborers employed on the project is no less than the applicable prevailing wage rates established for the project by the Connecticut Department of Labor. The ENGINEER shall maintain, as part of the Project records, one complete copy of all such payroll records, and shall transmit to the OWNER, upon completion of the review provided for herein, the original weekly records as submitted by the CONTRACTOR. The ENGINEER shall promptly notify the OWNER if (1) any payroll records submitted by the CONTRACTOR do not represent payment of at least the applicable prevailing wage rates established for the project or (2) the ENGINEER knows or has reason to believe that the weekly payroll records submitted by the CONTRACTOR do not accurately represent the wages actually paid to laborers employed on the project and that the CONTRACTOR is not paying said laborers at least the amount of said prevailing wage rates."

Delete Paragraph 15.01.D.1 in its entirety and insert the following in its place:

1. The Application for Payment with Engineer’s recommendations will be presented to the Owner and Agencies for consideration. If both the Owner and Agencies find the Application for Payment acceptable, the recommended amount less any reduction

under the provisions of Paragraph 15.01.E will become due twenty days after the Application for Payment is presented to the Owner, and the Owner will make payment to the Contractor.

After Subparagraph 15.01.E.1.l add new subparagraphs:

- m. CONTRACTOR has failed to make payment to Subcontractors or Suppliers or for labor.
- n. Liability for liquidated damages has been incurred by CONTRACTOR.
- o. CONTRACTOR has not delivered, or ENGINEER has not been given sufficient time to review such submittals and other documentation as final shop drawings; warranties; installation, operation and maintenance manuals; test reports, certifications; start-up reports and other documentation required by the Contract Documents.

SC-15.02 CONTRACTOR'S WARRANTY OF TITLE

Amend Paragraph 15.02.A by striking out the following text: "no later than seven days after the time of payment by Owner" and insert "no later than the time of payment by Owner."

Add two new paragraphs immediately after paragraph 15.02.A of the General Conditions which are to read as follows:

- B. No materials or supplies for the Work shall be purchased by CONTRACTOR or Subcontractor subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller. CONTRACTOR warrants that CONTRACTOR has good title to all materials and supplies used by CONTRACTOR in the Work, free from all liens, claims or encumbrances.
- C. CONTRACTOR shall indemnify, defend and save OWNER harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, material men, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in the furtherance of the performance of this Contract. CONTRACTOR shall at OWNER's request, furnish satisfactory evidence that all obligations of the nature hereinabove designated have been paid, discharged, or waived. If CONTRACTOR fails to do so, then OWNER may, after having served written notice on the said CONTRACTOR either pay unpaid bills, of which OWNER has written notice, direct, or withhold from the CONTRACTOR's unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to CONTRACTOR shall be resumed, in accordance with the terms of this Contract, but in no event shall the provisions of this sentence be construed to impose any obligations upon OWNER to either CONTRACTOR or CONTRACTOR's Surety. In paying any unpaid bills of the CONTRACTOR, OWNER shall be deemed the agent of CONTRACTOR and any payment so made by OWNER, shall be considered as payment made under the Contract by OWNER to CONTRACTOR and OWNER shall not be liable to CONTRACTOR for any such payment made in good faith.

SC-15.03 SUBSTANTIAL COMPLETION

Add the following new subparagraph to Paragraph 15.03.B:

1. If some or all of the Work has been determined not to be at a point of Substantial Completion and will require re-inspection or re-testing by Engineer, the cost of such re-inspection or re-testing, including the cost of time, travel and living expenses, shall be paid by Contractor to Owner. If Contractor does not pay, or the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.

Add the following new subparagraph immediately after paragraph 15.03.F, which is to read as follows:

- G. ENGINEER shall be entitled to withhold substantial completion if CONTRACTOR has not brought all systems and subsystems that are part of the Work substantially complete to functioning condition to the satisfaction of the OWNER; provided training to OWNER to the satisfaction of the OWNER on all operating systems that are part of the Work substantially complete; and provided all necessary documentation for operation and maintenance of all operating systems including, but not limited to, final manufacturer's operation and maintenance manuals.

SC 16.02 OWNER MAY TERMINATE FOR CAUSE

Add a new phrase immediately after paragraph 16.02.A.4 of the General Conditions which is to read as follows:

5. If CONTRACTOR abandons the Work, or sublets this Contract or any part thereof, without the previous written consent of OWNER, or if the Contract or any claim thereunder shall be assigned by CONTRACTOR otherwise than as herein specified

SC-18 MISCELLANEOUS

Add new paragraphs immediately after paragraph 18.08.A of the General Conditions which read as follows:

18.09. Addresses

- A. Both the address given in the Bid Form upon which this Agreement is founded, and CONTRACTOR's office at or near the site of the Work are hereby designated as places to either of which notices, letters, and other communications to CONTRACTOR shall be certified, mailed, or delivered. The delivering at the above named place, or depositing in a postpaid wrapper directed to the first named place, in any post office box regularly maintained by the post office department, of any notice, letter or other communication to Contractor shall be deemed sufficient service thereof upon CONTRACTOR; and the date of said service shall be the date of such delivery or mailing. The first named address may be changed at any time by an instrument in writing, executed and acknowledged by CONTRACTOR, and delivered to OWNER and ENGINEER. Nothing herein contained shall be deemed to preclude or render inoperative the service of any notice, letter, or other communication upon CONTRACTOR personally.

18.10 Wage Rates:

- A. The requirements and provisions of all applicable laws and any amendments thereof or additions thereto as to the employment of labor, and to the schedule of minimum wage rates established in compliance with laws shall be a part of these Contract Documents. Copies of the wage schedules are included in SC-32 of these Supplementary Conditions. If, after the Notice of Award, it becomes necessary to employ any person in a trade or occupation not classified in the wage determinations, such person shall be paid at not less than such rates as shall be determined by the officials administering the laws mentioned above. Such approved minimum rate shall be retroactive to the time of the initial employment of such person in such trade or occupation. CONTRACTOR shall notify OWNER of CONTRACTOR's intention to employ persons in trades or occupations not classified in sufficient time for OWNER to obtain approved rates for such trades or occupations.
- B. The schedules of wages referred to above are minimum rates only, and OWNER will not consider any claims for additional compensation made by CONTRACTOR because of payment by CONTRACTOR of any wage rate in excess of the applicable rate contained in these Contract Documents. All disputes in regard to the payment of wages in excess of these specified in the schedules shall be resolved by CONTRACTOR.
- C. The said schedules of wages shall continue to be the minimum rates to be paid during the life of this Agreement and a legible copy of said schedules shall be kept posted in a conspicuous place at the site of the work.
- D. The State schedule of minimum wage rates are included in SC-32 of these Supplementary Conditions. Where rates differ, the higher rates shall apply as a minimum for that trade.

SC-19 FEDERAL REQUIREMENTS

SC-19.02 Add the following sections after Article 19.01 with the title "Contract Approval":

- A. Owner and Contractor will furnish Owner's attorney such evidence as required so that Owner's attorney can complete and execute the following "Certificate of Owner's Attorney" (Attachment GC-A) before Owner submits the executed Contract Documents to Agency for approval.
- B. Concurrence by Agency in the award of the Contract is required before the Contract is effective.

SC-19.03 Add the following language after Article 19.02.B with the title "Conflict of Interest":

- A. Contractor may not knowingly contract with a supplier or manufacturer if the individual or entity who prepared the plans and specifications has a corporate or financial affiliation with the supplier or manufacturer. Owner's officers, employees, or agents shall not engage in the award or administration of this Contract if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when: (i) the employee, officer or agent; (ii) any member of their immediate family; (iii) their partner or (iv) an organization that employs, or is about to employ, any of the above, has a financial interest in Contractor. Owner's officers, employees, or agents shall neither solicit nor accept gratuities, favors or anything of monetary value from Contractor or

subcontractors.

SC-19.04 Add the following language after Article 19.03.A with the title “Gratuities”:

- A. If Owner finds after a notice and hearing that Contractor, or any of Contractor’s agents or representatives, offered or gave gratuities (in the form of entertainment, gifts, or otherwise) to any official, employee, or agent of Owner or Agency in an attempt to secure this Contract or favorable treatment in awarding, amending, or making any determinations related to the performance of this Contract, Owner may, by written notice to Contractor, terminate this Contract. Owner may also pursue other rights and remedies that the law or this Contract provides. However, the existence of the facts on which Owner bases such findings shall be an issue and may be reviewed in proceedings under the dispute resolution provisions of this Contract.
- B. In the event this Contract is terminated as provided in paragraph 19.04.A, Owner may pursue the same remedies against Contractor as it could pursue in the event of a breach of this Contract by Contractor. As a penalty, in addition to any other damages to which it may be entitled by law, Owner may pursue exemplary damages in an amount (as determined by Owner) which shall not be less than three nor more than ten times the costs Contractor incurs in providing any such gratuities to any such officer or employee.

SC-19.05 Add the following language after Article 19.04.B with the title “Audit and Access to Records”:

- A. Owner, Agency, the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any books, documents, papers, and records of the Contractor which are pertinent to the Agreement, for the purpose of making audits, examinations, excerpts, and transcriptions. Engineer shall maintain all required records for three years after final payment is made and all other pending matters are closed.

SC-19.06 Add the following language after Article 19.05.A with the title “Small, Minority and Women’s Businesses”:

- A. If Contractor intends to let any subcontracts for a portion of the work, Contractor shall take affirmative steps to assure that small, minority and women’s businesses are used when possible as sources of supplies, equipment, construction, and services. Affirmative steps shall consist of: (1) including qualified small, minority and women’s businesses on solicitation lists; (2) assuring that small, minority and women’s businesses are solicited whenever they are potential sources; (3) dividing total requirements when economically feasible, into small tasks or quantities to permit maximum participation of small, minority, and women’s businesses; (4) establishing delivery schedules, where the requirements of the work permit, which will encourage participation by small, minority and women’s businesses; (5) using the services and assistance of the Small Business Administration and the Minority Business Development Agency of the U.S. Department of Commerce; (6) requiring each party to a subcontract to take the affirmative steps of this section; and (7) Contractor is encouraged to procure goods and services from labor surplus area firms.

SC-19.07 Add the following after Article 19.06.A with the title “Anti-Kickback”:

- A. Contractor shall comply with the Copeland Anti-Kickback Act (18 USC 874 and 40 USC 276c) as supplemented by Department of Labor regulations (29 CFR Part 3, “Contractors and Subcontractors on Public Buildings or Public Works Financed in Whole or in Part by Loans or Grants of the United States”). The Act provides that Contractor or subcontractor shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public facilities, to give up any part of the compensation to which they are otherwise entitled. Owner shall report all suspected or reported violations to Agency.

SC-19.08 Add the following after Article 19.07.A with the title “Clean Air and Pollution Control Acts”:

- A. If this Contract exceeds \$100,000, compliance with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 U.S.C. 1857(h) and 42 USC 7401et. seq.), section 508 of the Clean Water Act (33 U.S.C. 1368) and Federal Water Pollution Control Act (33 USC 1251 et seq.), Executive Order 11738, and Environmental Protection Agency regulations is required. Contractor will report violations to the Agency and the Regional Office of the EPA.

SC-19.09 Add the following after Article 19.08 with the title “State Energy Policy”:

- A. Contractor shall comply with the Energy Policy and Conservation Act (P.L. 94-163). Mandatory standards and policies relating to energy efficiency, contained in any applicable State Energy Conservation Plan, shall be utilized.

SC 19.10 Add the following after Article 19.09 with the title “Equal Opportunity Requirements”:

- A. If this Contract exceeds \$10,000, Contractor shall comply with Executive Order 11246, “Equal Employment Opportunity,” as amended by Executive Order 11375, “Amending Executive Order 11246 Relating to Equal Employment Opportunity,” and as supplemented by regulations at 41 CFR part 60, “Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor.”
- B. Contractor’s compliance with Executive Order 11246 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative active obligations required by the Standard Federal Equal Employment Opportunity Construction Contract Specifications, as set forth in 41 CFR Part 60-4 and its efforts to meet the goals established for the geographical area where the Contract is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the Contract, and in each trade, and Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting Contractor’s goals shall be a violation of the Contract, the Executive Order, and the regulations in 41 CFR part 60-4. Compliance with the goals will be measured against the total work hours performed.
- C. Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction

subcontract in excess of \$10,000 at any tier for construction work under the Contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number; estimated dollar amount of subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the Contract is to be performed.

SC 19.11 Add the following after Article 19.10.C with the title “Restrictions on Lobbying”:

- A. Contractor and each subcontractor shall comply with Restrictions on Lobbying (Public Law 101-121, Section 319) as supplemented by applicable Agency regulations. This Law applies to the recipients of contracts and subcontracts that exceed \$100,000 at any tier under a Federal loan that exceeds \$150,000 or a Federal grant that exceeds \$100,000. If applicable, Contractor must complete a certification form on lobbying activities related to a specific Federal loan or grant that is a funding source for this Contract. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. 1352. Each tier shall disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Certifications and disclosures are forwarded from tier to tier up to the Owner. Necessary certification and disclosure forms shall be provided by Owner.

SC 19.12 Add the following after Article 19.11.A with the title “Environmental Requirements”:
When constructing a Project involving trenching and/or other related earth excavations, Contractor shall comply with the following environmental conditions:

- A. Wetlands – When disposing of excess, spoil, or other construction materials on public or private property, Contractor shall not fill in or otherwise convert wetlands.
- B. Floodplains – When disposing of excess, spoil, or other construction materials on public or private property, Contractor shall not fill in or otherwise convert 100-year floodplain areas (Standard Flood Hazard Area) delineated on the latest Federal Emergency Management Agency Floodplain Maps, or other appropriate maps, e.g., alluvial soils on NRCS Soil Survey Maps.
- C. Historic Preservation – Any excavation by Contractor that uncovers an historical or archaeological artifact or human remains shall be immediately reported to Owner and a representative of Agency. Construction shall be temporarily halted pending the notification process and further directions issued by Agency after consultation with the State Historic Preservation Officer (SHPO).
- D. Endangered Species – Contractor shall comply with the Endangered Species Act, which provides for the protection of endangered and/or threatened species and critical habitat. Should any evidence of the presence of endangered and/or threatened species or their critical habitat be brought to the attention of Contractor, Contractor will immediately report this evidence to Owner and a representative of Agency. Construction shall be temporarily halted pending the notification process and further directions issued by Agency after consultation with the U.S. Fish and Wildlife Service.

END OF SECTION

SECTION SC-32WAGE RATES

Wage rates apply to this project. The Wage Rates are attached to these specifications or will be supplied as a separate document, issued as an Addendum. It is the responsibility of the Contractor, before bid opening, to request, if necessary, any additional information on Wage Rates for those trades people who are not covered by the applicable Wage Rates, but who may be employed for the proposed work under this contract.

Additional wage classifications and rates can only be added after bid opening. If required classifications are not listed in the wage determination, the Contractor must list the classifications and the rates he proposes to pay. This list will be forwarded to the Connecticut Department of Labor, Wage & Workplace Standards Division 200 Folly Brook Blvd., Wethersfield, CT 06109 for approval. If DOL rejects any or all of the proposed rates as being too low, the Contractor will be required to pay the higher rate at no increase in the total contract cost. In any event, the rates the Contractor proposes to pay to those unlisted classifications should not be lower than the rate paid to a laborer.

Preferred Employees: In the employment of mechanics, laborers or workmen to perform the work specified herein, preference shall be given to residents of the state who are, and continuously for at least six 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.

END OF SECTION

ID#: 22-42170 Connecticut Department of Labor
Wage and Workplace Standards

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: _____ Project Town: Fairfield
State#: _____ FAP#: _____
Project: WPCF Primary Digester Tank Repairs

CLASSIFICATION	Hourly Rate	Benefits
1) Boilermaker	44.46	28.51
1a) Bricklayer, Cement Masons, Cement Finishers, Plasterers, Stone Masons	38.27	34.47
2) Carpenters, Piledrivermen	36.07	26.15
2a) Diver Tenders	36.07	26.15
3) Divers	44.53	26.15
03a) Millwrights	36.32	26.81
4) Painters: (Bridge Construction) Brush, Roller, Blasting (Sand, Water, etc.), Spray	55.0	23.75
4a) Painters: Brush and Roller	37.22	23.40
4b) Painters: Spray Only	39.42	22.90

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4c) Painters: Steel Only	38.42	22.90
4d) Painters: Blast and Spray	40.22	23.40
4e) Painters: Tanks, Tower and Swing	39.22	23.40
4f) Elevated Tanks (60 feet and above)	46.22	23.40
5) Electrician (Trade License required: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)	41.4	31.07+3% of gross wage
6) Ironworkers: Ornamental, Reinforcing, Structural, and Precast Concrete Erection	39.7	38.77 + a
7) Plumbers (Trade License required: (P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2) and Pipefitters (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)	47.03	34.05
----LABORERS----		
8) Group 1: Laborer (Unskilled), Common or General, acetylene burner, concrete specialist	32.0	24.40
9) Group 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators, powdermen	32.25	24.40
10) Group 3: Pipelayers	32.5	24.40
11) Group 4: Jackhammer/Pavement breaker (handheld); mason tenders (cement/concrete), catch basin builders, asphalt rakers, air track operators, block paver, curb setter and forklift operators	32.5	24.40

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12) Group 5: Toxic waste removal (non-mechanical systems)	34.0	24.40
13) Group 6: Blasters	33.75	24.40
Group 7: Asbestos/lead removal, non-mechanical systems (does not include leaded joint pipe)	33.0	24.40
Group 8: Traffic control signalmen	18.0	24.40
Group 9: Hydraulic Drills	32.75	24.40
----LABORERS (TUNNEL CONSTRUCTION, FREE AIR). Shield Drive and Liner Plate Tunnels in Free Air.----		
13a) Miners, Motormen, Mucking Machine Operators, Nozzle Men, Grout Men, Shaft & Tunnel Steel & Rodmen, Shield & Erector, Arm Operator, Cable Tenders	34.23	24.40 + a
13b) Brakemen, Trackmen, Miners' Helpers and all other men	33.26	24.40 + a
----CLEANING, CONCRETE AND CAULKING TUNNEL----		
14) Concrete Workers, Form Movers, and Strippers	33.26	24.40 + a
15) Form Erectors	33.59	24.40 + a
----ROCK SHAFT LINING, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR:----		
16) Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers, Miners Helpers	33.26	24.40 + a
17) Laborers Topside, Cage Tenders, Bellman	33.15	24.40 + a

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18) Miners	34.23	24.40 + a
----TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED AIR: ----		
18a) Blaster	40.72	24.40 + a
19) Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders	40.52	24.40 + a
20) Change House Attendants, Powder Watchmen, Top on Iron Bolts	38.54	24.40 + a
21) Mucking Machine Operator, Grout Boss, Track Boss	41.31	24.40 + a
----TRUCK DRIVERS----(*see note below)		
Two Axle Trucks, Helpers	31.16	28.78 + a
Three Axle Trucks; Two Axle Ready Mix	31.27	28.78 + a
Three Axle Ready Mix	31.33	28.78 + a
Four Axle Trucks	31.39	28.78 + a
Four Axle Ready-Mix	31.44	28.78 + a
Heavy Duty Trailer (40 tons and over)	33.66	28.78 + a
Specialized earth moving equipment other than conventional type on-the road trucks and semi-trailer (including Euclids)	31.44	28.78 + a

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Heavy Duty Trailer (up to 40 tons)	32.39	28.78 + a
Snorkle Truck	31.54	28.78 + a
----POWER EQUIPMENT OPERATORS----		
Group 1: Crane Handling or Erecting Structural Steel or Stone, Hoisting Engineer (2 drums or over). (Trade License Required)	50.27	26.80 + a
Group 1a: Front End Loader (7 cubic yards or over); Work Boat 26 ft. and over.	46.07	26.80 + a
Group 2: Cranes (100 ton rate capacity and over); Bauer Drill/Caisson. (Trade License Required)	49.91	26.80 + a
Group 2a: Cranes (under 100 ton rated capacity).	49.06	26.80 + a
Group 2b: Excavator over 2 cubic yards; Pile Driver (\$3.00 premium when operator controls hammer).	45.71	26.80 + a
Group 3: Excavator; Gradall; 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)	44.86	26.80 + a
Group 4: Trenching Machines; Lighter Derrick; CMI Machine or Similar; Koehring Loader (Skooper).	44.42	26.80 + a
Group 5: Specialty Railroad Equipment; Asphalt Paver; Asphalt Spreader; 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" mandrel)	43.73	26.80 + a

Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller.	43.73	26.80 + a
Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	43.38	26.80 + a
Group 7: Asphalt Roller; Concrete Saws and Cutters (ride on types); Vermeer Concrete Cutter; Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24" and under Mandrel)	42.99	26.80 + a
Group 8: Mechanic, Grease Truck Operator, Hydroblaster, Barrier Mover, Power Stone Spreader; Welder; Work Boat under 26 ft.; Transfer Machine.	42.54	26.80 + a
Group 9: Front End Loader (under 3 cubic yards), Skid Steer Loader regardless of attachments (Bobcat or Similar); Fork Lift, Power Chipper; Landscape Equipment (including hydroseeder), Vacuum Excavation Truck and Hydrovac Excavation Truck (27 HG pressure or greater).	42.04	26.80 + a
Group 10: Vibratory Hammer, Ice Machine, Diesel and Air Hammer, etc.	39.7	26.80 + a
Group 11: Conveyor, Earth Roller; Power Pavement Breaker (whiphammer), Robot Demolition Equipment.	39.7	26.80 + a
Group 12: Wellpoint Operator.	39.63	26.80 + a
Group 13: Compressor Battery Operator.	38.97	26.80 + a
Group 14: Elevator Operator; Tow Motor Operator (Solid Tire No Rough Terrain).	37.66	26.80 + a
Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	37.2	26.80 + a
Group 16: Maintenance Engineer.	36.46	26.80 + a

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Group 17: Portable Asphalt Plant Operator; Portable Crusher Plant Operator; Portable Concrete Plant Operator., Portable Grout Plant Operator, Portable Water Filtration Plant Operator.	41.39	26.80 + a
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Group 18: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (minimum for any job requiring CDL license).	38.61	26.80 + a
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****NOTE: SEE BELOW**

----LINE CONSTRUCTION----(Railroad Construction and Maintenance)----

20) Lineman, Cable Splicer, Technician	48.19	6.5% + 22.00
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21) Heavy Equipment Operator	42.26	6.5% + 19.88
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22) Equipment Operator, Tractor Trailer Driver, Material Men	40.96	6.5% + 19.21
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23) Driver Groundmen	26.5	6.5% + 9.00
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23a) Truck Driver	40.96	6.5% + 17.76
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----LINE CONSTRUCTION----

24) Driver Groundmen	30.92	6.5% + 9.70
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25) Groundmen	22.67	6.5% + 6.20
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26) Heavy Equipment Operators	37.1	6.5% + 10.70
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27) Linemen, Cable Splicers, Dynamite Men 41.22 6.5% + 12.20

28) Material Men, Tractor Trailer Drivers, Equipment Operators 35.04 6.5% + 10.45

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*

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.

~~Connecticut General Statute Section 31-55a: Annual Adjustments to wage rates by contractors doing state work
~~

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. 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.

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~~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.

ID#: 22-42170

Connecticut Department of Labor
Wage and Workplace Standards

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: _____ Project Town: Fairfield
State#: _____ FAP#: _____
Project: WPCF Primary Digester Tank Repairs

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	44.57	31.79
2) Boilermaker	44.46	28.51
3a) Bricklayer, Cement Mason, Concrete Finisher (including caulking), Stone Masons	37.75	34.62 + a
3b) Tile Setter	37.1	30.52
3c) Tile and Stone Finishers	30.0	25.30
3d) Marble & Terrazzo Finishers	31.07	24.23
3e) Plasterer	41.9	28.75

-----LABORERS-----

4) Group 1: Laborers (common or general), acetylene burners, concrete specialists, wrecking laborers, fire watchers.	32.0	24.40
4a) Group 2: Mortar mixers, plaster tender, power buggy operators, powdermen, fireproofers/mixer/nozzleman (Person running mixer and spraying fireproof only).	32.25	24.40
4b) Group 3: Jackhammer operators/pavement breaker, mason tender (brick), mason tender (cement/concrete), forklift operators and forklift operators (masonry).	32.5	24.40
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.	33.0	24.40
4d) Group 5: Air track operator, sand blaster and hydraulic drills.	32.75	24.40
4e) Group 6: Blasters, nuclear and toxic waste removal.	35.0	24.40
4f) Group 7: Asbestos/lead removal and encapsulation (except it's removal from mechanical systems which are not to be scrapped).	33.0	24.40
4g) Group 8: Bottom men on open air caisson, cylindrical work and boring crew.	30.28	24.40
4h) Group 9: Top men on open air caisson, cylindrical work and boring crew.	29.74	24.40
4i) Group 10: Traffic Control Signalman	18.0	24.40
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.	36.07	26.15

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5a) Millwrights	36.32	26.81
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)	41.4	31.07+3% of gross wage
7a) Elevator Mechanic (Trade License required: R-1,2,5,6)	58.9	36.885+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)	40.78	23.40 + a
9) Ironworker, Ornamental, Reinforcing, Structural, and Precast Concrete Erection	39.7	38.77 + a
-----OPERATORS-----		
Group 1: Crane Handling or Erecting Structural Steel or Stone; Hoisting Engineer (2 drums or over). (Trade License Required)	50.27	26.80 + a
Group 1a: Front End Loader (7 cubic yards or over); Work Boat 26 ft. and Over	46.07	26.80 + a
Group 2: Cranes (100 ton rate capacity and over); Bauer Drill/Caisson. (Trade License Required)	49.91	26.80 + a
Group 2a: Cranes (under 100 ton rated capacity).	49.06	26.80 + a

As of: November 22, 2022

Group 2b: Excavator over 2 cubic yards; Pile Driver (\$3.00 premium when operator controls hammer)	45.71	26.80 + a
Group 3: Excavator; Gradall; 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 Finegrade. (slopes, shaping, laser or GPS, etc.). (Trade License Required)	44.86	26.80 + a
Group 4: Trenching Machines; Lighter Derrick; CMI Machine or Similar; Koehring Loader (Skooper); Goldhofer.	44.42	26.80 + a
Group 5: Specialty Railroad Equipment; Asphalt Spreader, 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 mandrel).	43.73	26.80 + a
Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller.	43.73	26.80 + a
Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	43.38	26.80 + a
Group 7: Asphalt Roller; Concrete Saws and Cutters (ride on types); Vermeer Concrete Cutter; Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24" and under mandrel).	42.99	26.80 + a
Group 8: Mechanic; Grease Truck Operator; Hydroblaster; Barrier Mover; Power Stone Spreader; Welding; Work Boat Under 26 ft.; Transfer Machine; Rigger Foreman.	42.54	26.80 + 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); Vacuum Excavation Truck and Hydrovac Excavation Truck (27 HG pressure or greater).	42.04	26.80 + a
Group 10: Vibratory hammer; ice machine; diesel and air, hammer, etc.	39.7	26.80 + a

Group 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment.	39.7	26.80 + a
Group 12: Wellpoint Operator.	39.63	26.80 + a
Group 13: Compressor Battery Operator.	38.97	26.80 + a
Group 14: Elevator Operator; Tow Motor Operator (solid tire no rough terrain).	37.66	26.80 + a
Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	37.2	26.80 + a
Group 16: Maintenance Engineer.	36.46	26.80 + a
Group 17: Portable Asphalt Plant Operator; Portable Crusher Plant Operator; Portable Concrete Plant Operator; Portable Grout Plant Operator; Portable Water Filtration Plant Operator.	41.39	26.80 + a
Group 18: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (Minimum for any job requiring a CDL license); Rigger; Signalman.	38.61	26.80 + a
-----PAINTERS (Including Drywall Finishing)-----		
10a) Brush and Roller	37.22	23.40
10b) Taping Only/Drywall Finishing	37.97	23.40
10c) Paperhanger and Red Label	37.72	23.40
10e) Blast and Spray	40.22	23.40
11) Plumber (excluding HVAC pipe installation) (Trade License required: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2)	47.03	34.05

As of: November 22, 2022

12) Well Digger, Pile Testing Machine	37.26	24.05 + a
Roofer: Cole Tar Pitch	43.0	21.80 + a
Roofer: Slate, Tile, Composition, Shingles, Singly Ply and Damp/Waterproofing	41.5	21.80 + a
15) Sheetmetal Worker (Trade License required for HVAC and Ductwork: SM-1,SM-2,SM-3,SM-4,SM-5,SM-6)	48.77	45.20
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)	47.03	34.05
-----TRUCK DRIVERS-----		
17a) 2 Axle, Helpers	31.16	28.78 + a
17b) 3 Axle, 2 Axle Ready Mix	31.27	28.78 + a
17c) 3 Axle Ready Mix	31.33	28.78 + a
17d) 4 Axle	31.39	28.78 + a
17e) 4 Axle Ready Mix	31.44	28.78 + a
17f) Heavy Duty Trailer (40 Tons and Over)	33.66	28.78 + a
17g) Specialized Earth Moving Equipment (Other Than Conventional Type on-the-Road Trucks and Semi-Trailers, Including Euclids)	31.44	28.78 + a

17h) Heavy Duty Trailer up to 40 tons	32.39	28.78 + a
17i) Snorkle Truck	31.54	28.78 + a
18) Sprinkler Fitter (Trade License required: F-1,2,3,4)	47.55	28.96 + 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*

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. 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.

~~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: November 22, 2022

As of: November 22, 2022



Opportunity ★ Guidance ★ Support



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.

Sec. 31-53b. Construction safety and health course. New miner training program. Proof of completion required for mechanics, laborers and workers on public works projects. Enforcement. Regulations. Exceptions. (a) Each contract for a public works project entered into on or after July 1, 2009, by the state or any of its agents, or by any political subdivision of the state or any of its agents, described in subsection (g) of section 31-53, shall contain a provision requiring that each contractor furnish proof with the weekly certified payroll form for the first week each employee begins work on such project that any person performing the work of a mechanic, laborer or worker pursuant to the classifications of labor under section 31-53 on such public works project, pursuant to such contract, has completed a course of at least ten hours in duration in construction safety and health approved by the federal Occupational Safety and Health Administration or, has completed a new miner training program approved by the Federal Mine Safety and Health Administration in accordance with 30 CFR 48 or, in the case of telecommunications employees, has completed at least ten hours of training in accordance with 29 CFR 1910.268.

(b) Any person required to complete a course or program under subsection (a) of this section who has not completed the course or program shall be subject to removal from the worksite if the person does not provide documentation of having completed such course or program by the fifteenth day after the date the person is found to be in noncompliance. The Labor Commissioner or said commissioner's designee shall enforce this section.

(c) Not later than January 1, 2009, the Labor Commissioner shall adopt regulations, in accordance with the provisions of chapter 54, to implement the provisions of subsections (a) and (b) of this section. Such regulations shall require that the ten-hour construction safety and health courses required under subsection (a) of this section be conducted in accordance with federal Occupational Safety and Health Administration Training Institute standards, or in accordance with Federal Mine Safety and Health Administration Standards or in accordance with 29 CFR 1910.268, as appropriate. The Labor Commissioner shall accept as sufficient proof of compliance with the provisions of subsection (a) or (b) of this section a student course completion card issued by the federal Occupational Safety and Health Administration Training Institute, or such other proof of compliance said commissioner deems appropriate, dated no earlier than five years before the commencement date of such public works project.

(d) This section shall not apply to employees of public service companies, as defined in section 16-1, or drivers of commercial motor vehicles driving the vehicle on the public works project and delivering or picking up cargo from public works projects provided they perform no labor relating to the project other than the loading and unloading of their cargo.

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

History: P.A. 08-83 amended Subsec. (a) by making provisions applicable to public works project contracts entered into on or after July 1, 2009, replacing provision re total cost of work with reference to Sec. 31-53(g), requiring proof in certified payroll form that new mechanic, laborer or worker has completed a 10-hour or more construction safety course and adding provision re new miner training program, amended Subsec. (b) by substituting "person" for "employee" and adding "or program", amended Subsec. (c) by adding "or in accordance with Federal Mine Safety and Health Administration Standards" and setting new deadline of January 1, 2009, deleted former Subsec. (d) re "public building", added new Subsec. (d) re exemptions for public service company employees and delivery drivers who perform no labor other than delivery and made conforming and technical changes, effective January 1, 2009.

Informational Bulletin

THE 10-HOUR OSHA CONSTRUCTION SAFETY AND HEALTH COURSE

(applicable to public building contracts entered into *on or after July 1, 2007*, where the total cost of all work to be performed is at least \$100,000)

- (1) This requirement was created by Public Act No. 06-175, which is codified in Section 31-53b of the Connecticut General Statutes (pertaining to the prevailing wage statutes);
- (2) The course is required for public building construction contracts (projects funded in whole or in part by the state or any political subdivision of the state) entered into on or after July 1, 2007;
- (3) It is required of private employees (not state or municipal employees) and apprentices who perform manual labor for a general contractor or subcontractor on a public building project where the total cost of all work to be performed is at least \$100,000;
- (4) The ten-hour construction course pertains to the ten-hour Outreach Course conducted in accordance with federal OSHA Training Institute standards, and, for telecommunications workers, a ten-hour training course conducted in accordance with federal OSHA standard, 29 CFR 1910.268;
- (5) The internet website for the federal OSHA Training Institute is http://www.osha.gov/fso/ote/training/edcenters/fact_sheet.html;
- (6) The statutory language leaves it to the contractor and its employees to determine who pays for the cost of the ten-hour Outreach Course;
- (7) Within 30 days of receiving a contract award, a general contractor must furnish proof to the Labor Commissioner that all employees and apprentices performing manual labor on the project will have completed such a course;
- (8) Proof of completion may be demonstrated through either: (a) the presentation of a *bona fide* student course completion card issued by the federal OSHA Training Institute; *or* (2) the presentation of documentation provided to an employee by a trainer certified by the Institute pending the actual issuance of the completion card;
- (9) Any card with an issuance date more than 5 years prior to the commencement date of the construction project shall not constitute proof of compliance;

- (10) Each employer shall affix a copy of the construction safety course completion card to the certified payroll submitted to the contracting agency in accordance with Conn. Gen. Stat. § 31-53(f) on which such employee's name first appears;
- (11) Any employee found to be in non-compliance shall be subject to removal from the worksite 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;
- (12) Any such employee who is determined to be in noncompliance may continue to work on a public building construction project for a maximum of fourteen consecutive calendar days while bringing his or her status into compliance;
- (13) The Labor Commissioner may make complaint to the prosecuting authorities regarding any employer or agent of the employer, or officer or agent of the corporation who files a false certified payroll with respect to the status of an employee who is performing manual labor on a public building construction project;
- (14) The statute provides the minimum standards required for the completion of a safety course by manual laborers on public construction contracts; any contractor can exceed these minimum requirements; and
- (15) Regulations clarifying the statute are currently in the regulatory process, and shall be posted on the CTDOL website as soon as they are adopted in final form.
- (16) Any questions regarding this statute may be directed to the Wage and Workplace Standards Division of the Connecticut Labor Department via the internet website of <http://www.ctdol.state.ct.us/wgwkstnd/wgemenu.htm>; or by telephone at (860)263-6790.

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

November 29, 2006

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

The Connecticut Labor Department Wage and Workplace Standards Division is empowered to enforce the prevailing wage rates on projects covered by the above referenced statute.

Over the past few years the Division has withheld enforcement of the rate in effect for workers who operate a forklift on a prevailing wage rate project due to a potential jurisdictional dispute.

The rate listed in the schedules and in our Occupational Bulletin (see enclosed) has been as follows:

Forklift Operator:

- **Laborers (Group 4) Mason Tenders** - operates forklift solely to assist a mason to a maximum height of nine feet only.
- **Power Equipment Operator (Group 9)** - operates forklift to assist any trade and to assist a mason to a height over nine feet.

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

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

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

STATUTE 31-55a

- SPECIAL NOTICE -

To: All State and Political Subdivisions, Their Agents, and Contractors

Connecticut General Statute 31-55a - Annual adjustments to wage rates by contractors doing state work.

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

- The prevailing wage rates applicable to any contract or subcontract awarded on or after October 1, 2002 are subject to annual adjustments each July 1st for the duration of any project which was originally advertised for bids on or after October 1, 2002.
- Each contractor affected by the above requirement shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.
- It is the **contractor's** responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's Web Site. The annual adjustments will be posted on the Department of Labor Web page: www.ctdol.state.ct.us. For those without internet access, please contact the division listed below.
- The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project. All subsequent annual adjustments will be posted on our Web Site for contractor access.


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

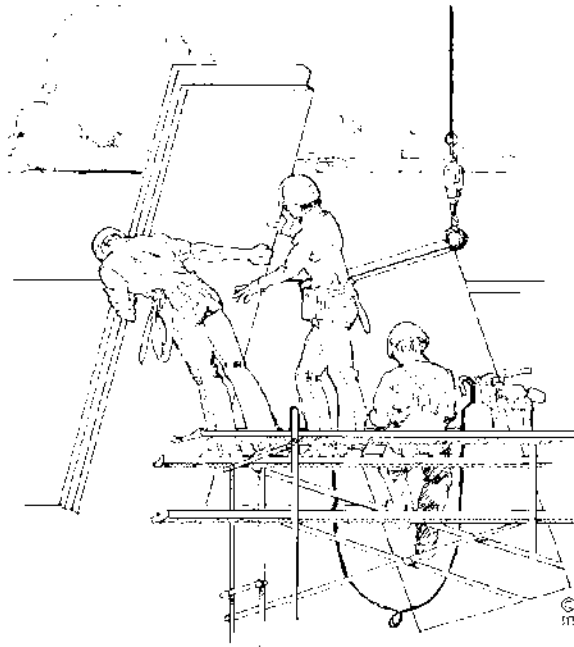
~NOTICE~

TO ALL CONTRACTING AGENCIES

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

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

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



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

CONTRACTING AGENCY CERTIFICATION FORM

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

for _____, located at _____,
contracting agency address

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

_____, located at _____,
project name and number address

shall be \$_____, which includes all work, regardless of whether such project
consists of one or more contracts.

CONTRACTOR INFORMATION

Name: _____

Address: _____

Authorized Representative: _____

Approximate Starting Date: _____

Approximate Completion Date: _____

Signature

Date

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

Date Issued: _____

CONNECTICUT DEPARTMENT OF LABOR
WAGE AND WORKPLACE STANDARDS DIVISION

CONTRACTORS WAGE CERTIFICATION FORM
Construction Manager at Risk/General Contractor/Prime Contractor

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

do hereby certify that the _____
Company Name

Street

City

and all of its subcontractors will pay all workers on the

Project Name and Number

Street and City

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

Signed

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

Notary Public

Return to:

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

Rate Schedule Issued (Date): _____

[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																			
CONTRACTOR NAME AND ADDRESS:												SUBCONTRACTOR NAME & ADDRESS						WORKER'S COMPENSATION INSURANCE CARRIER POLICY # EFFECTIVE DATE: EXPIRATION DATE:																							
PAYROLL NUMBER		Week-Ending Date		PROJECT NAME & ADDRESS																																					
PERSON/WORKER, ADDRESS and SECTION		APPR RATE %	MALE/ FEMALE AND RACE*	WORK CLASSIFICATION		DAY AND DATE						Total ST Hours	BASE HOURLY RATE	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			LIST OTHER																			
				Trade License Type & Number - OSHA 10 Certification Number		HOURS WORKED EACH DAY						TOTAL FRINGE BENEFIT PLAN CASH																													
												\$ Base Rate	1. \$ 2. \$ 3. \$																												
												\$ Cash Fringe	4. \$ 5. \$ 6. \$																												
												\$ Base Rate	1. \$ 2. \$ 3. \$																												
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												\$ Base Rate	1. \$ 2. \$ 3. \$																												
												\$ Cash Fringe	4. \$ 5. \$ 6. \$																												
12/9/2013 WWS-CP1												*IF REQUIRED												*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)

Weekly Payroll Certification For
Public Works Projects (Continued)

PAYROLL CERTIFICATION FOR PUBLIC WORKS PROJECTS

WEEKLY PAYROLL

Week-Ending Date:

Contractor or Subcontractor Business Name:

PERSON/WORKER, ADDRESS and SECTION	APPR RATE %	MALE/ FEMALE AND RACE*	WORK CLASSIFICATION	DAY AND DATE							Total ST Hours	BASE HOURLY RATE	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	FICA				FEDERAL	STATE	LIST OTHER			
			Trade License Type & Number - OSHA								TOTAL FRINGE BENEFIT PLAN									
			10 Certification Number	HOURS WORKED EACH DAY							Total O/T Hours	CASH								
												\$ 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. \$							
												\$ Base Rate	1. \$ 2. \$ 3. \$							
												\$ Cash Fringe	4. \$ 5. \$ 6. \$							

12/9/2013
WWS-CP2

*IF REQUIRED

NOTICE: THIS PAGE MUST BE ACCOMPANIED BY A COVER PAGE (FORM # WWS-CP1)

PAGE NUMBER ____ OF

[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: Landon Corporation, 15 Connecticut Avenue, Northford, CT 06472										SUBCONTRACTOR NAME & ADDRESS XYZ Corporation 2 Main Street Yantic, CT 06389					WORKER'S COMPENSATION INSURANCE CARRIER Travelers Insurance Company POLICY # #BAC8888928 EFFECTIVE DATE: 1/1/09 EXPIRATION DATE: 12/31/09									
PAYROLL NUMBER 1	Week-Ending Date 9/26/09	PROJECT NAME & ADDRESS DOT 105-296, Route 82																						
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 Total O/T Hours	BASE HOURLY RATE TOTAL FRINGE BENEFIT PLAN CASH	TYPE OF FRINGE BENEFITS Per Hour 1 through 6 (see back)	GROSS PAY FOR ALL WORK PERFORMED THIS WEEK	TOTAL DEDUCTIONS				GROSS PAY FOR THIS PREVAILING RATE JOB	CHECK # AND NET PAY				
				S	M	T	W	TH	F	S					FICA	FEDERAL	STATE	LIST OTHER						
				20	21	22	23	24	25	26														
Robert Craft 81 Maple Street Willimantic, CT 06226		M/C	Electrical Lineman E-1 1234567 Owner OSHA 123456		8	8	8	8	8			S-TIME 40 \$ 30.75 Base Rate O-TIME \$ 8.82 Cash Fringe	1. \$ 5.80 2. \$ 3. \$ 2.01 4. \$ 5. \$ 6. \$	\$1,582.80				P-xxxx	\$1,582.80	#123 \$ xxx.xx				
Ronald Jones 212 Elm Street Norwich, CT 06360	65%	M/B	Electrical Apprentice OSHA 234567		8	8	8	8	8			S-TIME 40 \$ 19.99 Base Rate O-TIME \$ 16.63 Cash Fringe	1. \$ 2. \$ 3. \$ 4. \$ 5. \$ 6. \$	\$1,464.80	xx.xx	xxx.xx	xx.xx	G-xxx	\$1,464.80	#124 \$xxx.xx				
Franklin T. Smith 234 Washington Rd. New London, CT 06320 SECTION B		M/H	Project Manager			8						S-TIME 8 \$ Base Rate O-TIME \$ Cash Fringe	1. \$ 2. \$ 3. \$ 4. \$ 5. \$ 6. \$	\$1,500.00	xx.xx	xx.xx	xx.xx	M-xx.x		#125 xxx.xx				
												S-TIME \$ Base Rate O-TIME \$ Cash Fringe	1. \$ 2. \$ 3. \$ 4. \$ 5. \$ 6. \$											

7/13/2009
WWS-CP1

*IF REQUIRED

*SEE REVERSE SIDE

PAGE NUMBER 1 OF 2

OSHA 10 ~ATTACH CARD TO 1ST CERTIFIED PAYROLL

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

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

Please specify the type of benefits provided:

- 1) Medical or hospital care Blue Cross 4) Disability _____
2) Pension or retirement _____ 5) Vacation, holiday _____
3) Life Insurance Utopia 6) Other (please specify) _____

CERTIFIED STATEMENT OF COMPLIANCE

For the week ending date of 9/26/09,

I, Robert Craft of XYZ Corporation, (hereafter known as
Employer) in my capacity as Owner (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 employee 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 employee 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 employee of the Employer 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 employee's name first appears.

Robert Craft owner 10/2/09
(Signature) (Title) Submitted on (Date)

Section B: Applies to CONNDOT Projects ONLY

That pursuant to CONNDOT contract requirements for reporting purposes only, all employees listed under Section B who performed work on this project are not covered under the prevailing wage requirements defined in Connecticut General Statutes Section 31-53.

Robert Craft owner 10/2/09
(Signature) (Title) Submitted on (Date)

Note: CTDOL will assume all hours worked were performed under Section A unless clearly delineated as Section B WWS-CP1 as such. Should an employee perform work under both Section A and Section B, the hours worked and wages paid must be segregated for reporting purposes.

THIS IS A PUBLIC DOCUMENT
DO NOT INCLUDE SOCIAL SECURITY NUMBERS

**Connecticut Department of Labor
Wage and Workplace Standards Division
FOOTNOTES**

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

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

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

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

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

Elevator Constructors: Mechanics

- a. Paid Holidays: New Year’s Day, Memorial Day, Independence Day, Labor Day, Veterans’ Day, Thanksgiving Day, Christmas Day, plus the Friday after Thanksgiving.
- b. Vacation: Employer contributes 8% of basic hourly rate for 5 years or more of service or 6% of basic hourly rate for 6 months to 5 years of service as vacation pay credit.

Glaziers

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

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

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

Ironworkers

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

Laborers (Tunnel Construction)

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

Roofers

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

Sprinkler Fitters

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

Truck Drivers

(Heavy and Highway Construction & Building Construction)

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

SECTION 01010ASUMMARY OF WORKPART 1 - GENERAL1.1 DESCRIPTION

- A. Work Included: Making repairs to the Primary Anaerobic Digester fixed cover and concrete walls at the Fairfield, CT WPCF. The major proposed work under this Contract includes:
1. Lifting or removing the Primary Anaerobic Digester Fixed Cover (90,000 lbs +/-) to make repairs to the concrete walls, anchors, brackets and tank seal;
 2. Resetting the Primary Anaerobic Digester Fixed Cover;
 3. Replacement of the Primary Anaerobic Digester level transducer, relief valve and flame arrestor;
 4. Repairs to the interior tank walls and mixer piping where indicated on the drawings;
 5. Maintain plant flow and treatment processes
 6. Other appurtenances as shown on the Drawings and specified herein
- B. Removals, Relocations and Rearrangements
1. Examine the existing site for the work of all trades which will influence the cost of the work under the bid. This work shall include removals, relocations and rearrangements which may interfere with, disturb or complicate the performance of the work under the bid involving systems, equipment and related service lines, which shall continue to be utilized as part of the finished project. The Contractor is responsible for all coordination in this regard.
 2. Provide in the bid a sufficient amount to include all removals, relocations, rearrangements and reconnections herein specified, necessary or required to provide approved operation and coordination of the combined new and existing systems and equipment.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION3.1 MAINTAIN EXISTING WORKS

- A. Existing Operations:
1. The existing WPCF provides influent pumping, mechanical fine screening, grit removal, secondary treatment (via conventional/extended aeration activated sludge with clarification) and UV disinfection of wastewater. Sludge is normally aerobically digested, conditioned with polymer, dewatered and composted on-site. Currently, the Primary Anaerobic Digester Tank is off-line and empty.

- B. Maintain Treatment:
 - 1. State and federal regulations require that at all times during construction work under this contract, the treatment facility remain operational throughout construction, until such time as the new facilities are accepted and on-line.
 - 2. The Contractor shall provide, maintain and operate all temporary facilities such as dams, pumping equipment, conduits, and all other labor and equipment necessary to clean and make repairs the primary digester tank.
 - 3. The Contractor's operations shall not hinder the delivery, storage and use of materials and supplies, nor hinder staff duties, nor disrupt utility service.
 - 4. The Owner must have access to the existing plant and equipment at all times unless a specific exception is granted by the Owner.
- C. Minimize Interference
 - 1. The Contractor shall at all times conduct their operations so as to interfere as little as possible with existing works.
 - 2. Work of connecting with, cutting into, and reconstructing existing pipes or structures shall be planned to interfere with the operation of the existing facilities for the shortest possible time and when the demands on the facilities best permit such interference. It may be necessary to work outside of normal working hours to minimize interference. Before starting work which will interfere with the operation of existing facilities, the Contractor shall do all possible preparatory work and shall see that all tools, materials, and equipment are made ready and at hand.
 - 3. The Contractor shall not use the Owner's bathrooms or kitchen facilities.
 - 4. The Contractor shall limit their personnel to the proposed work areas and limits of work.
 - 5. The Contractor shall limit parking of workers and subcontractors to the areas identified on the drawings. On-site speed limit is 10 MPH.

3.2 CONSTRUCTION SEQUENCE

- A. Construction of the proposed improvements will disrupt the existing treatment facility structures and operations. To maintain treatment and to minimize disruption, the construction must be divided into phases or sequenced appropriately. The construction sequence phases and dates must allow the facility to maintain treatment as specified in paragraph 3.1,B. The Contractor may deviate from this construction sequencing as outlined in paragraph 3.2,C. Suggested sequencing is as follows:
 - 1. Disconnect gas piping and raise or remove Primary Anerobic Digester fixed cover
 - 2. Inspect tank cover, interior piping and walls with Owner and Engineer.
 - 3. Conduct repairs to the tank and fixed cover
 - 4. Conduct repairs interior piping and concrete
 - 5. Reset tanks fixed cover and replace the level transducer, relief valve and flame arrestor
 - 6. Integrate new level instrument
 - 7. Reconnect, insulate and test all gas piping and the cover before placing the tank back into service
- B. The Contractor shall submit to the Engineer for review and acceptance a complete

schedule of their proposed sequence of construction operations prior to commencing any work. This schedule shall include the Contractor's plans for doing the work. The sequencing plan and schedule shall clearly identify critical timeframes for taking facilities offline and for placing facilities into service, including sufficient time required for new equipment and/or processes to be tested and proven reliable before proceeding to the next item. This reliability testing is above and beyond any specified demonstration and site acceptance testing.

- C. The Contractor shall submit to the Engineer a written request to deviate from the above sequence with adequate supporting information to demonstrate to the Engineer that the continuity and degree of treatment will not be adversely affected.
- D. The Contractor shall include the cost of all temporary facilities required to maintain treatment during the construction period in their lump-sum bid price. The cost shall include the cost for all labor, tools, equipment and materials necessary.
- E. It shall be recognized that certain interruptions of, and disruptions to, the treatment processes and present plant operations will be required to complete the work of this Contract. Scheduled interruptions requiring interruption or bypassing of treatment process shall be kept to a minimum frequency and duration. Such interruptions shall be coordinated by the Contractor and the Owner using the Contractor's proposed work schedule, but shall not affect the facilities ability to maintain treatment as described above.
- F. The Contractor shall notify the Owner a minimum of seven (7) days in advance of any work which may affect or disrupt the operation of the existing facilities and two (2) calendar weeks in advance of removing tanks from service. Once the interruption occurs the Contractor must maintain a workforce on-site to complete the work in the agreed upon time.
- G. Any work by the Contractor which requires the mechanical or electrical isolation of an existing piece of equipment, process or system shall be coordinated with the Engineer. Any and all isolation of electrical or mechanical equipment or process shall be accomplished in strict accordance with applicable codes and standards and the stricter of the Contractor's or Owner's lock-out/tag-out procedures.
- H. The Contractor shall have all materials and equipment on-site, and shall receive the Owner's approval, prior to initiating work which requires any part of the existing wastewater treatment plant to be off-line.
- I. Limited down-time of certain existing process units is specified in this specification. Should the Contractor fail to complete the Work within the down-time specified and should the Owner incur any actual costs directly or indirectly as a result thereof that would otherwise not have incurred had the Contractor successfully completed the Work within the specified down-time, the Contractor agrees to pay the Owner such actual incurred costs. Such costs may include, but not be limited to, Owner's actual costs of any additional maintenance and operations labor, material, equipment, and chemical costs, or any other related actual costs incurred in order for the Owner to keep the existing plant in normal operating condition.
- J. The Contractor shall allow in the Bid reasonable time to accommodate operations at the existing wastewater treatment plant, including the need for the Owner to respond to emergencies. The Contractor shall not be eligible for additional compensation due to interruptions of the Contractor's schedule, in order for the Owner to respond to

routine conditions.

END OF SECTION

SECTION 01050COORDINATIONPART 1 - GENERAL1.1 DESCRIPTION

- A. Contractor is required to work in close proximity to Owner's existing facilities. The Contractor, under this Contract, will be responsible for coordinating construction activities with Owner to ensure that services, facilities, and safe working conditions are maintained.
- B. Any damage to existing structures, equipment and property, accepted equipment or structures, and property or work in progress by others; as a result of the Contractor's or his subcontractor's operations shall be made good by the Contractor at no additional cost to the Owner.

1.2 COORDINATION WITH OTHERS

- A. Town of Fairfield
 - 1. Contractor shall coordinate access, egress, detours and traffic control, if required, at the project site with WPCF staff.
 - 2. Contractor shall coordinate all work on City property or Rights-of-Way with the treatment plant personnel.
 - 3. The Contractor shall be responsible for coordinating and maintaining public services to all public and private properties.
- B. The Contractor shall provide the Owner and Engineer a construction schedule indicating the times to perform the work required. The Contractor shall update the schedule when required and give the facility one week notice before the start of any work. The Contractor shall daily communicate with the Owner and Engineer concerning updating the schedule, job progress, delay or early starts, etc.

1.3 CONTRACTOR'S USE OF PREMISES

- A. Contractor work hours will be limited to 6:30AM to 6:00PM, Monday through Saturday. Any work outside these hours will require permission of the Owner and adequate notice.
- B. Contractor shall assume full responsibility for security of all of their, and their subcontractors, materials and equipment stored on the site.
- C. If directed by the Owner, Contractor shall move any stored items which interfere with operations of Owner.
- D. Obtain and pay for use of additional storage or work areas if needed to perform the Work.

END OF SECTION

SECTION 01150AMEASUREMENT AND PAYMENTPART 1 - GENERAL1.1 DESCRIPTION

- A. For lump sum items, payment shall be made to the Contractor in accordance with an accepted Progress Schedule and Schedule of Values on the basis of actual work completed.
- B. For unit-price items, payment shall be based on the actual amount of work accepted and for the actual amount of materials in place, as shown by the final measurements.
 - 1. All units of measurement shall be standard United States convention as applied to the specific items of work by tradition and as interpreted by the Engineer.
 - 2. At the end of each day's work, the Contractor's Superintendent or other authorized representative of the Contractor shall meet with the Resident Project Representative and determine the quantities of unit price work accomplished and/or completed during the work day.
 - 3. The Resident Project Representative will then prepare two "Daily Progress Reports" which shall be signed by both the Resident Project Representative and Contractor's Representative.
 - 4. Once each month the Resident Project Representative will prepare two "Monthly Progress Summation" forms from the month's accumulation of "Daily Progress Reports" which shall also be signed by both the Resident Project Representative and Contractor's Representative.
 - 5. These completed forms will provide the basis of the Engineer's monthly quantity estimate upon which payment will be made. Items not appearing on both the Daily Progress Reports and Monthly Progress Summation will not be included for payment. Items appearing on forms not properly signed by the Contractor will not be included for payment.
 - 6. After the work is completed and before final payment is made there for, the Engineer will make final measurements to determine the quantities of various items of work accepted as the basis for final settlement.

1.2 SCOPE OF PAYMENT

- A. Payments to the Contractor will be made for the actual quantities of the Contract items performed and accepted in accordance with the Contract Documents. Upon completion of the construction, if these actual quantities show either an increase or decrease from the quantities given in the Bid Form, the Contract unit prices will still prevail.
- B. The Contractor shall accept compensation, as herein provided, in full payment for furnishing all materials, labor, tools, equipment, and incidentals necessary to the completed work and for performing all work contemplated and embraced by the Contract; also for all loss or damage arising from the nature of the Work, or from the action of the elements, or from any unforeseen difficulties which may be encountered during the prosecution of the Work and until its final acceptance by the Engineer, and

for all risks of every description connected with the prosecution of the work, except as provided herein, also for all expenses incurred in consequence of the suspension of the work as herein authorized.

- C. The payment of any partial estimate or of any retained percentage except by and under the approved final invoice, in no way shall affect the obligation of the Contractor to repair or renew any defective parts of the construction or to be responsible for all damage due to such defects.

1.3 PAYMENT FOR INCREASED OR DECREASED QUANTITIES

- A. When alterations in the quantities of work not requiring supplemental agreements, as hereinbefore provided for, are ordered and performed, the Contractor shall accept payment in full at the Contract price for the actual quantities of work done. No allowance will be made for anticipated profits. Increased or decreased work involving supplemental agreements will be paid for as stipulated in such agreements.

1.4 OMITTED ITEMS

- A. Should any items contained in the bid form be found unnecessary for the proper completion of the work contracted, the Engineer may eliminate such items from the Contract, and such action shall in no way invalidate the Contract, and no allowance will be made for items so eliminated in making final payment to the Contractor.

1.5 PARTIAL PAYMENTS

- A. Partial payments shall be made monthly as the work progresses. Partial payment shall be made subject to the provisions of the Supplemental and General Conditions. Contractor's Partial Payment Requests shall be submitted in two parts; one part for EPA/DEP grant eligible quantities and one part for non-eligible quantities. The breakdown of quantities will be determined by the Engineer.
- B. Technical Specifications may include Special Payment Provisions which provide additional restrictions on partial payments.

1.6 PAYMENT FOR MATERIAL DELIVERED

- A. When requested by the Contractor and at the discretion of the Owner, payment may be made for all or part of the value of acceptable, non-perishable materials and equipment which are to be incorporated into bid items, have not been used, and have been delivered to the construction site or placed in storage places acceptable to the Owner. Payment shall be subject to the provisions of the General and Supplementary Conditions.
- B. No payment shall be made upon fuels, supplies, lumber, false work, or other materials, or on temporary structures or other work of any kind which are not a permanent part of the Contract.

1.7 FINAL PAYMENT

- A. The Engineer will make, as soon as practicable after the entire completion of the project, a final quantity invoice of the amount of the Work performed and the value of such Work. Owner shall make final payments of the sum found due less retainages subject to the provisions of the General and Supplementary Conditions.

1.8 INCIDENTAL WORK

- A. Incidental work items for which separate payment is not made include (but are not limited to) the following items:
1. Clearing, grubbing and stripping
 2. Dust control
 3. Temporary Construction Dewatering
 4. Clean-up
 5. Erosion control
 6. Loam, seeding, grading, liming, fertilization, mulching and watering
 7. Restoration of property, and replacement of fences, curbs, structures, sign posts, guard rails, rock wall, mail boxes, traffic loop detectors and other minor items disturbed by the construction activities
 8. Coordination with the Owner, Utilities and others, including related inspection cost (refer to Section 01050)
 9. Utility crossings and relocations, unless payment is otherwise made
 10. Traffic control plan and regulation
 11. Project Signs
 12. Project record documents
 13. Materials testing
 14. Construction schedules, bonds, insurance, shop drawings, warranties, guarantees, certifications, and other submittals required by the Contract Documents
 15. Repair and replacement of water lines under two inches in size, culverts, underdrains, rock lined drainage trenches in streets and other utilities damaged by construction activities and corresponding proper disposal of removed materials unless otherwise paid for
 16. Maintenance of all existing sewers flows and repair of existing sewer pipes
 17. Temporary utilities for construction and to maintain existing service during construction
 18. Temporary utility services to buildings as required to maintain service during construction
 19. Quality assurance testing
 20. Temporary construction and other facilities not to be permanently incorporated into the Work necessary for construction sequencing and maintenance of operations
 21. Weather protection
 22. Permits not otherwise paid for or provided by the Owner
 23. Visits to the Project site or elsewhere by personnel or agents of the Contractor, including manufacturer's representatives, as may be required
 24. On-site and other facilities acceptable to Engineer for the storage of materials, supplies and equipment to be incorporated into the Work
 25. Facilities start-up services required by the Contract Documents
 26. Mobilization/demobilization
 27. Preconstruction photos and videos
 28. Construction administration and insurance

1.9 DESCRIPTION OF PAY ITEMS

- A. The following sections describe the measurement of and payment for the work to be done under the respective items listed in the Bid Form.
- B. Each unit or lump sum price stated in the Bid Form shall constitute full compensation, as herein specified, for each item of the work completed.

(1) Primary Digester Tank Concrete and Cover Seal Repairs

Payment of the lump sum price for Item 1 shall be full compensation for furnishing all labor, materials, tools and equipment required to remove and remove/raise the tank cover (90,000 lbs +/-) to make repairs to the concrete walls and cover seal, complete as indicated on the Drawings and as specified and all its' appurtenances in its entirety, except that work included for payment under other items.

(2) Remove and Replace 2-inch SS Gas and Flushing Pipes to Bubble Cannons

Payment of the lump sum price for Item 2 shall be full compensation for furnishing all labor, materials, tools and equipment required to remove and replace the 2-inch gas and flushing piping from the exterior side of the fixed steel cover, through the cover, to the connection to the bubble cannon bases at the tank bottom, complete as indicated on the Drawings and as specified and all its' appurtenances in its entirety, except that work included for payment under other items.

(3) Remove and Replace Flame Arrestor and Pressure Relief Valve Assembly

Payment of the lump sum price for Item 3 shall be full compensation for furnishing all labor, materials, tools and equipment required to remove and replace the flame arrestor and pressure relief valve assembly, complete as indicated on the Drawings and as specified and all its' appurtenances in its entirety, except that work included for payment under other items.

(4) Remove and Replace Level Transducer

Payment of the lump sum price for Item 4 shall be full compensation for furnishing all labor, materials, tools and equipment required to remove and replace the tanks level transducer, complete as indicated on the Drawings and as specified and all its' appurtenances in its entirety, except that work included for payment under other items.

(5) Remove and Dispose fo Loose Tank Liner

Payment of the lump sum price for Item 5 shall be full compensation for furnishing all labor, materials, tools and equipment required to remove and dispose of any loose, unadhered tank liner, complete as indicated on the Drawings and as specified and all its' appurtenances in its entirety, except that work included for payment under other items.

(6) Undocumented Site Conditions Allowance

- A. This general allowance is for compensating the Contractor for work resulting from encountered conflicts or additional work associated with undocumented site conditions, including, but not limited to, undocumented utilities, undocumented conflicts at interface of new and existing work, or for additional related work as

- determined by the Owner.
- B. This general allowance is not for correction of any errors or omissions made by the Contractor or for items that are specifically included in other Bid Items.
 - C. The Contractor shall obtain written authorization from the Owner for payment from this general allowance.
 - D. The Contractor shall be compensated for the work under this general allowance in accordance with the procedures specified in Article 11 of the General Conditions. At the end of the Contract, any and all remaining funds shall be deducted from the Contract via balancing change order.

(7) System Integrator Services Allowance

- E. Method of Measurement:
 - 1. Cash Allowance for a system integrator to provide the add the new level transducer to the WPCF's SCADA and alarming systems.
- F. Basis of Payment:
 - 1. Payment shall be made based on actual invoices and the Schedule of Values.
 - 2. Adjustment to the final cost for this Item, if necessary, will be made based on the actual invoiced amounts. Owner will assist Contractor in establishing any adjustments to this item.

END OF SECTION

SECTION 01320SAFETY AND HEALTH PLANPART 1 - GENERAL1.1 DESCRIPTIONA. Work Included:

1. The Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work, as outlined herein and in the General and Special Conditions of the Contract Documents. Within 10 days after the effective date of the Agreement between Owner and Contractor, submit to the Engineer a Safety and Health Plan as specified herein. Refer to submittals section below.
2. Contractor shall comply with all applicable Laws and Regulations related to the safety of persons or property, or for the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.
3. Contractor shall designate a qualified and experienced safety representative (OSHA defined "Competent Person") at the site whose duties and responsibilities shall be the prevention of accidents and maintaining and supervising of safety precautions and programs, including a "Job Hazards Analysis".
4. The Contractor shall be solely responsible to provide all labor, equipment, and utilities sufficient to ensure no construction noise, particulates, or odors, are allowed to accumulate to levels which adversely affect health or work in, or near the construction area.

B. Content of Safety and Health Plan:

1. Prepare complete safety and health plan in accordance with the requirements of CFR Title 29 Part 1926 - Safety and Health Regulations for Construction.
 - a. Provide documentation that Contractor's hazardous communication program is up to date.
 - b. Provide documentation that Contractor's safety training is up to date.
 - c. Prepare a project specific Safety and Health Plan addressing construction safety issues, including but not limited to excavations, fall protection and egress, as well as provisions for construction in hazardous environmental conditions at the wastewater treatment facility. The hazardous environmental conditions at the wastewater treatment facility include, but are not limited to, confined space entry, electrically-classified spaces, and chemical storage and handling areas, to name a few.
2. Safety provisions for confined space entry shall follow General Industry Standard CFR Title 29 Part 1910.146 and will be incorporated into the Safety and Health Plan.
 - a. The Contractor shall be responsible for all aspects of construction site safety including development of appropriate confined space entry

procedures. The plan shall include, but not necessarily be limited to, the following:

- i. Definitions
 - ii. Confined Space Evaluations
 - iii. Equipment Selection
 - iv. Confined Space Entry Training Documentation
 - v. Permit Required Confined Space Entry Requirements
 - vi. Testing (Monitoring) and Ventilation
 - vii. Confined Space Entry Permit Form
 - viii. Rescue and Emergency Procedures
 - ix. Emergency Contact Information
- b. The Contractor shall inform the Owner and Engineer's representative whenever work will be performed in a confined space and the permit space program that the Contractor will follow.
 - c. The Contractor shall inform the Owner and Engineer's representative of any hazards confronted or created during entry operations, either through a briefing or during the entry operation.
 - d. The Owner, Engineer, their representatives, independent testing laboratories and government agencies, when inspecting the site, shall be supplied by the Contractor proper safety equipment when entry into a confined space is required.
- C. Updating:
1. Contractor shall be responsible for updating the Safety and Health Plan as appropriate throughout the course of the construction period.

1.2 SUBMITTALS

- A. Contractor shall be responsible for all aspects of construction site safety. Provide an electronic copy of the Contractor's site-specific Safety and Health Plan to the Engineer. The Safety and Health Plan is provided "for information only" to inform the Owner, Engineer and Resident Project Representative of the project specific safety program requirements. The Contractor will overview the plan with the Owner (and staff), Engineer (and Resident Project Representative) at the beginning of the project, and subsequently when/if the safety plan is updated.
- B. Provide updated Safety and Health Plans as necessary during the course of the project.
- C. Contractor's most current Safety and Health Plan shall be available at the construction site throughout the construction project.

1.3 ON-SITE COORDINATION MEETINGS

- A. Contractor shall review key aspects of Safety and Health Plan at the Pre-Construction Meeting, and subsequent on-site safety informational meeting.
- B. Contractor shall report to Engineer and Owner at each progress meeting concerning compliance with the Safety and Health Plan for the most recent construction period and new considerations and requirements for the upcoming period.
- C. Contractor shall hold weekly on-site coordination meetings with Resident Project Representative and Owner to ensure that Owner's staff is aware of key Safety and Health Plan requirements of the current phase of construction.

1.4 OWNER'S CONFINED SPACE ENTRY PROGRAM INFORMATION

- A. A copy of the Owner's Confined Space Entry Program is available for viewing at the facility and is not included herein.

END OF SECTION

SECTION 01340SUBMITTALSPART 1 - GENERAL1.1 DESCRIPTION

- A. Work Included:
 - 1. Submit all shop drawings, operations and maintenance manuals, Manufacturers' certificates, project data, and samples required by the Specifications.
- B. Related Work Specified Elsewhere:
 - 1. Project Record Documents: Section 01720
 - 2. General Conditions: Section 00700.
- C. Submittals: This project shall utilize:
 - 1. Submittals – Electronic via Email/FTP with Hard Copy for Record
 - a. The Contractor shall submit to the Engineer an electronic submittal of shop drawings and O&M Manuals in portable document format (PDF) transmitted via email or file transfer protocol (FTP). The Engineer shall return an electronic PDF of the submittal review comments to the Contractor for distribution to subcontractors, suppliers and manufacturers. The electronic submittals shall serve as the electronic record of the project.
 - b. In addition, completed shop drawings and completed operations and maintenance (O&M) manuals shall be provided in hard copy (paper) format, for the record, in accordance with the following requirements.
 - i. Shop drawings and O&M manuals shall be considered “completed” once an action code of “0” or “1” has been attained, as specified below, unless otherwise directed by the Engineer.
 - ii. Once completed, the Contractor shall provide three hard copy sets (for Owner, Engineer and Resident Project Representative, respectively).
 - iii. Hard copy submittals shall be updated on a monthly basis, for those submittals completed during the preceding month.

1.2 SHOP DRAWINGS

- A. Shop Drawings are required for each and every element of the work.
- B. Shop Drawings are generally defined as all fabrication and erection drawings, diagrams, brochures, schedules, bills of material, manufacturers data, spare parts lists, and other data prepared by the Contractor, his subcontractors, suppliers, or manufacturers which illustrate the manufacturer, fabrication, construction, and installation of the work, or a portion thereof.
- C. The Contractor shall provide a completed Contractor Submittal Certification Form (copy provided for Contractor's use at the end of this Specification Section) which shall be attached to every copy of every shop drawing and signed by the Contractor and Manufacturer (where applicable). Shop Drawings shall show the principal dimensions, weight, structural and operating features, space required, clearances, type and/or brand of finish or shop coat, grease fittings, etc., depending on the subject of the drawing. When it is customary to do so, when the dimensions are of particular importance, or when so specified, the drawings shall be certified by the manufacturer or fabricator as correct for the work.
- D. Shop Drawings shall be submitted as a complete package by specification section,

unless otherwise reviewed and approved by the Engineer. It is the intent that all information, materials and samples associated with each specification section be included as a single submittal for the Engineer's review. Any deviation from this requirement, shall be requested in writing with an anticipated shop drawing breakdown/schedule prior to any associated submittal. An exception to this requirement are shop drawings for reinforcing steel, miscellaneous metals and structural steel, which shall be submitted separately for each structure unless otherwise permitted by the Engineer.

- E. The Contractor shall be responsible for the prompt and timely submittal of all shop and working drawings so that there shall be no delay to the work due to the absence of such drawings.
- F. No material or equipment shall be purchased or fabricated especially for the Contract until the required shop and working drawings have been submitted as hereinabove provided and reviewed for conformance to the Contract requirements. All such materials and equipment and the work involved in their installation or incorporation into the Work shall then be as shown in and represented by said drawings.
- G. Until the necessary review has been made, the Contractor shall not proceed with any portion of the work (such as the construction of foundations), the design or details of which are dependent upon the design or details of work, materials, equipment or other features for which review is required.
- H. All shop and working drawings shall be submitted to the Engineer by and/or through the Contractor, who shall be responsible for obtaining shop and working drawings from his subcontractors and returning reviewed drawings to them. Shop drawings shall be formatted to standard paper sizes to enable the Owner to maintain a permanent record of the submissions. Approved standard sizes shall be: (a) 24 inches by 36 inches; (b) 11 inches by 17 inches, and (c) 11 inches by 8-1/2 inches. Provision shall be made in preparing the shop drawings to provide a binding margin on the left hand side of the sheet. Shop drawings submitted other than as specified herein may be returned for resubmittal without being reviewed.
- I. Only drawings which have been checked and corrected by the fabricator should be submitted to the Contractor by his subcontractors and vendors. Prior to submitting drawings to the Engineer, the Contractor shall check thoroughly all such drawings to satisfy himself that the subject matter thereof conforms to the Drawings and Specifications in all respects. All drawings which are correct shall be marked with the date, checker's name, and indication of the Contractor's approval, and then shall be submitted to the Engineer.
- J. If a shop drawing shows any deviation from the Contract requirements, the Contractor shall make specific mention of the deviations in the transmittal. Shop Drawings that contain significant deviations that are not brought to the attention of the Engineer may be subject to rejection.
- K. Should the Contractor submit equipment that requires modifications to the structures, piping, electrical conduit, wires and appurtenances, layout, etc., detailed on the Drawings, he shall also submit details of the proposed modifications. If such equipment and modifications are accepted, the Contractor, at no additional cost to the Owner, shall do all work necessary to make such modifications.
- L. A maximum of two submissions of each Shop Drawing will be reviewed, checked, and commented upon without charge to the Contractor. Any additional submissions

which are ordered by the Engineer to fulfill the stipulations of the Drawings and Specifications, and which are required by virtue of the Contractor's neglect or failure to comply with the requirements of the Drawings and Specifications, or to make those modifications and/or corrections ordered by the Engineer in the review of the first two submissions of each Shop Drawing, will be reviewed and checked as deemed necessary by the Engineer, and the cost of such review and checking, as determined by the Owner, and based upon Engineer's documentation of time and rates established for additional services in the Owner-Engineer Agreement for this Project, may be deducted from the Contractor to make all modifications and/or corrections as may be required by the Engineer in an accurate, complete, and timely fashion. Resubmittals for the sole purpose of providing written responses to review comments will not be considered a resubmittal counting towards the two submission limit.

- M. Shop Drawings that include drawings or other material that is illegible or too small may be returned without review.

1.3 SAMPLES

- A. The Contractor shall submit samples when requested by the Engineer to establish conformance with the specifications, and as necessary to define color selections available. Submittals of "samples" shall be documented through the electronic submittal process by including a photograph of the item(s) and indicating the date the sample was mailed and/or delivered.

1.4 MANUFACTURER'S CERTIFICATES

- A. Prior to accepting the installation, the Contractor shall submit manufacturer's certificates for each item specified.
- B. Such manufacturer's certificates shall state that the equipment has been installed under either the continuous or periodic supervision of the manufacturer's authorized representative, that it has been adjusted and initially operated in the presence of the manufacturer's authorized representative, and that it is operating in accordance with the specified requirements, to the manufacturer's satisfaction. All costs for meeting this requirement shall be included in the Contractor's bid price.

1.5 SUBMISSION REQUIREMENTS

- A. Accompany submittals with a transmittal cover sheet, containing:
 - 1. Date.
 - 2. Project title and number.
 - 3. Contractor's name and address.
 - 4. The sequential shop drawing number for each shop drawing, project data and sample submitted shall be:
 - a. Specification Section number followed by a dash and then a sequential number beginning with 01 (e.g., 16000-01).
 - b. Under limited situations when additional different pieces of equipment are submitted under the same specification section, those submittals shall be numbered sequentially (e.g. 05500-01, 05500-02, 05500-03, etc.).
 - c. Resubmittals shall include decimal point and an alphabetic suffix after the corresponding sequential number (e.g., 16000-01A).
 - d. O&M submittals shall be numbered with the Specification Section number followed by a dash, the letters "OM", another dash, and then a sequential

- number beginning with 01 (e.g. 16000-OM-01). Resubmittals of O&Ms shall include an alphabetic suffix after the corresponding sequential number (e.g. 16000-OM-01A).
5. Notification of deviations from Contract Documents.
 6. Other pertinent data.
- B. A completed Contractor Submittal Certification Form shall be attached to each hardcopy and electronic PDF of each shop drawing and must include:
1. Project name
 2. Specification Section and sequential number with alphabet suffix for resubmittal
 3. Description
 4. Identification of deviations from Contract Documents.
 5. Contractor's stamp, initialed or signed, certifying review of the submittal, verification of field measurements and compliance with Contract Documents.
 6. Where specified or when requested by the Engineer, manufacturer's certification that equipment, accessories and shop painting meet or exceed the Specification requirements.
 7. Where specified, manufacturer's guarantee.
- C. Additional Requirements for Electronic Submittals:
1. Each individual shop drawing or O&M submittal shall be contained in one PDF.
 2. The first page of the PDF shall be the Contractor Submittal Certification Form as described above.
 3. The electronic PDF shall be **exactly** as submitted in the hardcopy.
 4. The electronic PDF shall include an electronic table of contents that is bookmarked for each section of the submittal.
 5. The electronic PDF shall be configured such that is fully searchable.
 6. PDF versions of 24x36 drawings shall be converted to 24 x 36 PDFs so as not to lose the clarity of the original drawing.
 7. Electronic PDF submittals that are not submitted in accordance with the requirements stated above will not be reviewed by the Engineer.
 8. Electronic submittals shall be transmitted via the protocol established in Part 1 above.

1.6 RESUBMISSION REQUIREMENTS

- A. Revise initial submittals as required and resubmit as specified for initial submittal.
- B. Indicate on submittals any changes which have been made other than those required by Engineer. All renumbering of shop drawings, relabeling of individual pieces or assemblies or relocating of pieces or assemblies to other Drawings within the submittal shall be clearly brought to the attention of the Engineer. If relabeling of individual pieces or assemblies has taken place, the labels from the previous submittal shall be indicated to assist in comparing the original and resubmitted shop drawing.
- C. All resubmittals shall include a summary of the previous submittal review comments with the vendors' written response as to how the previous comments were addressed.

1.7 ENGINEER'S REVIEW

- A. The review of shop and working drawings hereunder will be general only, and nothing contained in this specification shall relieve, diminish or alter in any respect the responsibilities of the Contractor under the Contract Documents and in particular, the

specific responsibility of the Contractor for details of design and dimensions necessary for proper fitting and construction of the work as required by the Contract and for achieving the result and performance specified thereunder.

- B. The Engineer's review comments will be summarized on a Submittal Review Form, which includes an action code. A description of each action code is provided below.
1. No Exceptions Taken (Status 0 on shop drawing log). The shop drawing complies with the Contract Document requirements. No changes or further information are required. Where appropriate, the submittal review form will be used to alert the Contractor, Owner and Field personnel of remaining items within that specification section that still needs to be submitted.
 2. Make Corrections Indicated (Status 1 on shop drawing log). The shop drawing complies with the Contract Document requirements except for minor changes, as indicated. Engineer requires that all comments will be addressed by the Contractor, unless otherwise notified in writing prior to execution of the relevant work.
 3. Conditional to Remarks (Status 2 on shop drawing log). The shop drawing potentially complies with the Contract Document requirements, contingent upon satisfactory resolution of review comments. Remarks will explicitly list what information needs to be resubmitted. Resubmittal from the Contractor should include a cover letter or summary which indicates how each review comment has been addressed. **This action code will not be used, or will be sparingly used, for electronic submittals.**
 4. Revise and Resubmit (Status 3 on shop drawing log). The shop drawing does not comply with the Contract Document requirement as submitted, but may with changes indicated and/or submission of additional information. The entire package must be resubmitted with the necessary information and a cover letter which indicates how each review comment has been addressed and where to find the information in the resubmittal.
 5. Rejected (Status 4 on shop drawing log). The shop drawing does not comply with the Contract Document requirements, for the reasons indicated in the remarks, and is unacceptable.
 6. In Review (Status 5 on shop drawing log). The shop drawing is currently under review.
 7. For Information Only (Status 6 on shop drawing log). The shop drawing review was for information only.

CONTRACTOR SUBMITTAL CERTIFICATION FORM

PROJECT: _____ CONTRACTOR'S PROJ. NO: _____

CONTRACTOR: _____ ENGINEER'S PROJ. NO: _____

ENGINEER: _____

SHOP
DRAWING
NUMBER:SPECIFICATION SECTION
OR DRAWING NO:SEQUENTIAL NUMBER
(& ALPHA SUFFIX FOR
RESUBMITTAL)

DESCRIPTION: _____

MANUFACTURER: _____

The above referenced submittal has been reviewed by the undersigned and I/we certify that the material and/or equipment meets or exceeds the project specification requirements with

☐ NO DEVIATIONS

or

☐ A COMPLETE LIST OF DEVIATIONS AS FOLLOWS^a:

By: _____ By: _____

Contractor^bManufacturer^c

Date: _____ Date: _____

a Any deviations not brought to the attention of the Engineer for review and concurrence shall be the responsibility of the Contractor to correct, if so directed.

b Required on all submittals

c When required by specifications Page ____ of ____

General Contractor's Stamp

SECTION 01720PROJECT RECORD DOCUMENTSPART 1 - GENERAL1.1 DESCRIPTION

A. Work Included:

1. Keep accurate record documents for all additions, demolition, changes of material or equipment (from that shown on the Drawings), variations in work, and any other additions or revisions to the Contract (via Change Order, Work Change Directive, Field Order or Clarification).

B. Related Work Specified Elsewhere:

1. Shop Drawings, Project Data, and Samples are specified in "General Conditions" and Section 01340, Submittals.

1.2 MAINTENANCE OF DOCUMENTS

A. Maintain at job site, one copy of:

1. Contract Drawings
2. Specifications
3. Addenda
4. Reviewed Shop Drawings
5. Change Orders
6. Any other modifications to the Contract
7. Field Test Reports

B. Store documents in files and racks specifically identified for Record Drawing use, that are apart from documents used for construction.

C. File documents in a logical manner indexed for easy reference.

D. Maintain documents in clean, dry, legible condition.

E. Do not use record documents for construction purposes.

F. Make documents available at all times for inspection by the Engineer and Owner, and by the end of the project, transmit these documents to the Engineer.

G. Failure to maintain current records, as specified herein, shall be grounds for withholding additional retainage from monthly partial payment requests.1.3 RECORDING

A. Label each document "PROJECT RECORD" in large high printed letters.

B. Keep record documents current and do not permanently conceal any work until required information has been recorded.

C. General Field Recording Issues:

1. All swing ties shall be taken from existing, permanent features such as utility poles, corners of buildings and hydrants. A minimum of two swing ties shall be taken.
2. Stations shall be recorded to the nearest foot.
3. Inverts shall be recorded to the nearest hundredth of a foot.
4. Elevations shall be recorded to the nearest hundredth of a foot.

5. Building dimensions shall be recorded to the nearest 1/4".
 6. Equipment and Piping shall be recorded to the nearest tenth of a foot, and the overall dimensions and layout of the equipment shall be adjusted to reflect the equipment provided.
- D. Project Record Drawings - Legibly mark Contract Drawings to record existing utilities and actual construction of all work, including but not limited to the following (where applicable):
1. Existing Utilities
 - a. Water mains and services, water main gate valves, sewer mains and services, storm drains, culverts, steam lines, gas lines, tanks and other existing utilities encountered during construction must be accurately located and shown on the Drawings. In congested areas supplemental drawings or enlargements may be required.
 - b. Show any existing utilities encountered in plan and profile and properly labeled showing size, material and type of utility. Ties shall be shown on plan. Utility shall be drawn to scale in section (horizontally and vertically) and an elevation shall be called out to the nearest hundredth of a foot.
 - c. When existing utility lines are broken and repaired, ties shall be taken to these locations.
 - d. If existing water lines are replaced or relocated, document the area involved and pipe materials, size, etc. in a note, and with ties.
 2. Yard Piping and Buried Electrical Conduit
 - a. Site piping and utilities shall be drawn to reflect the installed locations, with ties and elevation of all bends (horizontal and vertical).
 - b. Show routing for electrical conduits and pull boxes, especially in close proximity to buildings and when the conduits change direction or cross process piping.
 3. Utilities
 - a. When encountered, additional utilities (e.g., gas, cable, telephone, fiber optic, etc.) shall be indicated on the Record Drawings.
 4. Equipment Systems and Piping
 - a. Show any changes to equipment systems, whether interior or exterior, for process, HVAC, plumbing, instrumentation or electrical. If any dimensional changes were made in the field, the numerical change shall be made on the Drawing and be properly labeled. Update dimensions and elevations on Drawings. Record Drawings must reflect any equipment configuration and layout changes differing from that shown on the Drawings.
 - b. Show any changes to piping systems, whether interior or exterior, for process, HVAC, plumbing and instrumentation. If any dimensional changes were made in the field, the numerical change shall be made on the Drawing and be properly labeled. Update dimensions and elevations on Drawings.
- E. Specifications and Addenda - Legibly mark up each section to record:
1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.

2. Changes made by Change Order, Field Order, or other method.

1.4 SUBMITTALS

- A. At the completion of the project, and prior to the release of retainage, deliver record documents to the Engineer.
 1. Record drawings shall be provided as a bound, red-line paper set and an electronic file (pdf format) consisting of a full scan of the bound paper set.
- B. Accompany submittal with transmittal letter, in duplicate, containing:
 1. Date, project title and number.
 2. Contractor's name and address.
 3. Title and number of each record document with certification that each document is completed and accurate.
 4. Signature of Contractor, or their authorized representative.
- C. Failure to supply all information on the Project Record Drawings as specified in Part 1.3 may result in withholding final completion and in non-approval of final payments of the Contract. If Contract Time has elapsed, this shall be grounds for imposing liquidated damages.

1.5 QUALITY ASSURANCE

- A. All horizontal and vertical dimensions, swing-ties, and elevations shall be accurate to within one-tenth of a foot, unless greater accuracy is specified elsewhere in the Specifications (e.g., concrete elevations, weir elevations, etc.).

PART 2 - PRODUCTS – NOT APPLICABLE

PART 3 - EXECUTION

3.1 MAINTAINING AND PROVIDING RECORDS

- A. Records shall be kept current as the work progresses.
- B. Records shall be made available for review by the Owner, Engineer, Resident Project Representative and/or Funding Agency(s) upon request.
- C. Records shall be kept current as the work progresses. Failure to maintain current records, as specified herein, shall be grounds for withholding additional retainage from monthly partial payment requests. Failure to provide records shall also be grounds for withholding of final payment and, if beyond contract time, shall be grounds for imposing liquidated damages.

3.2 AS-BUILT SURVEY PERFORMANCE

From established survey control, and construction baseline as shown on the drawings, conduct surveys of the project area during construction as needed to obtain information of buried and above ground items. Surveys shall include information

END OF SECTION

SECTION 02050ADEMOLITIONPART 1 - GENERAL1.1 DESCRIPTION

A. Work Included:

1. The Contractor shall furnish all labor, materials, tools, equipment and apparatus necessary, and shall do all work required to complete the demolition, removal, and alterations of existing facilities as indicated on the Drawings, as herein specified, and/or as directed by the Engineer.
2. Demolition and alteration work within occupied areas shall be accomplished with minimum interference to the occupants and to the plant which shall be in continuous operation during construction.
3. All equipment, piping, and other materials that are not to be relocated or to be returned to the Owner shall become the property of the Contractor and shall be disposed of away from the project site and at his own expense.
4. All demolition or removal of existing structures, utilities, equipment, and appurtenances shall be accomplished without damaging the integrity of existing structures, equipment, and appurtenances to remain, to be salvaged for relocation, or stored for future use.
5. Such items that are damaged shall be either repaired or replaced at the Contractor's expense to a condition at least equal to that which existed prior to the start of his work.
6. Unless otherwise indicated, all items labeled to be "removed", "demolished" or "remove/demolish" shall be removed and disposed of off project site in accordance with all Local, State and Federal Regulations.
7. The Contractor shall not collect any samples of either Building Materials, Wastes, Soils, or any other site/project related materials, nor have the samples analyzed for any reason without prior written approval from the Owner or Engineer. Furthermore, the Contractor shall not hire or contract with another party or Consultant to conduct sampling of either Building Materials, Wastes, Soils, or any other site/project related materials or to conduct analytical analysis.
 - a. All sampling requests are to be directed in written format to the Owner and Engineer.
 - b. By collecting unauthorized samples, the Contractor shall assume any and all financial burden of the required corrective action.
 - c. If a sample is collected and analyzed without prior written approval from the Owner or Engineer, the Contractor shall be responsible for any and all remediation required by any applicable regulatory authority arising from or related to the samples collected and analyzed, as the validity of the materials sampled, sample locations and sampling protocols utilized cannot be confirmed by the Owner's or Engineer's independent Consultant.

1.2 JOB CONDITIONS

A. Condition of Structures:

1. The Owner assumes no responsibility for the actual condition of structures to be demolished.
2. Conditions existing at the time of inspection for bidding purposes will be maintained by the Owner as far as practicable. However, variations within the structures may occur due to Owner's removal and salvage operations prior to the start of demolition work (where applicable).

1.3 SUBMITTALS

A. Schedule - Demolition:

1. Submit two (2) copies of proposed methods and operations of demolition to the Engineer for review prior to the start of work. Include in the schedule the coordination for shut-off, capping and continuation of utility services as required.
2. Provide a detailed sequence of demolition and removal work to ensure the uninterrupted progress of the Owner's operations.

1.4 PROTECTIONS

- A. Ensure the safe passage of persons around the area of demolition. Conduct operations to prevent injury to adjacent buildings, structures, other facilities, and persons. Erect temporary, covered passageways as required by authorities having jurisdiction.
- B. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement or collapse of structures to be demolished and adjacent facilities to remain.

1.5 DAMAGES

- A. The Contractor shall promptly repair damages caused by demolition operations to adjacent facilities at no cost to the Owner.

PART 2 - PRODUCTS – Not Applicable

PART 3 - PERFORMANCE

- A. Remove and dispose of non-salvageable material in accordance with all applicable local and state laws, ordinances, and code requirements.
- B. Dispose of material daily as it accumulates.
- C. Carefully remove, store, and protect from damage all materials to be salvaged.
- D. Buildings and Adjacent Property:
 1. Protect all buildings and property adjacent to equipment to be removed from damage by erecting suitable barriers or by other suitable means.
 2. Leave such buildings in a permanently safe and satisfactory condition.
- E. Maintaining Traffic:
 1. Ensure minimum interference with roads, streets, driveways, sidewalks and adjacent facilities.
 2. Do not close or obstruct streets, sidewalks, alleys or passageways without permission from authorities having jurisdiction.
- F. Architectural, structural, mechanical, process and electrical demolition, removal and

alteration are indicated in the corresponding sections.

G. Mechanical/Process Demolition:

1. Mechanical/Process demolition in general shall consist of the dismantling and removal of existing piping, tanks, pumps, motors, equipment and other appurtenances as specified, and indicated on the Drawings.
2. It shall also include, where necessary, the cutting of existing piping for the purpose of making connections thereto.
3. Piping not indicated to be removed but which may interfere with construction shall be removed to the nearest solid support, capped and left in place. Where piping that is to be removed passes through the wall of existing structures, it shall be cut off and properly capped on each side of the wall.
4. When piping is to be altered or removed underground, the remaining piping shall be properly capped or plugged.
5. Abandoned underground piping shall be left in place unless it interferes with new structures or unless otherwise noted on the Drawings.

H. Salvage:

1. Salvaged items shall be stored on site for the Owner in an acceptable location and manner.

I. Maintain Treatment:

1. During demolition, maintain treatment as outlined in Section 01010, Summary of Work.

J. Demolition Sequence:

1. The demolition sequence is to conform the reviewed and approved project schedule.

K. Pest Control:

1. Provide pest control when needed or when directed by the Engineer.
2. Exterminate and prevent migration of rodents to adjoining buildings in accordance with the requirements of the state or local health department.

END OF SECTION

SECTION 03010CONCRETE MODIFICATIONS AND REPAIRSPART 1 - GENERAL1.1 SECTION INCLUDES

- A. Concrete Modifications and Repairs

1.2 REFERENCES

- A. This section contains references that are applicable to this Specification Section. The applicable edition of the indicated references shall be the version that was the most current at the time of the Advertisement of Bids. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, whether or not the document has been superseded by a version with a later date, discontinued, or replaced.
- B. ACI 301 –Specifications for Concrete Construction

1.3 SUBMITTALS

- A. Submit product data and Safety Data Sheets for repair materials. Indicate the intended use and locations for all products.

1.4 QUALITY ASSURANCE

- A. Perform work in accordance with ACI 301 except as modified herein.
- B. All repair materials shall meet all Federal and State regulations pertaining to Volatile Organic Compounds (VOC) Compliance.

PART 2 - PRODUCTS2.1 REPAIR MATERIALS

- A. Grout Paint: 1 part portland cement, 1 part fine sand, and water for the consistency of thick paint.
- B. Patching Mortar: 1 part of a mixture of white and grey Type II portland cement to 2.5 parts of damp loose sand. Cement type to match substrate.

PART 3 - EXECUTION3.1 FINISH

- A. Repair and properly cure all defects, and match finish of surrounding concrete.
- B. Clean all exposed concrete surfaces and adjoining work stained by leakage of repair materials.

3.2 CURING

- A. Curing shall be in accordance with Section 03390.

3.3 HOT WEATHER:

1. Repairs during hot weather shall be in accordance with Section 03341.
2. Protect repairs from plastic shrinkage cracking and rapid evaporation of water.
3. Shade from direct sun and protect from wind.

3.4 REPAIRS TO CONCRETE (GENERAL)

A. Definitions:

1. Honeycombed areas: Areas where voids are left in the concrete due to inadequate vibration and consolidation resulting in a failure of the mortar to effectively fill the spaces among coarse aggregate particles.
2. Spalls: Concrete that has chipped, flaked, scaled or broken off from the surface of the concrete.
3. Surface Defects: Those defects that affect the appearance of the finished concrete but do not affect the structural integrity.
4. Structural Defects: Those defects that affect the appearance of the finished concrete and the structural integrity.

B. Surface Defects:

1. Form tie holes
2. Air voids (bugholes) larger than those specified for the required surface finish
3. Honeycomb areas with a depth less than 1 inch
4. Visible construction joints, fins and burs
5. Non-uniform concrete color and appearance

- C. All repairs to newly placed concrete shall be at no additional cost to the Owner.

3.5 REPAIR OF SURFACE DEFECTS

- A. As soon as the forms have been stripped and the vertical concrete surfaces exposed and cured, repair all surface defects. All concrete repair work shall result in a concrete surface of uniform color and texture and shall be free of all irregularities.
- B. Form Tie Holes: After cleaned and thoroughly dampened, apply grout paint and fill holes solid with patching mortar.
- C. Air voids (bugholes): After cleaned and thoroughly dampened, apply grout paint and fill holes solid with patching mortar.
- D. Honeycomb areas:
1. All honeycombed areas shall be removed to sound concrete by means of hand chisels or pneumatic chipping hammers or hydrodemolition.
 2. Saw cut a 1/2-inch minimum square groove around the edges of the defective area perpendicular to the surfaces to serve as the boundary for concrete removal. Saw cut the edges perpendicular to the surface. No feather edges shall be allowed.
 3. Remove all loose aggregate paste and debris and scrub clean. Thoroughly wet area to be repaired. Brush and scrub grout paint into the substrate of the area to be repaired.

4. Mix patching mortar using as little water as possible. Allow to stand with frequent manipulation of trowel to achieve stiffest consistency. Blend white and gray portland cement to achieve color match with surrounding concrete.
 5. Prior to the set of grout paint (but after it has lost its water sheen), apply a stiff consistency of patching mortar to the area with a trowel. Leave patched surface slightly higher than surrounding surface. Do not finish for 1 hour minimum. Cure in same manner as adjacent concrete.
- E. Visible construction joints, fins and burrs: Remove by grinding until a smooth uniform surface is attained.

3.6 STRUCTURAL DEFECTS

- A. Remove and replace all structural defects in newly placed concrete.

3.7 MODIFICATIONS TO EXISTING CONCRETE

- A. When removing materials or portions of existing structures all precautions shall be taken and all necessary barriers, temporary bracing and shoring and other protective devices shall be erected to prevent damage to the structures beyond the limits necessary for the new work and to prevent damage to the structures or contents by falling or flying debris.
- B. Remove concrete to the depths shown or required. Except for the removal of concrete from around reinforcement to remain, the use of heavy-duty pneumatic hammers to remove concrete is not permitted. Line drilling or saw cutting is required. Surfaces must be clean and sound. Remove dust, laitance, grease, curing compounds, impregnations, waxes, foreign particles, and disintegrated materials. Clean surface of all contamination and debris, and roughen by steel shot-blasting, abrasive (sand) blasting, or water-jetting (hydrodemolition). Use of scabblers, scarifiers, bush hammers, or pneumatic hammers greater than 15 pounds is not permitted due to resulting substrate bruising, except if followed by steel shot-blasting, abrasive blasting, or high-pressure water-jetting. The prepared surface shall be water-saturated and allowed to dry to a saturated surface-dry condition immediately prior to placement of repair material.
- C. Exposed reinforcement shall be cleaned by wire brushing, steel shot blasting or abrasive sand blasting. Additional reinforcement shall be provided as shown on the Drawings.

3.8 CUTTING

- A. Prior to cutting existing concrete, Contractor shall coordinate with the Owner and Engineer to determine the location of existing utilities in the concrete.
- B. Cutting shall be done with a concrete saw and diamond saw blades of proper size.
- C. Provide for control of slurry generated by sawing operation on both sides of wall.
- D. When cutting a reinforced concrete wall, the cutting shall be done so as not to damage the bond between the concrete and reinforcing steel left in structure.

END OF SECTION

SECTION 03100CONCRETE FORMINGPART 1 - GENERAL1.1 SECTION INCLUDES

- A. Concrete Forming

1.2 REFERENCES

- A. This section contains references that are applicable to this Specification Section. The applicable edition of the indicated references shall be the version that was the most current at the time of the Advertisement of Bids. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, whether or not the document has been superseded by a version with a later date, discontinued, or replaced.
- B. ACI 117 – Specifications for Tolerances for Concrete Construction and Materials
- C. ACI 301 - Specifications for Concrete Construction

1.3 QUALITY ASSURANCE

- A. Perform work in accordance with ACI 301 and ACI 117 as modified herein.

1.4 SUBMITTALS

- A. Submit product data and Safety Data Sheets for form release agent.

PART 2 - PRODUCTS2.1 FORM MATERIALS

- A. Undamaged smooth form facing materials such as plywood, hardboard, metal and plastic that will produce a smooth form finish with fins and offsets not exceeding 1/8 inch. Surfaces shall be clean, free of scratches, marring, and discolorations. The Engineer may reject formwork the Engineer deems to be unacceptable or that may produce concrete that will not meet the specified requirements including surface finish.
- B. Steel: Minimum 16 ga. sheet, well matched, tight fitting, stiffened to resist loads without excess deflection.
- C. Aluminum: Forms with unoxidized surfaces shall be pretreated with a calcium hydroxide and water paste followed by repeated water rinsing until hydrogen bubbles no longer form.
- D. Chamfer Corners: Chamfer, Wood Strip Type; match existing size.
- E. Form release agent: Non-staining colorless, compatible with finishes, and non-toxic for potable water and NSF 61 certified.
 - 1. StarSeal EF Bio-Release by Vexcon

2. Q-2 Form Release by Unitex
 3. Seacord RA II by Concord Chemical
- F. Form all exposed circular structures with circular or segmented wood or steel forms. If segmental forms are used the specified wall thickness and radius shall be maintained. Straight panels shall not exceed 2'-0" in width, and a maximum deflection angle of 3.5 degrees per panel joint.

2.2 STORAGE OF MATERIALS

- A. Protect materials from ground and the elements.
- B. Remove defective materials, as determined by the Engineer, from site immediately. Do not store on site.

PART 3 - EXECUTION

3.1 FORMWORK

- A. Conform to ACI 301.
- B. Verify lines, level, and measurements before proceeding.
- C. Erect plumb and straight. Maintain rigid. Brace sufficiently.
- D. Allow no concrete leakage. Provide continuous, straight, smooth exposed surfaces.
- E. Treat forms with form release agent prior to erecting forms. Do not apply form release agent at formed surfaces of construction joints designed with continuous reinforcement and remove all traces from formed joint prior to subsequent concrete placement. Protect reinforcement from contact with form release agent. Form release agent that contacts reinforcement shall be thoroughly removed.
- F. Chamfer all exposed outside corners and edges to match existing.
- G. Clean out inside of forms of all foreign materials prior to concrete placement.
- H. Maintain specified clear cover to reinforcement.
- I. Maintain specified tolerances.
- J. Maintain forms supporting the cast concrete for the minimum time periods indicated below:
 1. Walls and Vertical Surfaces:
 - a. Walls containing liquids (subjected to internal hydrostatic pressure) - 48 Hours
 - b. Forms may be unlocked after 24 hours but shall remain in place for the indicated time periods
 2. Time periods listed above represent cumulative number of days or hours during which the temperature of the air surrounding the concrete is above 50°F and the concrete has been damp and no loss of moisture has occurred.
- K. Form pressures increase with the use of concrete with High Range Water Reducers. Design forms accordingly.
- L. Clean and repair surfaces of forms to be re-used in work. Split, frayed, delaminated, or otherwise damaged form facing material will not be acceptable for exposed surfaces. Apply new form release agent as specified for new formwork.
- M. Standing water shall be removed from all forms.

3.2 TOLERANCES

- A. Tolerances shall conform to all requirements of ACI 117.

3.3 DEFICIENT CONCRETE

- A. Concrete work will be considered deficient if it does not conform to the requirements of this section and the location, elevation, dimension, shape, alignments, and/or appearance as required in the Contract Documents. Specific examples of deficient concrete include (but are not limited to):
1. Concrete which differs from the required dimensions.
 2. Formed surfaces that don't comply with specified dimensional tolerances. If the Engineer permits the Contractor to correct the error, it shall be in such a manner as to maintain the strength, function and appearance of the structure.
 3. Concrete exposed to view with defects that adversely affect the appearance of the specified finish shall be repaired. If, in the opinion of the Engineer, the defects cannot be repaired, the concrete may be rejected by the Engineer.
Examples include:
 - a. Non-uniform appearance including texture and color
 - b. Excessive visible repairs of structural defects
- B. Deficient concrete may be subject to rejection and replacement at no additional cost to the Owner if the Engineer deems necessary.

END OF SECTION

SECTION 03150CONCRETE ACCESSORIESPART 1 - GENERAL1.1 SECTION INCLUDES

- A. Concrete accessories, including, but not necessarily limited to:
 - 1. Bonding agent

1.2 REFERENCES

- A. This section contains references that are applicable to this Specification Section. The applicable edition of the indicated references shall be the version that was the most current at the time of the Advertisement of Bids. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, whether or not the document has been superseded by a version with a later date, discontinued, or replaced.
- B. ACI 301 - Specifications for Concrete Construction

1.3 QUALITY ASSURANCE

- A. Perform work in accordance with ACI 301 and ACI 117 as modified herein.

PART 2 - PRODUCTS2.1 ACCESSORIES

- A. Cementitious bonding agent:
 - 1. Grout paint: 1 part portland cement, 1 part fine sand, water for consistency of thick paint.

PART 3 - EXECUTION – NOT USEDEND OF SECTION

SECTION 03155

CONCRETE POST-INSTALLED ANCHORS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Epoxy anchorage of reinforcement
- B. Epoxy anchors

1.2 REFERENCES

- A. This section contains references that are applicable to this Specification Section. The applicable edition of the indicated references shall be the version that was the most current at the time of the Advertisement of Bids. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, whether or not the document has been superseded by a version with a later date, discontinued, or replaced.
- B. ACI 355.4 – Qualifications of Post-Installed Adhesive Anchors in Concrete
- C. ASTM C881/C881M – Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete
- D. ICC-ES AC308 - Acceptance Criteria for Post-Installed Adhesive Anchors in Concrete Elements

1.3 QUALITY ASSURANCE

- A. Epoxy anchors shall meet the following requirements:
 - 1. Epoxy anchors shall be qualified for earthquake loading (use in cracked concrete) in accordance with ACI 355.4.
 - 2. Epoxy anchors installed shall be qualified in accordance with ACI 355.4 requirements for sensitivity to installation direction.
 - 3. Epoxy anchors shall be installed by personnel certified by an applicable certification program that includes written and performance tests in accordance with ACI/CRSI Adhesive Anchor Installation Certification program.

1.4 SUBMITTALS

- A. Submit product data and personnel certifications for epoxy adhesive anchors. Data shall include:
 - 1. Material properties of anchors and epoxy adhesive
 - 2. ICC-ES AC308 report
 - 3. Allowable and ultimate loads of the anchor system
 - 4. Storage requirements
 - 5. Installation requirements including:
 - a. Drilling method (diamond drill bit shall be prohibited)

- b. Drill bit diameter and depth of hole for each size anchor
 - c. Hole cleaning procedure and required condition of hole
 - d. Requirements for discarding initial discharge to ensure proper mixing
 - e. Hole filling procedure
 - f. Time period when anchor cannot be contacted or otherwise disturbed
 - g. Gel and cure times as a function of temperature
 - h. Installation temperature requirements for cartridges and base material
6. Certifications for personnel installing epoxy adhesive anchors, in accordance with ACI/CRSI Adhesive Anchor Installation Certification program.

PART 2 - PRODUCTS

2.1 EPOXY ADHESIVE ANCHORS

- A. Includes epoxy anchor systems and epoxy adhesive for threaded rods and steel reinforcement.
- B. Approved for use in cracked concrete in accordance with ACI 355.4.
- C. Materials:
 - 1. Anchor: AISC Type 316 Stainless Steel threaded rod with washer and nut.
 - 2. Adhesive:
 - a. Epoxy adhesive for anchoring reinforcement to concrete shall be a two-component solid epoxy-based system supplied in manufacturer's standard side-by-side cartridge and dispensed through manufacturer's standard static-mixing nozzle. Except for gel times, epoxy adhesive shall conform to ASTM C881. The Grade, Class and Type of epoxy shall be that which is appropriate for the intended use.
 - b. Epoxy adhesive shall pass the creep test requirements of ICC-ES AC308.

PART 3 - EXECUTION

3.1 EPOXY ADHESIVE ANCHORS

- A. Anchors shall be installed by qualified personnel trained to install adhesive anchors.
- B. Anchors shall be installed in strict accordance with the Manufacturer's Printed Installation Instructions (MPII).
- C. Each installer shall at all times have in their possession the MPII.
- D. Adhesive anchors shall be installed in concrete having a minimum age of 21 days at time of installation.
- E. All adhesive anchor cartridges shall have the expiration date clearly visible. Material past its expiration date shall not be used and shall be immediately removed from the site.
- F. Embedded reinforcement shall be located with proper equipment prior to drilling to ensure that each drilling location does not coincide with existing reinforcement. Drilling through reinforcement shall be prohibited.
- G. If existing reinforcement is encountered while drilling, offset the drill hole by a maximum of 2-inches. The new relocated hole shall be in the same line as the line of drilled holes. All offset holes shall be a minimum of 4-inches from a free concrete edge. Maintain the original spacing locations of the remaining dowels as indicated on the Contract Drawings.

CONCRETE POST-INSTALLED ANCHORS

- H. Diamond drill bits shall not be permitted. Hammer drills shall be used.
- I. The initial material extruded from each adhesive anchor cartridge shall be discarded in accordance with the manufacturer's instructions to ensure that all material is properly mixed.
- J. Depth stop shall be used to ensure correct drilling depth. Drilled holes shall be blown out with air, thoroughly wire-brushed with a repeated back and forth movement, blown out, thoroughly wire-brushed, and blown out again. Adhesive shall be injected starting from the bottom of the hole, and slowly withdrawn as filling progresses to prevent air pockets.
- K. Anchored reinforcement shall remain completely undisturbed between manufacturer's specified gel time and the full cure time. Zero load shall be applied during this time.

END OF SECTION

SECTION 03200CONCRETE REINFORCEMENTPART 1 - GENERAL1.1 SECTION INCLUDES

- A. Concrete deformed reinforcement bars and accessories

1.2 REFERENCES

- A. This section contains references that are applicable to this Specification Section. The applicable edition of the indicated references shall be the version that was the most current at the time of the Advertisement of Bids. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, whether or not the document has been superseded by a version with a later date, discontinued, or replaced.
- B. ACI 117 – Specifications for Tolerances for Concrete Construction and Materials
- C. ACI 301 - Specifications for Concrete Construction
- D. ACI SP-66 – ACI Detailing Manual
- E. ASTM A615/A615M – Standard Specification for Deformed and Plain Billet - Steel Bars for Concrete Reinforcement
- F. Concrete Reinforcing Steel Institute – 10MSP, Manual of Standard Practice
- G. Concrete Reinforcing Steel Institute - Placing Reinforcing Bars

1.3 QUALITY ASSURANCE

- A. Perform work in accordance with ACI 301 and ACI 117 as modified herein.

1.4 SUBMITTALS

- A. Submit shop drawings for concrete reinforcement prior to fabrication, showing bar bends, details and placement and certified copies of Mill Test Reports for the reinforcement. Conform to ACI SP-66. Details shall include:
 - 1. Sizes, dimensions, and locations for reinforcement and supports
 - 2. Bending diagrams and schedules
 - 3. Splices
 - 4. Cover and clearances
 - 5. Pertinent reinforced concrete details with dimensions and elevations
 - 6. Show reinforcement on wall elevations and sections

PART 2 - PRODUCTS2.1 REINFORCEMENT

- A. “Reinforcement” shall include all bars, anchorages, stirrups, reinforcement dowels, ties, tie-wire, chairs and other steel supports, and spacers, as noted on the Contract

- Drawings, specified herein, and as required for the proper completion of the Work.
- B. Bars: ASTM A615/A615M Grade 60; deformed new materials. Cold bent in accordance with CRSI 10MSP.
 - C. Tie wire: ASTM A1064/A1064M, annealed.
 - D. Spacers and other supports to properly position reinforcement shall conform to the "Bar Support" recommendations of CRSI 10MSP and shall be of adequate strength and design to prevent displacement of reinforcement and discoloration of concrete. Where concrete surfaces are exposed to view, weather and/or moisture supports shall be Class 1 Plastic, Plastic Protected, or epoxy coated.

2.2 MECHANICAL BAR SPLICERS

- A. Mechanical bar splicers shall be used as shown on the Contract Drawings or only after review with no exceptions taken by the Engineer.
- B. Develop 125% of yield strength of bar across mechanical splice.
- C. Acceptable products:
 - 1. Lenton Lock B-Series or Lock S-Series Splicing System by Erico
 - 2. Dayton Superior Bar-Lock S-Series Coupler System
 - 3. Zap Screwlok Type 2 Series, SL Series or Transitions by Barsplice Products, Inc.
 - 4. Or equivalent.

2.3 FABRICATION OF REINFORCEMENT

- A. Conform to CRSI Code of Standard Practice-Fabrication.
- B. Cold bend bars.
- C. Bend bars around revolving collar of recommended size.

2.4 EPOXY ANCHORAGE

- A. Epoxy anchorage for steel reinforcement is specified in Section 03155.

2.5 STORAGE OF MATERIALS

- A. Protect materials from ground and the elements.
- B. Store reinforcement and all other embedded items on skids.
- C. Remove defective materials, as determined by the Engineer, from site immediately. Do not store on site.

PART 3 - EXECUTION

3.1 REINFORCEMENT

- A. Conform to the CRSI Code of Standard Practice.
- B. Protect reinforcement from contact with form release agent. Form release agent that contacts reinforcement shall be thoroughly removed.
- C. Install reinforcement supports and spacers to maintain specified clear cover.
- D. Maintain specified tolerances.
- E. Do not weld reinforcement unless the Engineer takes no exceptions in writing. When permitted, welding shall be in accordance with AWS D1.4/D1.4M.
- F. Splicing reinforcement:
 - 1. Minimum splice lengths shall be as indicated on the Contract Drawings.

- G. Reinforcement shall be securely tied at intersections with tie wire or clips in a manner that will keep all metal away from exposed concrete surfaces.
- H. Cutting, heating, and bending of reinforcement embedded in the concrete will not be allowed.
- I. Mechanical connections shall be installed in accordance with the manufacturer's recommendations and as shown on the Drawings. Additional mechanical connections proposed by the Contractor will not be allowed unless the Engineer has reviewed and takes no exceptions in writing.
- J. All reinforcement within an area of a continuous concrete placement shall be installed, supported, and secured before beginning concrete placement.

3.2 PLACING CONCRETE

- A. Notify Engineer and Independent Testing Laboratory 24 hours minimum prior to each placement.
- B. All reinforcement within the area of one day's concrete placement shall be tied in place, and observed by the Engineer, prior to commencing concrete placement.

3.3 TOLERANCES

- A. Tolerances shall conform to all requirements of ACI 117.

3.4 DEFICIENT CONCRETE

- A. Deficient concrete includes concrete containing reinforcement that does not meet the requirements of the Contract Documents for material, size, quantity, strength, position, or arrangement.
- B. Deficient concrete may be subject to rejection and replacement at no additional cost to the Owner as determined by the Engineer.

END OF SECTION

SECTION 03300CAST-IN-PLACE CONCRETEPART 1 - GENERAL1.1 SECTION INCLUDES

- A. Cast-in-Place Concrete

1.2 REFERENCES

- A. This section contains references that are applicable to this Specification Section. The applicable edition of the indicated references shall be the version that was the most current at the time of the Advertisement of Bids. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, whether or not the document has been superseded by a version with a later date, discontinued, or replaced.
- B. AASHTO T 26 – Standard Method of Test for Quality of Water to Be Used in Concrete
- C. ACI 117 – Specifications for Tolerances for Concrete Construction and Materials
- D. ACI 301 - Specifications for Concrete Construction
- E. ACI 318 - Building Code Requirements for Structural Concrete and Commentary
- F. ASTM C33/C33M – Standard Specification for Concrete Aggregates
- G. ASTM C40/C40M – Standard Test Method for Organic Impurities in Fine Aggregates for Concrete
- H. ASTM C87/C87M – Standard Test Method for Effect of Organic Impurities in Fine Aggregate on Strength of Mortar
- I. ASTM C88/C88M – Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
- J. ASTM C94/C94M – Standard Specification for Ready-Mixed Concrete
- K. ASTM C114 – Standard Test Methods for Chemical Analysis of Hydraulic Cement
- L. ASTM C131/C131M – Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Abrasion Machine
- M. ASTM C150/C150M – Standard Specification for Portland Cement
- N. ASTM C260/C260M – Standard Specification for Air Entraining Admixtures for Concrete
- O. ASTM C494/C494M – Standard Specification for Chemical Admixtures for Concrete
- P. ASTM C535 – Standard Test Method for Resistance to Degradation of Large-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Abrasion Machine
- Q. ASTM C595/C595M – Standard Specification for Blended Hydraulic Cements
- R. ASTM C618 – Standard Specification for Coal Fly Ash and Raw or Calcined Natural

Pozzolan for Use in Concrete

- S. ASTM C989/C989M – Standard Specification for Slag Cement for Use in Concrete and Mortars
- T. ASTM C1157/C1157M – Standard Performance Specification for Hydraulic Cement
- U. ASTM C1240 – Standard Specification for Silica Fume Used in Cementitious Mixtures
- V. ASTM C1260 – Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)
- W. ASTM C1293 – Standard Test Method for Determination of Length Change of Concrete Due to Alkali-Silica Reaction
- X. ASTM C1567 – Standard Test Method for Potential Alkali-Silica Reactivity of Combinations of Cementitious Materials and Aggregate (Accelerated Mortar Bar Method)
- Y. ASTM C1602/C1602M – Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
- Z. ASTM C1603 – Standard Test Method for Measurement of Solids in Water
- AA. ASTM C1778 – Standard Guide for Reducing the Risk of Deleterious Alkali-Aggregate Reaction in Concrete
- BB. ASTM D516 – Standard Test Method for Sulfate Ion in Water
- CC. ASTM D4130 – Standard Test Method for Sulfate Ion in Brackish Water, Seawater, and Brines
- DD. ASTM E329 – Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction

1.3 QUALITY ASSURANCE

- A. Perform work in accordance with ACI 301 as modified herein.

1.4 SUBMITTALS

- A. Submit Concrete Mixture designs including:
 - 1. Proportions for all ingredients, 28-day design compressive strength, water to cementitious materials ratio, admixture dosages, slump, air content and density.
 - 2. Cement Manufacturer's Certificates of conformance with ASTM C150/C150M or C595/C595M taken during the last 90 days.
 - 3. Supplementary Cementitious Materials: Source and test reports with certificates of conformance with ASTM C618 for fly ash and ASTM C989/989M for slag cement for actual material to be used in the Work taken during the last 90 days.
 - 4. Fine and coarse aggregate data shall include test results from within the last 90 days, except test results for soundness, abrasion, and alkali reactivity shall be from within the last 12 months:
 - a. Sources
 - b. Specific Gravity
 - c. Sieve analyses per ASTM C33/C33M, including fineness modulus of fine aggregate
 - d. Organic impurities per ASTM C40/C40M (fine aggregate).
 - e. Aggregate reactivity (fine and coarse aggregate), one of the options provided in Part 2.

- f. Soundness per ASTM C88/C88M tested with magnesium sulfate (fine and coarse aggregate).
 - g. Abrasion per ASTM C131/C131M or ASTM C535 (coarse aggregate).
 - 5. Product data and Safety Data Sheets for concrete admixtures.
 - 6. Field performance and/or laboratory test reports meeting the criteria specified in ACI 301, Section 4, by testing agencies meeting ASTM E329:
 - a. Field test data used to determine the standard deviation used for establishing the required average design strength, and field test data documenting that the proposed concrete proportions will produce an average compressive strength equal or greater than the required average compressive strength, shall be from within the previous 12 months.
 - b. Laboratory trial batch data shall be from within the previous 12 months.
- B. Submit sample concrete mixture delivery slip that shall include the following information:
 - 1. Serial number of ticket
 - 2. Date and project location
 - 3. Name and location of ready-mixed concrete plant
 - 4. Truck number, time loaded, cubic yards delivered
 - 5. Mixture design
 - 6. Quantities of admixtures, with brand names
 - 7. Quantities and types of cement, fly ash and/or slag
 - 8. Quantity of water including quantity of water withheld
 - 9. Quantities of fine and coarse aggregate including moisture content, nominal maximum aggregate size
 - 10. Quantity of water added subsequent to plant batching
 - 11. Unloading time and location

PART 2 - PRODUCTS

2.1 CONCRETE MATERIALS

- A. Each cementitious material shall be furnished from one source throughout the Project.
- B. Portland cement: ASTM C150/C150M; Type II.
- C. Blended cements: ASTM C595/C595M (MS) types, excluding Type IS (≥ 70) and Type IT ($S \geq 70$). Do not use blended cements conforming to ASTM C595/C595M if they contain cements conforming to ASTM C1157/C1157M.
- D. Supplementary Cementitious Materials:
 - 1. Slag Cement: ASTM C989 - Grade 100 or 120.
 - 2. Silica Fume: ASTM C1240
 - 3. Fly Ash: ASTM C618 - Type F, and alkali content not to exceed 4.0%
- E. Aggregates:
 - 1. Prohibited: crushed hydraulic cement concrete and recycled aggregate.
 - 2. Fine aggregate
 - a. Shall meet FDOT requirements for structural concrete, or
 - b. Shall consist of washed inert natural sand, free from mineral or other coatings, soft particles, clay, loam, organic or other deleterious materials

conforming to the requirements of ASTM C33/C33M and the following requirements:

SIEVE NO.	PERCENT PASSING
4	95 to 100
8	80 to 100
16	50 to 85
30	25 to 60
50	5 to 30
100	0 to 10
200	0 to 3.0

The Fineness Modulus shall be between 2.3 to 3.1. The percentage retained between any two consecutive sieves shall not exceed 45%.

3. Coarse aggregate shall consist of a well graded crushed stone or a washed gravel conforming to the requirements of ASTM C33/C33M and the following requirements:

SIEVE	PERCENT PASSING			
	NO. 8 (3/8")	NO. 67 (3/4")	NO. 57 (1")	NO. 467 (1 1/2")
1-1/2 inch	-	-	100	95-100
1 inch	-	100	95-100	-
3/4 inch	-	90-100	-	35-70
1/2 inch	100	-	25-60	-
3/8 inch	85-100	20-55	-	10-30
No. 4	10-30	0-10	0-10	0-5
No. 8	0-10	0-5	0-5	-
No. 16	0-5	-	-	-
No. 50	-	-	-	-

The limits of deleterious substances and physical property requirements shall be as listed in ASTM C33/C33M, Table 4, for severe weathering regions.

4. Fine Aggregate testing: Perform the following tests on samples of the fine aggregate:
 - a. Organic Impurities (ASTM C40/C40M):
 - i. Color of supernatant liquid above test sample tested in accordance with ASTM C40/C40M shall not be darker than standard (Organic Plate No. 3/Gardner Color Standard No. 11).
 - ii. Use of a fine aggregate failing when tested in accordance with ASTM C40/C40M is not prohibited if when tested in accordance with ASTM C87/C87M the relative strength at 7 days is not less than 95%.
 - b. Soundness (ASTM C88/C88M):
 - i. Fine aggregate sample tested in accordance with ASTM C88/C88M for five cycles using magnesium sulfate (not sodium sulfate) shall

have a weighted average loss not greater than 18%.

c. Alkali Reactivity:

i. Use one of the following options:

- (1) Test aggregate in accordance with ASTM C1293. Aggregate having an expansion less than 0.04% at 1-year is acceptable for use.
- (2) Test concrete mixture with the aggregates and cementitious materials combination submitted, in accordance with ASTM C1293. Aggregates in mixtures having an expansion of less than 0.04% at **2-years** are acceptable for use. (This option also satisfies coarse aggregate requirements.)
- (3) Test concrete mixture with aggregates and cementitious materials combination submitted, in accordance with ASTM C1567. Aggregates in mixtures having an expansion less than 0.10% at 16 days are acceptable for use. (This option also satisfies coarse aggregate requirements.)
- (4) Test aggregate in accordance with ASTM C1293 at 1-year. If the coarse and fine aggregates are of different reactivity, the level of protection shall be based on the more reactive aggregate. The alkali content contributed by the portland cement shall not exceed 4.0 lbs per cubic yard of concrete for aggregate with expansion greater than or equal to 0.04% and less than 0.12%, and 3.0 lbs per cubic yard of concrete for aggregate with expansion greater than or equal to 0.12% and less than 0.24%. The use of aggregate with expansion greater than or equal to 0.24% shall not be permitted.
- (5) Test aggregate in accordance with ASTM C1260 at 16 days if ASTM C1293 aggregate test data is not available. If the coarse and fine aggregates are of different reactivity, the level of protection shall be based on the more reactive aggregate. The alkali content contributed by the portland cement shall not exceed 4.0 lbs per cubic yard of concrete for aggregate with expansion greater than or equal to 0.10% and less than 0.30%, and 3.0 lbs per cubic yard of concrete for aggregate with expansion greater than or equal to 0.30% and less than 0.45%. The use of aggregate with expansion greater than or equal to 0.45% shall not be permitted.

ii. Evidence of a satisfactory service record in lieu of testing for alkali reactivity is not permitted.

5. Coarse Aggregate testing: Perform the following tests on samples of the coarse aggregate:

a. Abrasion (ASTM C131/C131M or ASTM C535):

- i. Coarse aggregate shall be tested in accordance with either ASTM C131/C131M (aggregate smaller than 1 1/2") or ASTM C535 (aggregate larger than 3/4").
- ii. Loss of the mass of the coarse aggregate by abrasion shall not exceed

50%.

- b. Soundness (ASTM C88/C88M):
 - i. Coarse aggregate sample tested in accordance with ASTM C88/C88M for five cycles using magnesium sulfate (not sodium sulfate) shall have a weighted average loss not greater than 15%.
- c. Alkali Reactivity:
 - i. Use one of the following options:
 - (1) Test aggregate in accordance with ASTM C1293. Aggregate having an expansion less than 0.04% at 1-year is acceptable for use.
 - (2) Test concrete mixture with the aggregates and cementitious materials combinations submitted, in accordance with ASTM C1293. Aggregates in mixtures having an expansion of less than 0.04% at **2-years** are acceptable for use. (This option also satisfies fine aggregate requirements.)
 - (3) Test concrete mixture with the aggregates and cementitious materials combination submitted, in accordance with ASTM C1567. Aggregates in mixtures having an expansion less than 0.10% at 16 days are acceptable for use. (This option also satisfies fine aggregate requirements.)
 - (4) Test aggregate in accordance with ASTM C1293 at 1-year. If the coarse and fine aggregates are of different reactivity, the level of protection shall be based on the more reactive aggregate. The alkali content contributed by the portland cement shall not exceed 4.0 lbs per cubic yard of concrete for aggregate with expansion greater than or equal to 0.04% and less than 0.12%, and 3.0 lbs per cubic yard of concrete for aggregate with expansion greater than or equal to 0.12% and less than 0.24%. The use of aggregate with expansion greater than or equal to 0.24% shall not be permitted.
 - (5) Test aggregate in accordance with ASTM C1260 at 16 days if ASTM C1293 aggregate test data is not available. If the coarse and fine aggregates are of different reactivity, the level of protection shall be based on the more reactive aggregate. The alkali content contributed by the portland cement shall not exceed 4.0 lbs per cubic yard of concrete for aggregate with expansion greater than or equal to 0.10% and less than 0.30%, and 3.0 lbs per cubic yard of concrete for aggregate with expansion greater than or equal to 0.30% and less than 0.45%. The use of aggregate with expansion greater than or equal to 0.45% shall not be permitted.
 - ii. Evidence of a satisfactory service record in lieu of testing for alkali reactivity is not permitted.

- F. Water:
 - 1. Potable from municipal water supply.

2. Nonpotable water that meets ASTM C1602/C1602M and the following requirements:
 - a. Chlorides as Cl: 1000 ppm - tested by ASTM C114 or by #4500, Argentometric Method from "Standard Methods for the Examination of Water and Wastewater".
 - b. Sulfate as SO₄: 1500 ppm – tested by ASTM D516 or ASTM D4130.
 - c. Equivalent alkalies (Na₂O + 0.658 K₂O): 300 ppm total alkali – tested by ASTM C114.
 - d. Total inorganic solids by mass: 5000 ppm – tested by ASTM C1603.
 - e. Organic solids by mass: 300 ppm – tested by AASHTO T 26.
 - f. pH: 4.0 to 9.0 – tested by AASHTO T 26.
 - g. Presence of oil: none to slight – by visual observation.

2.2 ADMIXTURES

- A. Low Range Water Reducer: ASTM C494 Type A.
- B. High Range Water Reducer (superplasticizer): ASTM C494 Type F.
- C. Water reducing-retarding agents: for use when ambient temperature is above 70°F, replace water reducing agent in whole or in part with water reducing-retarding agent meeting ASTM C494 Type D. Use amounts to produce concrete with a set time equal to that at 70°F without the retarder.
- D. Air entraining agent: ASTM C260, vinsol resin based.
- E. Non-corrosive non-chloride accelerator: ASTM C494 Type C or E.
- F. Not permitted: Calcium chloride, thiocyanates or admixtures containing chloride ions.
- G. All admixtures used for each mixture design shall be from one single manufacturer.

2.3 CONCRETE CLASS

- A. Class A: Reinforced structural concrete

2.4 CONCRETE MIXTURE DESIGN

- A. Concrete class:
 1. Class A: $f'_c = 4,500$ psi, max $w/cm = 0.42$, min $w/cm = 0.39$
- B. Maximum nominal aggregate size:
 1. Coarse aggregate shall conform to the grading given in Table 3 of ASTM C33/C33M for sizes (i.e., nominal maximum aggregate sizes) No. 467 (1 1/2"), No. 57 (1"), No. 67 (3/4"), No. 7 (1/2"), and No. 8 (3/8").
 2. Nominal maximum aggregate size shall be as follows:
 - a. 3/4": except as specified elsewhere or upon written approval of the Engineer.
- C. Air entrainment:
 1. All concrete, except as noted below, shall be air entrained in accordance with the nominal maximum aggregate size, with a tolerance of plus or minus 1.5%:
 - a. No. 8 (3/8") – 7.5%
 - b. No. 7 (1/2") – 7.0%
 - c. No. 67 (3/4") – 6.0%
- D. Supplementary cementitious materials may be included as follows.
 1. Portland Cement - No less than 50% of the total by weight.

2. Slag Cement - If used, no less than 25% and no greater than 35% of the total by weight.
3. Silica Fume –If used, no less than 5% and no greater than 10% of the total by weight.
4. Fly Ash - If used, no less than 15% and no greater than 25% of the total by weight.
5. Total Fly Ash + Slag + Silica Fume – No greater than 50% of the total by weight.
6. Total Fly Ash + Silica Fume – No greater than 35% of the total by weight.
- E. The slump shall be 4” with a 1” plus or minus tolerance at the point of delivery, without use of a high range water reducer. When a high range water reducer is used, the slump shall be as stated above before it is added, and a maximum of 8” at the point of delivery after it is added.
- F. Water:
 1. The amount of water carried on the aggregate and the effect of admixtures is included in the water content. Provide that water carried on the aggregate is determined periodically by test and the amount of free water on the aggregate is subtracted from water added to the mixture.
 2. Maximum amount of water: that required to produce a plastic mixture of the strength and water to cementitious materials ratio specified and the required density, uniformity and workability. Consistency of the mixture: that required for the specific placing conditions and methods.
- G. High Range Water Reducing admixtures shall be used for all concrete to be pumped or with a specified water to cementitious ratio below 0.50. High range water reducer shall be added either at the concrete batch plant or on site to obtain the slumps as indicated above.
- H. Concrete shall be furnished from one supplier and batch plant during the project.

2.5 SELECTION OF CONCRETE PROPORTIONS

- A. The Concrete producer shall select the concrete mixture proportions on the basis of past field performance or the use of trial mixtures, both in accordance with ACI 301, Section 4, "Concrete Mixtures".

2.6 STORAGE OF MATERIALS

- A. Protect materials from ground and the elements.
- B. Maintain cement in dry condition.
- C. Remove defective materials, as determined by the Engineer, from site immediately. Do not store on site.

PART 3 - EXECUTION

3.1 FAILURE TO MEET STRENGTH REQUIREMENTS

- A. The strength of the concrete in place will be considered substandard if any one of the following results occur (where a strength test is defined as the average of two 6"Ø x 12" cylinders or three 4"Ø x 8" cylinders):
 1. The average any three (3) consecutive strength tests at 28 days is less than the specified strength (f'c).

2. A compressive strength test result falls below the specified strength (f'_c) by more than 500 psi.
- B. Concrete which fails to meet the strength requirements as outlined above will be reviewed by the Engineer. The Engineer will determine whether the substandard concrete will be accepted, rejected or additional tests performed.
- C. When substandard concrete occurs as defined in Part A, the Engineer will require corrective measures to be taken immediately to increase the average of subsequent strength tests. In addition, the Engineer may require cores drilled in the area of question in accordance with Specification 03305. If the core tests are inconclusive or impractical to obtain, load tests may be required, and their results evaluated in accordance with ACI 318. If the average of the three cores is less than 85% of the specified strength or if one core is less than 75% of the specified 28-day strength, then that portion of the structure shall be strengthened by a method proposed by the Contractor and no exceptions taken by the Engineer or replaced by the Contractor at no additional cost to the Owner.

3.2 DEFICIENT CONCRETE

- A. Concrete work will be considered deficient if it does not conform to strength and material durability requirements (including water to cementitious materials ratio), location, elevation, dimension, shape, alignments, and/or appearance as required in the Contract Documents. Specific examples of deficient concrete include (but are not limited to):
 1. Concrete work not formed in accordance with Section 03100.
 2. Concrete containing reinforcement that does not meet the requirements of Section 03200.
 3. Concrete not placed in accordance with Section 03320.
 4. Concrete surfaces not finished in accordance with Section 03350.
 5. Concrete exposed to view with defects that adversely affect the appearance of the specified finish. If, in the opinion of the Engineer, the defects cannot be repaired, the concrete may be rejected. Examples include:
 - a. Non-uniform appearance including texture and color
 - b. Excessive visible repairs of structural defects
 6. Concrete not cured in accordance with Section 03390.
 7. Concrete work in hot weather not in accordance with Section 03341.
 8. Concrete work damaged from accidents, poor construction practices, or fire.
- B. Deficient concrete may be subject to rejection and replacement at no additional cost to the Owner if the Engineer deems necessary.

END OF SECTION

SECTION 03305CONCRETE TESTINGPART 1 - GENERAL1.1 SECTION INCLUDES

- A. Concrete Testing performed by independent Testing Agency

1.2 REFERENCES

- A. This section contains references that are applicable to this Specification Section. The applicable edition of the indicated references shall be the version that was the most current at the time of the Advertisement of Bids. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, whether or not the document has been superseded by a version with a later date, discontinued, or replaced.
- B. ASTM C31/C31M- Standard Practice for Making and Curing Concrete Test Specimens in the Field
- C. ASTM C39/C39M- Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
- D. ASTM C42/C42M- Standard Test Method of Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
- E. ASTM C138/C138M – Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
- F. ASTM C143/C143M – Standard Test Method for Slump of Hydraulic-Cement Concrete
- G. ASTM C172/C172M- Standard Practice for Sampling Freshly Mixed Concrete
- H. ASTM C231/C231M- Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
- I. ASTM C1064/C1064M – Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
- J. ASTM C1077 – Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
- K. ASTM C1140/C1140M – Standard Practice for Preparing and Testing Specimens from Shotcrete Test Panels
- L. ASTM E329- Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction
- M. ACI 301- Specifications for Concrete Construction

1.3 QUALIFICATIONS

- A. Testing Agency shall conform to concrete testing requirements of ASTM E329 and ASTM C1077.

- B. Key personnel must be qualified in concrete quality assurance.
- C. Perform concrete field quality control testing with personnel certified as an ACI Concrete Field Testing Technician, Grade 1 according to the American Concrete Institute (ACI).

1.4 SUBMITTALS

- A. Testing Agency will submit one copy each of all test reports to each of the following: Engineer, Resident Project Representative, Contractor, and concrete supplier. Reports shall indicate the following information:

Project	Air content
Placement location	Cure box min/max temps
Contractor	Cylinder Nos
Concrete supplier	Cylinder weights
Technician	Date of breaks
Date cast	Break type
Date picked up	Break load
Design strength	Break strength
Air temp	Truck Arrival Time
Concrete temp	Truck Unload Time
Initial slump	Lab/Field-cured
Final slump	Cylinder size
Field density	
- B. Testing Agency will submit reports within 5 days of testing or inspection.
- C. Testing Agency will notify the Engineer within 24 hours if tests indicate deficiencies.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.1 CAST-IN-PLACE CONCRETE

- A. An independent, accredited and certified testing agency (Testing Agency), selected and paid for by the Owner and directed by the Engineer and/or Resident Project Representative, shall test Class A concrete for strength, slump, air content and density as indicated herein.
- B. On the Project site the Contractor shall provide a designated location and a source of electrical power for curing box provided by Owner's Testing Agency for proper initial curing and storage of concrete test cylinders as required by ASTM C31/C31M. Contractor to coordinate the location with the Resident Project Representative and Testing Agency. Curing box shall be of suitable size, prevent the loss of moisture from the specimens, and be automatically heated/cooled to maintain a temperature of between 60°F and 80°F, which shall be recorded with a maximum-minimum thermometer, as manufactured by Engius, Thermocure, or similar.
- C. The General Contractor shall notify the Resident Project Representative of proposed upcoming concrete placements as follows. (The Resident Project Representative will notify the Testing Agency.)
 - 1. On a weekly basis.
 - 2. For specific placements - a minimum of 24 hours in advance.

- D. At the Project site, for every truck before starting concrete placement, from a test sample taken from the beginning of the discharge: measure concrete temperature and perform slump, air content and density tests. This testing shall be successfully completed prior to placing the concrete.
 - 1. Perform tests after the addition of any water that was held back during batching.
 - 2. If concrete is not pumped, take test sample from the discharge end of the truck. If the concrete is pumped, take test sample from the discharge end of the pump hose.
 - 3. Before taking test sample, discharge ¼ cubic yard, minimum, of concrete into a container (which can be placed after successful testing). Then take test sample.
 - 4. Upon the Engineer's approval, once slump loss and loss of entrained air due to pumping is established, correlated acceptance limits for sampling and testing at the truck may be permitted.
 - 5. When the pumpline configuration is changed significantly, sampling and testing shall again be performed at the discharge end of the pump hose until new acceptance limits at the truck are properly correlated.
- E. In addition, perform slump, air content, and density tests for each test sample when cylinders are made for strength tests.
- F. All test samples for casting of cylinders shall be taken from the middle of the truck mixer load (not from first 10% or last 10%), and at the discharge end of the pump hose when pumped.
- G. Make (4) standard test cylinders measuring 6"Ø x 12" or (7) test cylinders measuring 4"Ø x 8" for each class of concrete as specified in 3.1.A placed in any one day at the following frequency:
 - 1. For each 100 cubic yards of each concrete placement, and
 - 2. For each placement that is less than 100 cubic yards
- H. Concrete cylinders shall be tested as follows:
 - 1. 6" Ø x 12" cylinders:
 - a. Test (1) cylinder at 7 days; (2) cylinders at 28 days
 - b. Hold one cylinder for later testing (if required)
 - 2. 4" Ø x 8" cylinders:
 - a. Test (2) cylinders at 7 days; (3) cylinders at 28 days.
 - b. Hold two cylinders for later testing (if required)
- I. Perform temperature, slump, air content and density tests and make additional cylinders at other times when directed by the Resident Project Representative.
- J. Samples taken for concrete testing are to be disposed of, and not used in the work.
- K. Additional testing and sampling required due to deficient results or improper curing shall be paid for by Owner. The cost of resampling and retesting will be determined by Engineer, and Owner will invoice Contractor for this cost. If unpaid after 60 days, this invoice amount will be deducted from the Contract Price.
- L. Contractor shall provide site access to Testing Agency personnel at all times.
- M. Testing Agency shall transport lab-cured cylinders to testing laboratory within 48 hours of casting, but not less than 8 hours after final set.

3.2 ADDITIONAL TESTS

- A. Testing Agency shall provide additional testing of in-place concrete that does not

comply with the requirements of the Contract Documents or is considered substandard as directed by Engineer. Additional tests may consist of non-destructive testing, cores drilled from the area in question or load tests. Costs of additional testing will be paid by Owner. The cost of the additional testing will be determined by Engineer and Owner will invoice Contractor for that cost. If unpaid after 60 days, the invoice amount will be deducted from the Contract Price.

- B. When the concrete strength is substandard as defined in Section 03300, concrete core specimens shall be obtained and tested from the affected area. A minimum of three (3) cores shall be taken for each sample in which the strength requirements were not met. The drilled cores shall be obtained and tested in conformance with ASTM C42/C42M. Engineer will determine the size and location of the required core samples.

END OF SECTION

SECTION 03320CONCRETE PLACEMENTPART 1 - GENERAL1.1 SECTION INCLUDES

- A. Concrete Placement

1.2 REFERENCES

- A. This section contains references that are applicable to this Specification Section. The applicable edition of the indicated references shall be the version that was the most current at the time of the Advertisement of Bids. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, whether or not the document has been superseded by a version with a later date, discontinued, or replaced.
- B. ACI 301 - Specifications for Concrete Construction

1.3 QUALITY ASSURANCE

- A. Perform work in accordance with ACI 301 as modified herein.
- B. The Contractor shall require a quality assurance representative from the concrete supplier be on site for a minimum of the first three concrete placements, and thereafter as necessary, to oversee any permitted field adjustments of delivered concrete including slump, water, superplasticizer, air entrainment, and any other issues that arise.

PART 2 - PRODUCTS – NOT USEDPART 3 - EXECUTION3.1 PLACING CONCRETE

- A. Notify Engineer and Independent Testing Laboratory 24 hours minimum prior to each placement.
- B. All reinforcement within the area of one day's concrete placement shall be tied in place, and observed by the Engineer, prior to commencing concrete placement.
- C. For each concrete placement, the Contractor shall coordinate proper timing of consecutive mixer truck deliveries with the concrete supplier to prevent interrupting continuous placements and to avoid delays in discharging trucks.
- D. All concrete delivery trucks at each placement shall be tested as specified in Section 03305.
- E. Provide concrete Delivery Slip prepared at batch plant with each truck load of concrete showing the information listed under Submittals in Section 03300.
- F. Water: water added after batching shall be carefully monitored as follows:

1. Residual, wash, and/or other water in drums: completely discharge prior to concrete batching (drums backed out).
 2. Slump adjustment: not permitted at wash down, “slump rack”, or by any other means between the time of batching to the point of delivery at the Project site.
 3. Water added after arrival at Project site: accurately metered and recorded on the delivery ticket. The Engineer’s Resident Project Representative shall be notified prior to the addition of water.
 4. No additional water shall be added to the concrete on site that will increase the water to cementitious materials ratio above that specified. If additional water is to be added on site, it shall be held back during batching from the quantity specified in the mixture design. The amount of water held back shall be clearly indicated on the concrete delivery slip, and the addition of more water than indicated shall be cause for non-compliance and rejection of the concrete truck.
- G. Place concrete from mixing truck to final location quickly and without segregation.
- H. Place all concrete from the delivery truck within 90 minutes of addition of water to cement, or cement to aggregate, whichever occurs first. When air temperature is 90°F and above, this time shall be reduced to 60 minutes. These times may be exceeded only upon review with no exceptions taken by the Engineer, and only if all tests for air content, slump and temperature are also within specified limits.
- I. Standing water shall be removed from all forms and excavations and the Work shall be kept dry during concrete placement. No water shall be thrown on, allowed to flow over, or rise upon the concrete until the concrete surface has reached its final set and is rigid.
- J. Concrete truck chute shall conform to the following:
1. Minimum slope: 3 horizontal to 1 vertical. Maximum slope: 2 horizontal to 1 vertical. Between these limits the chute slope shall be such to ensure continuous flow without segregation.
 2. Provide baffle at end of chute to prevent segregation. If the end of the chute is more than 3 feet above the surface of deposit, a spout is to be used. The spout is to be kept full of concrete with the end kept as near as practical to the surface of the deposit.
 3. The chute shall be steel or steel lined. Aluminum chutes are not permitted. Sections of the chute shall have the same slope throughout.
 4. The chute is to be thoroughly flushed with water before and after each use with the water discharged outside the forms.
- K. Freefall from concrete truck discharge chute, pump hose and hopper hose: 4 feet maximum.
- L. Concrete placements shall be carried out in a continuous operation until the placement of the entire section between construction joints is complete. Place against plastic concrete only.
- M. Do not place partially hardened concrete. Re-tempering is not permitted.
- N. Compacting and vibrating concrete:
1. Consolidate each layer by mechanical internal vibrating equipment supplemented by hand spading, rodding, and tamping as required. The depth of each layer shall not exceed the smaller of 20 inches and the depth that can be properly vibrated with the equipment used. When deposited in multiple layers,

the vibrator shall penetrate the preceding layer approximately 6 inches to blend layers. Ensure that initial setting of the previous layer doesn't occur prior to placement of subsequent layer.

2. Do not use vibrator to move fresh concrete within the forms. Insert vibrator at approximately 18-inch intervals, and over-vibration resulting in segregation shall be prevented.
 3. Concrete shall be thoroughly consolidated around reinforcement and into corners of forms.
 4. Where internal vibration is impractical, the use of form vibrators will be considered, and will be allowed only with the review with no exceptions taken by the Engineer. When allowed, the vibrator shall be placed so that motion is horizontal.
- O. Pumping: The inside diameter of pipes and hoses used to convey the concrete shall be a minimum of three times the maximum size aggregate of the mixture. In order to minimize altering the concrete properties, long vertical sections at the end of the pump line are prohibited. A horizontal hose run, a hose loop, or a slide gate at the end of the hose is to be used to reduce loss of entrained air.
- P. When placing new concrete directly against pre-existing concrete, clean the surface of all contamination and debris, and roughen by steel shot-blasting, abrasive (sand) blasting, or water-jetting (hydrodemolition). Use of scabblers, scarifiers, bush hammers, or pneumatic hammers greater than 15 pounds is not permitted due to resulting substrate bruising, except if followed by steel shot-blasting, abrasive blasting, or high-pressure water-jetting. The prepared surface shall be water-saturated and allowed to dry to a saturated surface-dry condition immediately prior to placement of concrete. Apply bonding agent specified in Section 03150 to the prepared surface and place concrete in accordance with the timing specified by the manufacturer for epoxy bonding agents, and before the grout paint sets for cementitious bonding agent.
- Q. Contractor shall coordinate concrete truck wash-out area with Owner.

3.2 PROTECTION

- A. Protect concrete against hot weather as specified in Section 03341.
- B. Protect concrete from damage due to construction activity and traffic.
- C. Protect concrete against premature loads until the concrete has been in place for 14 days and the design strength has been attained (unless otherwise indicated).

3.3 DEFICIENT CONCRETE

- A. Deficient concrete includes concrete work not placed in accordance with the requirements of the Contract Documents.
- B. Deficient concrete may be subject to rejection and replacement at no additional cost to the Owner if the Engineer deems necessary.

END OF SECTION

SECTION 03340COLD WEATHER CONCRETINGPART 1 - GENERAL1.1 SECTION INCLUDES

- A. Cast-in-Place Concrete in cold weather.

1.2 REQUIREMENTS SPECIFIED ELSEWHERE

- A. Additional Requirements are specified elsewhere including, but not necessarily limited to, General Conditions, Supplementary Conditions, and Division 1.

1.3 REFERENCES

- A. ACI SPEC-301 - Specifications for Concrete Construction
- B. ACI SPEC-306.1 – Standard Specification for Cold Weather Concreting
- C. ACI PRC-306 – Guide to Cold Weather Concreting

1.4 ENVIRONMENTAL CONDITIONS

- A. Cold weather is defined as: when for more than three consecutive days the average daily outdoor temperature drops below 40°F. (The average daily temperature is the average of the highest and lowest temperature during the period from midnight to midnight.) When temperatures higher than 50°F occur during more than half of any 24-hour duration, the period shall not be regarded as cold weather.

1.5 QUALITY ASSURANCE

- A. Perform work in accordance with ACI SPEC-301 and ACI SPEC-306.1 as modified herein.

1.6 SUBMITTALS

- A. Submit methods to be used to protect the concrete during cold weather placements, as defined herein, and when freezing temperatures may occur during periods not defined as cold weather. The Engineer's review shall be for information only as the Contractor is responsible for the means and methods of protection of concrete placed during cold weather.

PART 2 - PRODUCTS – NOT USEDPART 3 - EXECUTION

- A. When freezing temperatures may occur during periods not defined as cold weather, concrete surfaces shall be protected against temperatures lower than 35°F, as measured by the Engineer, for at least the first 24 hours after placement.
- B. Placing concrete in cold weather:
 - 1. Conform to ACI SPEC-306.1 as modified herein for concrete placements in cold weather.
 - 2. Concrete shall conform to the following temperature limitations “as placed and maintained” and “as mixed”, respectively. The minimum temperature

maintained shall be for a minimum of 6 days, or 4 days if an accelerating admixture is used, and shall be as measured at the concrete surface by the Engineer:

		Concrete Thickness			
Item	Air Temperature	Less than 12 in	12-36 in	36-72 in	Greater than 72 in
Minimum concrete temperature as placed and maintained					
1	--	55°F	50°F	45°F	40°F
Minimum concrete temperature as mixed for indicated air temperature					
2	Above 30°F	60°F	55°F	50°F	45°F
3	0 to 30°F	65°F	60°F	55°F	50°F
4	Below 0°F	70°F	65°F	60°F	55°F

3. The concrete placement temperature shall not be higher than the minimum concrete placement temperature (in the table above) by more than 20°F.
4. An accelerator may be used in the mixture design when placing concrete in air temperatures below 50°F.
5. All snow, ice and frost shall be removed from the surfaces against which the concrete is to be placed including subgrade and reinforcement.
6. Do not place concrete on frozen ground. Insulate or heat subgrade to ensure temperature of subgrade material is above 32°F when concrete is placed.
7. All embedded items having a cross sectional area of 1.00 square inches or greater, including #9 and larger steel reinforcement, shall be at a temperature not less than 10°F at time of concrete placement
8. Procedures for covering, insulating, housing and/or heating concrete shall be prearranged. All material and equipment required for cold weather placement, protection and curing shall be available at the project site before commencing concrete placement.
9. Cover, insulate and/or heat as required to protect concrete and provide frost protection beneath structure. Thermal protection shall be provided immediately after concrete placement. Except when supplemental heat is provided, the R-value of the insulation shall be per the recommendations of Chapter 9 of ACI PRC-306.
10. When used, enclosures shall be in place before depositing any concrete. Heating within enclosure shall maintain temperature specified with a reasonable degree of uniformity in all parts of the enclosure. All exposed concrete surfaces within the enclosure shall be kept sufficiently moist to prevent drying. Heating appliances shall be placed in a manner so as not to damage the enclosure, forms, supports, or expose concrete to drying out or to excessive temperatures.
11. The use of direct fired heaters including salamanders and torpedoes is not permitted due to the potential damage to concrete surfaces exposed to elevated levels of carbon dioxide, which can result in soft, chalky surfaces and dusting throughout the life of the structure. Heaters shall be indirect fired heaters with combustion exhaust vented outside the enclosure, electric, or hydronic.

12. The temperature shall be monitored at the surface of the concrete, including corners and edges that are more vulnerable to low temperature. The concrete surface temperature shall be recorded a minimum of twice per each 24-hour period.
 13. When used in an enclosure, reapply curing compounds every two days during heating period or at greater frequencies as required by the manufacturer.
 14. Concrete shall be cooled gradually at the end of the protection period. When the surface temperature of the concrete is within 20°F of the ambient temperature, all protection may be removed. The maximum allowable temperature drop at the concrete surfaces shall not exceed 5°F in any 1 hour, and during any 24 hours after the end of the curing period shall not exceed the following total temperature drop:
 - a. Sections of less than 12-inch minimum dimension: 50°F
 - b. Sections of 12 to 36-inch minimum dimension: 40°F
- C. Long-term protection against freezing:
1. For building structures constructed with construction supports such as elevated slabs, and for non-building structures such as tanks and exterior slabs on ground, the surface temperature of concrete shall be maintained above 32°F until the compressive strength, as verified by field-cured cylinders or embedded thermocouples reaches the specified 28-day design compressive strength.
 2. The surface temperature shall be as measured by the Engineer.

3.2 DEFICIENT CONCRETE

- A. Deficient concrete includes concrete work in cold weather that doesn't meet the requirements of the Contract Documents.
- B. Deficient concrete may be subject to rejection and replacement at no additional cost to the Owner if the Engineer deems necessary.

END OF SECTION

SECTION 03341HOT WEATHER CONCRETINGPART 1 - GENERAL1.1 SECTION INCLUDES

- A. Cast-In-Place Concrete in hot weather.

1.2 REFERENCES

- A. This section contains references that are applicable to this Specification Section. The applicable edition of the indicated references shall be the version that was the most current at the time of the Advertisement of Bids. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, whether or not the document has been superseded by a version with a later date, discontinued, or replaced.
- B. ACI 301 - Specifications for Concrete Construction

1.3 ENVIRONMENTAL CONDITIONS

- A. Hot weather is defined as job-site conditions that accelerate the rate of moisture loss or rate of cement hydration of freshly mixed concrete, including an ambient temperature of 80°F or higher, and an evaporation rate that exceeds 0.2 pounds per square-foot per hour.

1.4 QUALITY ASSURANCE

- A. Perform work in accordance with ACI 301 as modified herein.

1.5 SUBMITTALS

- A. Submit methods to be used to protect the concrete during hot weather placements as defined herein. The Engineer's review shall be for information only as the Contractor is responsible for the means and methods of protection of concrete placed during hot weather.

PART 2 - PRODUCTS – NOT USEDPART 3 - EXECUTION

- A. Placing concrete in hot weather:
 - 1. Temperature of concrete when placed shall not exceed 90°F. When the air temperature is 90°F and above, procedures to cool mixture ingredients shall be employed. These include:
 - a. Providing shaded storage for aggregate,
 - b. Frequent sprinkling or fog spraying of coarse aggregate,
 - c. Using chilled batch water and/or ice.

2. Forms and reinforcement shall be sprinkled with cold water just prior to concrete placement. When possible, placement of slabs should be scheduled accordingly in order to minimize problems associated with direct sunlight and/or drying winds.

3.2 DEFICIENT CONCRETE

- A. Deficient concrete includes concrete work in hot weather that doesn't meet the requirements of the Contract Documents.
- B. Deficient concrete may be subject to rejection and replacement at no additional cost to the Owner if the Engineer deems necessary.

END OF SECTION

SECTION 03350CONCRETE FINISHINGPART 1 - GENERAL1.1 SECTION INCLUDES

- A. Concrete Finishing

1.2 REFERENCES

- A. This section contains references that are applicable to this Specification Section. The applicable edition of the indicated references shall be the version that was the most current at the time of the Advertisement of Bids. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, whether or not the document has been superseded by a version with a later date, discontinued, or replaced.
- B. ACI 301 – Specifications for Concrete Construction

1.3 SUBMITTALS

- A. Submit product data and Safety Data Sheets for specified items. Indicate the intended use and location for all products.
- B. Submit procedures for finishing vertical surfaces.

1.4 QUALITY ASSURANCE

- A. Perform work in accordance with ACI 301, except as modified herein.
- B. All finishing materials shall meet all Federal and State regulations pertaining to Volatile Organic Compounds (VOC) Compliance.

PART 2 - PRODUCTSPART 3 - EXECUTION3.1 DEFINITIONS

- A. A tank is any liquid retaining structure.
- B. Liquid retaining or resisting slabs and walls are those that contain or resist the passage of liquid, including groundwater and precipitation.

3.2 FINISHES

- A. Repair all defects in accordance with Section 03010 prior to finishing formed surfaces.
- B. Clean all exposed concrete surfaces and adjoining work stained by concrete leakage.
- C. Finish concrete surfaces in accordance with the schedule herein.

3.3 VERTICAL SURFACE FINISHES

- A. Surface tolerance classes indicated herein are specified in ACI 117 and include abrupt surface irregularities that are measured within 1-inch of the irregularity, and gradual surface irregularities measured as the maximum gap between the concrete and the near surface of a 5-foot straight-edge, measured between contact points. All repairs shall be in accordance with Section 03010.
- B. Environmental Surface Finish-2.0 (ESF-2.0):
 - 1. Patch voids larger than $\frac{3}{4}$ inch wide or $\frac{1}{4}$ inch deep.
 - 2. Projections exceeding $\frac{1}{4}$ inch in height to be removed.
 - 3. Patch form tie holes.
 - 4. Repair surface and structural defects as indicated in Section 03010.
 - 5. Surface tolerance Class B with formed surface irregularities not more than $\frac{1}{4}$ inch.
- C. Environmental Surface Finish-3.0 (ESF-3.0):
 - 1. The concrete surface shall be of uniform color, texture.
 - 2. The arrangement of the form facing material shall be orderly and symmetrical, with the number of seams kept to the minimum.
 - 3. Surfaces to subsequently receive a grout-cleaned rubbed finish (GCRF) shall receive an abrasive or high-pressure water blast to fully expose air voids prior to finishing.
 - 4. Patch voids larger than $\frac{3}{4}$ inch wide or $\frac{1}{4}$ inch deep.
 - 5. Projections exceeding $\frac{1}{8}$ inch in height to be removed.
 - 6. Patch form tie holes.
 - 7. Repair defects as indicated in Section 03010.
 - 8. Surface tolerance Class A with formed surface irregularities not more than $\frac{1}{8}$ inch.
- D. Grout-Cleaned Rubbed Finish (GCRF):
 - 1. Provide an ESF-3.0 finish as specified above.
 - 2. The wall surface shall have all loose dirt, scale, etc. removed.
 - 3. The surface shall be wetted and allowed to soak the surface. The surface being worked on shall not be in the sun while finishing. Curing in the sun is acceptable.
 - 4. The grout mixture shall be one-part portland cement and $1\frac{1}{2}$ parts sand (by volume) and enough water to produce the consistency of thick paint matching the color of the surrounding concrete. After the materials are mixed, let set for at least 15 minutes.
 - 5. The sand and portland cement shall be obtained from the concrete plant where the concrete was obtained and shall be the same sand and the same cement as used in the concrete.
 - 6. Scrub grout into voids and remove excess grout. This is not a parge coat. The entire surface shall be rubbed and all voids filled.

3.4 MISCELLANEOUS CONCRETE SURFACES

- A. Top of walls:

1. Exposed to view - Strike off smooth and hand steel trowel to produce a smooth hard level surface. Line and elevation shall be pre-established by means of preset wood screeds which shall be removed during the troweling operation.
2. Not exposed to view – Strike off smooth.

3.5 SCHEDULE OF FINISHES

- A. Concrete surfaces "exposed to view" shall be defined as those exposed to view upon completion of the Work.
- B. Finish concrete surfaces according to the following schedule:

SCHEDULE OF FINISHES	
Location	Finish
<i>WALLS AND VERTICAL SURFACES</i>	
Liquid Retaining or Resisting, Containment	
Exterior surfaces exposed to view	GCRF
Interior surfaces not exposed to view and not included in above categories.	ESF-2.0

END OF SECTION

SECTION 03390CONCRETE CURINGPART 1 - GENERAL1.1 SECTION INCLUDES

- A. Concrete Curing

1.2 REFERENCES

- A. This section contains references that are applicable to this Specification Section. The applicable edition of the indicated references shall be the version that was the most current at the time of the Advertisement of Bids. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, whether or not the document has been superseded by a version with a later date, discontinued, or replaced.
- B. ACI 301 –Specifications for Concrete Construction
- C. ACI 308.1 – Standard Specification for Curing Concrete
- D. ASTM C171 - Standard Specification for Sheet Materials for Curing Concrete

1.3 SUBMITTALS

- A. Submit product data and Safety Data Sheets for specified items. Indicate the intended use and location for all products.
- B. Submit curing methods.

1.4 QUALITY ASSURANCE

- A. Perform work in accordance with ACI 301 except as modified herein.
- B. All curing materials shall meet all Federal and State regulations pertaining to Volatile Organic Compounds (VOC) Compliance.

PART 2 - PRODUCTS2.1 CURING MATERIALS

- A. Curing Water: Water shall be potable from a municipal water supply. The temperature of the curing water shall not be lower than 20°F cooler than the surface temperature of the concrete at the time the water and concrete come in contact.
- B. Curing Blanket: Cellulose fabric sheets with an impervious layer on one side.
 - 1. Conform to ASTM C171
 - 2. Acceptable products:
 - a. Conkure by Raven Industries
 - b. UltraCure NCF by Sika Industries
 - c. CB Series Synthetic Curing Blankets by Eagle Industries
 - d. Or equivalent.

- C. Curing Paper: ASTM C171, regular or white waterproof paper.

PART 3 - EXECUTION

3.1 DEFINITIONS

- A. A tank is any liquid retaining structure.
- B. Liquid retaining or resisting slabs and walls are those that contain or resist the passage of liquid, including groundwater and precipitation.

3.2 CURING

- A. Curing shall begin immediately following the initial set of concrete when it will not mar, erode, or stain the concrete surface and shall continue after form removal. All concrete shall be cured to attain strength and durability by one of the following methods for a minimum of 7 consecutive days immediately after placement. Moist cure is required for all tank and liquid containing or resisting walls and slabs – curing compounds are not permitted.
 - 1. Moist Cure
 - a. Continuous sprinkling. Intermittent wetting and drying is not an acceptable curing method.
 - b. Application of curing paper kept continuously wet. Use wet methods for the first 24 to 30 hours. Lap side joints of paper 4 inches minimum and end joints 6 inches minimum. Tape joints or weigh down paper to prevent displacement. Repair any and all tears during the curing period. Apply paper no earlier than 24 hours, and no later than 30 hours, after finishing. The slab surface shall be maintained in a wet condition beneath the paper at all times.
 - 2. Curing compounds
 - a. Curing compounds shall not be used on tanks or liquid retaining or resisting walls and slabs. Moist curing methods shall be used.
 - b. Curing compounds shall not be used on surfaces to receive GCRF as specified in Section 03350. Moist curing methods shall be used.
- B. Moisture loss from surfaces placed against wooden or metal forms exposed to heating by the sun shall be minimized by keeping the forms wet until they can be safely removed.
- C. All exposed concrete (tops of walls) within vertical forms shall begin curing, such as with soaker hoses, within 24 hours of placement, regardless of the duration that the forms will remain in place.
- D. After form removal of vertical elements, the concrete shall be cured for the balance of time remaining as specified above.
- E. For curing during hot weather also see the requirements of Section 03341.

END OF SECTION

SECTION 03604NON-SHRINK GROUTPART 1 - GENERAL1.1 SECTION INCLUDES

- A. Cementitious non-shrink grout

1.2 REQUIREMENTS SPECIFIED ELSEWHERE

- A. Additional Requirements are specified elsewhere including, but not necessarily limited to, General Conditions, Supplementary Conditions, and Division 1.

1.3 REFERENCES

- A. ASTM C33/C33M - Specification for Concrete Aggregates
- B. ASTM C109/C109M - Test Method for Compressive Strength of Hydraulic Cement Mortars
- C. ASTM C827 - Test Method for Changes in Height at Early Ages of Cylindrical Specimens from Cementitious Mixtures
- D. ASTM C1107/C1107M - Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink)
- E. CRD-C611 - Test Method for Flow of Grout Mixtures
- F. CRD-C621 - Specification for Non-Shrink Grout

1.4 SUBMITTALS

- A. Submit product data and Safety Data Sheets for products to be used.
- B. Submit test data when required.
- C. Submit manufacturers installation instructions for products used.
- D. Submit a list of at least five (5) similar installations of the product during the last 5 years.

1.5 QUALITY ASSURANCE

- A. The grout manufacturer shall be ISO 9001 certified and have been in business of manufacturing similar products for over ten (10) years. The manufacturer shall maintain a strict quality assurance program, offer technical services and provide a representative at the jobsite for product training, prior to product installation, upon written request.
- B. Conform to Army Corps of Engineers Specification CRD-C621 and ASTM C1107/C1107M (Grades B or C).
- C. Grouts shall exhibit non-shrink characteristics when tested according to ASTM C827.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver in original sealed packages or containers, labeled with the manufacturer's identification, printed instructions and batch code.
- B. Store in dry conditions above freezing and below 90°F.
- C. Keep unused portions of opened containers dry and warm.
- D. Store aggregate covered and protected from the elements.

1.7 ENVIRONMENTAL CONDITIONS

- A. Do not place grout when exposed to precipitation.
- B. Place grout when temperature of substrate and ambient air are above 40°F and below 90°F.
- C. Place grout outside these limits when approved by heating substrates, enclosing work, shading, cooling or other measure to mitigate adverse weather conditions.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cementitious grout: consists of premeasured, prepacked flowable cement based grouting material with aggregate requiring only the addition of water.
- B. Aggregates: ASTM C33/C33M fine aggregate, washed.
- C. Pea Stone: ASTM C33/C33M coarse aggregate, size number 8 (max. size 0.375 inches), washed.
- D. Water: Potable, from municipal water supply.
- E. Utilize proper grout for the intended application as recommended by the manufacturer.

2.2 TESTS

- A. All grouts shall achieve a minimum 28 day strength of 6,000 psi according to ASTM C109/C109M.
- B. Grouts when tested by flow cone according to CRD-C 611 shall take more than 20 seconds to flow as a maximum limit on fluidity.
- C. Test grout when requested.

2.3 ACCEPTABLE PRODUCTS

- A. Cementitious Grout
 - 1. Five Star Grout - Five Star Products, Inc
 - 2. Masterflow 928 - BASF / Master Builders
 - 3. NS Grout - Euclid Chemical Company
 - 4. Crystex - L&M Construction Chemical, Inc.
 - 5. Harris Construction Grout – A.H. Harris & Sons, Inc.
 - 6. Or equal

PART 3 - EXECUTION

3.1 SURFACE PREPARATION

- A. Unless otherwise indicated, Follow manufacturer's written instructions.
- B. Concrete surfaces shall be a minimum 28 days old.
- C. Completely remove all loose concrete, aggregate, dust, laitance, dirt, oil, grease and other contaminants by bush-hammering, chipping, brushing, concrete cleaners or degreasers.
- D. Use acceptable mechanical means to obtain clean, sound and rough concrete surfaces, exposing coarse aggregate. Blow surfaces clean of dust and debris using oil-free compressed air.
- E. Surface moisture:

1. Cementitious grout: Soak concrete surfaces thoroughly for a minimum of 8 hours with potable water. Concrete shall be saturated and free of standing water at time of grout placement.
- F. Follow manufacturer's cold and hot weather grouting procedures to maintain all materials and surfaces that contact grout within acceptable temperature ranges. Heat the substrate and surrounding environment to a minimum of 40° F.

3.2 FORMS

- A. Formwork shall be constructed of rigid nonabsorbent materials, securely anchored, watertight and strong enough to resist forces developed during grout placement.
- B. Formwork shall be constructed so that the grout is placed across the shortest distance whenever possible. The clearance between formwork and baseplate shall be sufficient to allow for headbox. The clearance for remaining sides shall be one to three inches.
- C. Height of formwork shall extend a minimum of one inch above the highest point to be grouted.
- D. All formwork shall be coated with a form release agent or plastic sheeting for easy removal. Care should be taken not to contaminate grouting surfaces where bond is required.

3.3 MIXING

- A. Provide an adequate number of mortar mixers in good operating condition for uninterrupted placement. Do not exceed one-half the maximum capacity of the mortar mixer.
- B. Cementitious grout:
 1. Pre-wet mortar mixer directly prior to mixing. Empty excess water.
 2. Start by adding the minimum amount of premeasured potable water to mixer. While mixing, slowly add grout and mix to a uniform consistency.
 3. Mix thoroughly for approximately four to five minutes. To achieve desired consistency, add remaining water as necessary. Do not exceed maximum water content as stated on product packaging or add an amount that will cause segregation.
 4. For pours requiring aggregate extension, add clean, damp coarse aggregate before final water adjustment.
 5. Do not mix more material than can be placed within the working time of the grout. Do not retemper the mix by adding additional water.

3.4 PLACING

- A. Pouring (Cementitious Grout):
 1. A headbox or similar device is required for a continuous pour to avoid air pockets under baseplate. All grouting shall take place from one side to the other, maintaining contact with the bottom of the plate at all times.
 2. When pouring through grout holes, placement shall proceed continuously with a headbox until the grout has risen in the next hole. Maintain head pressure at initial hole so that grout stays in contact with the bottom of the baseplate at all times.
 3. Commence grouting at the next hole with an additional headbox. Continue process, alternating headboxes until grouting is complete.

4. When pouring into the headbox, grout shall be introduced in a manner to avoid air entrapment. Care must be taken during grouting to keep the headbox at least half full of material to ensure even grout flow. If necessary to assist the flow, a plunger may be used. This procedure shall continue until the grout rises above the bottom edge of the baseplate on the opposite side.
 5. Throughout the pour, forms shall be constantly checked for leaks. All leaks shall be sealed immediately.
- B. Pumping (Cementitious Grout):
1. The type and size of pump and discharge line used are dependent on the parameters of each installation. Contact the pump and grout manufacturers for recommendations.
 2. Pumping raises the grout temperature and shortens the working time while reducing its consistency. Keep mix temperature as cool as necessary, except in cold weather.
 3. The grout shall be mixed to a consistency that will not segregate while pumping.
 4. The grout shall be passed through a #4 screen prior to placement into the pump hopper.
 5. Before pumping, determine the working time under jobsite conditions. Pumpability shall be determined by field testing.
 6. The pump shall be positioned to minimize the pumping distance. Keep the discharge line as close to horizontal as possible. All hose connections must be watertight.
 7. Immediately prior to pumping, the pump and lines shall be primed with a priming slurry leaving hopper empty to prevent overwatering.
 8. Once the pumping has begun, it is important not to use any of the priming slurry from the discharge lines. Grout shall not be used until a uniform consistency is obtained at the discharge nozzle.
 9. Provide an adequate volume of mixed grout to keep the pump hopper at least half full. The grout shall be placed into pump hopper in a manner to prevent air entrapment.
 10. The discharge nozzle shall be withdrawn only while pumping, keeping it submerged within the grout at all times.
 11. When a pump is needed to transport grout and the nozzle cannot be inserted into the cavity being grouted, a headbox is required. The headbox will allow the pour to be continuous, avoiding air pockets under the plate. The grout shall be discharged from the nozzle into the headbox in a manner to avoid air entrapment. The headbox shall be kept at least half full at all times.
 12. All grouting shall take place from one side of the plate to the other. Maintain contact with the bottom of the plate at all times to maximize the effective bearing area (EBA).
 13. When pouring through grout holes, placement shall proceed continuously until the grout has risen in the next hole. Maintain head pressure at initial hole so that grout stays in contact with the bottom of the baseplate at all times. Commence grouting at the next hole with an additional headbox. Continue process, alternating head boxes until grouting is complete.
- C. Dry pack (Cementitious Grout):

1. A dry-pack consistency is achieved when the mixed grout can be squeezed into a ball by hand without crumbling. Only enough water should come to the surface to moisten the hands.
2. Use a ram with a square cut end and hammer to evenly compact the grout against solidly braced backing boards, combining each layer (approximately 1/2 inch thick) to the previously placed layer over its entire surface.
3. Each placed layer shall be visually inspected for placement uniformity.
4. Striking force should be sufficient for compaction of the grout without affecting plate alignment.
5. Placement shall be continuous until grouting is complete.

3.5 FINISHING AND CURING

A. Finishing:

1. Cut grout back from bottom of baseplate to the foundation at approximately a 45° angle. Formwork can be removed for cutback when grout offers stiff resistance, or when cut with a steel trowel, stands up without support.
2. Provide smooth finish to exposed grout surfaces.
3. Grout shall not be allowed to remain above the bottom edge of the baseplate.

B. Curing:

1. Cementitious grout shall be moist cured for a minimum of three days.
2. Cementitious Grout shall be protected from excessive evaporation with wet rags prior to set.
3. Grout shall be protected from wind, rain, freezing and vibration until a minimum compressive strength of 1000 psi is achieved.
4. Maintain temperature above 45° F until a minimum compressive strength of 1000 psi is achieved.

END OF SECTION

SECTION 15064STAINLESS STEEL PROCESS PIPINGPART 1 - GENERAL1.1 DESCRIPTION

- A. Work Included: Furnish, install and test a complete digester gas stainless steel piping system to the bubble cannos, including stainless steel pipe, fittings, couplings, supports and appurtenances, as shown on the Drawings and as specified herein.
 - 1. Low Pressure Air: The stainless steel piping system shall be shop fabricated to the maximum extent practicable and shall have shop prepared joints to facilitate shipping to the job site as well as to facilitate field assembly by the Contractor. Field welding shall be kept to a minimum and shall be used to correct mis-alignment.
 - 2. Digester gas: The manufacturer and contractor provided stainless steel piping for the digester gas mixing systems to match existing.

1.3 QUALITY ASSURANCE

- A. General:
 - 1. All shop fabricated stainless steel pipe and fittings shall be furnished by a single manufacturer who is experienced, reputable, qualified and regularly engaged for the last 5 years in the manufacture and fabrication of stainless steel piping systems.
 - 2. Acceptable Manufacturers:
 - a. Douglas Brothers, Portland, Maine
 - b. Felker Bros. Corp., Marshfield, Wisconsin
 - c. Or approved equal.
- B. Shop Welding:
 - 1. Shop welding shall be performed by welders certified per ASME Section IX, in accordance with ANSI B31.1.
- C. Field Welding:
 - 1. Field welding shall be done with prior approval of the Engineer and shall be performed by welders certified per ASME Section IX, in accordance with ANSI B31.1. Field welds shall be equal to shop welds in all respects.

1.4 SUBMITTALS

- A. Submit shop drawings, manufacturer's literature, catalog cuts, piping layouts in accordance with Section 01340. Specific information which shall be submitted is identified below.
1. Name of manufacturer of pipe, fittings and appurtenances and a list of material(s) to be provided by each manufacturer.
 2. Piping layouts and schedules to include: dimensions; location(s) and type(s) of joints, fittings, equipment, valves, supports and appurtenances; coordination with all other work and existing conditions, and all other pertinent technical specifications for the piping systems to be furnished. Piping layouts shall also indicate intended field welding locations.
 3. Shop fabrication drawings showing alloys, diameters, pipe wall thicknesses, flanges and other joint preparation details, dimensions, fittings, and other appurtenances to be supplied.
 4. Proposed cleaning methods, including pre-cleaning, passivation and final cleaning.
 5. Certifications for proposed shop and field welders per ASME Section IX. Certifications shall document conformance with ASME B31.1 - Power Piping.
 6. Shop fabrication inspection report documenting a Certified Welding Inspection (CWI) of shop welds. CWI shall be performed on 30% of the total number of shop welds. Shop fabrication inspection report, including qualifications of shop Certified Welding Inspector, shall be submitted prior to shipment of materials. Welds identified as insufficient shall be repaired or replaced prior to shipment.

PART 2 - PRODUCTS

2.1 PIPE AND FITTINGS

- A. Pipe:
1. Pipe shall be manufactured from ASTM-A240 annealed and pickled sheets and plates in accordance with ASTM A778 in Types 304L and 316L stainless steel as specified herein. Pipe under 3 inches in diameter shall conform to ASTM A-312.
 2. Pipe shall be manufactured to nominal pipe sizes as listed in ANSI B36.19, Table 2.
 3. Wall thickness for 12 gauge pipe shall be 0.109 inches minimum.
- B. Fittings:
1. Fittings shall be manufactured in accordance with ASTM-A-774 of the same raw material and in the same thicknesses as the pipe.
 2. Long radius elbows up to 24" diameter shall be smooth flow; i.e. centerline to end of elbow equals 1.5 times the nominal pipe size. All short radius, special radius, and reducing elbows and long radius elbows greater than 24" diameter shall be of mitered construction with at least (5) miter sections for 90 degree bends, (3) mitered sections for 45 and 60 degree bends, and (2) mitered sections for 30 degree and smaller bends.

3. Reducers shall be straight tapered, cone type.
4. Tees, crosses, laterals and wyes shall be shop fabricated from pipe.
5. Field fabricated fittings are not acceptable.

2.2 FLANGES

- A. Flanged pipe ends shall be made up of stainless steel slip-on type rolled angle face rings and epoxy coated (10 mil DFT) ductile iron back-up flanges drilled to ANSI 16.1 class 125 standard. The angle face ring thickness shall be equal to or greater than the wall of the pipe or fitting to sides to the pipe or fitting. The angle leg shall not interfere with the flange bolt holes. The back-up flanges shall be supplied with the following nominal thicknesses.

<u>Nom. Pipe Size (IN.)</u>	<u>Flange Thickness (IN.)</u>
2½ - 3	1/2
4	9/16
6 - 10	5/8

2.4 THREADED CONNECTIONS

- A. Threaded pipe, gauge or instrument connections shall be made using stainless steel 150-pound threaded half couplings conforming to ASTM-A182 or ASTM-A-276, shop welded to the pipe at the locations shown on the Drawings.

2.5 JOINTS

- A. Flanges shall be provided as a minimum at all flanged valves, meters, couplings, and other equipment. Couplings will be provided as shown on the Drawings.
- B. Pipe and fitting spools shall be shop fabricated to the fullest extent possible in 40'0" maximum lengths with 7'6" maximum widths for efficient commercial transport to the project site. Spools with fittings may exceed 40'0" so long as length allows commercial transport. Smaller pipe spools shall be provided with joints as shown on the Drawings for special handling, installation, and/or disassembly requirements.
- C. All other joints required for shipping, handling and installation of the piping spools shall be flange joints.

2.6 GASKETS, BOLTS AND NUTS

- A. Flanged Joints
1. Gaskets shall be full-faced neoprene or rubber ring gaskets with cloth insertion.
 - a. 12 inch diameter or less shall be 1/16-inch thick.
 - b. Larger than 12 inch diameter shall be 3/32-inch thick.
 - c. Gaskets shall be suitable for use at temperatures to **250°F**.
 2. Use bolts, bolt studs with a nut on each end or studs with nuts where the flange is tapped.
 - a. Number and size shall conform to the same ANSI standard as the flanges.

- b. Bolts, nuts and washers shall be stainless steel, ASTM F593/F594, Alloy Group 2, AISI 316 stainless steel with minimum yield strength of 65,000 psi. Bolt grade identification marking "F593G". For high temperature service, use A193 Grade B8M Class 1 AISI 316 stainless steel. Bolt grade identification marking "B8M".

PART 3 - EXECUTION

3.1 FABRICATION AND INSTALLATION

- A. All stainless steel pipe and fittings shall be pickled by immersion in an air agitated tank containing an ambient 25% solution of nitric and hydrofluoric acids for 15 to 20 minutes at 125 degrees F. A clean water rinse shall follow the acid pickle.
- B. Spools shall be fabricated to the "Pipe Fabrication Institute" fabricating tolerances ES-3 (1981).
- C. Welding:
 - 1. All shop and field welding shall be performed by certified welders and in full conformance with ANSI B31.1. Field welding shall be done with prior approval of the Engineer including performance of a demonstration weld in the presence of the Engineer at no expense to the Owner. Additional inspections or testing may be performed per Section 01400.
 - 2. Piping with wall thickness up to 11 gauge (0.125") shall be welded with the TIG (GTAW) process. Heavier walls shall be properly beveled and have a root pass with the TIG (GTAW) process followed by subsequent passes with the TIG (GTAW), MIG (GMAW), or metallic Arc (SMAW) process.
 - 3. Filler wire of ELC grades only shall be added to all welds to provide a cross section at the weld equal to or greater than the parent metal. Weld deposit shall be smooth and evenly distributed and have a crown of no more than 1/16 inch on the I.D. and 3/32 inch on the O.D. of the piping. Concavity, undercut, cracks or crevices shall not be allowed.
 - 4. Welds shall have full penetration to the interior surface, and inert gas shielding shall be provided to the interior and exterior of the joint.
 - 5. All welds shall have a surface finish equal to the smoothness of the pipe. Excessive weld deposits, slag, spatter, and projections shall be removed by grinding. Interior bead welds shall be smooth, evenly distributed, with an interior projection not exceeding 1/16-inch beyond the I.D. of the pipe or fitting.
 - 6. Angle face rings shall be continuously welded on both sides to the pipe or fitting. Welds on gasket surfaces shall be ground smooth.
- D. After welding, all welded joints shall be treated with a pickling solution, brushed with stainless wire brushes and rinsed clean.
- E. All fabricated piping shall have openings plugged and flanges secured for storage and/or transport after fabrication. All fabricated piping shall be piece marked with identifying numbers or codes which correspond to the Contractor's layout and installation drawings. The marks will be located on the spools at opposite ends and 180 degrees apart.
- F. Handling and Installation:

1. The piping supplier during manufacturing, fabrication and handling stages, and the Contractor during handling and installation stages, shall use extreme care to avoid the contact of any ferrous materials with the stainless steel piping.
 2. All saws, drills, files, wire brushes, etc. shall be used for stainless steel piping only.
 3. Pipe storage and fabrication racks shall be non ferrous or stainless steel or rubber lined.
 4. Nylon slings or straps shall be used for handling stainless steel piping. Contact with ferrous items may cause rusting of iron particles embedded in the piping walls.
 5. After installation, the Contractor shall wash and rinse all foreign matter from the piping surface. If rusting of embedded iron occurs, the Contractor shall pickle the affected surface with Oakite Deoxidizer SS or equal, scrub with stainless steel brushes and rinse clean.
- G. Maintenance:
1. The Contractor shall be responsible for supplying and installing the stainless steel piping with a consistently clean surface. Identifying spool piece marks shall be removed with paint thinner or solvents and the entire stainless steel surface shall be washed with detergent and hot water and rinsed clean.
- H. After installation, the piping system shall be pressure tested by the Contractor.

END OF SECTION

SECTION 15188

OUTSIDE PIPE INSULATION

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work Included: Furnish and apply insulation to digester gas piping as shown on the Drawings and as specified herein.

1.2 QUALITY ASSURANCE

- A. All insulation work shall be executed by skilled insulation workmen regularly employed in the trade.
- B. Fire Hazard Rating: All insulation materials shall have a fire hazard rating not to exceed 25 for flame spread, and 50 for fuel contributed and smoke developed.

1.3 SUBMITTALS TO THE ENGINEER

- A. Submit shop drawings in accordance with the General Conditions of the Construction Contract and Specification Section 01340. Submit shop drawings including but not limited to:
 - 1. Insulation
 - 2. Protective jacketing.
 - 3. Adhesives, sealants, coatings, reinforcing mesh and bands.
- B. If requested by the Engineer, submit samples of the above for approval.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in suitable containers to protect from damage.
- B. Store materials so as to be completely protected from the weather.
- C. Do not allow adhesives and sealants to be subject to temperatures below 40°F.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Insulation - shall be rigid cellular glass insulation in accordance with ASTM C552-91 Standard specification for Cellular Glass Thermal Insulation. The insulation shall be fabricated in half sections wherever possible. For large diameter piping where half sections are not practical, curved sidewall segments are preferred. Wherever possible, the insulation should be factory jacketed. Insulation shall be equal to Pittsburgh Corning "FOAMGLAS".
- B. Jacketing:
 - 1. Jacket shall be a 75 mil thick self-sealing high polymer asphaltic membrane with an integral gall scrim and an aluminized Mylar film on the surface, equal to Pittsburgh Corning "PITTWRAF SS II JACKET".
 - 2. Mastic shall be asphalt cutback mastic, equal to Pittsburgh Corning "PITTCOTE".
 - 3. Reinforcing Fabric shall be open mesh polyester fabric with a 6 x 5.5 mesh/inch configuration, equal to Pittsburgh Corning "FABRIC 79".

4. Sealant shall be non-setting butyl sealant with at least 85% solids content, equal to Pittsburgh Corning "PITTSEAL 444".
- C. Insulation Protective Coverings for Exposed Piping:
 1. Exposed outside piping shall be provided with a 0.016 inch thick corrugated aluminum jacket. Aluminum shall be Type 3003 or 5005, ASTM B 209, Temper H14. Exterior shall have a factory applied baked-on acrylic coating. The inside of the covering shall have a factory applied moisture barrier of polyethylene film on Kraft Paper. Covering shall be as manufactured by Chillers, Insul-Coustic, or approved equal.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. All surfaces to be insulated shall be cleaned of all scale, rust, oil, and foreign matter and shall be dry and free of frost prior to and during application of insulation.
- B. All testing of piping to be insulated shall be completed prior to the application of any insulation material.
- C. Insulation shall be provided with a factory applied jacket.
- D. Install the insulation in accordance with the manufacturers recommended procedures.
- E. Exposed Outside Piping:
 1. Install aluminum coverings only after insulation application has been inspected and approved by the Engineer.
 2. Seal lap type covering system on butt and longitudinal seams. Overlap shall be 2 inches minimum on side and edge laps with longitudinal cut edge turned under to provide a smooth edge.
 3. Seal lock join system on longitudinal and butt or end seams.
 4. Position all horizontal joints to shed water.
 5. Fasten aluminum covering with ½ inch wide by 0.105 inch thick stainless steel bands installed at nine inch on center. Screws are not permitted.

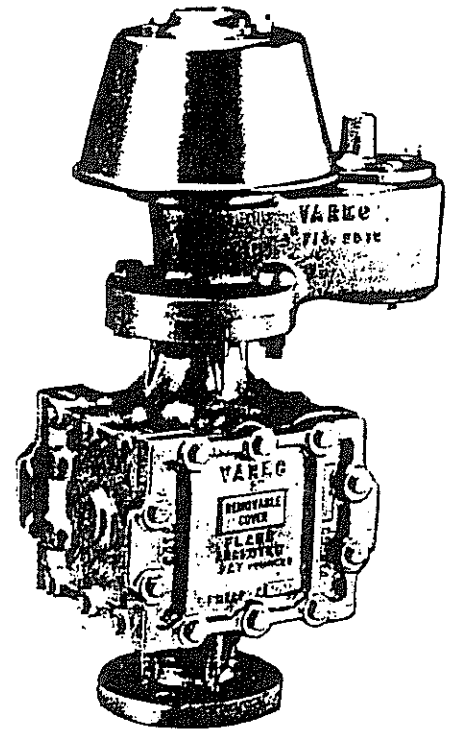
END OF SECTION

APPENDIX A
Existing Relief Valve & Flame Arrestor

5810/~~5820~~ SERIES

RELIEF VALVE AND FLAME ARRESTER

- Vent to Atmosphere or Pipe Away Model
- Oversized Pressure and Vacuum Ports
- Extensible Bank Assembly
- Replaceable Pressure and Vacuum Seat Rings
- ~~Optional "All Weather" Coating of Valve Seats and Guides~~



5810 SERIES

INTRODUCTION

The VAREC 5810/~~5820~~ Series Relief Valve and Flame Arrester is a combination of the VAREC 2010/~~3000~~ Series Pressure and Vacuum Relief Valve and the VAREC 5000 Series Flame Arrester. This unit combines the high flow capacity of the VAREC relief valve with the easily serviced VAREC extensible bank flame arrester for maximum protection and reliable operation.

APPLICATION

VAREC 5810/~~5820~~ Series Relief Valve/Flame Arresters are installed on anaerobic digester covers or low pressure gas holder roofs. The relief valve protects the cover from excessive pressure and vacuum within the tank. In addition, it maintains system operating pressure so waste gas is not routinely vented to the atmosphere. The flame arrester protects from accidental ignition of sludge gas within the digester or gas holder. It is designed to stop the propagation of flame from external sources. For further information on these devices, see Bulletin PDS 2010WT and PDS 5000.

Several material combinations are available to suit various climates. The standard aluminum construction is suitable for moderate climates. ~~In climates with extremes of hot, humid and freezing weather, the~~

~~"All Weather" 5811 series is recommended. This design incorporated added features which reduce potential malfunctions from these extreme conditions.~~

~~For further protection from cold weather, VAREC offers the 5820 Series. This model incorporates an enclosed pressure port on the relief valve. This allows gas to be vented away from the valve. It is especially suited for field installation of insulation jackets or insulated shelters. The 5821 Series includes the pipe-away outlet and the "All Weather" features for maximum cold weather protection.~~

~~Where corrosion from H₂S is of concern, the relief valve can be supplied with optional 316 SS trim. The flame arrester bank sheets are also available in 316 SS material.~~

OPERATION

Whenever the system gas pressure or vacuum exceeds the valve setting, the pallets lift. Only excess pressure is vented to the atmosphere. Air is drawn into the digester only to relieve an excess vacuum condition. The valve remains closed while the gas utilization system remains within normal operating pressure.

5810/5820 SERIES RELIEF VALVE AND FLAME ARRESTER

The flame arrester stops the propagation of a flame by absorbing and dissipating heat through the surface area of the bank sheets. Heat is absorbed as ignited gas attempts to pass through the small passages within the bank assembly. This action lowers the temperature of the gas below its ignition point and quenches the flame.

DESIGN FEATURES

The pallets are dead weight loaded with a field adjustable pressure setting range. Side and center pallet guides are incorporated for stability. "Air-cushion" teflon seat inserts ensure a tighter seal.

~~The "All-Weather" models feature a special non-frosting and icing resistant coating. This coating is applied to the pallet perimeter and stem guide posts, and tip of seat ring. This feature provides additional protection against pallets freezing closed.~~

The net free area through the flame arrester bank is three to four times the unit pipe size. This design provides increased flow capacity with minimal pressure drop.

The unique extensible aluminum bank frame allows the corrugated sheets to be individually inspected and routinely cleaned without removal from the frame. Should the sheets require replacement, the entire bank assembly slides easily out of the arrester. It is not necessary to raise the relief valve to remove the bank. VAREC's unique extensible bank feature is especially useful where the potential of digester foaming exists. The bank sheets must be routinely cleaned to remove scum or other residue which might reduce the efficiency and possibly present a safety risk.

Additional features of the relief valve and flame arrester are described in detail in their respective data sheets.

SPECIFICATIONS

Sizes:

→ 5810: ~~2", 3", 4", 6", 8", 10" and 12"~~
5820: ~~2" x 3", 3" x 4", 4" x 6", 6" x 8", 8" x 10", 10" x 12", and 12" x 14"~~

Connections: Drilled to ANSI Class 125 dimensions, flat face flange

Setting:

Pressure — Variable from 1" WC (25.4 mm) to 15" WC (381 mm) in 1" WC increments

Vacuum — 2" WC (50.8 mm)

Note: $\frac{1}{4}$ " WC and $\frac{1}{4}$ " WC increments, or other settings available on request

Materials:

Valve Body — 356 HT low copper cast aluminum

Valve Trim —

Low copper aluminum with 304 S.S. guide posts, standard

316 stainless steel, optional

Pallet Seat Inserts — Teflon

Pallet Weights — Lead

Protective Screens — HDPE (High density polyethylene)

Arrester Housing — 356 HT low copper cast aluminum

Arrester Bank —

Low copper aluminum extensible frame with aluminum bank sheets, standard

~~Low copper aluminum extensible frame with 316 stainless steel bank sheets, optional~~

"All-Weather" Option:—

~~Relief valve operating temperature: -25°F (-32°C) to 200°F (93°C)~~

Approvals:

5000 Series Flame Arrester UL (Underwriters Laboratories) listed in all aluminum construction with extensible bank assembly in 2", 3", 4", 6", and 10" sizes.*

*For use on oil storage tanks, installed not more than 15 feet from the open end of the vent pipe. These test conditions may not represent the actual service conditions or piping system design. It is recommended that the arrester be independently tested under actual service conditions before installation.

FEATURES/BENEFITS

VAREC FEATURE

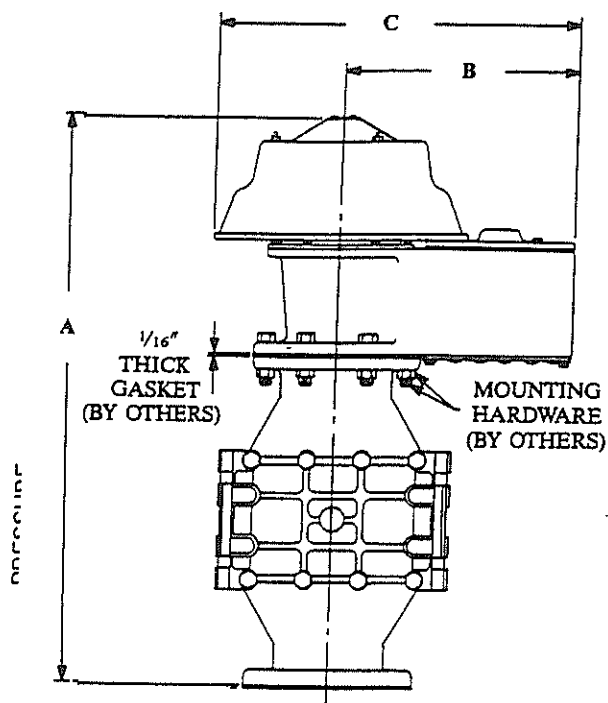
- Oversized Pressure and Vacuum Ports
- Extensible Bank Assembly
- Replaceable Pressure and Vacuum Seat Rings
- Optional "All-Weather" Coating of Valve Seats and Guides
- Vent to Atmosphere or Pipe Away Model

USER BENEFIT

- Large flow capacity allows use of smaller size
- May be cleaned in place. Relief valve does not require support when bank is removed.
- Reduces maintenance time and replacement cost
- Valve will operate at temperatures to -25°F (-32°C)
- Application flexibility for either weather or emissions consideration.

DIMENSIONAL DRAWING

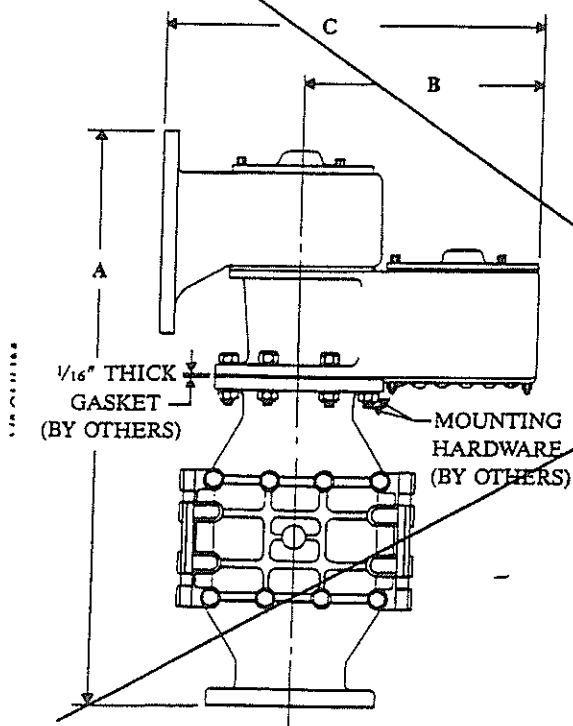
5810 SERIES



SIZE CODE	2	3	4	6	8	0	1
NOMINAL PIPE SIZE	2 50	3 75	4 100	6 150	8 200	10 250	12 300
A	21 5/8 549	24 1/2 622	29 1/4 743	36 7/8 937	45 5/8 1159	52 1/4 1327	62 7/16 1586
B	8 1/2 216	11 279	12 3/8 314	15 1/2 394	19 9/16 497	24 15/16 633	29 3/16 741
C	12 3/4 324	16 3/8 416	19 1/8 486	24 610	29 7/8 759	38 7/16 976	46 3/16 1173
SHIPPING WEIGHT	52 24	88 40	132 60	187 85	302 137	448 203	662 301

Inches and lb in bold, mm and kg in light
(Shipping weights shown for aluminum construction)
Flange drilling per ANSI Class 125 flat face

5820 SERIES



SIZE CODE	2	3	4	6	8	0	1
NOMINAL PIPE SIZE	2 50	3 75	4 100	6 150	8 200	10 250	12 300
A	21 13/16 554	24 13/16 630	29 11/16 754	38 1/2 978	47 11/16 1211	54 3/8 1381	64 1/16 1627
B	8 1/2 216	11 279	12 1/2 318	15 1/2 394	19 9/16 497	24 15/16 633	29 3/8 746
C	12 7/8 327	16 5/8 422	20 1/4 514	24 610	30 9/16 776	38 5/16 973	44 3/8 1127
SHIPPING WEIGHT	62 28	103 47	152 69	217 99	342 155	528 240	767 349

Inches and lb in bold, mm and kg in light
(Shipping weights shown for aluminum construction)
Flange drilling per ANSI Class 125 flat face

tyco

Flow Control

VAREC ISO 9001 Certified Firm

VAREC[®]

Vapor Control Inc.

5800A Series

Pressure and Vacuum Relief Valve

with Flame Arrester Assembly

INSTRUCTION, OPERATION AND MAINTENANCE MANUAL

Disclaimer of Warranties

The contract between Whessoe Varec and our customer states Whessoe Varec's entire obligation. The contents of this instruction manual shall not become part of or modify any prior or existing agreement, commitment or relationship between Whessoe Varec and our customer. There are no express or implied warranties set out in this instruction manual. The only warranties that apply are those in the existing contract between Whessoe Varec and our customer.

The Whessoe Varec 5800A Pressure and Vacuum Relief Valves with Flame Arrester Assembly have not been tested by Whessoe Varec under all possible operational conditions, and Whessoe Varec does not have all the data relative to your application. The information in this instruction manual is not all-inclusive and does not and cannot take into account all unique situations. Consequently, you should review this product literature in view of your application. If you have any further questions, please contact Whessoe Varec for assistance.

Limitations of Seller's Liability

In the event that a court holds that this instruction manual created some new warranties, Seller's liability shall be limited to repair or replacement under the standard warranty clause. In no case shall Seller's liability exceed that stated as Limitations of Remedy in the contract between the Seller and Buyer.

Use of parts that are not manufactured or supplied by Whessoe Varec voids any Whessoe Varec warranty and relieves Whessoe Varec of any obligation to service the product under warranty. Whessoe Varec recommends the use of only Whessoe Varec manufactured or supplied parts to maintain or service Varec 5800A Series Pressure and Vacuum Relief Valve with Flame Arrester Assembly.

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Safety Precautions

READ AND UNDERSTAND THIS INSTRUCTION MANUAL BEFORE INSTALLING, OPERATING OR PERFORMING MAINTENANCE ON WHESOE VAREC 5800A SERIES PRESSURE AND VACUUM RELIEF VALVE WITH FLAME ARRESTER ASSEMBLY. FOLLOW ALL PRECAUTIONS AND WARNINGS NOTED HEREIN WHEN INSTALLING, OPERATING OR PERFORMING MAINTENANCE ON THIS EQUIPMENT.

WARNING

- Unit must be isolated from tank pressure before servicing. All gas must be blocked and pressure safely vented.
- Flame Arrester should be installed upstream and no more than 15 feet from the ignition source for use in accordance with UL approval.
- Flame Arresters are not capable of stopping a flame front in mixtures of air with hydrogen, acetylene, ethylene oxide, or carbon disulfide.

Safety Precaution Definitions

CAUTION

Damage to equipment may result if this precaution is disregarded.

WARNING

Direct injury to personnel or damage to equipment that can cause injury to personnel may result if this precaution is not followed.

General

The 5800A Series Pressure and Vacuum Relief Valve and Flame Arrester Assembly is a combination of the VAREC 2010A/2020A Series Pressure and Vacuum Relief Valve and the VAREC 5000 Series Flame Arrester. The unit is designed to protect low-pressure storage tanks, anaerobic digesters and gas-holders from excessive pressure and/or vacuum. In addition, it maintains system operating pressure so biogas is not routinely vented to atmosphere. The Flame Arrester protects from accidental ignition of the sludge gas within the low-pressure storage tank, anaerobic digesters, and gas-holders. The Arrester is designed to stop the propagation of flame from external sources. The combination valve and Flame Arrester is installed on the roof of low-pressure storage tanks, anaerobic digesters and gas-holders.

The 5810A Series Unit relieves pressure directly to the atmosphere. A weatherhood and mesh screen protects the valve pressure pallet and guideposts. In-breathing ambient air relieves vacuum pressure.

~~The 5820A Series Unit relieves pressure through an enclosed outlet adapter. Product vapors may be piped away rather than relieving directly to the atmosphere. In-breathing ambient air relieves vacuum pressure.~~

WARNING

Flame Arresters are not capable of stopping a flame front in mixtures of air with hydrogen, acetylene, ethylene oxide, or carbon disulfide.

NOTE

Whessoe Varc Flame Arresters bearing UL approval are tested for use in oil storage tanks, installed at no more than 15 feet from the open end of a vent pipe (Reference UL 525). These test conditions may not represent the actual service conditions or piping system design. API Publication 2028 states that the Flame Arrester should be independently tested under actual service conditions before installation.

Construction

Refer to Figure 01 for construction and assembly detail.

Standard materials of construction for the valve include cast body and cover(s). Pallets are dead weight loaded with lead or coated steel weights and include a flexible membrane-sealing insert. The pallet is loosely guided through a center stem and pallet guide posts. Protective screen is manufactured from high-density polyethylene.

The Flame Arrester is constructed of a heavy cast housing containing a removable multi-plate bank assembly with an extensible aluminum frame or a fixed stainless steel frame.

The "All-Weather" Models 5811A and ~~5821A~~ Series Unit includes a special coating on portions of the pallets, seat rings and guides to eliminate ice accumulation.

The maximum working pressure for the 5800A Series Unit is 2 PSIG (13.8 kPa). For material selection see Product Data Sheet PDS 5810WT.

Practical Limitations

While Flame Arresters decrease the possibility of flame propagation in a system, certain variables must be evaluated to ensure safety. The relative fire hazard of flammable mixtures can be judged by the upper and lower explosive limits. These limits are expressed as percents by volume of the gas or vapor in air. The explosive range is that span of concentrations lying between the lower and upper limits. The upper limit is the point at which the mixture is too rich to burn, i.e., contains minimal oxygen to support combustion. The broader the explosive range, the easier it is to create an air-gas explosive mixture. Conversely, when an explosive range is narrow, the chance of developing a hazardous air-gas mixture disappears. Refer to Table 1 for lower and upper limits of gases and vapors.

WARNING

In all cases where the ratio of the upper limit/lower limit exceeds 10, the use of Flame Arresters is not recommended. Also, the presence of any O₂ is dangerous because of the lack of homogeneity, which is possible in gas mixtures. Any surplus of oxygen provides the potential for rapid explosion.

TABLE 1

Product	Limits in Air Pressure		Product	Limits in Air Pressure		Product	Limits in Air Percent	
	Lower	Upper		Lower	Upper		Lower	Upper
Acetyldehyde	4.1	55.0	Ethyl-Alcohol	4.3	19.0	Methyl-Alcohol	7.3	36.0
Acetone	3.0	11.0	Ethyl-Bromide	6.7	11.3	Methyl-Chloride	10.7	17.4
Acetylene	2.5	81.0	Ethyl-Chloride	3.8	15.4	Methyl-Ethyl-ketone	1.8	10.0
Ammonia	15.0	28.0	Ethyl-Ether	1.9	48.0	Methyl-formate	5.9	20.0
Benzene	1.4	7.1	Ethyl-Formate	2.7	13.5	Methyl-propyl-ketone	1.5	8.0
Benzine	1.1	-	Ethylene	3.1	32.0	Natural Gas	3.8	17.0
Blast Furnace Gas	35.0	74.0	Furfural	2.1	-	Norlane	0.8	-
Butadiene	2.0	11.5	Gasoline	1.4	7.6	Octane	1.0	-
Butane	1.9	8.5	Hexane	1.2	7.5	Pentane	1.5	7.8
Butylene	2.0	9.6	Heptane	1.2	6.7	Propane	2.1	9.5
Carbon Disulphide	1.3	44.0	Hydrocyanic Acid	6.0	41.0	Propyl-Alcohol	2.1	13.5
Carbon Monoxide	12.5	74.0	Hydrogen	4.0	75.0	Propylene	2.4	10.3
Cyclohexane	1.3	8.0	Hydrogen-Sulphide	4.3	5.0	Pyridine	1.8	12.4
Cyclopropane	2.4	10.4	Isobutane	1.8	8.4	Styrene	1.1	6.1
Decane	0.8	5.4	Isopentane	1.4	7.6	Toluene	1.4	6.7
Ethane	3.0	12.5	Isopropyl-Alcohol	2.0	12.0	Water Gas	7.0	72.0
Ethyl-Acentate	2.5	9.0	Methane XXX	5.3	14.0	Xylene	1.0	6.0

Reference: Bureau of Mines Bulletin 503, Limits of Flammability of Gases and Vapors, 1952

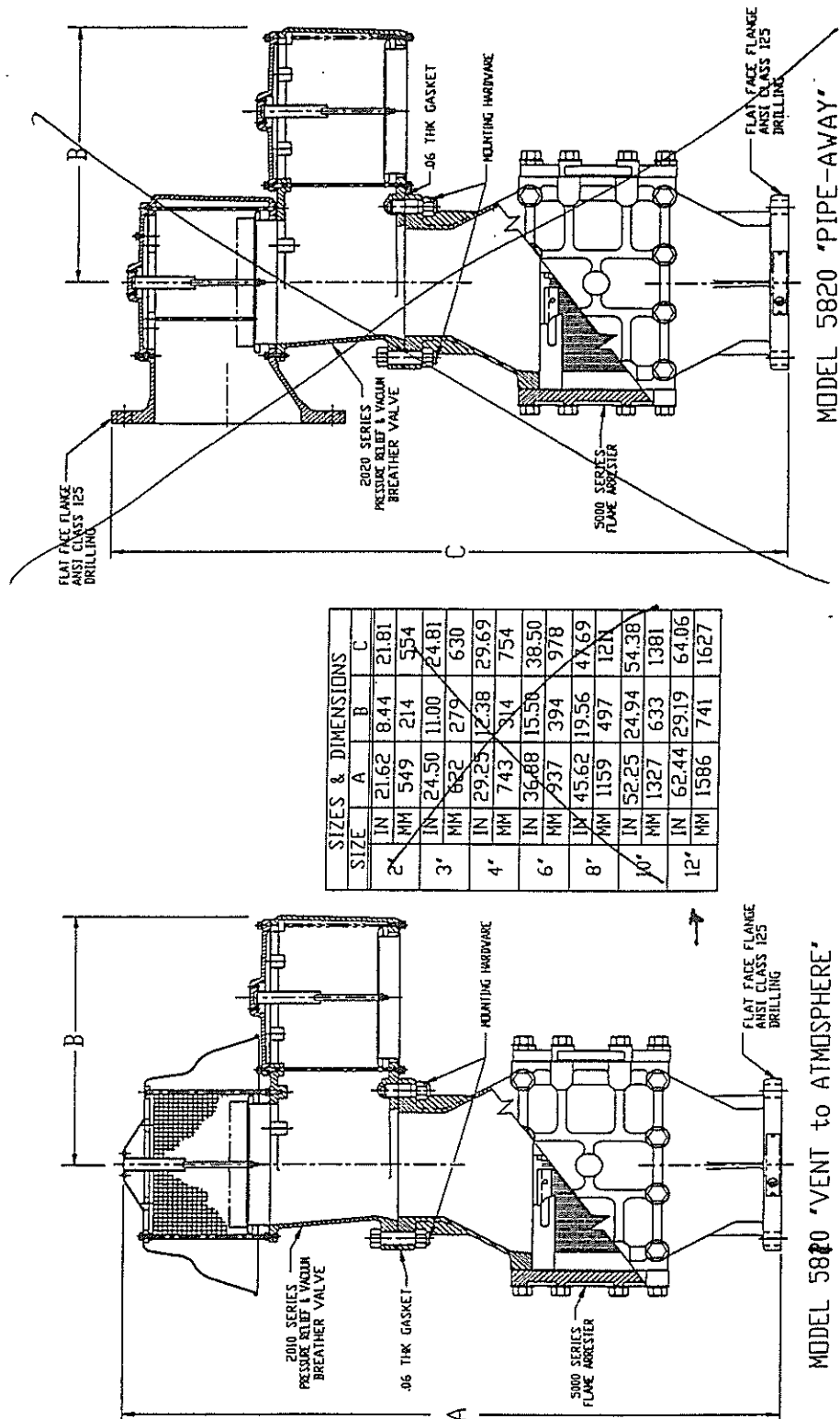


FIGURE 01
DIMENSIONAL LAYOUT AND ASSEMBLY

Operation

When the internal tank pressure approaches the valve setting, the pressure pallet in the valve begins to lift. As the pressure exceeds the valve setting, the pressure pallet lifts off the seat ring. Excess product vapor is allowed to vent to the atmosphere, or through the pipe away system adapter, relieving the over pressure condition. The valve pallet automatically re-seats as the tank pressure drops below the valve setting.

If a vacuum within the tank approaches the valve setting, the vacuum pallet in the valve begins to lift. As the vacuum exceeds the valve setting, the vacuum pallet lifts off the seat ring. Atmospheric air is allowed to flow into the tank, relieving the excess vacuum condition. The pallet automatically re-seats as the vacuum drops below the valve setting.

Flame Arresters in the unit does not prevent the ignition of flammable mixtures, but prevents the propagation of flame in case of ignition. The Flame Arrester stops the propagation of flame by absorbing and dissipating heat through the surface area of the bank sheets. Heat is absorbed as ignited gas attempts to pass through the small passages within the bank assembly. This action lowers the temperature of the gas below its ignition point and quenches the flame.

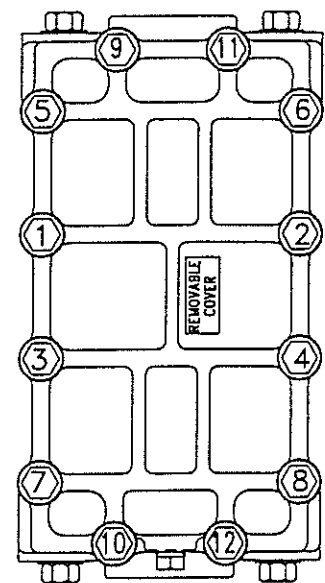
Installation

The 5800A Series Pressure and Vacuum Relief Valve with Flame Arrester Assembly must be mated with the appropriate flange(s). Note that a Flame Arrester with aluminum housing should be mated with an ANSI 125 Flat Face Flange. The 316 SS housing should be mated with an ANSI 150 RF Flange. The Flame Arrester must be located with clearance allowed for removal of the bank assembly. The nozzle must be plumb and the inlet flange face level to ensure proper operation of the pressure and vacuum relief valve.

1. Remove the unit from the shipping container. Remove flange protectors. Inspect for and remove any packing or other loose material in the inlet/outlet chambers of the Flame Arrester housing, and check to see if extra loading weights for the valve were bagged and packed separately.
2. Remove the weather hood and/or cover(s) and all packing material above the pallets and within the valve. Remove the cover and extract bank assembly. Inspect for shipping debris or damage, and correct as required. Insert bank assembly and replace cover. Tighten the cap screws uniformly.

WARNING

The aluminum back assembly weighs anywhere from 10 to 80 pounds (4 to 40 Kg). The 316 SS assembly is substantially heavier. Use the appropriate tools and equipment when handling these units to avoid injury.



BOLT TIGHTENING SEQUENCE

CAUTION

Whenever the valve weather hood and/or cover(s) is removed and reinstalled, the end of the pallet stem must engage the stem guide in the weather hood and/or the stem guide chamber in the cover(s) for proper seating and valve operation.

NOTE

Spun sheet metal pallets have a compensating weight on top of the pallet. Do not remove this weight. Refer to Table 2 for incremental weight information.

Table 2

PALLET LOADING (INCLUDES WEIGHT OF PALLET)		
VALVE SIZE	OUNCES OF WEIGHT REQUIRED PER OUNCE OF SETTING	OUNCES OF WEIGHT REQUIRED PER INCH OF WC SETTING
2"	8.3	4.8
3"	16.8	9.7
4"	22.1	12.8
6"	43.4	25.1
8"	72.7	42.0
10"	120.1	69.4
12"	179.9	104.0

Weight tolerance: + 5%/- 5%

Setting tolerance: + 0%/- 10%

3. To load vacuum pallet weights on the valve, perform the following:
 - a) With vacuum cover and gasket removed, remove vacuum pallet assembly from body.
 - b) Remove grip ring from pallet stem.
 - c) NON-VARIABLE SETTING: Locate weight marked "VACUUM" and place on top of compensating weight and/or pallet. Secure with grip ring. NOTE: If setting is less than 2" WC, weight will be pre-loaded on the pallet.
 - d) VARIABLE SETTING: Each lead weight is calibrated from 1" WC increment. (Increments of 1/4" WC and 1/2" WC may be supplied on special order). Those weights necessary for the initial specified setting will be tagged separately from any extra weight provided. Remove the packaging on the weights tagged from the initial specified setting and place the weights on top of the compensating weight. Secure with grip ring. Store remaining weights for future use (in case the setting needs to be increased).
 - e) Weigh entire pallet assembly (including installed weights). Using Table 2, confirm that the assembly is the proper weight to achieve the required setting. Allowable weight tolerance is: +5%, -5%.
 - f) Remove any remaining packing material from valve body. Wipe vacuum seat ring, guide posts and pallet assembly with a soft cloth to remove any material which could affect valve operation.

- g) Place pallet assembly on valve body seat. Ensure that pallet moves freely within guideposts and rests flat on the seat ring.
- h) Replace the cover gasket and cover. Tighten cover screws uniformly. As shown in Bolt Tightening Sequence illustration.

CAUTION

The end of the pallet stem must engage the stem guide chamber in the cover for proper seating and valve operation.

NOTE

Spun sheet metal pallets have a compensating weight on top of the pallet. Do not remove this weight. Refer to Table 2 for incremental weight information.

- 4. To load pressure pallet weights on the valve, perform the following:
 - a) With weather hood from Model 2010A, or pipe away adapter cover and gasket from Model 2020A removed, remove pressure pallet assembly from body.
 - b) Remove grip ring from pallet stem.
 - c) NON-VARIABLE SETTING: Locate weight marked "PRESSURE" and place on top of compensating weight and/or pallet. Secure with grip ring. If setting is less than 2" WC, weight will be pre-loaded on the pallet.
 - d) VARIABLE SETTING: Each lead weight is calibrated from 1" WC increment. (Increments of 1/4" WC and 1/2" WC may be supplied on special order). Those weights necessary for the initial specified setting will be tagged separately from any extra weight provided. Remove the packaging on the weights tagged from the initial specified setting and place the weights on top of the compensating weight. Secure with grip ring. Store remaining weights for future use (in case the setting needs to be increased).
 - e) Weigh entire pallet assembly (including installed weights). Using Table 2, confirm that the assembly is the proper weight to achieve the required setting. Allowable weight tolerance is: +5%, -5%.
 - f) Remove any remaining packing material from valve body. Wipe pressure seat ring, guide posts and pallet assembly with a soft cloth to remove any material which could affect valve operation.
 - g) Place pallet assembly on seat. Ensure that pallet moves freely within guideposts and rests flat on the seat ring.
 - h) Replace the weatherhood on Model 2010A or the pressure cover and gasket on Model 2020A. Tighten all nuts and screws uniformly.

CAUTION

The end of the pallet stem must engage the stem guide in the weather hood or the stem guide chamber in the cover for proper seating and valve operation.

5. Place the valve in a level position. Reach up through the inlet flange and carefully push up on the pressure pallet, then lower it onto the seat. Pallet should move up and down freely and rest flat on the seat ring.
6. Check the vacuum pallet by using a non-sparking tool, which will pass through the center of the mesh screen. Push up on the vacuum pallet, then lower it onto the seat. Pallet should move freely and rest flat on the seat ring.
7. Place the appropriate full-face flange gasket (by others) on the flange.

CAUTION

DO NOT MATE A FLAT FACE FLANGE TO A RAISED FACE FLANGE.

If it necessary to mate an ANSI Class 125 F.F. flange with an ANSI Class 150 R.F. flange, use the proper spacer to convert the raised face to a flat face.

8. Verify that the unit is level to permit proper operation of the valve pallets and the Flame Arrester bank assembly can be readily extracted for inspection and maintenance. Install mounting hardware, and tighten uniformly.
9. When using Model ~~5820A Series~~, install connecting piping (if required) to outlet flange. Use a full-faced gasket and tighten all mounting hardware uniformly.
10. The unit is now installed and ready for use.

NOTE

It is recommended that steel and iron valves be given a coat of paint immediately after installation is completed. Apply paint to external surfaces only.

Maintenance

The unit should be inspected and cleaned at periodic intervals. The frequency of inspection is determined by the application. Consideration should be given to the amount of nature of water or solids in the gas, and the corrosiveness of the process stream. Most importantly, the Flame Arrester bank sheets must be kept clean to prevent a decrease in gas flow through the system and loss of heat absorbing efficiency.

Generally, the first inspection should be made approximately 30 days after commissioning. Subsequent inspections should be made every 30 days unless excessive deposits or foreign matter accumulation is apparent. Thus, inspection frequency should be increased. Adjust the inspection frequency to ensure free and unrestricted flow through the Flame Arrester.

WARNING

Failure to properly maintain the unit could result in reduction of safety and impairment of system operation.

WARNING

- The unit must be isolated from tank pressure before servicing. All gas must be blocked and pressure safely vented. If no isolation valve is present, carefully open vacuum cover or lift pressure pallet, allowing pressure to vent slowly.
- Ensure that the Flame Arrester is cool after a fire.
- Wear appropriate gloves and/or breathing apparatus if hazardous vapors are present.

A. Pressure and Vacuum Relief Valve

1. To inspect valve proceed as follows:

- a) Remove the weather hood and/or cover(s).
- b) Remove pallets one at a time. Identify the pallets to ensure they are returned to the correct valve seat.
- c) Inspect pallet inserts for ripples, tears, or nicks, as well as seating surfaces for debris, abrasion or pitting. Pallet edges and guide posts should be free of burrs, corrosion or other obvious damage. Clean all components, replacing any showing excess wear or damage. On the "All-Weather" versions, inspect the Teflon coating for any damage that would affect operation.
- d) Reassemble in reverse order.

CAUTION

The end of the pallet stem must engage the stem guide in the weather hood and/or the stem guide chamber in the cover(s) for proper seating and valve operation.

CAUTION

During periods of freezing weather, extra maintenance is required for Models 2010A/2020A/3500. Either remove the pallets or apply generous portions of silicone grease to the pallets, seat rings and guide posts. When using silicone grease, inspect valves at least weekly. ~~This procedure is not required for "All-Weather" Models 2011A, 2021A or 3501.~~

2. To replace pallet insert proceed as follows:

- a) Remove weather hood and/or cover(s) and then pallet assembly.
- b) Remove nut from base of pallet stem. Remove retainer plate and insert. Clean all surfaces and threads. Install new insert, handling carefully to avoid damaging insert or pallet. Apply a bead of silicone at base of pallet stem threads prior to installing securing nut.
- c) Reassemble pallet and place on seat of valve body. Ensure pallet assembly moves freely within guideposts and rests flat on seat ring.
- d) Reinstall weather hood and/or cover(s).

CAUTION

The end of the pallet stem must engage the stem guide in the weather hood and/or the stem guide chamber in the cover(s) for proper seating and valve operation.

3. To replace pressure seat ring perform the following:
 - a) For Model 2010A, remove weather hood, screen, spacer ring, pallet assembly and guide posts. For Model 2020A, remove pressure cover, spacer (high setting), gaskets, pallet assembly, outlet adapter, and guide posts.
 - b) Remove seat ring from valve body. Clean body and outlet adapter mating surfaces and apply a thin, uniform coat of silicone evenly on mating surfaces.
 - c) Install new seat ring carefully to avoid distortion. Reassemble guides posts (2010A) or outlet adapter (2020A) to secure seat. Ensure that seat is flush and level with valve body.
 - d) Reassemble guides posts (2020A).
 - e) Place pallet assembly on valve body seat. Ensure pallet assembly moves freely within guide posts and rest flat on seat ring.
 - f) Reassemble remaining parts in reverse order.

CAUTION

The end of the pallet stem must engage the stem guide in the weather hood or the stem guide chamber in the cover for proper seating and valve operation.

4. To replace vacuum seat ring perform the following:
 - a) Remove vacuum cover, spacer (high setting), gaskets, pallet assembly, screen retainer, screen and guide posts.
 - b) Remove seat ring from valve body. Clean body-mating surface and apply a thin, uniform coat of silicone evenly on mating surfaces.
 - c) Install new seat ring carefully to avoid distortion. Reassemble screen and retaining ring to secure seat ring. Ensure that seat is flush and level with valve body.

- d) Reassemble guides posts.
- e) Place pallet assembly on valve body seat. Ensure pallet assembly moves freely within guideposts and rests flat on seat ring.
- f) Reassemble spacer, cover and gaskets.

CAUTION

The end of the pallet stem must engage the stem guide chamber in the cover for proper seating and valve operation.

5. Seat ring repair:

- a) Seat may be ground or ground and lapped (in place) to improve seal. Use a lapping plate and medium valve grinding compound, applying light pressure.
- b) Finish lapping with a fine compound. Avoid scoring or removing excessive amounts of material.
- c) Clean all compound from valve parts.
- d) Hand buff seat with a medium grade 'Scotch-Brite' (#7447) pad and light oil.

CAUTION

Whenever the weather hood and/or cover(s) is removed and reinstalled, the end of the pallet stem must engage the stem guide in the weather hood and/or the stem guide chamber in the cover(s) for proper seating and valve operation.

B. Flame Arrester

1. Remove the cover cap screws and cover plate. Pull-out the bank assembly by using the bank handle. If desired, the bank assembly may be removed from the housing.

WARNING

The aluminum back assembly weighs anywhere from 10 to 80 pounds (4 to 40 Kg). The 316 SS assembly is substantially heavier. Use the appropriate tools and equipment when handling these units to avoid injury.

- a) Aluminum Frame – extend the frame to its full open position. Both sides of each grid sheet may be inspected and cleaned without removal from the frame.
 - b) 316 SS Frame – It is non-extensible and must be disassembled to access the bank sheets.
2. Check for corrosion, bent, warped, or otherwise damaged sheets that could cause an opening for a direct flame path. Replace with a full bank sheet if necessary.
 3. Bank assembly cleaning procedure is based on the type of residue to be removed. Determine if residue type is Group I, II, or III. Follow the cleaning procedures for the selected group.

WARNING

Use all volatile and flammable solvents carefully to avoid ignition or prolonged breathing. Use protective clothing and gloves when using acid to avoid burns from contact with skin.

Group I

Residue Type: Soil, sand, pollen, and metallic salts.

Cleaning Procedure:

- a) Wash bank sheets with a mild solvent such as petroleum naphtha or commercial petroleum derived cleaning fluids.
- b) Rinse sheets with a solvent that does not leave an oily film. This is necessary to avoid collecting foreign matter.
- c) Blow-out dry particles with compressed air.
- d) Wash bank sheets with hot water.
- e) Steam bank assembly clean.

Group II

Residue Type: Metallic oxides and metallic carbonates

Cleaning Procedures:

- a) Wash bank sheets as described in Group I, Step a.
- b) Soak entire bank assembly in cold 35% nitric acid.

CAUTION

Use acid only on aluminum or stainless steel bank assemblies. Do not use on carbon steel or monel.

NOTE

If residue still remains, place the bank assembly in boiling 35% nitric acid. Once all residue is removed, soak the bank assembly in a solution of baking soda and water (8 ounce baking soda to 3 gallons water) to neutralize any remaining acid. Blow dry using compressed air.



Group III

Residue Type: Organic tars, organic gums and sulfur organic residues

Cleaning Procedures:

- a) Wash bank sheets as described in Group I, Step a.
- b) Blow-out with compressed air.
- c) Wash bank sheets with a strong solvent such as benzol, xyol, carbon tetrachloride, acetone, carbon disulfide, paint thinner (not lacquer), or a mixture of 1/3 each of benzol, alcohol and acetone.

4. If residue cannot be removed by the above procedures, replace with a new bank assembly.

WARNING

Clogged bank assembly can restrict the flow and reduce its ability to stop flame propagation.

5. Place the bank assembly into the arrester housing. Install new gasket, cover plate, and cap screws.
 - a) Aluminum Frame – It may not go entirely back into place. The force needed to compress the bank into place is supplied by tightening cover plate cap screws.
 - b) 316 SS Frame – The cover should close readily.
6. Install all cap screws hand tight. Cross tighten all cap screws evenly around cover per Bolt Tightening Sequence) above. Torque to 40 –50 ft-lbs.
7. The flame arrester is ready to be placed back in service. Perform soap test. If any leakage is detected, tighten the cap screws again (maximum torque not to exceed 60 ft-lb).

Calibration

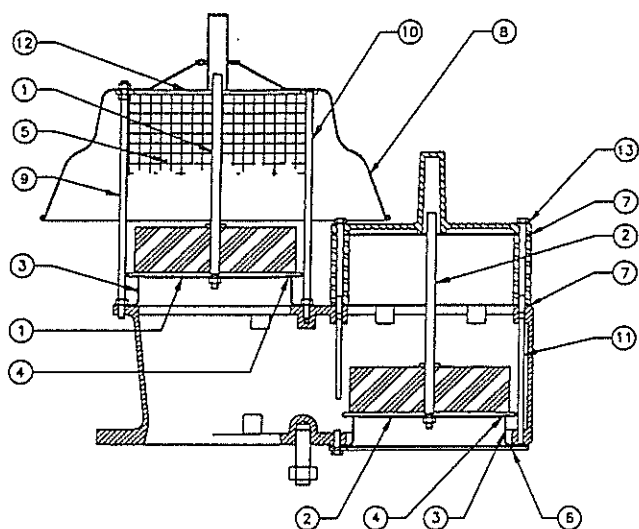
It is important to verify setting of the pressure and vacuum relief valve of the assembly, calculate the total necessary weight using Table 2. Check this value against the actual weight of the pallet assembly (including loading weights). Adjust loading weights as required.

Replacement Parts

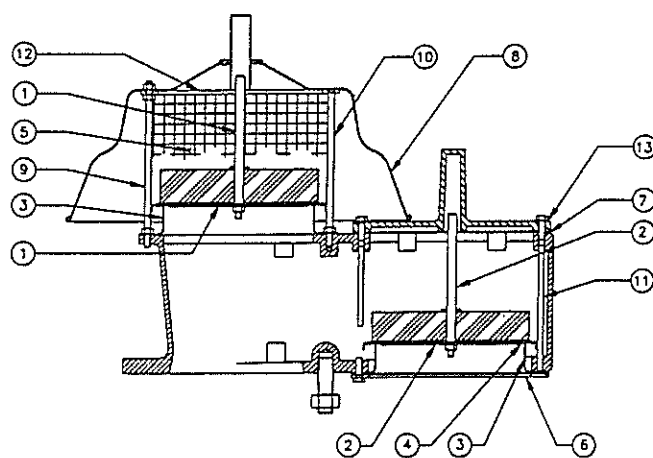
Pressure and Vacuum Relief Valve

A. Model 2010A

When ordering replacement parts, specify relief valve by model number, pipe size and serial number. Identify replacement parts by part number, description and material where possible.



MODEL 2010A PRESSURE AND
VACUUM RELIEF VALVE (HIGH SETTING)



MODEL 2010A PRESSURE AND
VACUUM RELIEF VALVE (LOW SETTING)

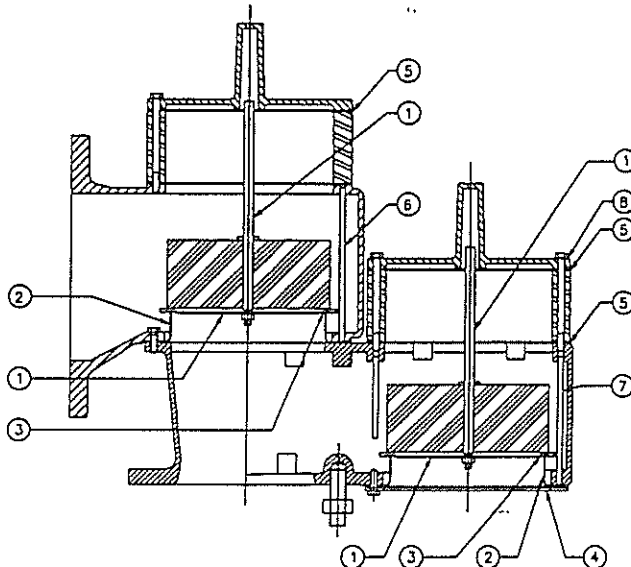
TABLE 3

ITEM NO.	DESCRIPTION	USAGE	MATERIAL	NOMINAL PIPE SIZE						
				2"	3"	4"	6"	8"	10"	12"
*1	PRESSURE PALLET ASSEMBLY	LOW SET.	ALUM.	06-05562-301	06-05562-401	06-05562-501	06-05562-601	06-05562-701	06-05562-801	06-05562-901
		HIGH SET.	ALUM.	06-11128-101	06-11128-201	06-11128-301	06-11128-401	06-11128-501	06-11128-601	06-11128-701
		LOW SET.	316 SST.	06-05562-306	06-05562-406	06-05562-506	06-05562-606	06-05562-706	06-05562-806	06-05562-906
		HIGH SET.	316 SST.	06-11128-106	06-11128-206	06-11128-306	06-11128-406	06-11128-506	06-11128-606	06-11128-706
*2	VACUUM PALLET ASSEMBLY	LOW SET.	ALUM.	06-05562-101	06-05562-201	06-05562-001	06-05562-601	06-05562-701	06-05562-801	06-05562-901
		HIGH SET.	ALUM.	06-11128-101	06-11128-201	06-11128-301	06-11128-401	06-11128-501	06-11128-601	06-11128-701
		LOW SET.	316 SST.	06-05562-106	06-05562-206	06-05562-006	06-05562-606	06-05562-706	06-05562-806	06-05562-906
		HIGH SET.	316 SST.	06-11128-106	06-11128-206	06-11128-306	06-11128-406	06-11128-506	06-11128-606	06-11128-706
*3	SEAT RING	ALL	ALUM.	02-10438-001	02-10251-001	02-05464-001	02-05478-001	02-05482-001	02-05487-001	02-05499-001
		ALL	316 SST.	02-10438-006	02-10251-006	02-05464-006	02-05478-006	02-05482-006	02-05487-006	02-05499-006
4	PALLET INSERT	ALL	TEFLON	02-10361-093	02-09704-093	B12741-093	B12742-093	B12743-093	B12744-093	B13288-093
5	PRESSURE SCREEN	LOW SET.	HDPE	02-10439-051	02-10323-051	B16209-351	B14390-151	B14390-251	B14390-351	B14390-451
		HIGH SET.	HDPE	02-10439-151	02-10323-151	B16209-451	B14390-551	B14390-651	B14390-751	B14390-851
6	VACUUM SCREEN	ALL	HDPE	02-10440-051	02-10324-051	B16210-351	B14391-151	B14391-251	B14391-351	B14391-451
7	COVER & SPACER GASKET	LOW SET.	FIBER	02-10436-071	02-09715-071	B16196-071	B14388-071	B14488-071	B14452-071	B16112-071
		HIGH SET.	VITON	02-10436-086	02-09715-086	B16196-086	B14388-086	B14488-086	B14452-086	B16112-086
8	HOOD	LOW & HIGH PRESS. SET WITH LOW VAC. SET	ALUM.	06-11136-01	06-11136-02	06-11136-03	06-11137-01	06-11137-02	06-11137-03	06-11137-04
			STEEL	02-10455-003	02-10310-003	02-10066-103	D6064-203	C6433-203	C6436-203	C6500-203
			316 SST.	02-10455-005	02-10310-005	02-10066-105	E2331-205	C7119-205	E2322-205	E2317-205
		LOW PRESS. SET WITH HIGH VAC. SET	ALUM.	06-11136-05	06-11136-06	06-11136-04	06-11137-05	06-11137-06	06-11137-07	06-11137-08
			STEEL	02-11197-003	02-11199-003	02-11045-003	02-11004-003	02-11005-003	02-11007-003	C6500-203
			316 SST.	02-11197-005	02-11199-005	02-11045-005	02-11004-005	02-11005-005	02-11007-005	E2317-205
		HIGH PRESS. SET WITH HIGH VAC. SET	ALUM.	06-11136-05	06-11136-06	06-11136-07	06-11137-01	06-11137-02	06-11137-03	06-11137-04
			STEEL	02-11197-003	02-11199-003	02-11045-103	D6064-203	C6433-203	C6436-203	C6500-203
*9	PRESS. GUIDE POST (HOOD ATT'MT)	LOW SET.	316 SST.	B17431-106	B17431-206	B16194-306	B14808-106	B14808-206	B14448-106	B14448-206
		HIGH SET.	316 SST.	B17431-306	B17431-406	B16194-406	B14808-306	B14808-406	B14448-306	B14448-406
*10	PRESSURE GUIDE POST	LOW SET.	316 SST.	-	-	-	B14383-106	B14383-206	B14384-106	B14384-206
		HIGH SET.	316 SST.	-	-	-	B14383-306	B14383-406	B14384-306	B14384-406
*11	VACUUM GUIDE POST	ALL	316 SST.	02-11015-106	02-11015-206	B16195-306	B14384-106	B14384-206	B14384-306	B14384-406
12	SPACER RING	ALL	ALUM.	-	-	-	B14389-011	B14439-011	B14449-011	B16113-011
		ALL	STEEL	-	-	-	B14389-003	B14439-003	B14449-003	B16113-003
		ALL	316 SST.	-	-	-	B14389-006	B14439-006	B14449-006	B16113-006
		ALL	IRON	-	-	-	B14389-012	B14439-012	-	-
13	COVER WASHER KIT	ALL	FIBER	13-11134-001	13-11134-001	13-11134-001	13-11134-001	13-11134-001	13-11134-101	13-11134-101

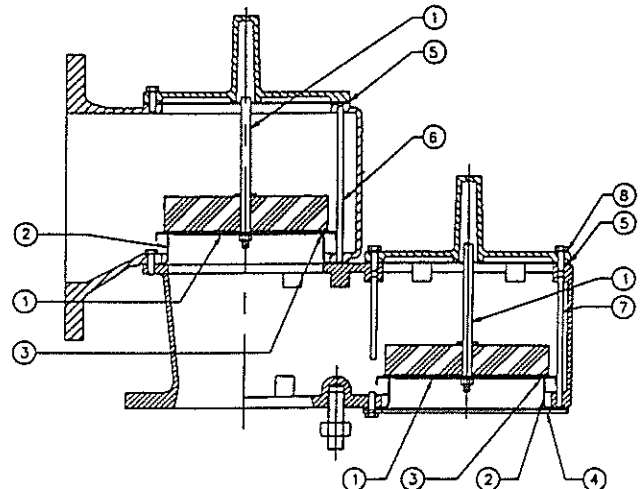
* FOR 'ALL WEATHER' PARTS, ADD -1 TO END OF LISTED PART NUMBERS.

B. Model 2020A Not Applicable

When ordering replacement parts, specify relief valve by model number, pipe size and serial number. Identify replacement parts by part number, description and material where possible.



MODEL 2020A PRESSURE AND
VACUUM RELIEF VALVE (HIGH SETTING)



MODEL 2020A PRESSURE AND
VACUUM RELIEF VALVE (LOW SETTING)

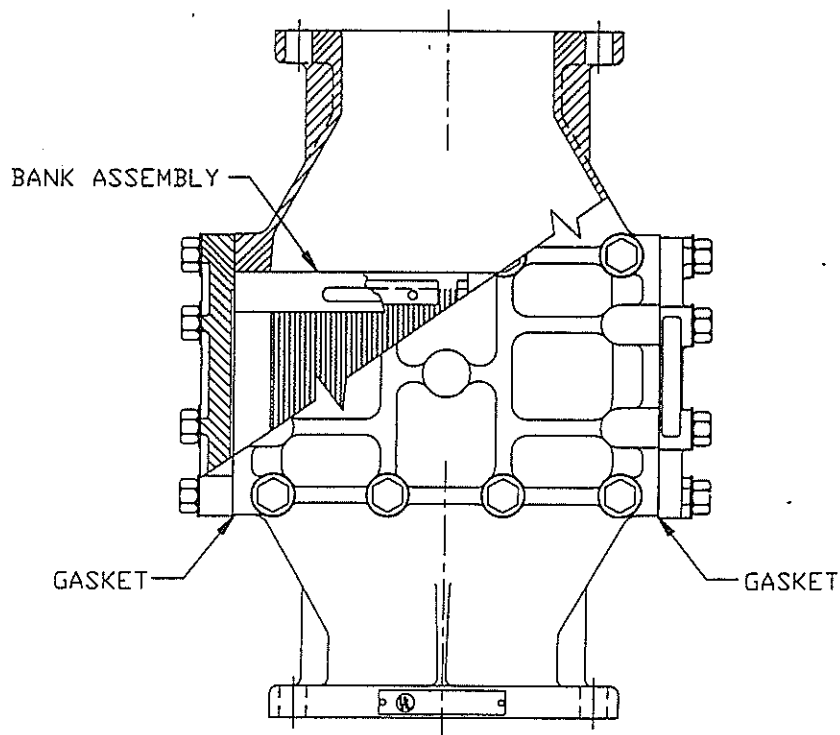
TABLE 4

ITEM NO.	DESCRIPTION	USAGE	MATERIAL	NOMINAL PIPE SIZE (INLET X OUTLET)						
				2" X 3"	3" X 4"	4" X 6"	6" X 8"	8" X 10"	10" X 12"	12" X 14"
*1	PALLET ASSEMBLY	LOW SET.	ALUM.	06-05562-101	06-05562-201	06-05562-001	06-05562-601	06-05562-701	06-05562-801	06-05562-901
		HIGH SET.	ALUM.	06-11128-101	06-11128-201	06-11128-301	06-11128-401	06-11128-501	06-11128-601	06-11128-701
		LOW SET.	316 SST.	06-05562-106	06-05562-206	06-05562-006	06-05562-606	06-05562-706	06-05562-806	06-05562-906
		HIGH SET.	316 SST.	06-11128-106	06-11128-206	06-11128-306	06-11128-406	06-11128-506	06-11128-606	06-11128-706
*2	SEAT RING	ALL	ALUM.	02-10438-001	02-10251-001	02-05464-001	02-05478-001	02-05482-001	02-05487-001	02-05499-001
		ALL	316 SST.	02-10438-006	02-10251-006	02-05464-006	02-05478-006	02-05482-006	02-05487-006	02-05499-006
3	PALLET INSERT	ALL	TEFLON	02-10361-093	02-09704-093	B12741-093	B12742-093	B12743-093	B12744-093	B13288-093
4	SCREEN	ALL	HDPE	02-10440-051	02-10324-051	B16210-351	B14391-151	B14391-251	B14391-351	B14391-451
5	COVER & SPACER GASKET	LOW SET.	FIBER	02-10436-071	02-09715-071	B16196-071	B14388-071	B14488-071	B14452-071	B16112-071
		HIGH SET.	VITON	02-10436-086	02-09715-086	B16196-086	B14388-086	B14488-086	B14452-086	B16112-086
*6	PRESS. GUIDE POST	ALL	316 SST.	02-11015-106	02-11015-206	B16194-306	B16553-106	B16553-206	B16553-306	B14448-406
*7	VACUUM GUIDE POST	ALL	316 SST.	02-11015-106	02-11015-206	B16195-306	B14384-106	B14384-206	B14384-506	B14384-406
8	COVER WASHER KIT	ALL	FIBER	13-11134-001	13-11134-001	13-11134-001	13-11134-001	13-11134-001	13-11134-101	13-11134-101

* FOR 'ALL WEATHER' PARTS, ADD -1 TO END OF LISTED PART NUMBERS.

D. Model 5000/~~5010~~ Flame Arrester

When ordering replacement parts, specify flame arrester by Model Number, Serial Number, and pipe size. Identify replacement parts by item number, description, and material as shown on the reference drawings. Include part numbers where possible.

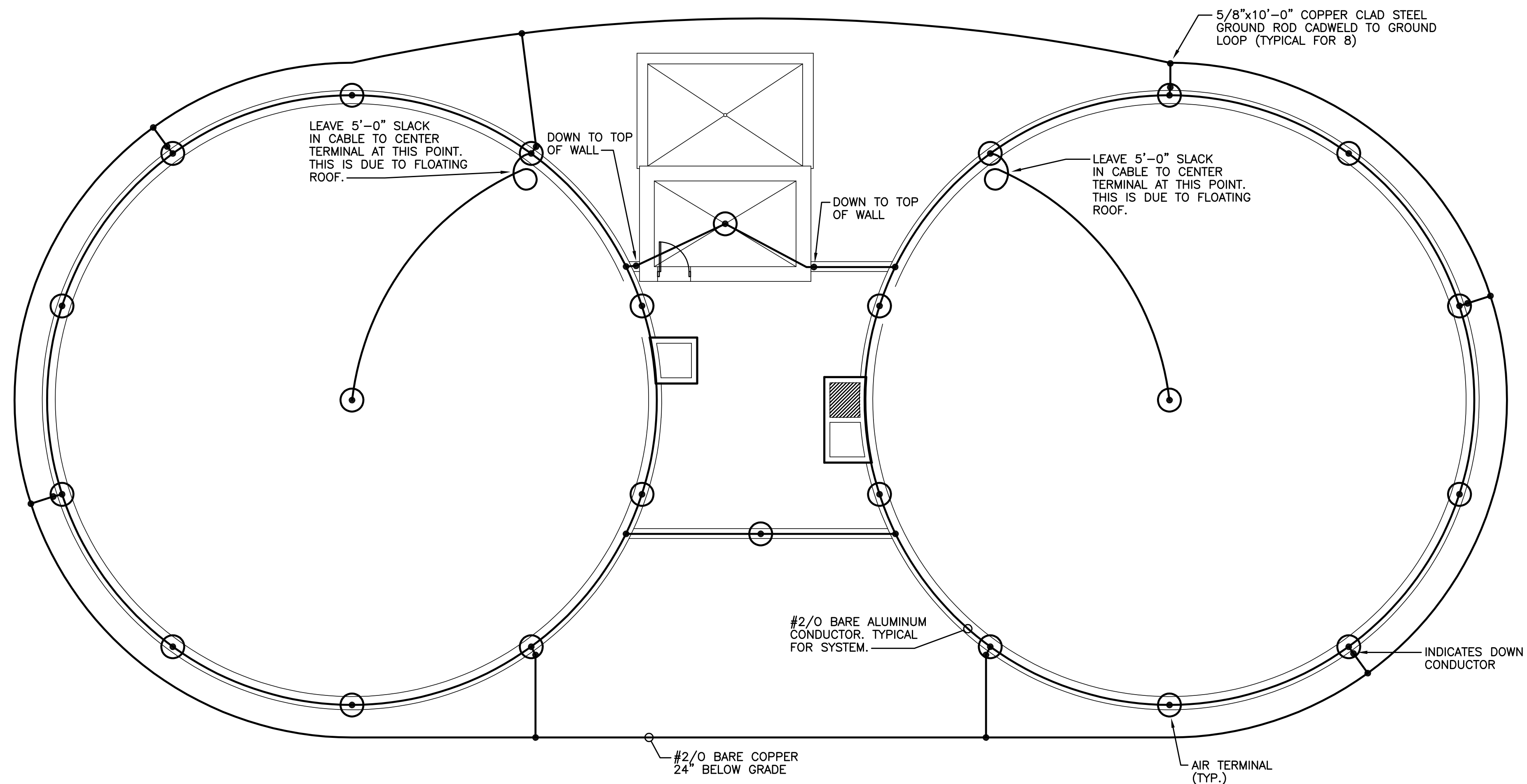


5000 SERIES VERTICAL
FLAME ARRESTER

TABLE 5

5000 / 5010	2	3	4	6	8	10	12
Nominal Pipe Size	2 in	3 in	4 in	6 in	8 in	10 in	12 in
	50 mm	75 mm	100 mm	150 mm	200 mm	250 mm	300 mm
Gasket Kit: (2) Cover w/(4) Side Plate: Non-Asbestos	13-09101-02	13-09101-03	13-09101-04	13-09101-06	13-09101-08	13-09101-10	13-09101-12
Bank Sheet Set: Aluminum	BA17040	BA17046	BA17052	BA17058	BA17064	BA17070	BA17076
Bank Sheet: 316 SS	BA17044	BA17050	BA17056	BA17062	BA17068	BA17074	BA17080
Bank Assembly: Aluminum w/316 SS Sheet (Extensible)	BM18996-000	BM18998-000	BM19000-000	BM18956-000	BM18958-000	BM19002-000	BM19004-000
Bank Assembly: 316 SS (Non-Extensible)	BM19882-600	BM19883-600	BM19884-600	BM19885-600	BM19886-600	BM19887-600	BM19888-600
Bank Assembly: Aluminum (Extensible)	BM6027	BM6055	BM6090	BM6126	BM6245	BM6269	BM6716

APPENDIX B
Lightning Protection As-Built



ROOF PLAN — LIGHTING PROTECTION
SCALE: 1/8"=1'-0"

RECORD DRAWING

THESE DRAWINGS HAVE BEEN REVISED TO REFLECT MAJOR CHANGES, IF ANY, WHICH OCCURRED DURING CONSTRUCTION. REVISIONS ARE BASED UPON INFORMATION SUPPLIED BY CONTRACTOR.
DATE: _____ PER: _____

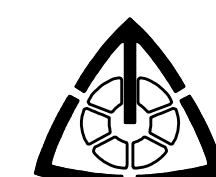
NOTES:

Underground facilities, structures, and utilities have been plotted from available surveys and records, and therefore their locations must be considered approximate only. There may be others, the existence of which is presently not known. Anyone using utility information and data provided herein shall "Call before you dig" at 1-800-922-4455 forty eight (48) hours in advance to verify the location of utilities prior to start of construction.

3	FOR RECORDS					
	RGW	5/04				
	FOR CONSTRUCTION					
2	FOR CONSTRUCTION					
	FOR APPROVAL					
1	FOR APPROVAL					
	FOR APPROVAL					
ISSUE NO.	DRAWN	DATE	CHECKED	DESIGNER	APPROVED	DATE
PROJECT SUPERVISOR			DEPARTMENT SUPERVISOR			



**LYNCH
ENGINEERING, P.C.**
448 - 450 MANVILLE ROAD
PLEASANTVILLE, NY 10570



Stearns & Wheeler, LLC
ENVIRONMENTAL ENGINEERS & SCIENTISTS

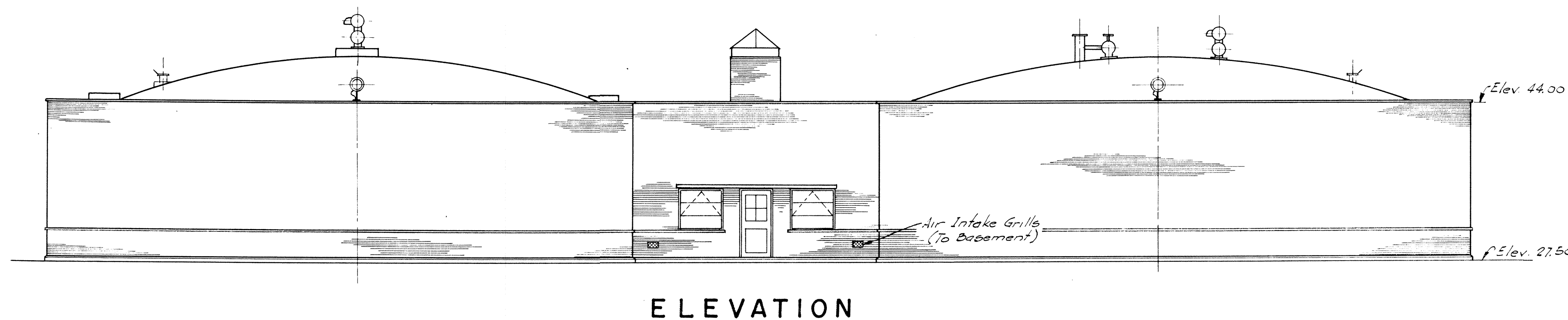
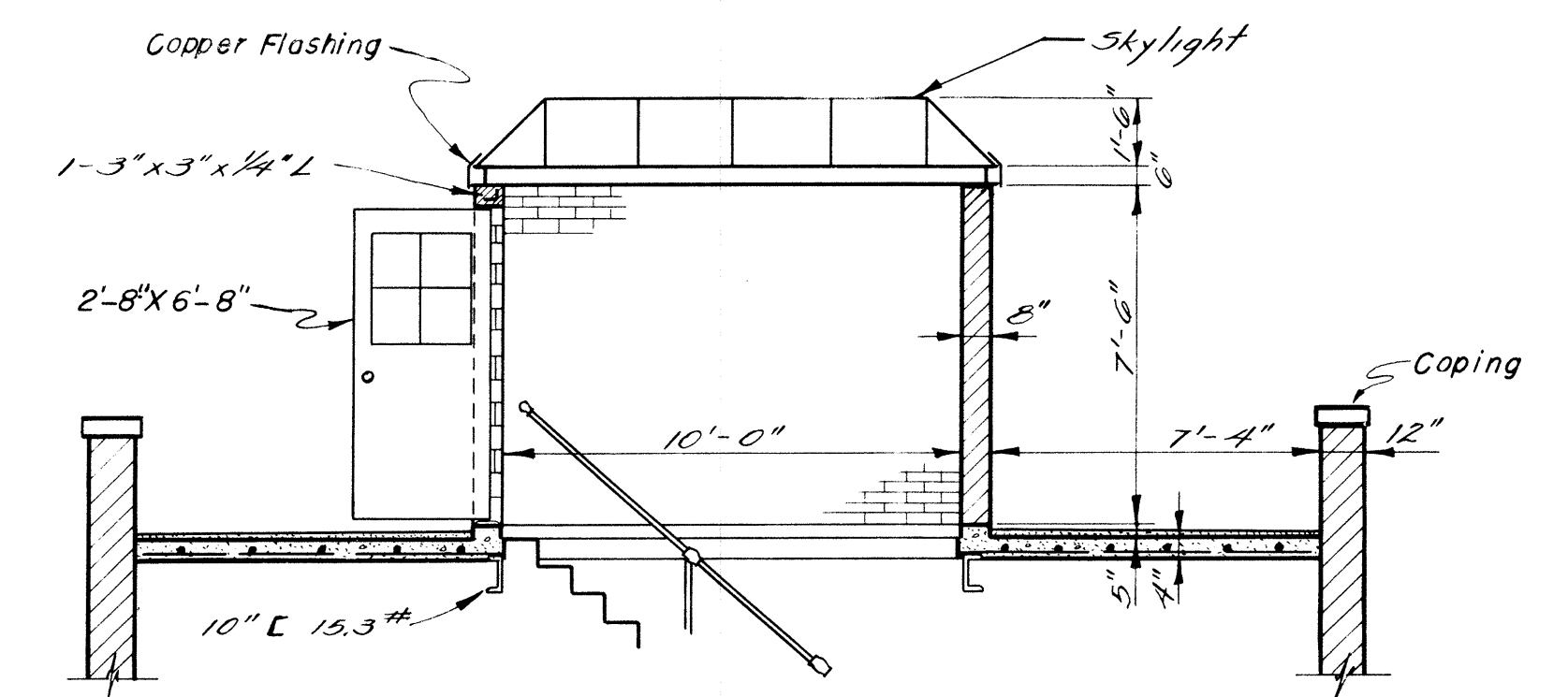
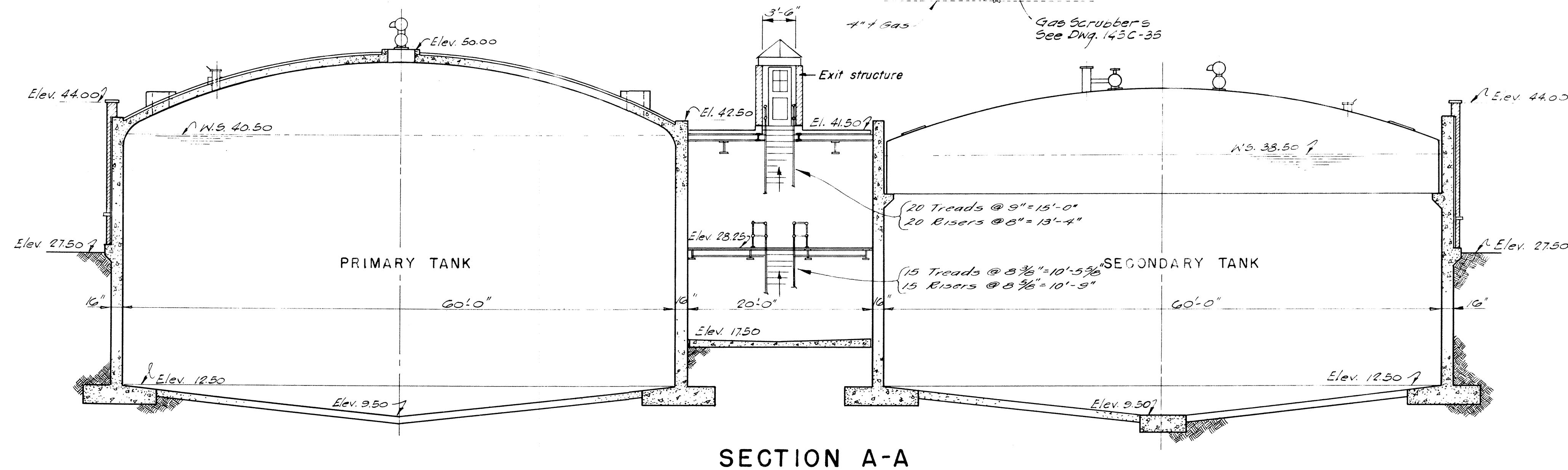
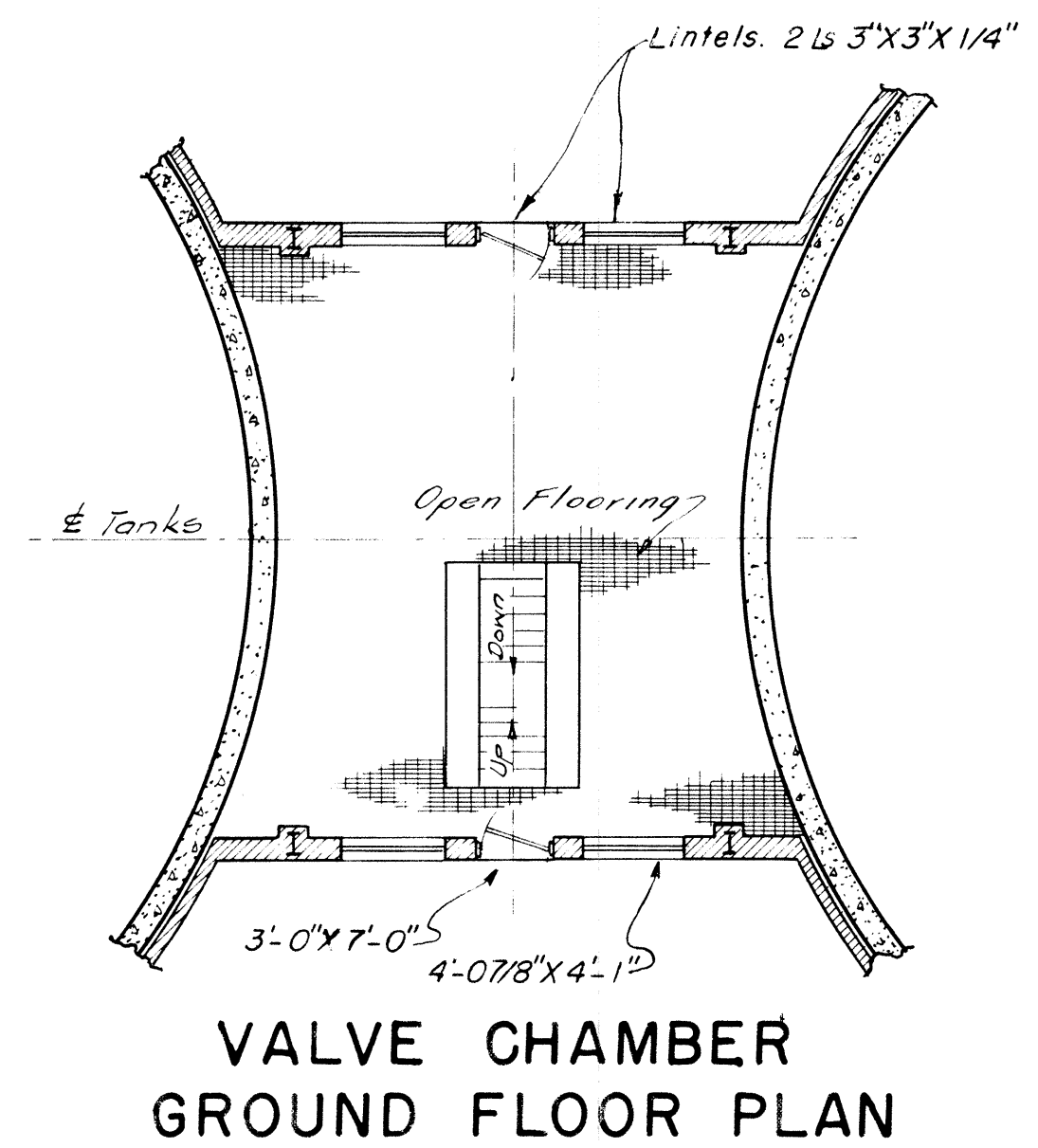
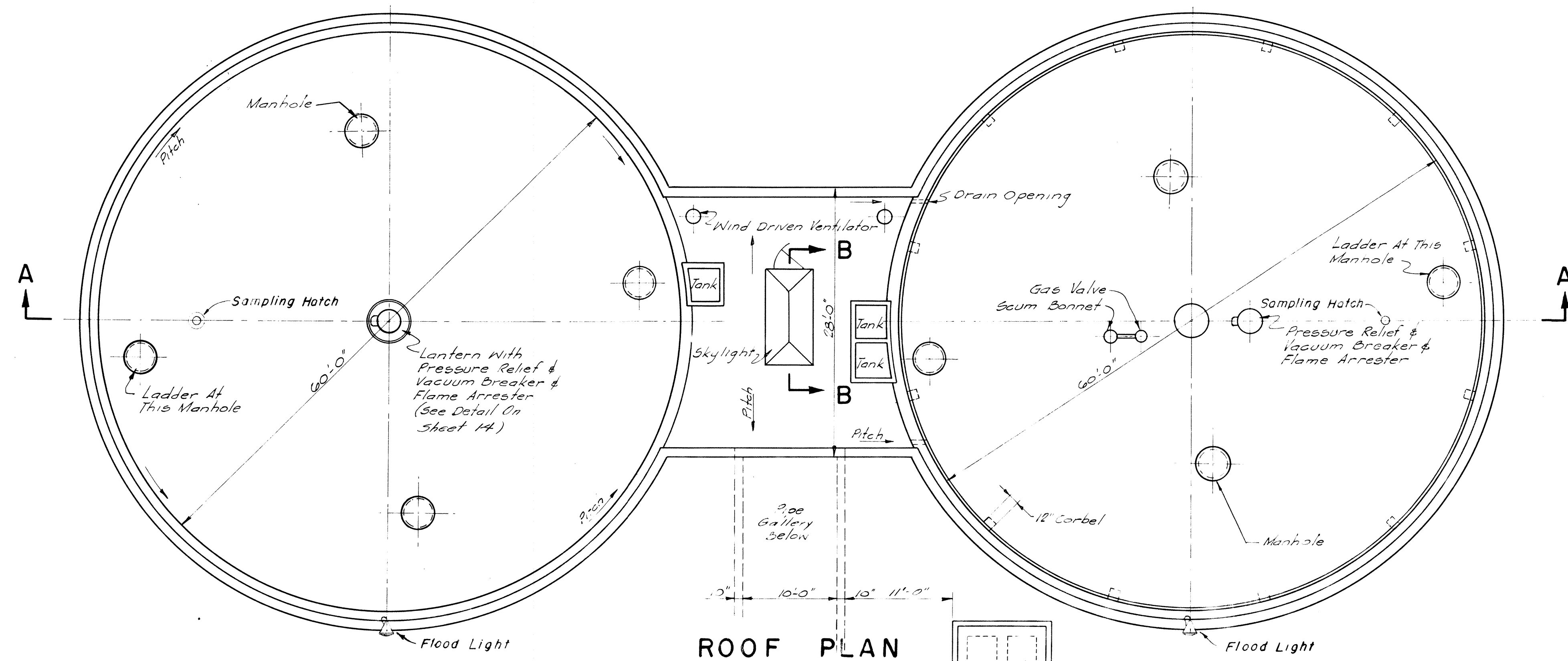
TOWN OF FAIRFIELD, CONNECTICUT

WATER POLLUTION CONTROL FACILITY

PRIMARY AND SECONDARY DIGESTERS
LIGHTNING PROTECTION

JOB NO. 70084KB CONTRACT 2 SHEET EN-22

APPENDIX C
Available Tank Drawings



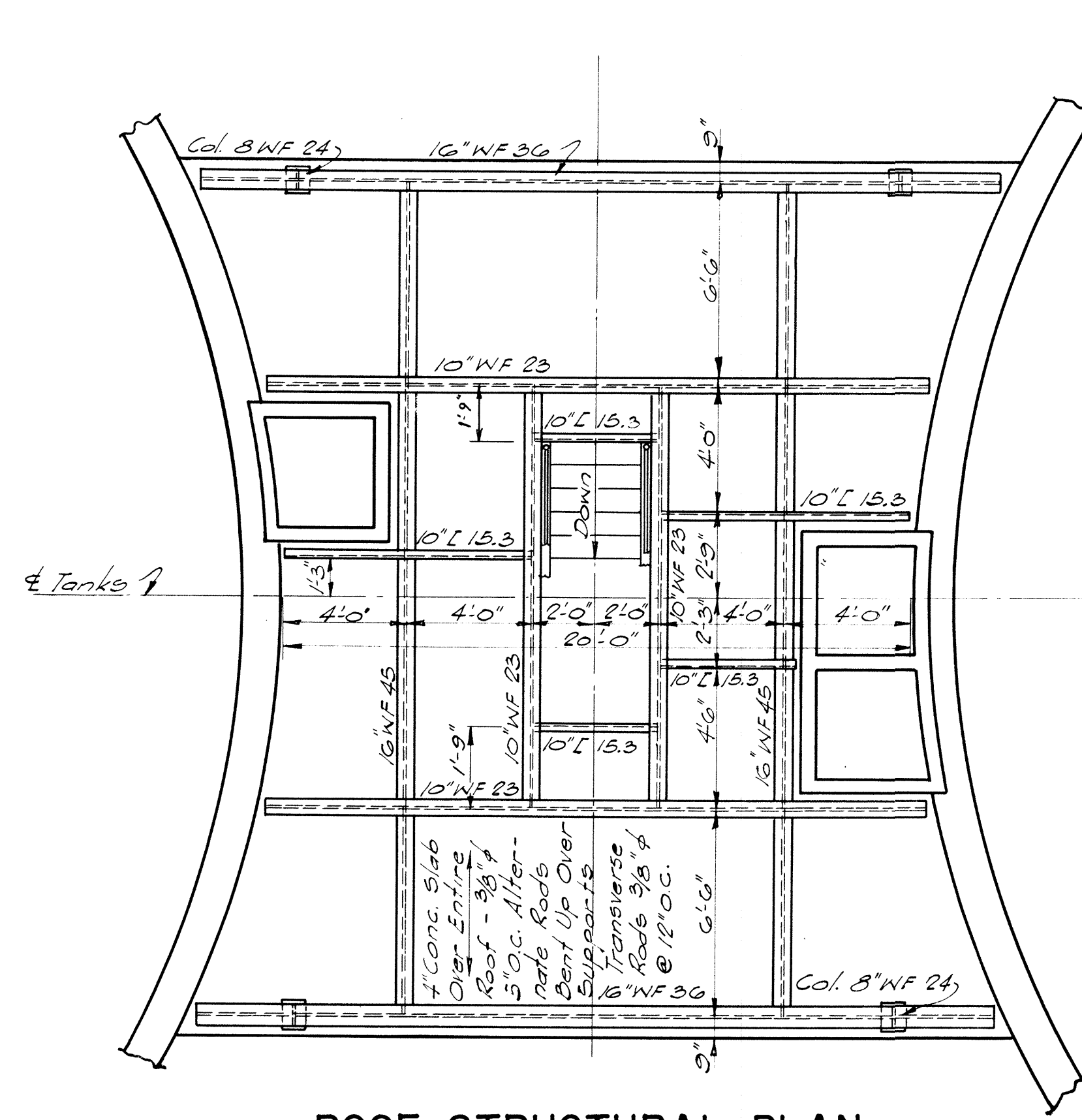
PROPOSED SEWAGE TREATMENT PLANT
TOWN OF FAIRFIELD
FAIRFIELD COUNTY, CONN.
DIGESTION TANKS
ARCHITECTURAL

BOWE, ALBERTSON & ASSOCIATES
ENGINEERS

NEW YORK CITY REV. NOV., 1949

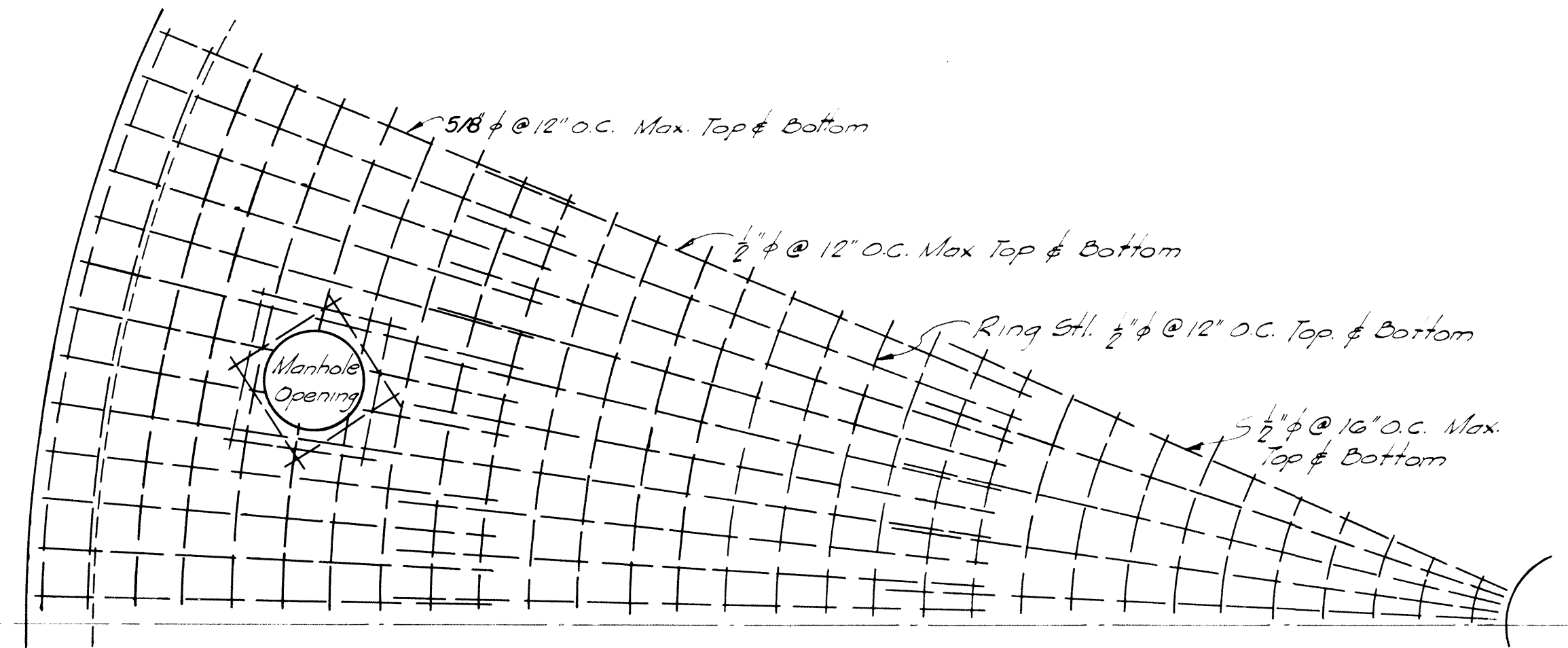
SCALE: 1/8" = 1'-0"

NOVEMBER, 1947
DWG. NO. 145 C-16

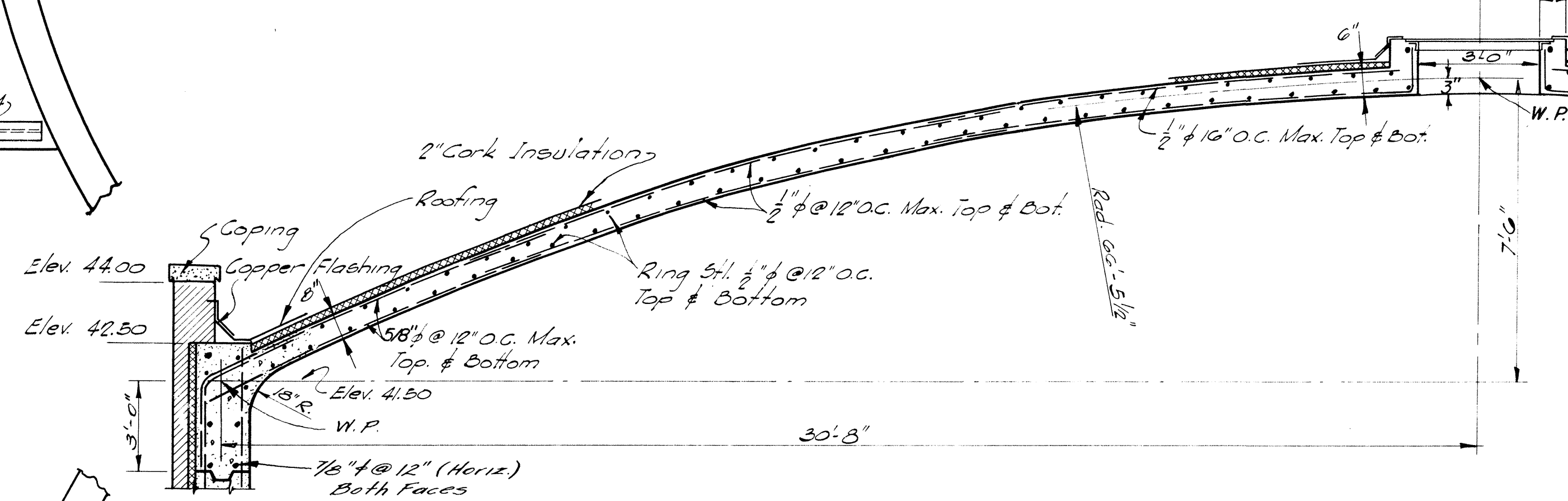


ROOF STRUCTURAL PLAN

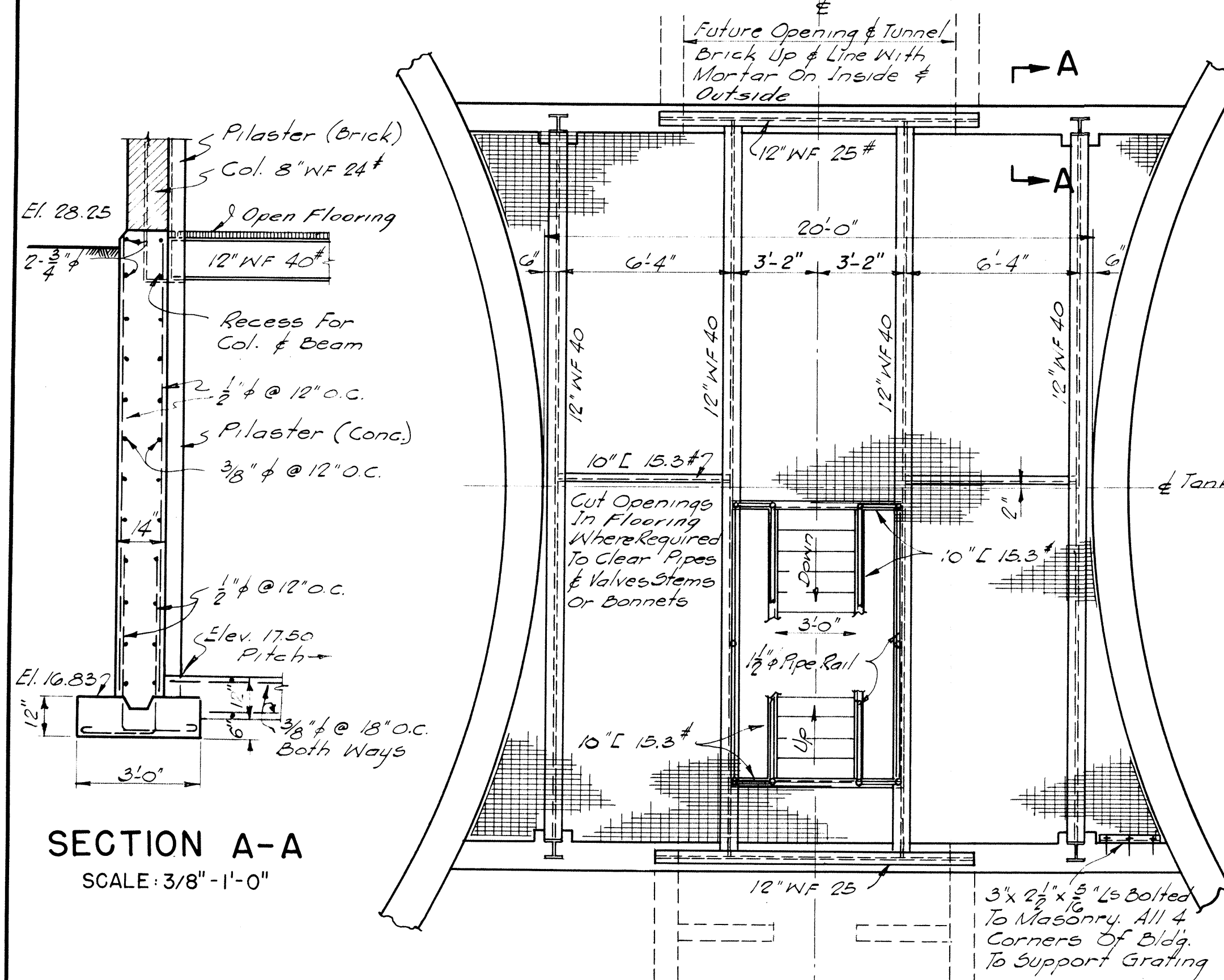
SCALE: 1/4"=1'-0"



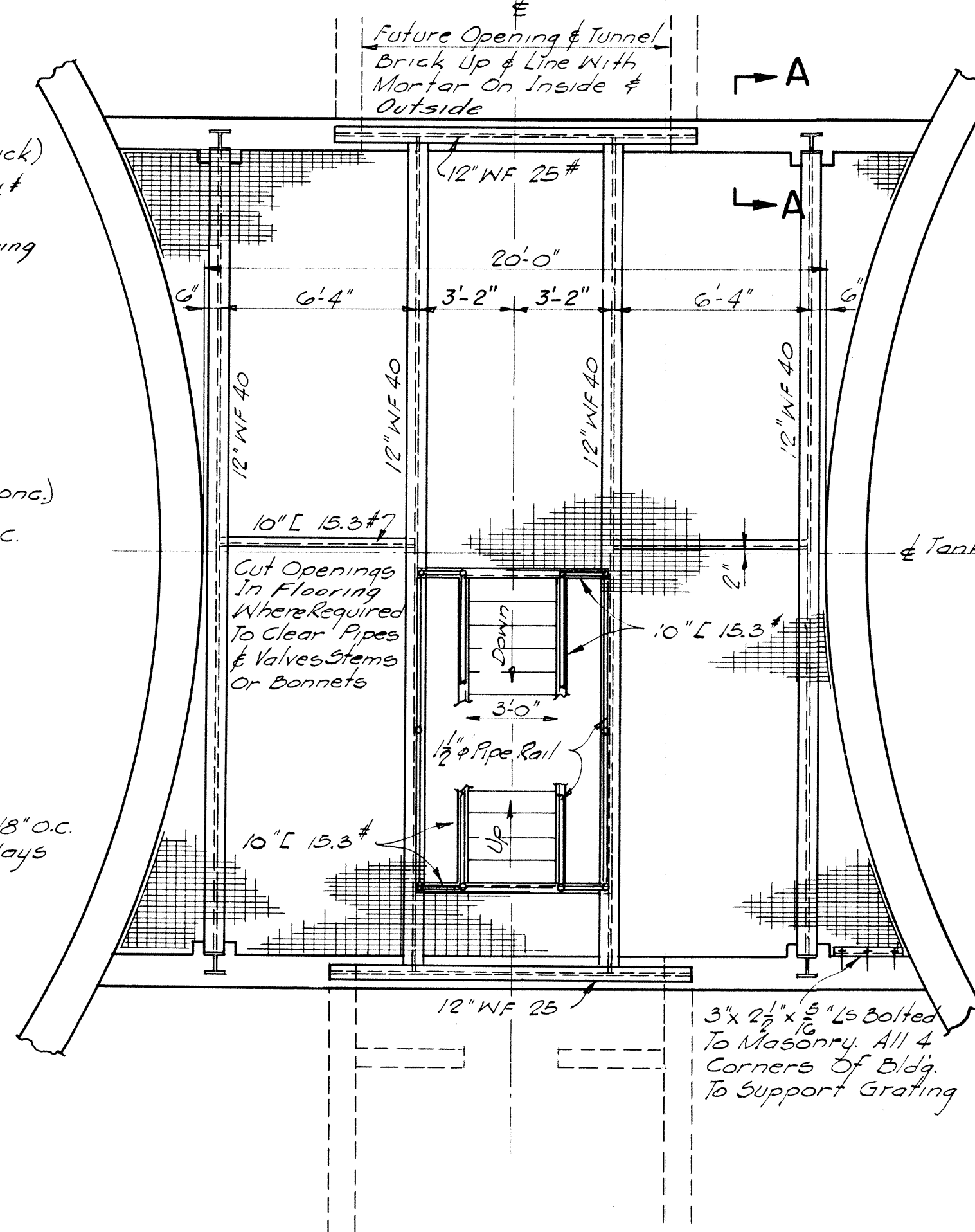
PART PLAN - SPHERICAL DOME
SCALE: 3/8"=1'-0"



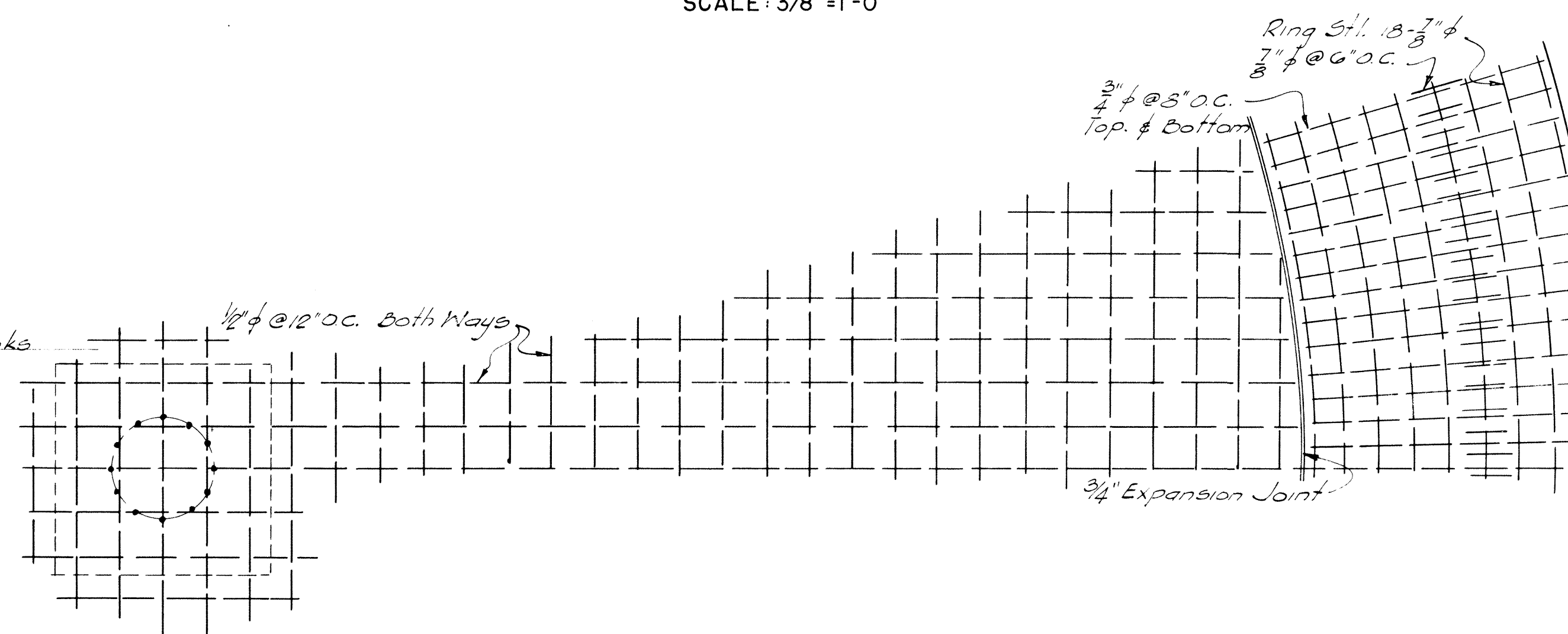
SECTION - SPHERICAL DOME
SCALE: 3/8" = 1'-0"



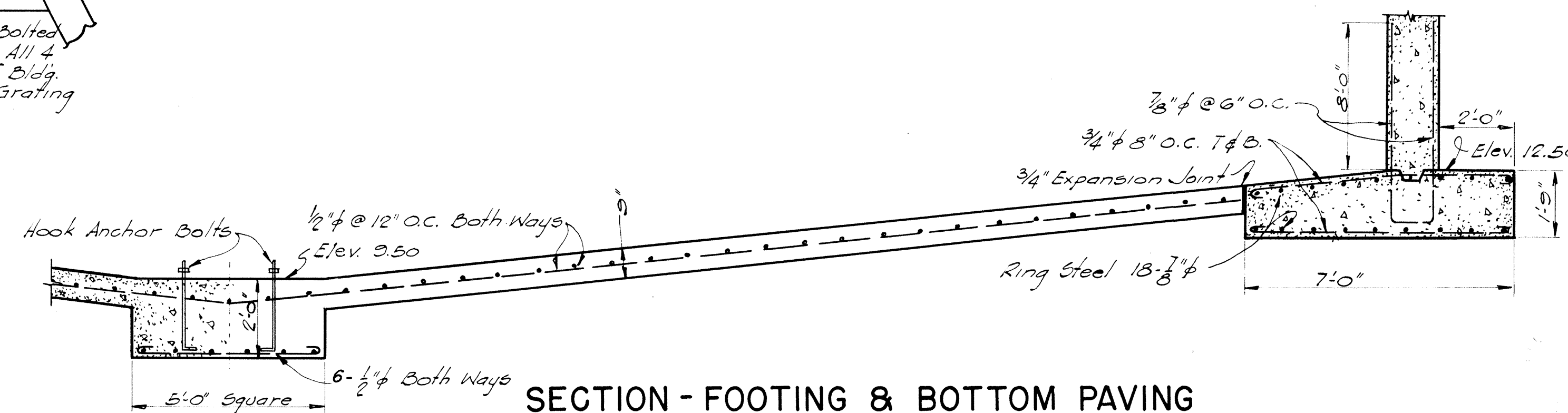
SECTION A-A
SCALE: 3/8" = 1'-0"



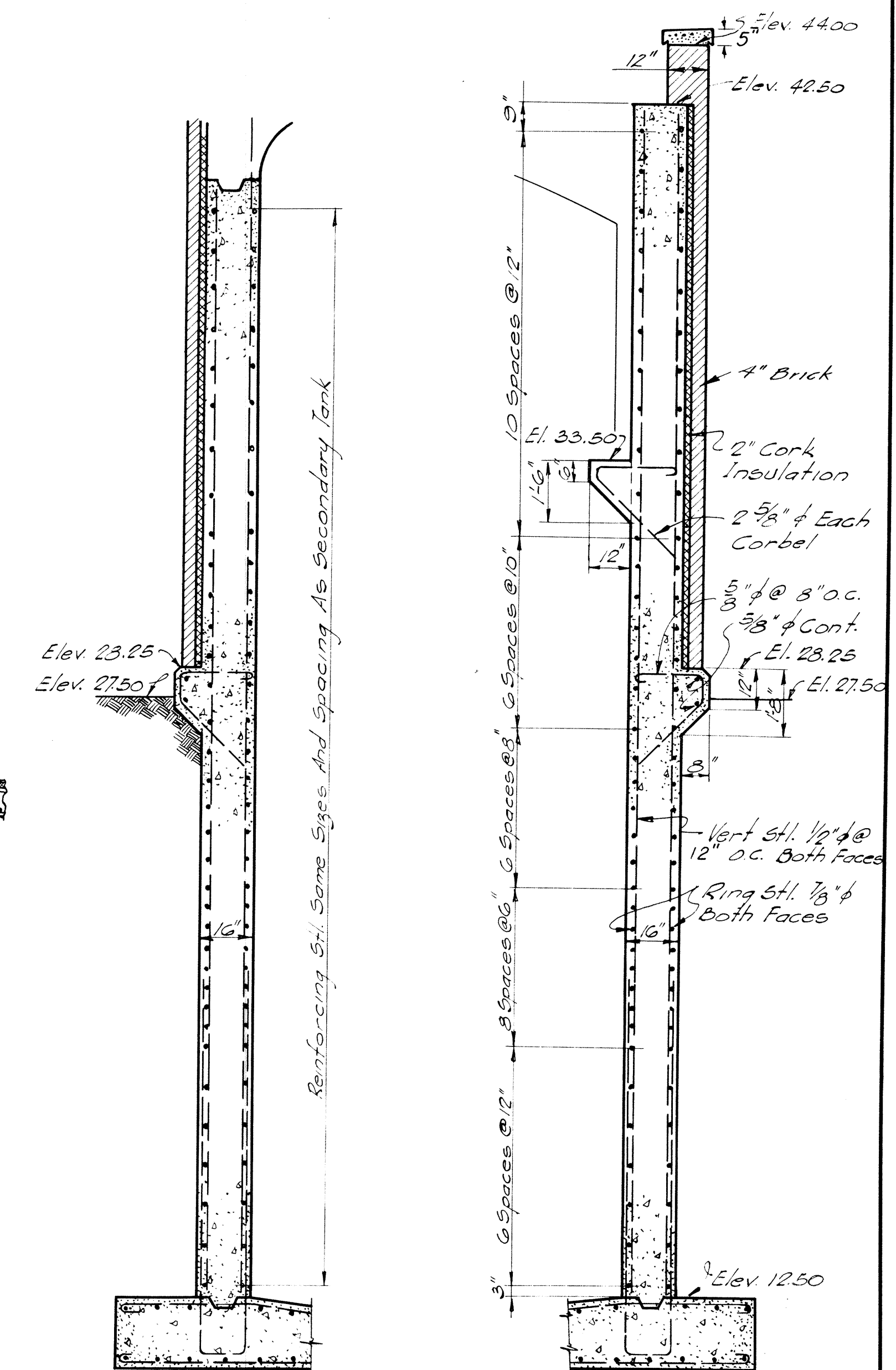
GROUND FLOOR
STRUCTURAL PLAN
SCALE : 1/4" = 1'-0"



PART PLAN - FOOTING & BOTTOM PAVING
SCALE: 3/8" = 1' - 0"

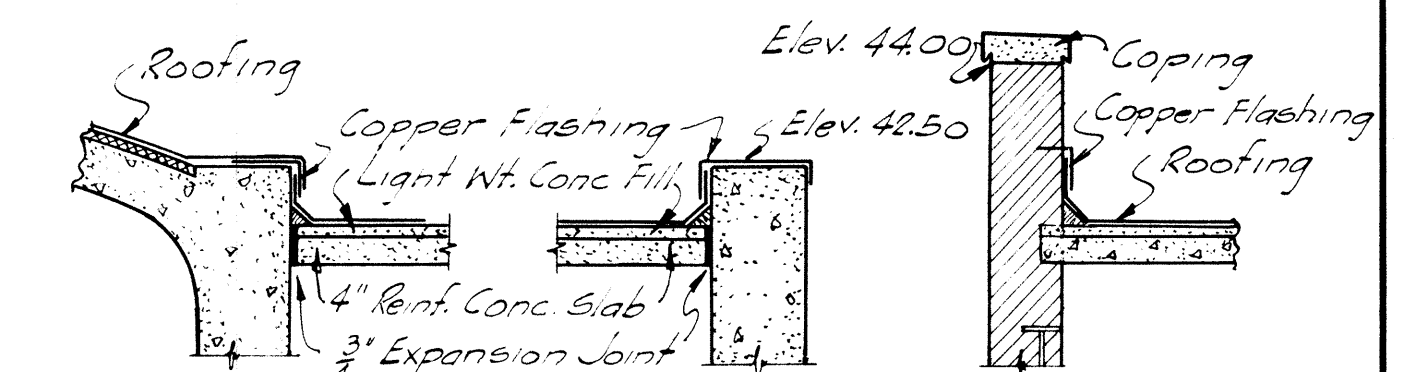


SECTION - FOOTING & BOTTOM PAVING
SCALE: 3/8"=1'-0"



SECTION - WALL
PRIMARY TANK
SCALE : 3/8" = 1'-0"

SECTION - WALL
SECONDARY TANK
SCALE: 3/8" = 1'-0"



DETAILS AT ROOF OF VALVE CHAMBER

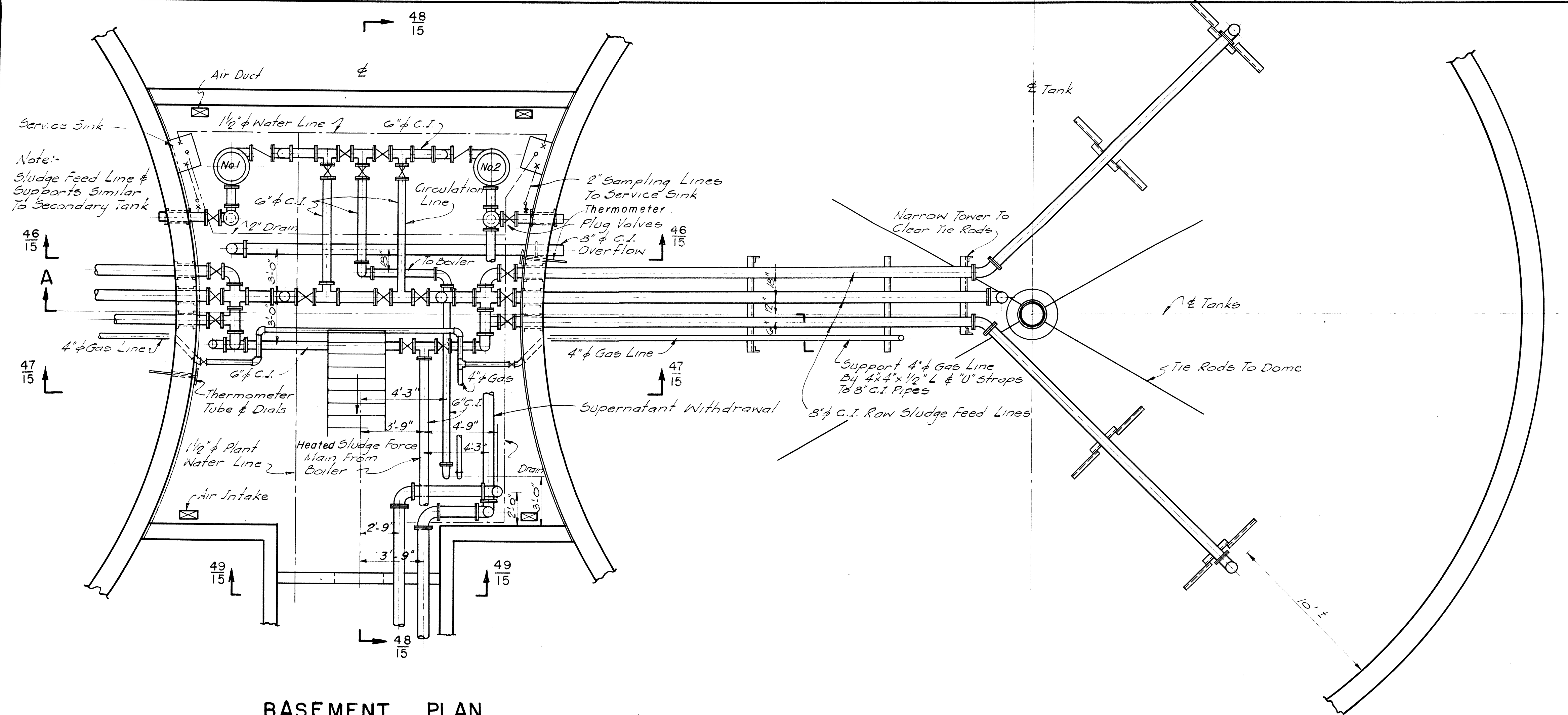
PROPOSED SEWAGE TREATMENT PLANT
TOWN OF FAIRFIELD
FAIRFIELD COUNTY, CONN.
DIGESTION TANKS
STRUCTURAL

BOWE, ALBERTSON & ASSOCIATES
ENGINEERS

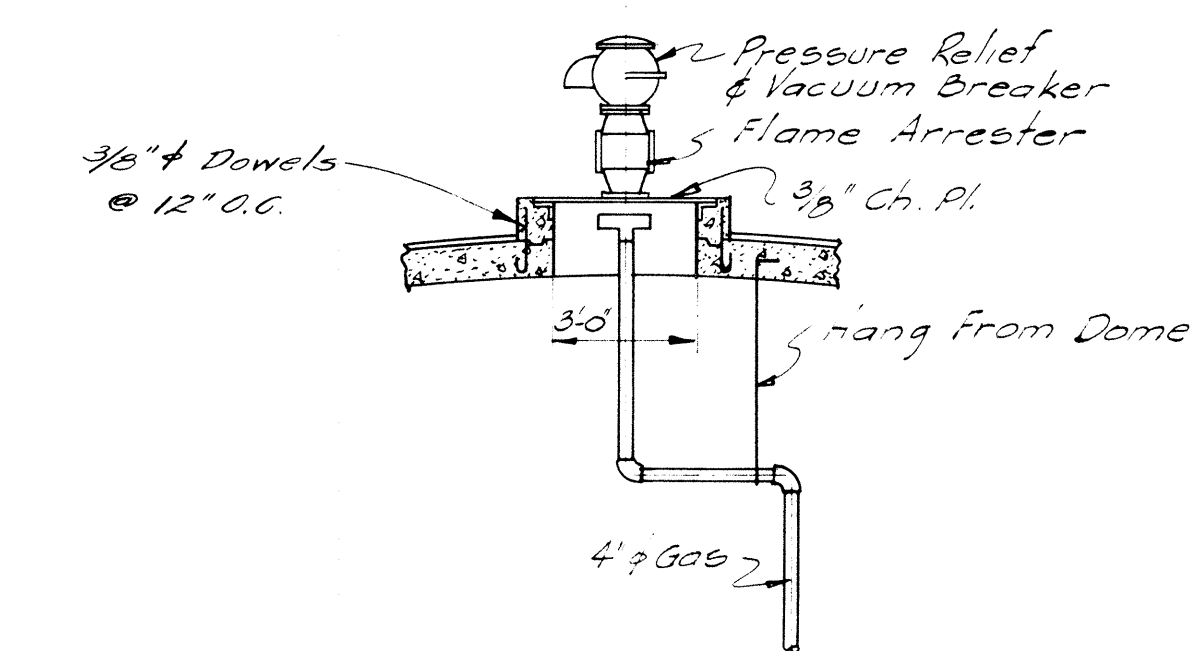
NEW YORK CITY REV. NOVEMBER, 1949
NOVEMBER, 1947

SCALE : AS SHOWN

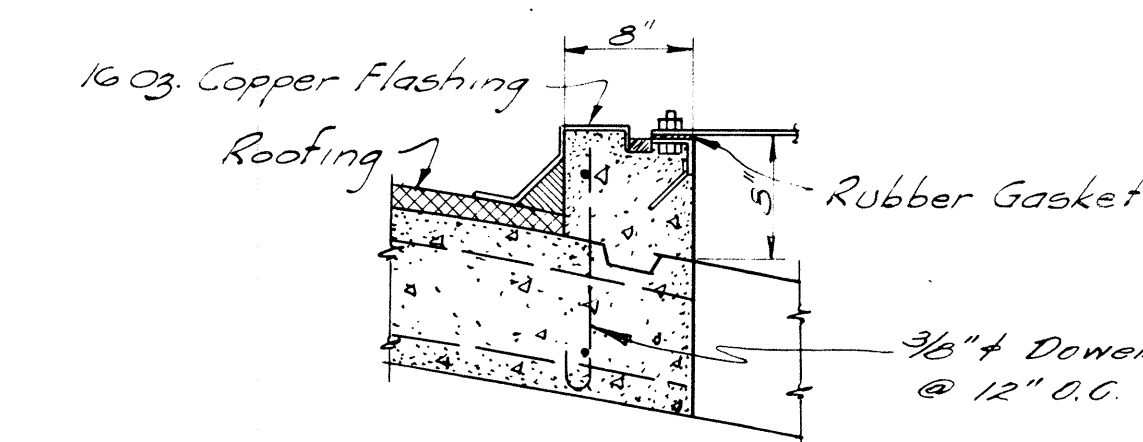
DWG. NO.: 145C-17



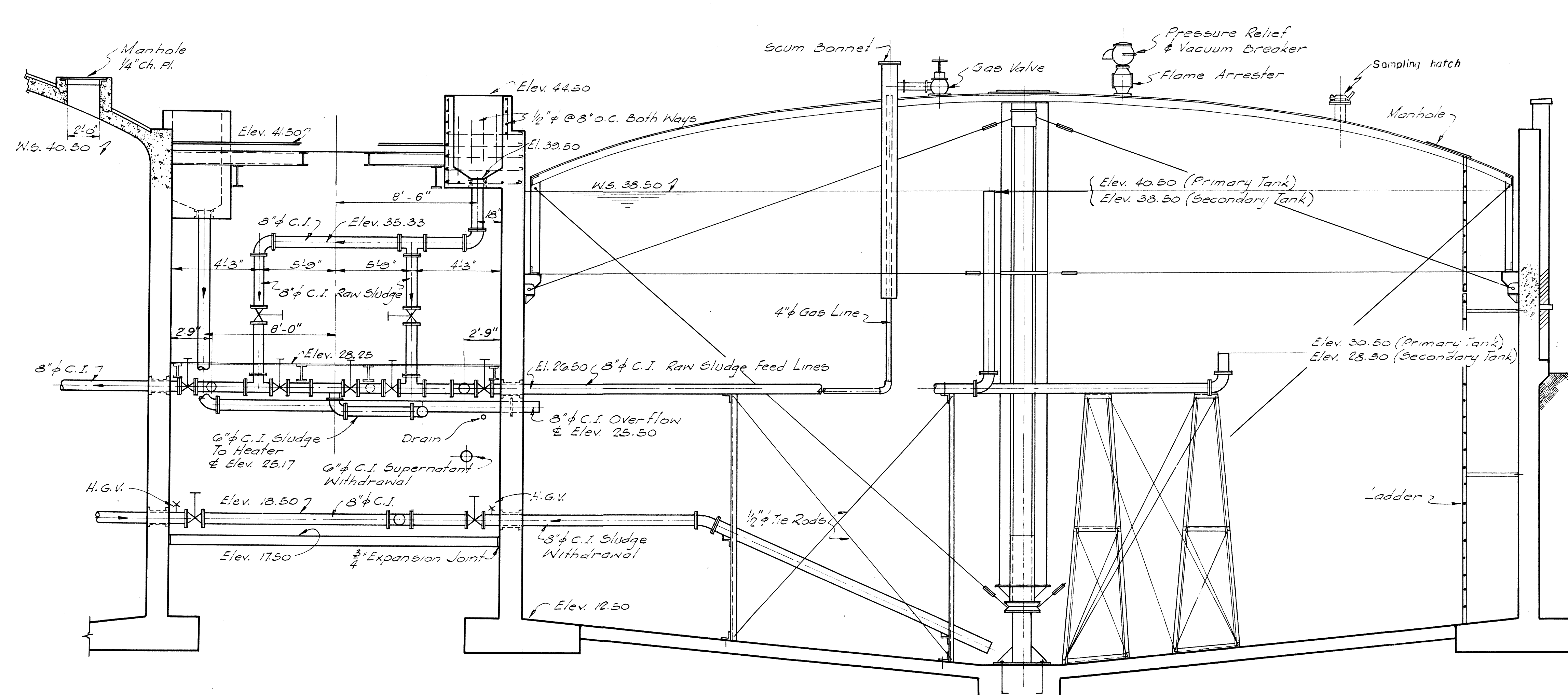
BASEMENT PLAN



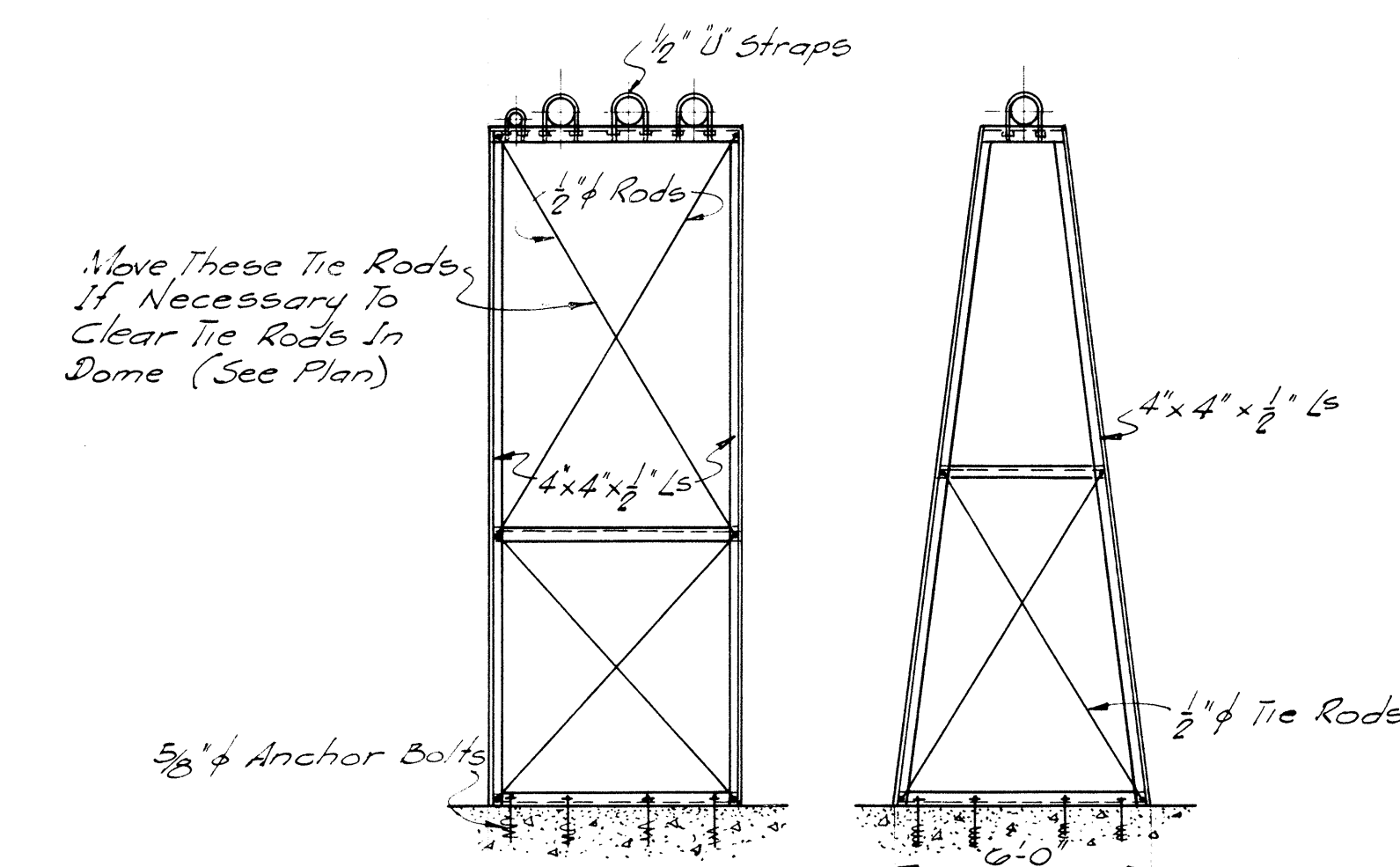
DETAIL AT LANTERN



DETAIL AT MANHOLE



SECTION A - A

PIPE SUPPORTS IN
PRIMARY & SECONDARY TANKS

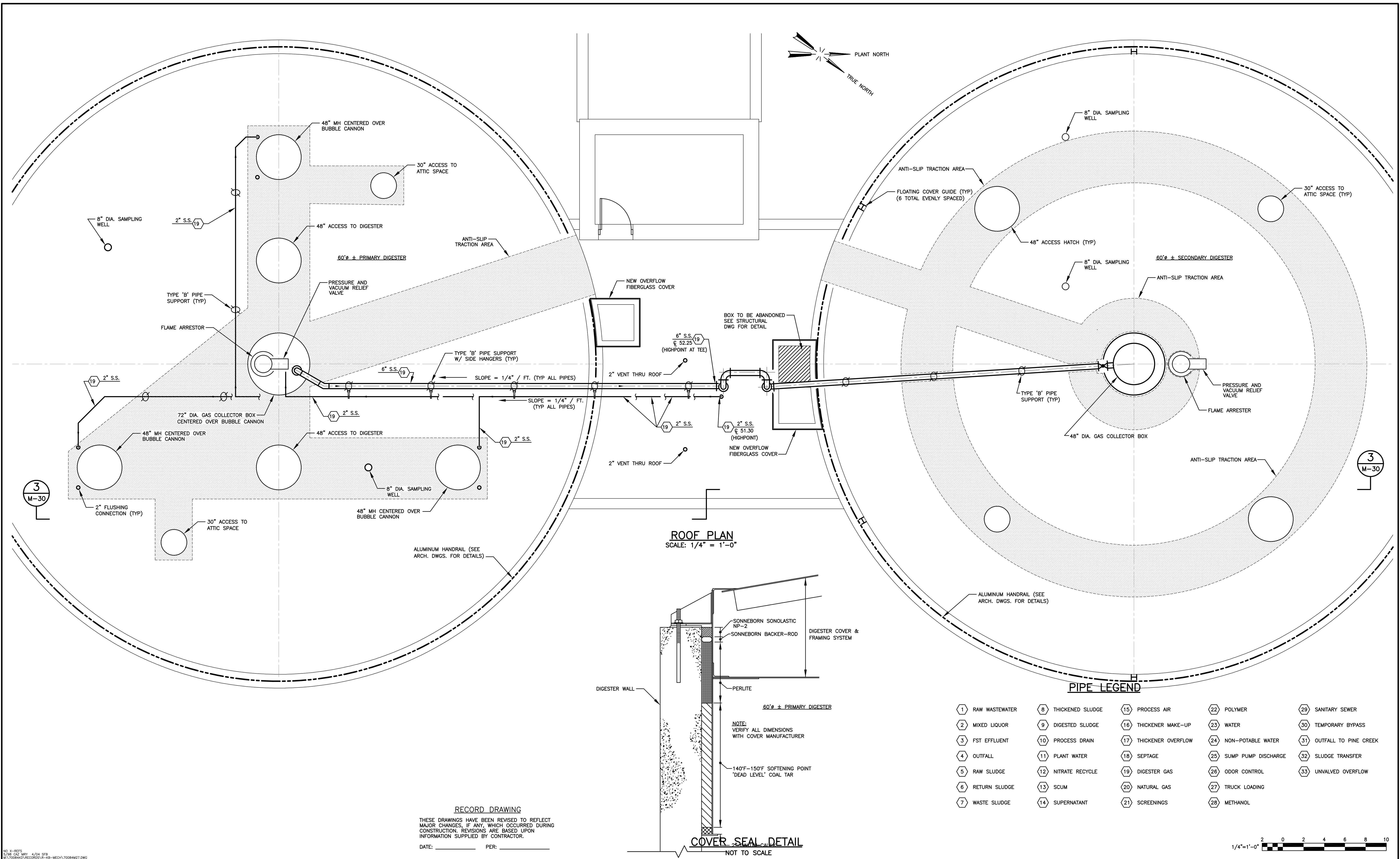
PROPOSED SEWAGE TREATMENT PLANT
TOWN OF FAIRFIELD
FAIRFIELD COUNTY, CONN.

DIGESTION TANKS MECHANICAL

BOWE, ALBERTSON & ASSOCIATES
ENGINEERS
NEW YORK CITY

REV. NOVEMBER, 1949
NOVEMBER, 1947
DWG. NO. 145C-18

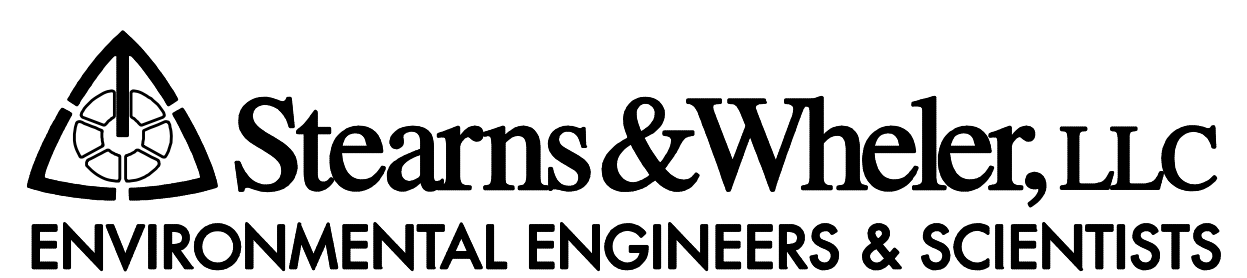
SCALE: 1/4" = 1'-0"



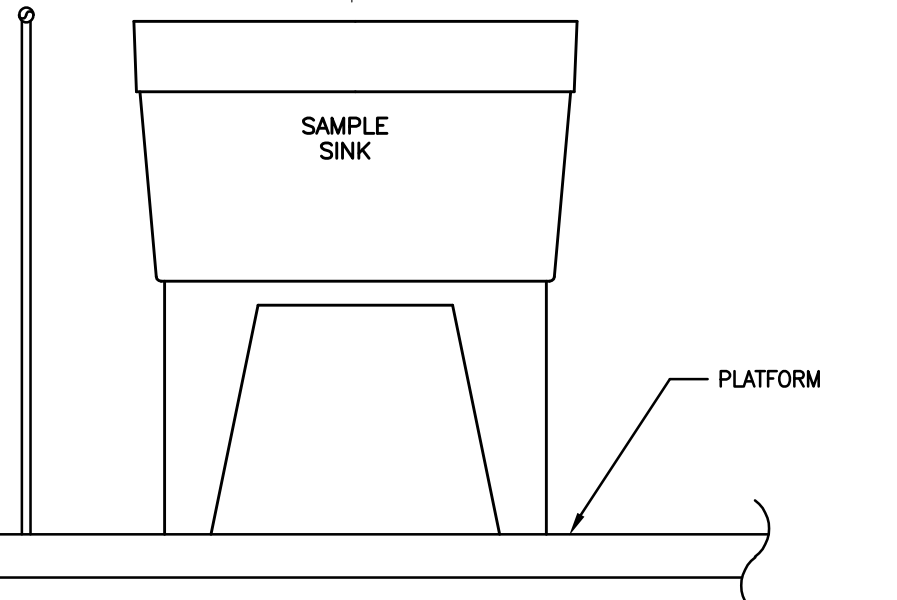
NO. 1-RETS
2/98 CAD MRY 4/04 SFB
SL70084KB.VICORDS.VA-HB-MECH70084MST.DWG

NOTES:
Underground facilities, structures, and utilities have been plotted from available surveys and records, and therefore their locations must be considered approximate only. There may be others, the existence of which is presently not known. Anyone using utility information and data provided herein shall "Call before you dig" at 1-800-922-4455 forty eight (48) hours in advance to verify the location of utilities prior to start of construction.

3	FOR RECORDS		SFB		4/04											
	FOR CONSTRUCTION		MRY		7/98											
	FOR APPROVAL		MRY		6/98											
ISSUE NO.	DRAWN		DATE		CHECKED		DESIGNER		APPROVED		DATE					
	PROJECT SUPERVISOR						DEPARTMENT SUPERVISOR									
ISSUE NO.	DRAWN		DATE		CHECKED		DESIGNER		APPROVED		DATE					




TOWN OF FAIRFIELD, CONNECTICUT			
WATER POLLUTION CONTROL FACILITY UPGRADE			
DIGESTERS			
ROOF PLAN AND SECTION			
JOB NO.	70084KB	CONTRACT	2
SHEET	M-27		



PIPE LEGEND

1 RAW WASTEWATER	13 SCUM	25 SUMP PUMP DISCHARGE
2 MIXED LIQUOR	14 SUPERNATANT	26 ODOR CONTROL
3 FST EFFLUENT	15 PROCESS AIR	27 TRUCK LOADING
4 OUTFALL	16 THICKENER MAKE-UP	28 METHANOL
5 RAW SLUDGE	17 THICKENER OVERFLOW	29 SANITARY SEWER
6 RETURN SLUDGE	18 SEPTAGE	30 TEMPORARY BYPASS
7 WASTE SLUDGE	19 DIGESTER GAS	31 OUTFALL TO PINE CREEK
8 THICKENED SLUDGE	20 NATURAL GAS	32 SLUDGE TRANSFER
9 DIGESTED SLUDGE	21 SCREENINGS	33 UNVALVED OVERFLOW
10 PROCESS DRAIN	22 POLYMER	
11 PLANT WATER	23 WATER	
12 NITRATE RECYCLE	24 NON-POTABLE WATER	

[illegible]

Stearns & Wheeler, LLC
ENVIRONMENTAL ENGINEERS & SCIENTISTS

DIGESTER SAMPLING STATION ELEV. WEST
NOT TO SCALE

1/4"=1'-0"

TOWN OF FAIRFIELD, CONNECTICUT			
WATER POLLUTION CONTROL FACILITY UPGRADE			
DIGESTERS SECTION			
JOB NO.	70084KB	CONTRACT	2
		SHEET	M-30

APPENDIX D
Primary Digester Tank Interior Photos

PRODUCT PROFILE

GENERIC DESCRIPTION	Polyamide Epoxy-Coal Tar
COMMON USAGE	Chemical and corrosion-resistant coating providing excellent adhesion and abrasion resistance, and low vapor and moisture transmission. Well suited for aggressive environments including underground and immersion service.
COLOR	Black
FINISH	Semi-gloss

COATING SYSTEM

PRIMERS	Steel: Self-priming or Series 66, 69, 90-97, 161. Galvanized Steel: Series 66 Concrete: Self-priming
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SURFACE PREPARATION

STEEL	Immersion Service: SSPC-SP10 Near-White Blast Cleaning Non-Immersion Service: SSPC-SP6 Commercial Blast Cleaning
SERIES 66, 69 OR 161 PRIMED STEEL	Immersion Service: Scarify the surface with fine abrasive before topcoating if the Series 66, 69 or 161 prime coat has been exterior exposed for 60 days or longer.
CONCRETE	Allow new concrete to cure for 28 days. Brush-off blast.
ALL SURFACES	Must be clean, dry and free of oil, grease and other contaminants.

TECHNICAL DATA

VOLUME SOLIDS	70.0 ± 2.0% (mixed)
RECOMMENDED DFT	8.0 to 10.0 mils (205 to 255 microns) per coat.

CURING TIME

Temperature	To Touch	To Recoat	Immersion
95°F (35°C)	2 hours	4 hrs - 2 days	5 days
85°F (29°C)	6 hours	6 hrs - 3 days	6 days
75°F (24°C)	7 hours	7 hrs - 4 days	7 days
65°F (18°C)	12 hours	12 hrs - 7 days	10-12 days
55°F (13°C)	24 hours	24 hrs - 10 days	14-16 days

Curing time varies with surface temperature, air movement, humidity, and film thickness. Use the above times as guidelines only. Scarify the surface with fine abrasive before recoating if the maximum recoat time has been exceeded.

VOLATILE ORGANIC COMPOUNDS

Unthinned	Thinned 10%
2.21 lbs/gallon (265 grams/litre)	2.63 lbs/gallon (315 grams/litre)

THEORETICAL COVERAGE	1,123 mil sq ft/gal (27.6 m ² /L at 25 microns). See APPLICATION for coverage rates.
NUMBER OF COMPONENTS	Two: Part A and Part B
PACKAGING	5 gallon (18.9L) pails and 1 gallon (3.79L) cans — Order in multiples of 2.
NET WEIGHT PER GALLON	10.50 ± 0.25 lbs (4.76 ± .11 kg) (mixed)
STORAGE TEMPERATURE	Minimum 20°F (-7°C) Maximum 110°F (43°C)
TEMPERATURE RESISTANCE	(Dry) Continuous 200°F (93°C) Intermittent 250°F (121°C)
SHELF LIFE	12 months at recommended storage temperature.
FLASH POINT - SETA	Parts A & B: 81°F (27°C)

RIGHTER GROUP, INC.
Tel: 800-848-4841
Fax: 800-391-1470
11 UPTON DRIVE
WILMINGTON, MA 01887-1018



TECHNICAL DATA continued**HEALTH & SAFETY**

Paint products contain chemical ingredients which are considered hazardous. Read container label warning and Material Safety Data Sheet for important health and safety information prior to the use of this product. **Keep out of the reach of children.**

APPLICATION**COVERAGE RATES**

	Dry Mils (Microns)	Wet Mils (Microns)	Sq Ft/Gal (m²/Gal)
Suggested	9.0 (230)	13.0 (330)	125 (11.6)
Minimum	8.0 (205)	11.5 (290)	140 (13.0)
Maximum	10.0 (255)	14.5 (370)	112 (10.4)

Allow for overspray and surface irregularities. Film thickness is rounded to the nearest 0.5 mil or 5 microns. Application of coating below minimum or above maximum recommended dry film thicknesses may adversely affect coating performance.

MIXING

Power mix contents of each container, making sure no pigment remains on the bottom. Pour a measured amount of Part B into a clean container large enough to hold both components. Add an equal volume of Part A to Part B while under agitation. Continue agitation until the two components are thoroughly mixed. Do not use mixed material beyond pot life limits. **Note:** Both components must be above 50°F (10°C) prior to mixing. For application to surfaces between 50°F to 60°F (10°C to 16°C), allow mixed material to stand thirty (30) minutes and restir before using. For optimum application properties, the material temperature should be above 60°F (16°C).

POT LIFE

6 hours at 60°F (16°C) 2 hours at 77°F (25°C) 1 hour at 100°F (38°C)

THINNING

Do not thin unless lower viscosity is necessary for proper application. Thin up to 10% or ¾ pint (380 mL) per gallon with No. 4 Thinner.

SURFACE TEMPERATURE

Minimum 50°F (10°C) Maximum 135°F (57°C) The surface should be dry and at least 5°F (3°C) above the dew point. Coating will not cure below minimum surface temperature.

APPLICATION EQUIPMENT**Air Spray**

Gun	Fluid Tip	Air Cap	Air Hose ID	Mat'l Hose ID	Atomizing Pressure	Pot Pressure
DeVilbiss MBC or JGA	E	78	5/16" or 3/8" (7.9 or 9.5 mm)	1/2" (12.7 mm)	75-100 psi (5.2-6.9 bar)	20-40 psi (1.4-2.8 bar)

Low temperatures or longer hoses require higher pot pressure.

Airless Spray

Tip Orifice	Atomizing Pressure	Mat'l Hose ID	Manifold Filter
0.017"-0.021" (430-535 microns)	2400-3000 psi (165-207 bar)	1/4" or 3/8" (6.4 or 9.5 mm)	60 mesh (250 microns)

Use appropriate tip/atomizing pressure for equipment, applicator technique and weather conditions.

Note: Application over inorganic zinc-rich primers: Apply a wet mist coat and allow tiny bubbles to form. When bubbles disappear in 1 to 2 minutes, apply a full wet coat at specified mil thickness.

Roller: Use roller cover with firm "carpet" nap. Keep roller cover saturated with material to get the required film thickness. Do not use a long nap cover.

Brush: Brushing is recommended on small areas only. Ladle material on and then use flat side of brush to spread. Do not brush out to thin film as with conventional coatings.

CLEANUP

Flush and clean all equipment immediately after use with the recommended thinner or MEK.

WARRANTY & LIMITATION OF SELLER'S LIABILITY: Tnemec Company, Inc. warrants only that its coatings represented herein meet the formulation standards of Tnemec Company, Inc. THE WARRANTY DESCRIBED IN THE ABOVE PARAGRAPH SHALL BE IN LIEU OF ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. The buyer's sole and exclusive remedy against Tnemec Company, Inc. shall be for replacement of the product in the event that a defective condition of the product should be found to exist. NO OTHER REMEDY (INCLUDING, BUT NOT LIMITED TO, INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR LOST PROFITS, LOST SALES, INJURY TO PERSON OR PROPERTY, ENVIRONMENTAL INJURIES OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL LOSS) SHALL BE AVAILABLE TO THE BUYER. The sole purpose of this exclusive remedy shall be to provide buyer with replacement of the product if any defect in materials is found to exist. This exclusive remedy shall not be deemed to have failed its essential purpose so long as Tnemec Company, Inc. is willing and able to replace the defective materials. Technical and application information herein is provided for the purpose of establishing a general profile of the coating and proper coating application procedures. Test performance results were obtained in a controlled environment and Tnemec Company makes no claim that these tests or any other tests, accurately represent all environments. As application, environmental and design factors can vary significantly, due care should be exercised in the selection and use of the coating. PUBLISHED TECHNICAL DATA AND INSTRUCTIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. CONTACT YOUR TNEMEC REPRESENTATIVE FOR CURRENT TECHNICAL DATA AND INSTRUCTIONS. FOR INDUSTRIAL USE ONLY.



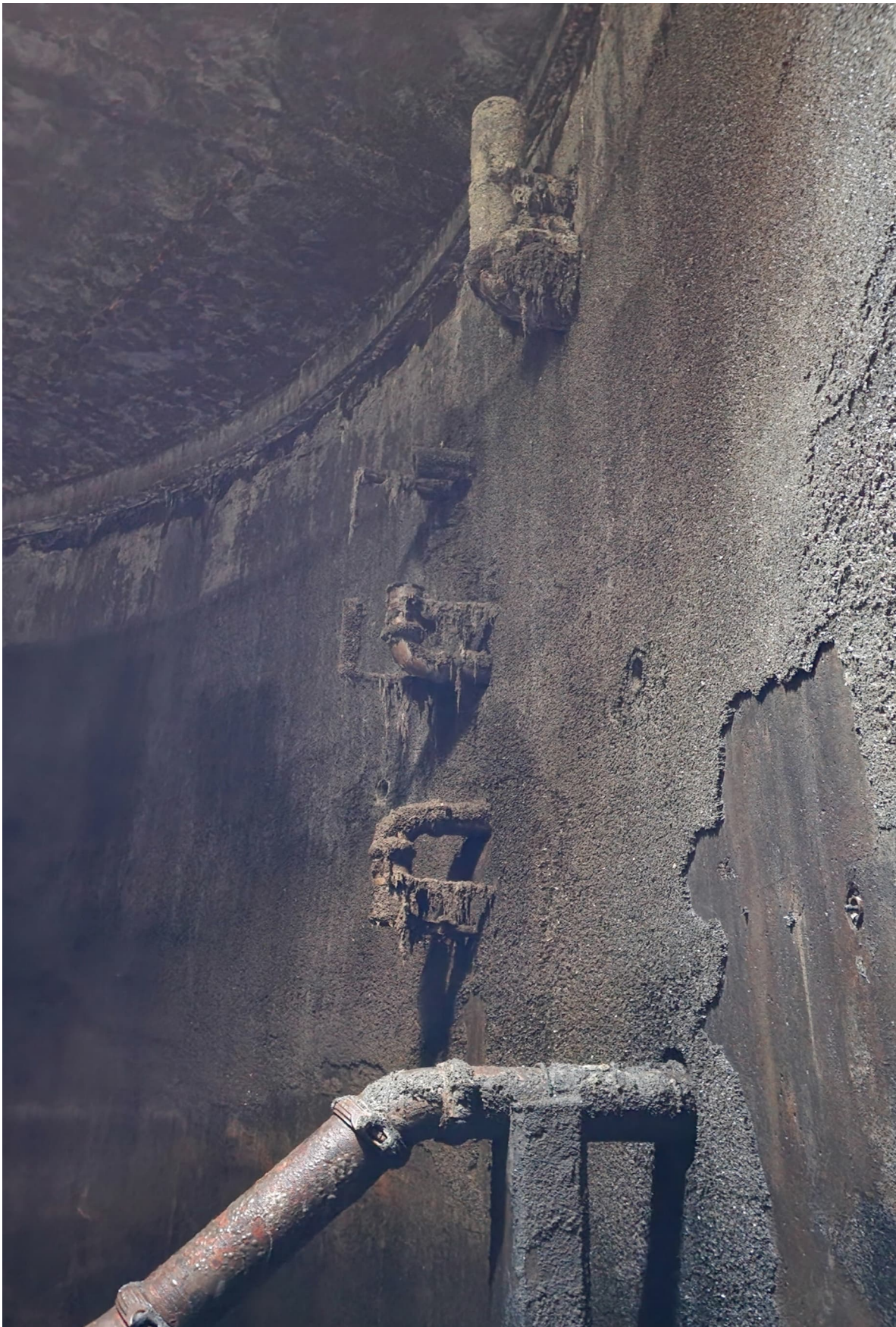




























Town of Fairfield

Sullivan Independence Hall
725 Old Post Road

Fairfield, Connecticut 06824
Purchasing Department

(203) 256-3060
FAX (203) 256-3080

BID #2023-85

WPCF Primary Digester Tank Repairs Phase #2

TOWN OF FAIRFIELD
PURCHASING AUTHORITY
725 OLD POST ROAD
INDEPENDENCE HALL
FAIRFIELD, CT 06824.

Date Submitted _____ 2022

SEALED BIDS are subject to the standard instructions set forth on the attached sheets. Any modifications must be specifically accepted by the Town of Fairfield, Purchasing Authority.

Bidder:

Doing Business As (Trade Name) _____

Address _____

Town, State, Zip _____



(Mr/Ms) Name and Title, Printed _____

Signature _____

Telephone _____

Fax _____

E-mail _____


First Selectwoman

Director of Purchasing
11-22-2022
Date

Sealed bids will be received by the Purchasing Authority at the office of the Director of Purchasing, First Floor, Independence Hall, 725 Old Post Road, Fairfield, Connecticut 06824, up to:

11:00am, Thursday, 15th December, 2022

To provide labor, materials, equipment and all else necessary to complete the repairs to the primary digester tank at the Water Pollution Control Facility (WPCF) as detailed in the attached specifications.

NOTES:

1. Bidders are to complete all requested data in the upper right corner of this page and must return this page and the Proposal page with their bid.
2. No bid shall be accepted from, or contracts awarded to, any person/company/affiliate or entity under common control who is in arrears to the Town of Fairfield upon debt, or contract or who has been within the prior five (5) years, a defaulter as surety or otherwise upon obligations to the Town of Fairfield, and shall be determined by the Town.
3. Bid proposals are to be submitted in a sealed envelope and clearly marked "BID #2023-85" on the outside of the envelope, including all outer packaging, such as, DHL, FedEx, UPS, etc.
4. It is the sole responsibility of the bidder to see that the bid is received by the Fairfield Purchasing Department prior to the time and date noted above. Bid proposals are not to be submitted via email or fax.
5. Bid proposals are not to be submitted with plastic binders or covers, nor may the bid proposal contain any plastic inserts or pages.

INVITATION TO BID

The Town of Fairfield (Town) on behalf of its Department of Public Works (DPW) and Water Pollution Control Authority (WPCA) is seeking competitive bids from qualified contractors to conduct repairs to the Primary Digester Tank walls and fixed cover as detailed in the attached specifications and Project Manual.

PRE-BID MEETING

A **pre-bid meeting** and site tour will commence at **10:00 am, Thursday, 1st December, 2022**, at the Fairfield WPCF, One Rod Highway, Fairfield, CT.

ADDENDA / REQUESTS FOR INFORMATION (RFI)

Addenda concerning important information and/or modifications to specifications will be posted on the Fairfield Purchasing Department website at <https://fairfieldct.org/bids>

- It is each Bidder's sole responsibility to monitor the above website for all updated information.
- Addenda will not be mailed, e-mailed or faxed out.
- Written requests for information will not be accepted after **12:00pm on Thursday, 8th December, 2022**.
- Verbal requests for information via phone or other means will not be accepted.
- Failure to comply with these conditions will result in the bidder waiving the right to dispute bid specifications and conditions, no exceptions.

Questions concerning this bid must be submitted in writing and directed only to:

Pru O'Brien, Junior Buyer
pobrien@fairfieldct.org

Response will be in the form of an addendum that will be posted approximately 9th December, 2022 to the Town of Fairfield website, which is www.fairfieldct.org. It is the responsibility of each bidder to retrieve addenda from the website. Any contact about this bid between a Bidder and any other Town official and/or department manager and/or Town of Fairfield employee, other than as set forth above, may be grounds for disqualification of that Bidder. No questions or clarifications shall be answered by phone, in person or in any other manner than specified above.

REQUIREMENTS

- A. Any sizes or estimate of quantities as shown on drawings are approximate and are not guaranteed in any respect. Prospective bidders are to visit the site to verify scope of the work, measurements, quantities, etc., prior to bidding. The Town reserves the right at all times to increase or decrease the amount of work if deemed in its best interest.
- B. Price is to include all labor, materials, tools, equipment, plant, mobilization, permits, insurances, etc., required to properly complete the project.
- C. The Town of Fairfield reserves the right to award the bid with multiple items:
 - to more than one bidder, based on meeting the item(s) specification, cost, availability, or any combination of these criteria;
 - to a single bidder who meets the specifications for all items, and offers the best combination of lowest cost, best availability, and broadest product range;
 - and may add, subtract or delete any item and/or quantity as deemed in the best interest of the Town.
- D. The Bidder must not discriminate, nor permit discrimination, against any person on the grounds of race, color, national origin, religion, sex, handicap, or veteran status, in their employment practices, in any of their contractual arrangements, in all service and accommodations they offer to the public, and in any of their other business operations.
- E. The successful bidder **MUST** secure all required permits (local, state, federal) prior to commencing work on the site.
- F. The awarded Contractor will have access to the site immediately upon award of contract and all work must be completed in a timely manner. Time is of the essence. All work time must be coordinated with the Project Engineer.
- G. Award of the project, either partial or in its entirety, is contingent upon funding approval by the applicable boards of the Town of Fairfield, including state and federal agencies.
- H. **Upon Award, all bidding documents shall constitute a legal contract including but not limited to the following; Bid Invitation, Addendum, CT DOL Prevailing Wage Documents, Award Resolution, Town Purchase Order, and AIA Contract or equivalent when applicable.**
- I. In the instance the Contractor discovers unanticipated hazardous material, whether it be in nature or capacity, the Town reserves the right to terminate the Contract and regain possession of the project site.

ENCLOSURES

Project Manual and drawings provided by Wright-Pierce Engineering

PURCHASING AUTHORITY TOWN OF FAIRFIELD INSTRUCTIONS FOR BIDDERS TERMS AND CONDITIONS OF BID

BID PROPOSALS

Bid proposals are to be submitted in a sealed envelope and clearly marked on the outside "BID #2023-85" including all outer packaging such as DHL, FedEx, UPS, etc. All prices and notations must be printed in ink or typewritten. No erasures are permitted. Bid proposals are to be in the office of the Purchasing Authority, First Floor, Independence Hall, 725 Old Post Road, Fairfield, Connecticut, prior to date and time specified, at which time they will be publicly opened.

RIGHT TO ACCEPT / REJECT

AFTER REVIEW OF ALL FACTORS, TERMS AND CONDITIONS, INCLUDING PRICE, THE PURCHASING AUTHORITY OF THE TOWN OF FAIRFIELD RESERVES THE RIGHT TO REJECT ANY AND ALL BIDS, OR ANY PART THEREOF, OR WAIVE DEFECTS IN SAME, OR ACCEPT ANY PROPOSAL DEEMED TO BE IN THE BEST INTEREST OF THE TOWN OF FAIRFIELD.

QUESTIONS

Questions concerning conditions, bidding guidelines and specifications should only be directed in writing to:

Ms. Pru O'Brien, Junior Buyer: pobrien@fairfieldct.org

Inquiries must reference date of bid opening, requisition or contract number, and must be received no later than as indicated in the bid documents prior to date of bid opening. Failure to comply with these conditions will result in the bidder waiving the right to dispute the bid specifications and conditions.

PRICES

Prices quoted must be firm, for acceptance by the Town of Fairfield, for a period of ninety (90) days. Prices shall include all applicable duties. Bidders shall be required to deliver awarded items at prices quoted in their original bid.

F.O.B. DESTINATION

Prices quoted shall be Net – Delivered to destination. Bids quoting other than F.O.B. Destination may be rejected.

BID BOND

The BID BOND furnished, as bid security, must be duly executed by the bidder as principal. It must be in the amount equal to five percent (5%) of the total estimated bid, as guarantee that, in case the contract is awarded to the bidder, the bidder will, within ten days thereafter, execute such contract and furnish a Performance Bond and Payment Bond.

Small businesses may elect to obtain an irrevocable letter of credit or cashier's check in lieu of the Bid Bond. Such surety must also be in an amount equal to at least five percent (5%) of the total estimated bid.

All bid bonds shall be written by a surety company or companies licensed in the State of Connecticut, and shall have at least an A-VII policy holders rating, as reported by A.M. Best Rating Services, or otherwise deemed acceptable by the Town. The Town always reserves the right to reject surety companies, if an approved surety bond cannot be provided, the bidder shall be deemed non-responsive.

A complete list of certified surety companies can be accessed on the U.S. Government Department of Treasury website: https://www.fiscal.treasury.gov/fsreports/ref/suretyBnd/c570_a-z.htm

NOTE: Failure to provide a Bid Bond or equivalent security is not cause for a waiver defect. Any bid not accompanied by such security will be excluded from consideration.

PERMITS

The contractor will be responsible for securing all necessary permits, state and local, as required by the Town of Fairfield. The Town will waive its application and permit fees for Town of Fairfield projects.

PAYMENT PROCEDURES

No voucher, claim or charge against the Town shall be paid without the approval of the Fiscal Officer for correctness and legality. Appropriate checks shall be drawn by the Fiscal Officer for approved claims or charges and they shall be valid without countersignature unless the Board of Selectmen otherwise prescribed.

PAYMENT PERIOD

The Town of Fairfield shall put forth its best effort to make payment within thirty days (30) after delivery of the item acceptance of the work, or receipt of a properly completed invoice, whichever is later. Payment period shall be net thirty days (30) unless otherwise specified. For

projects that do not require a performance or bid bond, The Town of Fairfield reserves the right to retain five percent (5%) of total bid amount, which is payable ninety (90) days after final payment or acceptance of the work.

THE CONTRACTOR

The Contractor for the work described shall be thoroughly familiar with the requirements of all specifications, and the actual physical conditions of various job sites. The submission of a proposal shall be construed as evidence that the Contractor has examined the actual job conditions, requirements, and specifications. Any claim for labor, equipment, or materials required, or difficulties encountered which could have been foreseen had such an examination been carefully made will not be recognized.

ASSIGNMENT OF CONTRACT

No contract may be assigned or transferred without the consent of the Purchasing Authority.

AWARD OF BIDS

Contracts and purchases will be made or entered into with the lowest responsible bidder meeting specifications, except as otherwise specified in the invitation. If more than one item is specified in the invitation, the Town of Fairfield reserves the right to determine the low bidder on an individual basis or on the basis of all items included in the Invitation for Bids, unless otherwise expressed by the Town. Additionally, the Town reserves the right to consider other factors in an award, such as the Town's prior experience with a vendor for services previously provided.

PERFORMANCE AND LABOR AND MATERIAL BOND

The successful bidder, within seven (7) business days after notification of award, will be required to furnish Performance and Labor and Material Bond provided by a company authorized to issue such bonds in the State of Connecticut, or Certified Check or properly executed Irrevocable Letter of Credit equal to a hundred per cent (100%) of the award.

In the event that the Contractor where required to provide evidence of insurance and a performance bond does not do so before beginning work, the Town of Fairfield reserves the right to withhold payment from such supplier until the evidence of insurance and performance bond has been received by the Town.

All payment and performance bonds shall be written by a surety company or companies licensed to issue bonds in the State of Connecticut, and shall have at least an A-VIII policy holders rating, as reported by A.M. Best Rating Services, or otherwise deemed acceptable by the Town. The Town always reserves the right to reject surety companies, if approved surety bonds cannot be provided the contract shall be terminated.

A complete list of certified surety companies can be accessed on the U.S. Government Department of Treasury website: https://www.fiscal.treasury.gov/fsreports/ref/suretyBnd/c570_a-z.htm

BOND REQUIREMENT – NON-RESIDENT CONTRACTORS

1. Non-resident contractors are required to deposit with the Department of Revenue Services a sum equivalent to 5% of the total contract value, as assurance that personal property taxes and/or any other State taxes assessed and due the State during the contract will be paid.
2. If this surety is not deposited with the State, the Town is required to deduct and submit to the State 5% of the total contract value.

GUARANTEE

Equipment, materials and/or work executed shall be guaranteed for a minimum period of one (1) year against defective material and workmanship. The cost of all labor, materials, shipping charges and other expenses in conjunction with the replacement of defective equipment, and/or unsatisfactory work, shall be borne by the Contractor.

CATALOGUE REFERENCE

Unless expressly stated otherwise, any and all reference to commercial types, sales, trade names and catalogues are intended to be descriptive only and not restrictive; the intent is to indicate the kind and quality of the articles that will be acceptable. Bids on other equivalent makes, or with reference to other catalogue items will be considered. The bidder is to clearly state exactly what will be furnished. Where possible and feasible, submit an illustration, descriptive material, and/or product sample.

INSURANCE

A. The Town of Fairfield is requiring insurance coverage as listed below for this work.

Note: The term "General Contractor" (hereinafter called the "Contractor") shall also include their respective agents, representatives, employees and subcontractors; and the term "Town of Fairfield" (hereinafter called the "Town") shall include their respective officers, agents, servants, officials, employees, volunteers, boards and commissions.

Note: The term "Town of Fairfield" or "Town" is to be taken to mean Town of Fairfield and the Fairfield Board of Education when the project includes the Board of Education.

At least five days before the Contract is executed and prior to commencement of work there under the Contractor will be required to submit to the Town of Fairfield, Risk Manager, 725 Old Post Road, Fairfield, CT 06824 a certificate of insurance, executed by an authorized representative of the insurance company, satisfactory to the Town's Risk Manager and in an acceptable form. The Town always reserves the right to reject insurance companies, if approved insurance policies cannot be provided the contract shall be terminated.

INSURANCE RIDER

Without limiting the Contractor's liability, the Contractor shall provide and maintain in full force and effect at all times until all work required by the contract has been fully completed, except that Products/Completed Operations coverage shall be maintained for five (5) years, insurance coverage related to its services in connection with the project in compliance with the following requirements.

The insurance required shall be written for not less than the scope and limits of insurance specified hereunder, or required by applicable federal, state and/or municipal law, regulation or requirement, whichever coverage requirement is greater. It is agreed and understood that the scope and limits of insurance specified hereunder are minimum requirements and shall in no way limit or preclude the Town from requiring additional limits and coverage to be provided under the Contractor's policies.

B. Minimum Scope and Limits of Insurance:

Worker's Compensation Insurance:

- In accordance with the requirements of the laws of the State of Connecticut.
- Five hundred thousand dollars (\$500,000) Employer Liability each accident.
- Five hundred thousand dollars (\$500,000) Employer Liability each employee by disease.
- Five hundred thousand dollars (\$500,000) Employer Liability policy limit coverage for disease.

Commercial General Liability Insurance:

- Bodily Injury, Personal Injury and Property Damage one million dollars (\$1,000,000) each occurrence, two million dollars (\$2,000,000) aggregate.
- Products/Completed Operations one million dollars (\$1,000,000) each occurrence, two million dollars (\$2,000,000) aggregate.

Automobile Liability Insurance:

- A combined single limit of one million dollars (\$1,000,000). This policy shall include all liability of the Contractor arising from the operation of all self-owned motor vehicles used in the performance of the Contract; and shall also include a "non-Ownership" provision covering the operation of motor vehicles not owned by the Contractor, but used in the performance of the work, and, rider CA9948 or equivalent

Pollution Liability:

- One million dollars (\$1,000,000) each occurrence, one million dollars (\$1,000,000) aggregate.

Umbrella/Excess Liability Insurance:

- Five million dollars (\$5,000,000) each occurrence, five million dollars (\$5,000,000) aggregate. Such coverage must be follow form over Worker's Compensation, Commercial General Liability, Pollution Liability and Automobile Liability.

Indemnification: The Contractor shall defend, indemnify and save harmless the Town and its officers, agents, servants, officials, employees, volunteers, boards and commissions from and against any and all claims, demands, suits, proceedings, liabilities, judgments, awards, losses, damages, costs and expenses of any nature, including attorneys' fees, on account of bodily injury, sickness, disease, death or any other damages or loss sustained by any person or persons or injury or damage to or destruction of any property, directly or indirectly arising out of, relating to, or in connection with the work called for in the Contract, whether or not due or claimed to be due in whole or in part to the active, passive or concurrent negligence, fault or contractual default of the Contractor, its officers, agents, servants or employees, any of its

sub-contractors, the Town, any of its respective officers, agents, servants, officials, employees, volunteers, boards and commissions and/or any other person or persons, and whether or not such claims, demands, suits or proceedings are just, unjust, groundless, false, or fraudulent, and the Contractor shall and does hereby assume and agrees to pay for the defense of all such claims, demands, suits and proceedings, provided, however, that the Contractor shall not be required to indemnify the Town, its officers, agents, servants, officials, employees, volunteers, boards and commissions, against any such damages occasioned solely by acts or omissions of the Town, its officers, agents, servants, officials, employees, volunteers, boards and commissions, other than supervisory acts or omissions of the Town, its officers, agents, servants, officials, employees, volunteers, boards and commissions, in connection with the work called for in the Contract.

"Tail" Coverage: If any of the required liability insurance is on a claims-made basis, "tail" coverage will be required at the completion of this contract for a duration of 36 months, or the maximum time period reasonably available in the marketplace. The Contractor shall furnish certification of "tail" coverages described or continuous "claims made" liability coverage for 36 months following Contract completion. Continuous "claims made" coverage will be acceptable in lieu of "tail" coverage provided its retroactive date is on or before the effective date of this Contract. If continuous "claims made" coverage is used, the Contractor shall be required to keep the coverage in effect for duration of not less than 36 months from the end of the Contract.

Acceptability of Insurers: The Contractor's policies shall be written by insurance companies licensed to do business in the State of Connecticut, with an A.M. Best rating of A- XV or otherwise acceptable by the Town's Risk Manager.

Subcontractors: The Contractor shall require subcontractors to provide the same "minimum scope and limits of insurance" as required herein, with the exception of Errors and Omissions/Professional Liability insurance/Fiduciary Liability, unless Errors and Omissions/Professional Liability/Fiduciary Liability insurance is applicable to the work performed by the subcontractor. All Certificates of Insurance shall be provided to and approved by the Town's Risk Manager prior to the commencement of work, as required herein.

Aggregate Limits: It is agreed that the Contractor shall notify the Town when fifty percent (50%) of the aggregate limits are eroded during the contract term. If the aggregate limit is eroded for the full limit, the Contractor agrees to reinstate or purchase additional limits to meet the minimum limit requirements stated herein. The premium shall be paid by the Contractor.

Deductibles and Self-Insured Retentions: Any deductible or self-insured retention must be declared to, and approved by, the Town. All deductibles or self-insured retentions are the sole responsibility of the Contractor to pay and/or to indemnify. Under no circumstances will the Town be responsible for paying any deductible or self-insured retentions related to this Contract.

Notice of Cancellation or Non-renewal: Each insurance policy required shall be endorsed to state that coverage shall not be suspended, voided, cancelled, or reduced in coverage or in limits except after 30 days prior written notice by certified mail, return receipt requested, has been given to the Town, (provided ten (10) days' prior written notice shall be sufficient in the case of termination for nonpayment).

Waiver of Governmental Immunity: Unless requested otherwise by the Town, the Contractor and its insurer shall waive governmental immunity as defense and shall not use the defense of governmental immunity in the adjustment of claims or in the defense of any suit brought against the Town.

Additional Insured: The liability insurance coverage, except Errors and Omissions, Professional Liability or Workers Compensation, if included, required for the performance of the Contract shall include the Town as Additional Insured but only with respect to the Contractor's activities to be performed under this Contract. Coverage shall be primary and non-contributory with any other insurance and self-insurance and contain no special limitations on the scope of protection afforded to the Town of Fairfield. The Town and/or its representative retain the right to make inquiries to the Contractor, its agents or broker and insurer directly.

Waiver of Subrogation: A waiver of subrogation in favor of the Town is required on all policies.

Waiver/Estoppel: Neither approval by the Town nor failure to disapprove the insurance furnished by the Contractor shall relieve the Contractor of the Contractor's full responsibility to provide insurance as required under this Contract.

Contractor's Insurance Additional Remedy: Compliance with the insurance requirements of this Contract shall not limit the liability of the Contractor or its Sub-Contractors/Firms, employees or agents to the Town or others. Any remedy provided to the Town shall be in addition to, and not in lieu of, any other remedy available under this Contract or otherwise.

Certificate of Insurance: As evidence of the insurance coverage required by this Contract, the Contractor shall furnish Certificate(s) of Insurance to the Town's Risk Manager prior to the award of the Contract if required by the Bid document, but in all events prior to Contractor's commencement of work under this Contract. The Certificate(s) will specify all parties who are endorsed on the policy as Additional Insured (or Loss Payees). The certificates and endorsements for each insurance policy are to be signed by a person authorized by the insurer to bind coverage on its behalf. Renewals of expiring certificates shall be filed thirty (30) days prior to expiration. The Town reserves the right to require complete, certified copies of all required policies at any time. All insurance documents required should be mailed to Town of Fairfield, Chief Financial Officer, 725 Old Post Road, Fairfield, CT 06824 and Town of Fairfield, Risk Manager, 725 Old Post Road, Fairfield, CT 06824.

OSHA

The bidder will certify all equipment complies with all regulations and conditions stipulated under the Williams-Steiger Occupational Safety and Health Act of 1971, as amended. The successful bidder will further certify that all items furnished under this project will conform and

comply with Federal and State of Connecticut OSHA standards. The successful bidder will agree to indemnify and hold harmless the Town of Fairfield for any and all damages that may be assessed against the Town.

LIFE CYCLE COSTING

Where applicable, Life Cycle Costing will be used as a criterion for awarding bids. This is a method of calculating total cost of ownership of an item over the life of the product, which may include operation and maintenance expenses, transportation, salvage value, and/or disposal costs.

FEDERAL, STATE, AND LOCAL LAWS

All applicable Federal, State and local laws, rules and regulations of all authorities having jurisdiction over the locality of the project shall apply to the contract and are deemed to be included herein. If the total amount of the project, including any current or future change orders, exceeds \$100,000.00 all work is to be done in accordance with Connecticut Department of Labor (CT-DOL) rules and regulations. More information may be obtained from: www.ctdol.state.ct.us

The Davis-Bacon and Related Acts, shall apply to contractors and subcontractors performing on federally funded or assisted contracts in excess of \$2,000 for the construction, alteration, or repair (including painting and decorating) of public buildings or public works. More information may be obtained from: <https://www.dol.gov/whd/govcontracts/dbra.htm>

NOTE: The Town shall apply the most current wage decision applicable at the time of contract award.

CONFLICT OF INTEREST

No officer or employee or member of any elective or appointive board, commission or committee of the Town, whether temporary or permanent, shall have or acquire any financial interest gained from a successful bid, direct or indirect, aggregating more than one hundred dollars (\$100.00), in any project, matter, contract or business within his/her jurisdiction or the jurisdiction of the board, commission, or committee of which he/she is a member. Nor shall the officer / employee / member have any financial interest, direct or indirect, aggregating more than one hundred dollars (\$100.00) in any contract or proposed contract for materials or services to be furnished or used in connection with any project, matter or thing which comes under his/her jurisdiction or the jurisdiction of the board, commission, committee of which he/she is a member.

NON-WAIVER CLAUSE

The failure by the Town to require performance of any provision of this bid shall not affect the Town's right to require performance at any time thereafter, nor shall a waiver of any breach or default of a contract award constitute a waiver of any subsequent breach or default or a waiver of the provision itself.

ATTORNEY FEES

In the event of litigation relating to the subject matter of this bid document or any resulting contract award, the non-prevailing party shall reimburse the prevailing party for all reasonable attorney fees and costs resulting therefrom.

SCOPE OF WORK/SITE INSPECTIONS

The bidder declares that the scope of the work has been thoroughly reviewed and any questions resolved (see above for name and number of individual to contact for questions). If applicable, the bidder further declares that the site has been inspected as called for in the specifications (q.v.).

EXCEPTION TO SPECIFICATIONS

No protest regarding the validity or appropriateness of the specifications or of the Invitation for Bids will be considered, unless the protest is filed in writing with the Purchasing Authority prior to the closing date for the bids. All bid proposals rendered shall be considered meeting the attached specifications unless exceptions are noted on a separate page dated and signed by the bidder.

UNLESS OTHERWISE NOTED

It will be assumed that all terms and conditions and specifications will be complied with and will be considered as part of the Bid Proposal.

TAX EXEMPT

Federal Tax Exemption 06-6001998.

Exempt from State Sales Tax under State General Statutes Chapter 219-Section 12-412 Subsection A.

No exemption certificates are required and none will be issued.

REFERENCES

Provide reference details of most recent similar scope projects performed.

REFERENCE #1:

Name of Company _____ Phone _____
Contact Person _____ Cell _____
Company Address _____ Email _____
Project, Location, & Date Completed _____

REFERENCE #2:

Name of Company _____ Phone _____
Contact Person _____ Cell _____
Company Address _____ Email _____
Project, Location, & Date Completed _____

REFERENCE #3:

Name of Company _____ Phone _____
Contact Person _____ Cell _____
Company Address _____ Email _____
Project, Location, & Date Completed _____

REFERENCE #4:

Name of Company _____ Phone _____
Contact Person _____ Cell _____
Company Address _____ Email _____
Project, Location, & Date Completed _____

REFERENCE #5:

Name of Company _____ Phone _____
Contact Person _____ Cell _____
Company Address _____ Email _____
Project, Location, & Date Completed _____

SUBCONTRACTORS

Provide subcontractor details if any are to be employed as part of this contract, including labor rates:

SUBCONTRACTOR #1:

Name of Company _____ Fed ID # _____
Contact Person _____ Title _____
Company Address _____ Phone _____
Trade _____ Email _____

Rates: Supervisor \$ _____/hr Foreman \$ _____/hr Journeyman \$ _____/hr Apprentice \$ _____/hr

SUBCONTRACTOR #2:

Name of Company _____ Fed ID # _____
Contact Person _____ Title _____
Company Address _____ Phone _____
Trade _____ Email _____

Rates: Supervisor \$ _____/hr Foreman \$ _____/hr Journeyman \$ _____/hr Apprentice \$ _____/hr

SUBCONTRACTOR #3:

Name of Company _____ Fed ID # _____
Contact Person _____ Title _____
Company Address _____ Phone _____
Trade _____ Email _____

Rates: Supervisor \$ _____/hr Foreman \$ _____/hr Journeyman \$ _____/hr Apprentice \$ _____/hr

SUBCONTRACTOR #4:

Name of Company _____ Fed ID # _____
Contact Person _____ Title _____
Company Address _____ Phone _____
Trade _____ Email _____

Rates: Supervisor \$ _____/hr Foreman \$ _____/hr Journeyman \$ _____/hr Apprentice \$ _____/hr

NOTE: All sub-Contractors are subject to approval by the Town of Fairfield and are required to provide Fed ID #.

ADDENDUM NO. 1

TO

TOWN OF FAIRFIELD, CONNECTICUT

BIDDING AND CONTRACT REQUIREMENTS AND SPECIFICATIONS

FOR

WPCF PHASE 2 PRIMARY DIGESTER TANK REPAIRS

BID #2023-85

December 8th, 2022



PREPARED BY:

**WRIGHT-PIERCE ENGINEERS
169 Main Street, 700 Plaza Middlesex
Middletown, Connecticut 06457**

ADDENDUM NO. 1

TOWN OF FAIRFIELD, CONNECTICUT WPCF PHASE 2 PRIMARY DIGESTER TANK REPAIRS

As a point of clarification, it should be understood that the Contract Documents govern all aspects of the project. Informal discussions held during the Pre-Bid Conference, or over the telephone are informational only. All official changes to the Contract Documents are made only by addenda. The following changes and additional information are hereby made a part of the Contract Documents:

CLARIFICATIONS

1. A non-mandatory pre-bid meeting was held on December 1st, 2022 at 10am. A copy of sign-in sheet and agenda is included as an attachment to this addendum.
2. Several photos were taken of the tank interior upon completion of the Phase 1 Cleaning. These have been made available for viewing at the following link: [November 23, 2022 Interior Tank Photos](#)
3. The contract time is currently 120 days to substantial completion and 150 days to final completion. This will be changed as follows and reflected in the agreement prior to execution:
 - a. The total contract time will remain at 150 days but with two Milestones:
 - i. The Contractor will have 120 days from notice to proceed to complete all contract work less Bid Item 3 – Replacement of the Flame Arrestor/Safety Valve. This milestone includes all required start-up, testing and commissioning as specified. If accepted, Bid Alternate A work shall also be completed in this timeframe.
 - ii. The Contractor will have an additional 30 days from the date of delivery to remove the existing and install the new dual flame arrestor/safety valve. This milestone includes only the replacement and commissioning of the new assembly. The town will depressurize the tank to allow for this work to commence.
4. The Bid Form and Measurement and Payment sections have been revised by this addendum to clarify the following:
 - a. Bid Item 1 shall include all necessary provisions as deemed necessary by the Contractor and Subcontractors to provide access to all work areas in order to complete the concrete and cover seal repairs in Bid Item 1, the pipe replacements in Bid Item 2, the partial coating removal in Bid Item 5, and the High-Pressure Water Jetting in Bid Alternate A if selected.
 - b. Bid Item 5 includes removal of up to 900 SF of poorly adhered liner as marked out by the Engineer/Tnemec Representative once the scaffolding/staging required by Bid Item 1 is available.
 - c. Bid Alternate A has been added to conduct high pressure water jetting for liner

removal and disposal instead of mechanical removal in Bid Item No. 5 as an option to the Town. Pricing for Bid Alternate A shall reflect this deduction. High pressure water jetting (HP WJ) and Visual Condition WJ-3 shall meet the requirements of the enclosed specifications and be conducted by a certified firm with 5-years of experience in high pressure water jetting.

5. Evaluation of Bids - Bidders shall submit a Bid on a lump sum basis for each lump sum item of Work and on a unit price basis for each unit price item of Work, for the Base Bid and include a separate price for each alternate described in the Bidding Documents as provided for in the Bid Form. The price for each alternate will be the amount added to or deleted from the Base Bid if Owner selects the alternate. In the evaluation of Bids, alternates will be applied in the same order as listed in the Bid form.

SPECIFICATIONS

1. Section 00310, BID FORM, **DELETE** this section in its entirety and **REPLACE** with revised Section 00310 included in this Addendum.
2. Section 01100, ALTERNATES, **ADD** Section 01100 – ALTERNATES, to the Contract Specifications.
3. Section 01150A, MEASUREMENT AND PAYMENT, **DELETE** this section in its entirety and **REPLACE** with revised Section 01150A included in this Addendum.
4. **ADD** the enclosed Water Jetting Standards to the Contract for Bid Alternate A Requirements.

DRAWINGS

1. Drawing PR-1 and PR-2, **ADD** the following to the end of new Pressure/Vacuum Relief Valve and Flame Arrester and Safety Selector Valve callout:

“ “THE PRESSURE/VACUUM RELIEF VALVE AND FLAME ARRESTER AND SAFETY SELECTOR VALVE SHALL BE PROVIDED WITH AN EASILY REMOVABLE 1” THICK INSULATION JACKET. THE INSULATING JACKET SHALL BE CONSTRUCTED WITH A SILICONE IMPREGNATED WOVEN GLASS CLOTH LINING WITH A 1” THICK, 6-LB DENSITY FIBER GLASS INSULATING MATERIAL. THROUGH-COVER QUILTING PINS PROVIDE FIRM SUPPORT FOR THE INSULATION. THE PINS SHALL KEEP THE INSULATION FROM SHIFTING INSIDE THE LINER AND JACKET FOR DIMENSIONAL STABILITY AND UNIFORM HEAT RETENTION. THE SILICONE LINING HAS INSIDE SEAMS AND FOLDED CLOSING SEAMS WITH TWO PARALLEL ROWS OF STITCHING. THE SPECIAL MADE INSULATING JACKET SHALL BE ATTACHED TO THE UNIT WITH A COMBINATION OF VELCRO AND CINCH BELTS. THE JACKET MUST ALLOW ACCESS TO THE FLAME ARRESTER BANK ASSEMBLY DURING MAINTENANCE WITHOUT REMOVING THE ENTIRE JACKET.”

Town of Fairfield, Purchasing Department

DETAILS:		Town of Fairfield		Site Visit Details:	
Bid#2023-85 WPCF Digester Tank Repair - Phase 2				Date: Thursday, December 1, 2022 Start Time: 10:00am	
DUE DATE: 11:00am, Thursday, December 15, 2022				Location: Fairfield WPCF 1 Richard White Way (Rod Highway) Fairfield, CT 06824	
COMPANY / NAME PLEASE PRINT		PHONE	FAX	E-MAIL	
1	J Fournier / Tucker Mead	860-460-5723	-	JFOURNIER@EMCOR.NET	
2	Ken O'Hara CHN (Tucker) 860-438-0415			KOHARA@CHN.FICKERLING.COM	
3	DAN TISO	"	"	dtiso@chnickerson.com	
4	Craig Wolfe / CHN Nickerson	609 321 0573		lureart@outlook.com	
5	Tom Dieterich / CHN Nickerson	845 464 8065		fruits of mgo@gmail.com	
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**TOWN OF FAIRFIELD, CONNECTICUT
WPCF PHASE 2 PRIMARY DIGESTER TANK REPAIRS
BID # 2023-85**

Pre-Bid Meeting Agenda
December 1, 2022 - 10:00 am

Identifications

Owner: Town of Fairfield
Sullivan Independence Hall
725 Old Post Road
Fairfield, CT 06824

Contacts:

Pru O'Brien	Junior Buyer - Purchasing Email: pobrien@fairfieldct.org Phone: 203-256-3060
Christine Pacelli	WPCA Project Manager Email: cpacelli@fairfieldct.org Phone: 203-256-3142
John Bodie	WPCF Superintendent Email: jbodie@fairfieldct.org Phone: 203-256-3140

Engineer: Wright-Pierce Engineers
169 Main Street
700 Plaza Middlesex
Middletown, Connecticut 06457
Phone: 860-343-8297

Contacts:

Dennis Dievert	Senior Project Manager Email: dennis.dievert@wright-pierce.com Phone: 860-852-1920
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Agenda Items

1. Introduction & Project History
 - a. Cover heaved in April 2022 – Tank taken off-line full of material
 - b. Originally tried to coordinate an emergency repair
 - c. Bid out cleaning and repairs in August 2022
 - d. Re-bid just cleaning in September 2022
 - e. As of November 23rd, 2022 – Tank cleaning is complete and tank interior inspected
 - f. Now bidding the repair work

2. The location of this project is at the Fairfield WPCF Digester Complex located at 330 One Rod Highway. A site walk will follow this meeting.
3. There have been no addenda issued to date for this project. An addendum will be issued following this meeting. Addenda may be issued up to 5-days prior to the bid opening. Questions received less than 10-days prior to the bid opening may not be answered. All addenda will be posted to the town of Fairfield website only. It is the responsibility of each bidder to retrieve addenda from the website.
4. This project is funded 100% by the Town of Fairfield. There are no MBE/WBE requirements and no American Iron and Steel requirements.
5. Bids are due to the Director of Purchasing at the at the Town of Fairfield Purchasing Authority, First Floor, Independence Hall, 725 Old Post Road, Fairfield, Connecticut 06824, up 11:00 AM on December 15th, 2022.
6. The contract, if awarded, will be awarded to the lowest responsible bidder within 30 days of the bid opening.
7. The work under this contract is subject to the provisions of the State (Department of Labor) wage rates included in the project manual.
8. Limited staging areas are available on-site where shown on the drawings.
9. Normal working hours are 7:00 am to 5:00 pm Monday through Friday.
10. The Owner is providing construction oversight and will have daily representation at the plant at all times.
11. There will be 120 days for Substantial Completion and 150 days for Final Completion. Repair work is expected to commence upon contract execution. Any long lead time items will be discussed once known.
12. All town building permit fees will be waived except for the state of CT Education fee.
13. Review of Project Scope and Construction Sequencing.

The tank is completely off-line. There are no process flows that need to be maintained.

1. Remove gas piping and lightning protection grid to allow for cover removal
2. Remove or lift and support fixed steel cover (90,000 lbs +/-)
3. Sawcut and remove wall sections at all 12 anchor bracket locations

4. Form/pour new wall sections and install new anchors – Refer to specs for cold weather concreting
5. Reinstall mounting brackets, reset cover, reinstall lightning protection system, gas piping and seal and test cover
6. Replace level transducer and pressure relief/safety valve
7. Replace 2” gas and flushing lines from exterior of fixed cover to bubble cannons
8. Remove all loose interior tank liner material (LS vs SF)

14. Questions

15. Site Walk

SECTION 00310BID FORM

PROJECT IDENTIFICATION: WPCF Primary Digester Tank Repairs –
Bid #2023-85

THIS BID IS SUBMITTED TO: Town of Fairfield Purchasing Authority
725 Old Post Road – Independence Hall
Fairfield, CT 06824

ARTICLE 1 – BID RECIPIENT

- 1.01 This Bid is submitted to the Owner, as identified above.
- 1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS

- 2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

- 3.01 In submitting this Bid, Bidder represents that:
- A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

Addendum No.**Addendum, Date**

_____	_____
_____	_____
_____	_____

- B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings

identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.

- E. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- F. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- G. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- H. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- I. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
 - 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

BID SCHEDULE

Item No.	Estimated Quantity	Brief Description of Item with Unit Price in Words	Unit Price In Figures	Total Estimated Price In Figures
1	LS	Primary Digester Tank Concrete and Cover Seal Repairs complete, except as noted below		
		The sum of \$_____		\$_____
		Per Lump Sum		
2	LS	Remove and Replace 2-inch SS Gas and Flushing Piping to Bubble Cannons complete, except as noted below		
		The sum of \$_____		\$_____
		Per Lump Sum		
3	LS	Remove and Replace Flame Arrestor and Pressure Relief Valve Assembly complete, except as noted below		
		The sum of \$_____		\$_____
		Per Lump Sum		
4	LS	Remove and Replace Level Transducer complete, except as noted below		
		The sum of \$_____		\$_____
		Per Lump Sum		
5	900 SF*	Remove/Dispose of Loose Tank Liner as marked out, except as noted below		
		The sum of \$_____	\$_____	\$_____
		Per Square Foot		

Item No.	Estimated Quantity	Brief Description of Item with Unit Price in Words	Unit Price In Figures	Total Estimated Price In Figures
6	ALL	Undocumented Site Conditions		
		The sum of \$ <u>Twenty-Five Thousand Dollars and No Cents</u>		\$ <u>25,000.00</u>
		Allowance		
7	ALL	System Integrator Services		
		The sum of \$ <u>Five Thousand Dollars and No Cents</u>		\$ <u>5,000.00</u>
		Allowance		

* Indeterminate quantities assumed for comparison of bids. Quantities are not guaranteed. Payment will be based on actual quantities constructed.

SUBTOTAL (BASE BID): Total of Items 1 through 7 above.

_____ (\$ _____)
 _____ (use figures)

 _____ (use words)

BID ALTERNATES

Item No.	Estimated Quantity	Brief Description of Item with Unit Bid Price in Words	Amount In Figures
8	Lump Sum	Bid Alternate A – Provide high pressure water jetting for complete interior liner removal instead of 900 SF of mechanical removal of the liner in Bid Item No. 5.	
		TOTAL BID ALTERNATE A	

		_____	\$ _____
		Per Lump Sum	

SUBTOTAL (BID ALTERNATES): Total of Item 8 above.

(\$ _____)
(Amount in Figures)

(Amount in Words)

TOTAL BID: Total of Items 1 through 8 above.

(\$ _____)
(Amount in Figures)

(Amount in Words)

ARTICLE 6 – TIME OF COMPLETION

- 6.01 Bidder agrees that the Work will be substantially complete within 120 calendar days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within 150 calendar days after the date when the Contract Times commence to run.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents are submitted with and made a condition of this Bid:
- A. Town of Fairfield Cover Page, completed and signed;
 - B. Required Bid security;
 - C. List of Proposed Subcontractors and Suppliers;
 - D. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;
 - E. Contractor's License No.:
 - F. Required Bidder Qualification Statement with supporting data and Project References;

ARTICLE 8 – DEFINED TERMS

- 8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

9.01

BIDDER: *[Indicate correct name of bidding entity]*

By:

[Signature] _____

[Printed name] _____

(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:

[Signature] _____

[Printed name] _____

Title: _____

Submittal Date: _____

Address for giving notices:

Telephone Number:

Fax Number:

Contact Name and e-mail address:

Bidder's License No.:

(where applicable)

SECTION 01100ALTERNATESPART 1 - GENERAL1.1 DESCRIPTION

- A. Work Included:
 - 1. Each Bidder shall be held fully responsible for examining the scope of the Alternates generally defined herein and for recognizing any modifications to his work caused by any Alternate
- B. Alternate:
 - 1. To enable the Owner to compare total costs where alternate materials and methods might be used, an Alternate has been established as described in this Section of these Specifications.
- C. Related Work Specified Elsewhere:
 - 1. Materials and methods to be used in the Base Bid and in the Alternate have been described on the DRAWINGS and in pertinent Sections of these Specifications.
 - 2. Method for stating the proposed Contract Sum is described in the Bid Form.
- D. Submittals:
 - 1. All Alternates described in this Section are required to be reflected on the Bid Form as submitted by bidders. However, do not submit alternates other than as described in this Section, except as provided for "substitutions" under the General Conditions.

PART 2 - PRODUCTS2.1 PRODUCT HANDLING

- A. If the Owner elects to proceed on the basis of one or more of the described Alternatives, make all modifications to the Work required in furnishing and installing the selected Alternative or Alternatives to the approval of the Engineer and at no additional cost to the Owner other than as proposed on the Bid Form.

2.2 ALTERNATE A – Provide High Pressure Water Jetting for Complete Interior Liner Removal

- A. Provide complete liner removal identified as Bid Alternate A for the full perimeter and height of the interior tank walls (approximately 5,000 SF) within the Primary Digester Tank via high pressure water jetting instead of 900 SF of mechanical removal of the liner in Bid Item No. 5.

PART 3 - EXECUTION3.1 ADVANCE COORDINATION

- A. Immediately after award of the Contract, or as soon thereafter as the Owner has made a decision on whether the Alternate will be selected, thoroughly and clearly

advise all necessary personnel and suppliers as to the nature and extent of Alternates selected by the Owner. Use all means necessary to alert those personnel and suppliers involved as to all changes in the work caused by the Owner's selection or rejection of the Alternate.

END OF SECTION

SECTION 01150AMEASUREMENT AND PAYMENTPART 1 - GENERAL1.1 DESCRIPTION

- A. For lump sum items, payment shall be made to the Contractor in accordance with an accepted Progress Schedule and Schedule of Values on the basis of actual work completed.
- B. For unit-price items, payment shall be based on the actual amount of work accepted and for the actual amount of materials in place, as shown by the final measurements.
 - 1. All units of measurement shall be standard United States convention as applied to the specific items of work by tradition and as interpreted by the Engineer.
 - 2. At the end of each day's work, the Contractor's Superintendent or other authorized representative of the Contractor shall meet with the Resident Project Representative and determine the quantities of unit price work accomplished and/or completed during the work day.
 - 3. The Resident Project Representative will then prepare two "Daily Progress Reports" which shall be signed by both the Resident Project Representative and Contractor's Representative.
 - 4. Once each month the Resident Project Representative will prepare two "Monthly Progress Summation" forms from the month's accumulation of "Daily Progress Reports" which shall also be signed by both the Resident Project Representative and Contractor's Representative.
 - 5. These completed forms will provide the basis of the Engineer's monthly quantity estimate upon which payment will be made. Items not appearing on both the Daily Progress Reports and Monthly Progress Summation will not be included for payment. Items appearing on forms not properly signed by the Contractor will not be included for payment.
 - 6. After the work is completed and before final payment is made there for, the Engineer will make final measurements to determine the quantities of various items of work accepted as the basis for final settlement.

1.2 SCOPE OF PAYMENT

- A. Payments to the Contractor will be made for the actual quantities of the Contract items performed and accepted in accordance with the Contract Documents. Upon completion of the construction, if these actual quantities show either an increase or decrease from the quantities given in the Bid Form, the Contract unit prices will still prevail.
- B. The Contractor shall accept compensation, as herein provided, in full payment for furnishing all materials, labor, tools, equipment, and incidentals necessary to the completed work and for performing all work contemplated and embraced by the Contract; also for all loss or damage arising from the nature of the Work, or from the action of the elements, or from any unforeseen difficulties which may be encountered during the prosecution of the Work and until its final acceptance by the Engineer, and

for all risks of every description connected with the prosecution of the work, except as provided herein, also for all expenses incurred in consequence of the suspension of the work as herein authorized.

- C. The payment of any partial estimate or of any retained percentage except by and under the approved final invoice, in no way shall affect the obligation of the Contractor to repair or renew any defective parts of the construction or to be responsible for all damage due to such defects.

1.3 PAYMENT FOR INCREASED OR DECREASED QUANTITIES

- A. When alterations in the quantities of work not requiring supplemental agreements, as hereinbefore provided for, are ordered and performed, the Contractor shall accept payment in full at the Contract price for the actual quantities of work done. No allowance will be made for anticipated profits. Increased or decreased work involving supplemental agreements will be paid for as stipulated in such agreements.

1.4 OMITTED ITEMS

- A. Should any items contained in the bid form be found unnecessary for the proper completion of the work contracted, the Engineer may eliminate such items from the Contract, and such action shall in no way invalidate the Contract, and no allowance will be made for items so eliminated in making final payment to the Contractor.

1.5 PARTIAL PAYMENTS

- A. Partial payments shall be made monthly as the work progresses. Partial payment shall be made subject to the provisions of the Supplemental and General Conditions. Contractor's Partial Payment Requests shall be submitted in two parts; one part for EPA/DEP grant eligible quantities and one part for non-eligible quantities. The breakdown of quantities will be determined by the Engineer.
- B. Technical Specifications may include Special Payment Provisions which provide additional restrictions on partial payments.

1.6 PAYMENT FOR MATERIAL DELIVERED

- A. When requested by the Contractor and at the discretion of the Owner, payment may be made for all or part of the value of acceptable, non-perishable materials and equipment which are to be incorporated into bid items, have not been used, and have been delivered to the construction site or placed in storage places acceptable to the Owner. Payment shall be subject to the provisions of the General and Supplementary Conditions.
- B. No payment shall be made upon fuels, supplies, lumber, false work, or other materials, or on temporary structures or other work of any kind which are not a permanent part of the Contract.

1.7 FINAL PAYMENT

- A. The Engineer will make, as soon as practicable after the entire completion of the project, a final quantity invoice of the amount of the Work performed and the value of such Work. Owner shall make final payments of the sum found due less retainages subject to the provisions of the General and Supplementary Conditions.

1.8 INCIDENTAL WORK

- A. Incidental work items for which separate payment is not made include (but are not limited to) the following items:
1. Clearing, grubbing and stripping
 2. Dust control
 3. Temporary Construction Dewatering
 4. Clean-up
 5. Erosion control
 6. Loam, seeding, grading, liming, fertilization, mulching and watering
 7. Restoration of property, and replacement of fences, curbs, structures, sign posts, guard rails, rock wall, mail boxes, traffic loop detectors and other minor items disturbed by the construction activities
 8. Coordination with the Owner, Utilities and others, including related inspection cost (refer to Section 01050)
 9. Utility crossings and relocations, unless payment is otherwise made
 10. Traffic control plan and regulation
 11. Project Signs
 12. Project record documents
 13. Materials testing
 14. Construction schedules, bonds, insurance, shop drawings, warranties, guarantees, certifications, and other submittals required by the Contract Documents
 15. Repair and replacement of water lines under two inches in size, culverts, underdrains, rock lined drainage trenches in streets and other utilities damaged by construction activities and corresponding proper disposal of removed materials unless otherwise paid for
 16. Maintenance of all existing sewers flows and repair of existing sewer pipes
 17. Temporary utilities for construction and to maintain existing service during construction
 18. Temporary utility services to buildings as required to maintain service during construction
 19. Quality assurance testing
 20. Temporary construction and other facilities not to be permanently incorporated into the Work necessary for construction sequencing and maintenance of operations
 21. Weather protection
 22. Permits not otherwise paid for or provided by the Owner
 23. Visits to the Project site or elsewhere by personnel or agents of the Contractor, including manufacturer's representatives, as may be required
 24. On-site and other facilities acceptable to Engineer for the storage of materials, supplies and equipment to be incorporated into the Work
 25. Facilities start-up services required by the Contract Documents
 26. Mobilization/demobilization
 27. Preconstruction photos and videos
 28. Construction administration and insurance

1.9 DESCRIPTION OF PAY ITEMS

- A. The following sections describe the measurement of and payment for the work to be done under the respective items listed in the Bid Form.
- B. Each unit or lump sum price stated in the Bid Form shall constitute full compensation, as herein specified, for each item of the work completed.

(1) Primary Digester Tank Concrete and Cover Seal Repairs

Payment of the lump sum price for Item 1 shall be full compensation for furnishing all labor, materials, tools and equipment required to remove and remove/raise the tank cover (90,000 lbs +/-), to make repairs to the concrete walls and cover seal, to test the cover and seal, complete as indicated on the Drawings and as specified and all its' appurtenances in its entirety, except that work included for payment under other items. Item 1 is to include all necessary provisions deemed necessary by the Contractor and Subcontractors to provide access all contract work areas inclusive of the Bid Alternate if chosen.

(2) Remove and Replace 2-inch SS Gas and Flushing Pipes to Bubble Cannons

Payment of the lump sum price for Item 2 shall be full compensation for furnishing all labor, materials, tools and equipment required to remove and replace the 2-inch gas and flushing piping from the exterior side of the fixed steel cover, through the cover, to the connection to the bubble cannon bases at the tank bottom, complete as indicated on the Drawings and as specified and all its' appurtenances in its entirety, except that work included for payment under other items.

(3) Remove and Replace Flame Arrestor and Pressure Relief Valve Assembly

Payment of the lump sum price for Item 3 shall be full compensation for furnishing all labor, materials, tools and equipment required to remove and replace the flame arrestor and pressure relief valve assembly, complete as indicated on the Drawings and as specified and all its' appurtenances in its entirety, except that work included for payment under other items.

(4) Remove and Replace Level Transducer

Payment of the lump sum price for Item 4 shall be full compensation for furnishing all labor, materials, tools and equipment required to remove and replace the tanks level transducer, complete as indicated on the Drawings and as specified and all its' appurtenances in its entirety, except that work included for payment under other items.

(5) Remove and Dispose of Loose Tank Liner

Payment of the SF price for Item 5 shall be full compensation for furnishing all labor, materials, tools and equipment required to mechanically remove and dispose of any poorly adhered tank liner as field marked by the Engineer, complete as indicated on the Drawings and as specified and all its' appurtenances in its entirety, except that work included for payment under other items.

(6) Undocumented Site Conditions Allowance

- A. This general allowance is for compensating the Contractor for work resulting from encountered conflicts or additional work associated with undocumented site

conditions, including, but not limited to, undocumented utilities, undocumented conflicts at interface of new and existing work, or for additional related work as determined by the Owner.

- B. This general allowance is not for correction of any errors or omissions made by the Contractor or for items that are specifically included in other Bid Items.
- C. The Contractor shall obtain written authorization from the Owner for payment from this general allowance.
- D. The Contractor shall be compensated for the work under this general allowance in accordance with the procedures specified in Article 11 of the General Conditions. At the end of the Contract, any and all remaining funds shall be deducted from the Contract via balancing change order.

(7) System Integrator Services Allowance

- E. Method of Measurement:
 - 1. Cash Allowance for a system integrator to provide the add the new level transducer to the WPCF's SCADA and alarming systems.
- F. Basis of Payment:
 - 1. Payment shall be made based on actual invoices and the Schedule of Values.
 - 2. Adjustment to the final cost for this Item, if necessary, will be made based on the actual invoiced amounts. Owner will assist Contractor in establishing any adjustments to this item.

END OF SECTION

SURFACE PREPARATION STANDARDS

WATER JETTING STANDARDS

SSPC-SP12 / NACE 5

Surface Preparation and Cleaning of Steel and Other Hard Materials by High- and Ultra High- Pressure Water Jetting Prior to Recoating

This standard requires water jetting at high- or ultra high-pressure to prepare a surface for recoating using pressure above 10,000 psi. Water jetting will not produce a profile; rather, it exposes the original abrasive-blasted surface profile. The specifier shall use one of the visual surface preparation definitions (WJ-1 to WJ-4) and one of the non-visual surface preparation definitions (SC-1 to SC-3) to specify the degree of visible and non-visible surface matter to be removed.

Pressure Categorization

Low-Pressure Water Cleaning (LP WC)

Cleaning performed at pressures less than 34 Mpa (5,000 psi)

High-Pressure Water Jetting (HP WJ)

Cleaning performed at pressures from 70 to 170 Mpa (10,000 to 25,000 psi)

High-Pressure Water Cleaning (HP WC)

Cleaning performed at pressures from 34 to 70 Mpa (5,000 to 10,000 psi)

Ultrahigh-Pressure Water Jetting (UHP WJ)

Cleaning performed at pressures above 170 Mpa (25,000 psi)

Visual Conditions of Surface Cleanliness

WJ-1

Surface shall be free of all previously existing visible rust, coatings, mill scale, and foreign matter and have a matte metal finish

WJ-2

Surface shall be cleaned to a matte finish with at least 95% of the surface area free of all previously existing visible residues and the remaining 5% containing only randomly dispersed stains of rust, coatings, and foreign matter

WJ-3

Surface shall be cleaned to a matte finish with at least two-thirds of the surface area free of all previously existing visible residues (except mill scale), and the remaining one-third containing only randomly dispersed stains of previously existing rust, coatings, and foreign matter

WJ-4

Surface shall have all loose rust, loose mill scale, and loose coatings uniformly removed

Non-Visual Conditions of Surface Cleanliness

SC-1

Surface shall be free of all detectable levels of contaminants as determined using available field test equipment with sensitivity approximating laboratory test equipment. For purposes of this standard, contaminants are water-soluble chlorides, iron-soluble salts, and sulfates

SC-2

Surface shall have less than 7 $\mu\text{g}/\text{cm}^2$ chloride contaminants, less than 10 $\mu\text{g}/\text{cm}^2$ of soluble ferrous ion levels, and less than 17 $\mu\text{g}/\text{cm}^2$ of sulfate contaminants as verified by field or laboratory analysis using reliable, reproducible test equipment

SC-3

Surface shall have less than 50 $\mu\text{g}/\text{cm}^2$ chloride and sulfate contaminants as verified by field or laboratory analysis using reliable, reproducible test equipment



Town of Fairfield

Sullivan Independence Hall
725 Old Post Road

Fairfield, Connecticut 06824
Purchasing Department

(203) 256-3060
FAX (203) 256-3080

ADDENDUM #2
BID #2023-85
WPCF Digester Tank Repair Phase 2

8th December 2022 – It is intended that this Addendum incorporating the following corrections, revisions, additions, deletions and clarifications become part of the Contract Documents, including pricing as submitted.

- 1. In the Specifications for the referenced project, it states a Bidder's Qualification Statement is required to be submitted with the bid. Would you please advise where the form can be found?**

Response: There is not a separate form for the Bidder's Qualification Statement. The REFERENCES list at the end of the Town's Bid Document will serve as the Qualifications Statement for this bid. (See pages 7 & 8 of the Town document.)

End of Addendum #2

Company: _____ Name: _____ Signature: _____ Date: _____



Town of Fairfield

Sullivan Independence Hall
725 Old Post Road

Fairfield, Connecticut 06824
Purchasing Department

(203) 256-3060
FAX (203) 256-3080

ADDENDUM #3
BID #2023-85
WPCF Digester Tank Repair Phase 2

12th December 2022 – It is intended that this Addendum incorporating the following corrections, revisions, additions, deletions and clarifications become part of the Contract Documents, including pricing as submitted.

New Information:

It has been brought to the Town's attention that the link in Addendum 1, Clarification 2, regarding the photos of the interior tank, is not working properly. Please utilize the link below to access the interior photos.

☐ [November 23, 2022 Interior Tank Photos](#)

End of Addendum #3

Company: _____ Name: _____ Signature: _____ Date: _____



STATE OF CONNECTICUT

OFFICE OF POLICY AND MANAGEMENT

Intergovernmental Policy and Planning Division

September 19, 2022

Fairfield

First Selectwoman Brenda Kupchick

bkupchick@fairfieldct.org

Dear First Selectwoman Brenda Kupchick:

The Office of Governor Lamont and the Office of Policy and Management congratulate the Town of Fairfield on a \$500,000.00 grant award through the 2022 Small Town Economic Assistance Program (STEAP) for the following project:

PROJECT NAME: Neighborhood Sidewalk Improvements

PROJECT DESCRIPTION: Sidewalk rehabilitation and extension

STEAP AWARD: \$500,000.00

MUNICIPAL MATCH: \$111,298.60

Other Comments (if applicable):

This letter does not constitute a contract. Do not proceed with any anticipated STEAP-funded project work until you have a fully executed contract signed by both the municipality and the administering agency in place. Receipt of STEAP funds will be contingent upon your compliance with the rules, regulations and any contractual terms required by the administering agency.

The Department of Transportation will administer your award and handle all aspects of your project. This award letter and your application documents will be provided to DOT.

Please contact your administering agency through Vitalij Staroverov, at Vitalij.Staroverov@ct.gov, as soon as possible to begin the grant contract process.

Congratulations and best of luck with your project.

Sincerely,

A handwritten signature in dark ink, appearing to read "Martin L. Heft".

Martin L. Heft

Undersecretary

C: Municipality STEAP File
Vitalij Staroverov

Town of Fairfield Grant Application Request

Date: August 11, 2022

Requesting Department: Public Works

1. **Grant Name:** State of Connecticut Small Town Economic Assistance Program Guidelines (STEAP)
2. **Grant Request:** \$500,000 (maximum allowable request amount; aggregate amount of \$30,000,000 to be awarded; individual award amounts based on number of participating towns and qualified applications selected)
3. **Anticipated Town Share:** 20% of Grant Award
4. **Purpose of Grant:** The purpose of the grant is to construct, repair and rehabilitate sidewalks in Fairfield to enhance quality of life and promote economic development. Priorities include improving downtown access, in particular, with construction of sidewalks on Round Hill Road and repair of sidewalks on Reef Road. As funding permits, other Town sidewalks will be targeted.
5. **Town Interest:** The Town currently maintains 129 miles of sidewalk infrastructure. A grant award will allow the Town to complete significant capital improvements in the short term which will improve pedestrian experience and increase pedestrian traffic to, from, and within business districts, thereby stimulating economic development.
6. **Estimated Additional Long-Range Costs :** Sidewalk maintenance is an ongoing expense addressed in the annual budget process. A grant funded sidewalk rehabilitation process will improve the condition of the sidewalks addressed, allowing for more efficient use of budgeted maintenance funds going forward.

Print Name: John Maysilio

Signature: [Signature]

CFO Recommendation:

Approve

Deny

Signature: [Signature]

First Selectman:

Approve

Deny

Signature: [Signature]

FOURTEEN POINTS OF INFORMATION AND JUSTIFICATION FOR THE

PROPOSED ROUND HILL ROAD AND REEF ROAD SIDEWALKS

TOTAL REQUESTED EXPENDITURES \$611,298

(STEAP GRANT REIMBURSEMENT COVERS \$500,000)

- 1. Background:** Over the years, as part of a Downtown Revitalization and Economic Development Enhancement project, the town installed major streetscape along the Post Road (US 1) with spur sections extending out onto side streets. This request is to construct new sidewalk and repairs to provide connectivity to the Post Road and Fairfield Center. With support of the neighborhood, a new sidewalk is proposed for Round Hill Road. For Reef Road new sections of sidewalk will be replaced as needed. The Grant was requested to “catch up” on proposed requests and repairs by replacing larger sections at a time versus isolated and individual repair panels. The Town will go out to bid to perform large section of repairs and new sidewalks. Engineering and DPW will provide in house design and specifications. Project is covered by \$500k reimbursement STEAP Grant.
- 2 Purpose and Justification:** The purpose of the project is to provide sidewalk connectivity to Fairfield Center and the Post Road. Property owners along Round Hill Road and Ermine Street have waited three years for sidewalk funding. Sidewalks will provide access to Ludlowe Schools, Fairfield Center, and US1-Post Road from Round Hill and Reef roads. There are several areas of existing sidewalks on Reef Road that are uneven and in poor condition. Replacing sidewalks will provide the traveling public safer access to commercial buildings and points of interest in the center of town. Repairs may reduce trip and falls, liability risks and may encourage more walking.
- 3 Detailed Description of Project:** The project will consist of replacing and/or installing new sections of sidewalk and ADA ramps along Round Hill Road and Reef Road. Sections of existing sidewalk have degraded to the point of becoming unsafe for pedestrian use. Handicap ramps are either nonexistent or do not meet the minimum ADA requirements. The proposed funding of \$111,298 paired with the \$500,000 State Grant component (STEAP) gives the town a total of \$611,298 for the project.
- 4 Reliability of Estimated Cost:** The \$111,298 cost to the Town represents the town share amount paired with the STEAP Grant. Cost estimates have been performed based on recent contracts and State DOT cost estimates.
- 5 Efficiencies:** This project may increase alternate modes of transportation and make it safer for pedestrians by reducing or eliminating tripping hazards. The Town may realize better pricing by replacing large sections to achieve economies of scale.

- 6 Additional Long Range Costs:** The Town would continue to pay maintenance cost for the project: sidewalk, any streetscape amenities which it currently performs already. By repairing significant sections of sidewalks and brick pavers, the Town will reduce short term and medium term cost significantly.
- 7 Additional Use or Demands:** By performing new installation and replacements, pedestrian traffic is projected to increase slightly. The Town should encourage increased usage of alternate modes of transportation. Providing safer and more pedestrian friendly amenities should provide a beneficial impact to the local businesses. Demands will remain the same with short and medium term maintenance decreasing.
- 8 Alternates:** The only alternate is to do nothing or continue performing repairs on a site specific basis. This would continue to burden Fairfield DPW schedule and is not considered cost effective. The sidewalks and brick pavers would continue to deteriorate creating more safety risks and increasing the Towns liability.

Alternative funding is not available at this time. The majority of Transportation type grants cover new proposals and not the maintenance of existing infrastructure. Replacing in kind, repairing older sections of streetscape or sidewalk is not eligible, unless upgrades are preformed such as meeting ADA requirements including ramps and wider sidewalks.

- 9 Safety and Loss Control:** Repairs will increase pedestrian safety.
- 10 Environmental Considerations:** No significant environmental impacts are expected.
- 11 Insurance:** Town and State Contract procedures require the Contractor to have a license, if required, bonds and insurance.
- 12 Financing:** \$611,298 from Capital non-recurring account. Concrete Sidewalks have a service life of 30-40 years, Asphalt Sidewalks last about 20-25 years depending on utility cuts and surrounding factors- curbs, trees, etc. Note: STEAP Grant covers \$500,000 in eligible reimbursement costs.

13 Other Considerations : N/A

14 Approvals:

Committees/Commissions

Approval Dates

Board of Selectmen

Jan 2023

Board of Finance

Jan 2023

R.T.M.

Jan 2023

December 19, 2022

Brenda L. Kupchick, First Selectwoman
Town of Fairfield
Fairfield Town Hall
725 Old Post Road
Fairfield, CT 06824

**Re: Connecticut Communities Challenge Grant Round 2 Application – Town of Fairfield
(Infrastructure Upgrade at Fairfield Metro Center; Grasmere Avenue, between Ardmore Street
and the Post Road)**

Honorable Selectwoman Kupchick:

Congratulations! The Department of Economic and Community Development is please to award the **Town of Fairfield** (Town) a grant in the amount of **\$3,000,000** in response to your application for funding under the Connecticut Communities Challenge Grant Round 2 Application for the **Infrastructure Upgrade at Fairfield Metro Center**.

The grant will be used by the Town to support a sewer infrastructure project located in the public right of way, which will enable further development of the Fairfield Metro transit-oriented community. The project will replace a 2,800-foot section of sewer line, serving 60% of Fairfield. The resultant development following completion of the infrastructure will include 357 new housing units, of which 20% will be affordable at varying levels; a 118-key hotel; 70,000sf of commercial office space; and 40,000sf of retail space. The Town of Fairfield has committed to bonding for any gap funding needed to complete the infrastructure work.

This award represents Governor Lamont's continuing commitment to support Connecticut municipalities in their efforts to improve the livability, vibrancy, convenience, and equity of communities throughout the state.

As a next step, DECD will work with your staff to develop a Financial Assistance Proposal ("Proposal"). This Proposal will outline the key terms of the grant funding, as well as any conditions that the Town will need to meet in order to access this funding. We expect to deliver a draft document in February. Once the signed Proposal is delivered, you will then have fifteen (15) days to accept the terms and conditions and return the signed document to the project manager's attention. If you do not return the signed acceptance within the allocated time, this offer of assistance may be withdrawn.

Upon receipt of the executed Proposal, DECD will initiate the contracting process and have counsel appointed to draft the Assistance Agreement and other closing documents. The final execution of the Assistance Agreement (DECD Contract) typically takes 6-8 weeks.

The Assistance Agreement will not be executed until the full capital stack and the private leverage value of the redevelopment portion of the proposed project, as presented in the Application, can be confirmed to be committed (e.g., bank term sheets, offer letter from funding agency, etc.). The total redevelopment project budget and sources of funding, presented in the Application, are as below:

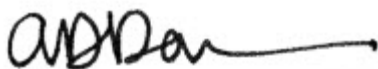
FUNDING SOURCES	AMOUNT	
DECD Connecticut Communities Challenge Grant (Round 2)	\$3,000,000	Equity
Town of Fairfield/ Town of Fairfield Water Pollution Control Authority	\$7,000,000	Will be bonded
TOTAL PROJECT COST	\$10,000,000	

DECD understands that there are many factors to project costing, financing, and budgeting and will allow a variance within 10% of these numbers as long as the eligible applicant grant match that is provided is not less than 50% of the grant award.

The proposed housing component of the project must be consistent with the requirements of DECD's Affordable Housing Policy (please refer to the Notice of Funding Availability for details). DECD will be requiring you and/or your development partner to provide a non-recourse mortgage lien (value of land) or limited personal/corporate guaranty (value of grant) as collateral for the grant funding. The mortgage or guaranty will be released until satisfactory completion of the Redevelopment Project as described in the Project Application. DECD will accept a subordinated position behind other funding sources. DECD may also hold a negative pledge and a restrictive use covenant, as applicable.

Our staff will continue to be available to you and your staff throughout the duration of the project. A DECD Project Manager will be assigned to your project shortly and will be contacting you with directions for the next steps in the process. If you have any questions regarding this award, please contact Kimberley Parsons-Whitaker at 860-500-2419 (kimberley.parsons-whitaker@ct.gov).

Sincerely,



Alexandra Daum
Deputy Commissioner

cc: Kimberley Parsons-Whitaker, Community Development Specialist

Town of Fairfield Grant Application Request

Date: October 6, 2022

Requesting Department: Public Works

1. **Grant Name:** Connecticut Communities Challenge
2. **Grant Request:** \$5,000,000
3. **Anticipated Town Share:** \$5,000,000
4. **Purpose of Grant:** Funding is requested toward the cost of completing a critical upgrade/replacement of an aged, undersized section of the East Trunk sanitary sewer line which serves approximately 60% of Fairfield.
5. **Town Interest:** This is a necessary upgrade which will enable further development at the Fairfield Metro Center. The grant represents an opportunity to reduce a cost burden which the Town will have to bear.
6. **Estimated Additional Long-Range Costs** : The grant project represents a capital improvement which will improve service, and reduce risk of failure and related repair and other expenses. Day to day cost of system usage is addressed in usage fees.

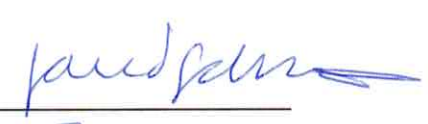
Print Name: John Marsilio

Signature: 

CFO Recommendation:

 Approve

Deny

Signature: 

First Selectman:

 Approve

Deny

Signature: 

**FOURTEEN POINTS OF INFORMATION AND JUSTIFICATION FOR THE
EAST TRUNK SEWER LINE REPLACEMENT**

TOTAL REQUESTED EXPENDITURES \$10,000,000

(CT COMMUNITIES CHALLENGE GRANT REIMBERSMENT COVERS \$3,000,000)

1. **Background** – East Trunk Sewer handles a 2/3rds of the Town’s sewer flow to the WPCF plant. The sewer was originally constructed in 1947 and follows the layout of Ash Creek. There is indications that the pipe has sagged and joints have opened up along this section. Construction of the new sewer line will significantly reduce inflow and infiltration and sanitary sewer overflows (SSOs), and provide easier maintenance access and better resiliency against Ash Creek flows and rising sea level. This project was originally approved in May 2017, but was halted due to lack of funding. Design was performed by Cardinal Engineering from 2017-2020 and a Peer Review was performed by Wright-Pierce in 2020.
2. **Purpose** - This project proposes to construct a new sewer line away from Ash Creek within the public roadway and Right-of-Way. The project will reduce Inflow and Infiltration, reduce SSOs, reduce some “bottlenecks” and increase capacity for potential future development. The project design is 90% complete, has been reviewed by DOT and all necessary permits have been obtained.
3. **Detailed Description of Proposal** -- The proposal is to install approximately 2500 feet of new 36 inch diameter sanitary sewer trunk line to replace the aged and undersized section of sewer main susceptible to Inflow and Infiltration, Sewer System Overflows and access issues. The existing line would diverted and in limited use until abandoned upon completion of the project. The 36 inch trunk line would be conventionally installed along the local streets. The project is expected to take 14 to 18 months depending on notice to proceed and if winter work can be performed.

Reliability of Cost Estimate – Based on a scale of 0 to 10, this is a 6. The design engineer’s Opinion of Probably Cost has been revised based on construction plans, permits and updated 2022 costs. Current equipment/material pricing is inflated and ongoing issues with the supply chain, a solid number is difficult. Sheeting, traffic control, sewer pipe, manhole ,bypass pumping 2/3 of the Town’s sewage flow, dewatering and construction administration represent the largest increases in the estimate. The Contract bid opening and field conditions will ultimately determine the price of the project. Estimated costs include the following: \$900K

Contingency; \$7.9 million Construction, \$850,000 Inspection, \$50K Remediation, and \$40-300K for updating engineering plans from 2019 and Testing.

4. **Increased Efficiency or Productivity** -- The existing sewer main will remain operational during construction. In some cases bypass pumping will be required when tying into the existing system manholes. The larger pipe diameter will increase flow capacity of the existing sewer trunk line.
5. **Additional Long Range Costs** - Typical maintenance of the line over the long term is expected, although there should be significantly less maintenance costs compared to the existing line.
6. **Additional Use or Demand on Existing Facilities** – According to the Wright Pierce Hydraulic Report, the increase in pipe size will allow for some reserve capacity for future development projects.
7. **Alternatives to this Request** - There are a few alternatives that were brought up in the past and more recently. Alternatives include constructing a pump station instead of sewer main project, creating a bypass/ overflow pipe, relining the existing pipe or do nothing alternative. Each alternative has been investigated conceptually- but are anticipated to be more costly or less feasible.
 - Pump Station is an engineering alternative but would be very costly. In generic terms, size of pump station would be approximately double the size of the Mill River Pump Station based on flows. The Town would have to acquire property, keep all mechanicals 3 ft above the flood plain, provide generators and have annual maintenance, labor and electrical costs. Typically, pump stations are only proposed when gravity fed systems are not available and are generally not desired by sewer authorities. Constructing a pump station would not alleviate the I/I problems or provide resiliency.
 - Bypass or overflow pipe would be constructed using a smaller diameter pipe, following the proposed layout. Slopes of pipe would increase, creating better flow. Savings would be attributed to less depth, and slightly less construction; however almost all items would still be constructed including roadwork, utilities, sheeting, manholes, etc.. Drawbacks listed are there would be two sewer lines, Inflow and infiltration would still occur in the existing line, no improvements on environmental issues, and condition of the old existing line would worsen over time.
 - Trenchless technologies has been ruled out as an alternative for a number of reasons, most specifically the shallow slope of the pipe and the high groundwater table in the project area.

- The Do nothing alternative will result in continued problems and most likely significant environmental violations and potential fines as pipe conditions worsen.
8. **Safety and Loss Control** - With the proposed project reducing Inflow and Infiltration, reducing sewer system overflows and providing easier access during storms, safety can be improved by providing improvement to water quality, hence better health/safety. Easier access to manholes should provide better safety for workers than manholes near the creek especially during storm events.
 9. **Environmental Considerations** – The proposed project should help reduce potential violations with DEEP for SSOs.
 10. **Insurance** – Contractor will be required to carry the necessary insurance as directed by the Town of Fairfield Purchasing Department.
 11. **Financing** – The \$10 million total cost of the project will be financed using a \$3 million Challenge Grant and \$1 million WPCA Fund Balance. The remaining \$6 million will be financed by Town General Obligation bonds. The debt service of the bonds will be split between the General Fund budget and the WPCA budget. Other sources of funding will be researched and applied for to try to lessen the financial impact on the Town. (The Town submitted the construction portion of the project for CT DECD Community Challenges Grant and was approved for \$3,000,000). It is anticipated that the new sewer line will have a 50-year service life.
 12. **Other Considerations** - None. Development of the Metro Center is dependent on this and another related sewer project.
 13. **Approvals** – WPCA/BOS/BOF/RTM- Spring 2023

CT COMMUNITIES CHALLENGE GRANT PROGRAM ROUND 2

MAIN APPLICATION FORM

Please contact CTCommunitiesChallenge@ct.gov by 3:00 PM on Monday, October 3, 2022 to request access to a unique sharepoint folder, where you will be able to upload your application and supporting files.

Program Summary

The Department of Economic and Community Development ("DECD") is undertaking a competitive grant application process to fund multiple projects under the CT Communities Challenge Grant Program in an effort to improve livability, vibrancy, convenience and appeal of communities throughout the state. The Program is intended to potentially create approximately 3,000 new jobs. It is DECD's goal to allocate up to 50% of the funds to eligible and competitive projects in distressed municipalities.

Note

Please be sure to refer to the Notice of Funding Availability (available at the [CT Communities Challenge Grant Program Website](#)) and include all relevant attachments that support any information and statements being provided in this application.

This application may be reviewed by the CT Office of Policy and Management and other state or quasi-state agencies. Projects funded under this program are subject to the Connecticut Environmental Policy Act ("CEPA"), other environmental regulations, and DECD regulations related to procurement and bidding procedures.

Please contact DECD at CTCommunitiesChallenge@ct.gov for further information on program requirements.

PLEASE READ CAREFULLY: The response fields included within this application have been assigned character limit restrictions. Please be sure that all text is visible in the provided spaces prior to signing the form. Once the document has been signed, any text extending beyond the space provided WILL NOT BE VISIBLE. Please adjust your response lengths accordingly.



A. GENERAL SECTION

SECTION I APPLICANT & PROJECT INFORMATION

1. Applicant Name: _____
Federal Employer Identification Number (FEIN): _____
Business Address: _____
City: _____ ZIP Code: _____
Contact Name: _____ Title: _____
Telephone: _____ Email: _____
2. If Applicant is applying as an Economic Development Agency (EDA), provide supporting documentation including the Articles of Incorporation and justification (narrative) as by which statutory authority it qualifies to be an EDA.
3. Project Name: _____
4. Total Project Cost: \$ _____
5. Amount of DECD Financial Assistance requested: \$ _____
6. Total Grantee/Local Match (*Minimum of 25% for distressed municipalities and 50% for others*): \$ _____
 - a. Briefly describe the source of any proposed match funds



7. Project Address: _____

City: _____ ZIP Code: _____

Total Site Acreage: _____ # of Parcels: _____

Please list parcel-level detail in table below.

Parcel Address	ZIP Code	Parcel ID / Tax-Assessor ID	Acreage

8. Is the project in a Distressed Municipality? Yes ☐ No ☐

SECTION II PUBLIC-PRIVATE PARTNERSHIP INFORMATION

1. Is the Applicant partnering with a private entity? Yes ☐ No ☐

If Applicant is partnering with a private entity,
Name of Private Partner: _____

Enter the company's or organization's legal name above. IF a special-purpose entity (SPE), describe the SPE, the partners (list all 5% or more owners) and the parent company. Please attach the organization's articles of incorporation. SPE Description:

Federal Employer Identification Number (FEIN): _____

State of Connecticut Tax ID: _____

Business Address: _____

City: _____ ZIP Code: _____

Contact Name: _____ Title: _____

Telephone: _____ Email: _____

Describe the nature of partnership (financial, access agreement etc.): _____

2. Business Status (for private development partner or a private/non-profit applicant entity)

- A. Is the private entity registered with the Connecticut Office of the Secretary of the State? Yes ☐ No ☐

Please attach a copy of the Certificate of Legal Existence.

Certificates can be obtained online by visiting <https://portal.ct.gov/SOTS/Business-Services/Legal-Existence>

- B. Are there any lawsuits pending against the private partner/organization, its affiliates who will be involved with the project, or the parent organization (describe)? _____

SECTION III OWNERSHIP AND ACCESS DETAILS

1. **Please provide the current property owner name - Please attach the tax assessor's property card(s).**
2. **If Applicant or any Project Partner is not the property owner, describe how and when ownership and access to property (if needed), will be obtained. Please attach the Letter of Intent, Purchase and Sale Agreement, Access Agreement or other documentation from owner indicating willingness to provide access:**

SECTION IV PROJECT SUMMARY

1. **Please provide a summary of the overall project – project description, purpose and need, goals and objectives.**

Please help us understand the project and include any relevant project details. Please make sure to specify the scope and use of the requested funds under the CT Community Challenge Grant. Please attach 1. A locational map that provides relevant regional or locational site information; 2. A site map that illustrates project boundaries and neighboring property information and 3. A conceptual project plan.

2. **Background/History of the Project Site** Brief summary of general site and property characteristics; previous use of property, whether it is an adaptive reuse project, contamination history and timeline, name of the "Potentially Responsible Party" for contamination present on site, any other relevant information.

3. **Development Team** Brief summary of the development team and role.

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6. **Project Funding Sources:** Please use the table below to indicate the total estimated cost for the project, the targeted or identified funding sources, type of funding – debt, equity/cash, or tax credit, status of fund assembly, gaps in funding, status and timeline of funding sources that are being sought (such as federal or state historic tax- credits, low-income housing tax credits, bank financing etc.)

SOURCE	Amount	Debt, Equity/Cash, Tax Credits	Status
TOTALS:			

Note 1: DECD will require proof of commitment of full capital stack and private leverage value of the proposed project, as presented in the Application (e.g., bank term sheets, offer letter from funding agency, etc.) In order to be considered in the scoring of a CCC application, a project or project phase must have a complete capital stack assuming CCC funds are awarded.

Additional Notes (if any):

7. Project Costs and Budget: Please use the table below to provide the budget breakdown. Please read the notes at the bottom of the table and use space provided to include any comments or responses.

Project Activity (Use of Funds)	Source of Fund						
	DECD ¹	Other State	Federal	Local	Private	Developer	Total
Land purchase							
Pre-development							
Planning activities/ Studies							
Engineering							
Abatement							
Remediation							
Demolition							
Construction							
Administration soft costs							
Development fee							
DECD Legal costs ²							
Other costs - specify							
Other costs - specify							
Other costs (specify)							
Total							

Note 1: If the project funds include programs other than the CT Community Challenge Grant, please indicate as such. Also, DECD prefers that majority (more than 95%) of program funds are used for hard costs. It is preferable that soft costs are funded from non-DECD sources.

Note 2: If the project funds include other state agency fundings sources, please indicate the status of those funds including the program from which they are requested and whether the funds have been approved by bond commission if applicable.

Note 3: DECD's legal expenses for the DECD contract work (Assistance Agreement) is usually in the range of \$5K to \$10K depending on how complicated the project is. DECD funds cannot be used for legal expenses of the client team for the Assistance Agreement work.

8. Project Schedule and Timeline: Brief summary of the timeline, anticipated project start date, completion of pre-development activities to date.

9. Any other relevant information:

Use additional space if needed for above responses or any other relevant information you would like to convey.

SECTION V POTENTIAL ENVIRONMENTAL IMPACTS

1. Indicate the potential level of direct and/or indirect impacts to the environmental resources listed in the table below. Briefly describe any potential impacts in the comment box at the end.

Resources	Potentially significant with mitigation	Not significant with mitigation	No anticipated significant effects	Unknown at this time
Wetlands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Surface or Groundwater resources <i>*including quality, quantity, or impacts to public drinking water supply</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Floodplains (100-year) or Floodways	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stream channel encroachment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fish and/or Wildlife Habitats <i>*including the presence of endangered, threatened, and special concerns species and habitats (NDDDB)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coastal resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Agricultural lands and/or soils	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Historic sites and districts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Archeologically sensitive areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aesthetic / scenic resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Designated open space and recreational uses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Surrounding land uses / neighborhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transportation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Utilities and Services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (Please explain)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Briefly explain any potential impacts identified above, and provide additional comments as needed.

3. By signing this form, the applicant understands and acknowledges that the proposed project may warrant further review under the Connecticut Environmental Policy Act (CEPA), and agrees to comply with all requirements and costs associated with such review, and further acknowledges that the applicant is in a position to cover any and all additional costs associated with such review.

SECTION VI ELIGIBILITY FOR DISCRETIONARY STATE FUNDING

Applicable only for municipal applicants

In accordance with [C.G.S. § 8-23](#), as amended by [Public Act 15-95](#), any municipality that has not adopted a plan of conservation and development (POCD) within the past ten years is ineligible for discretionary state funding unless they request and receive a waiver from the prohibition on a grant-by-grant basis from the OPM Secretary. In conjunction with this completed **Application Form**, municipalities are required to submit a signed copy of the **Municipal Certification of Eligibility for Discretionary State Funding** to verify their eligibility to receive discretionary state funding under this grant program. Please visit the following website for more information:

[Guidance for Maintaining Eligibility for Discretionary State Funding](#)

Notes:

SECTION VII SHPO and NHPA OBLIGATIONS

Please note that if the project involves federal funding, the project will need to be in compliance with Section 106 of the National Historic Preservation Act (NHPA) and the National Environmental Policy Act (NEPA). Separately, if this project is successful in receiving this grant and involves other state funding, it will have to be in compliance with several state laws including the CT Environmental Policy Act (CEPA). Please visit the State Historic Preservation Office's (SHPO) [webpage](#) for more info. Please answer the below questions and submit the Project Notification Form to assess the impacts to historic, cultural and archaeological resources and understand the federal and state obligations.

- 1. Does the project include or assist in reuse or rehabilitation of any mills or historic structures (appearing on the National Register of Historic Places, State Register, or a designated Local Historic Property)?** Yes ☐ No ☐ Details:

- 2. Are you planning to alter, partially demolish or fully demolish any structures on the property?:** Yes ☐ No ☐ Details:

- 3. If the project includes alteration or demolition of buildings more than 50 years in age, please indicate the dates of construction for the affected buildings. Details:**

- 4. Please attach a copy of the State Historic Preservation Office (SHPO) [Project Notification Form](#). Also indicate if the form has already been submitted to the SHPO. If determination has already been obtained, provide a copy of the SHPO determination letter as well:**

B. PROJECT MERITS SECTION

SECTION I SUPPORT OF LIVABILITY AND VIBRANCY; ADAPTIVE REUSE

1. The goal of the CT Communities Challenge Grant funding is to improve the livability and vibrancy of communities in Connecticut. Using the space provided below – describe how the proposed features and characteristics of the project will support the livability and vibrancy in the local community and region. Examples of features and characteristics are suggested below:

- Downtown and major hub development
- Transit-oriented Development
- Optimal mix of uses to generate vibrancy of neighborhoods
- Connectivity options for pedestrians and non-pedestrians
- Optimal increase in residential density, supported by necessary infrastructure, that will enhance the vibrancy of community
- Improvement of infill, vacant, dilapidated and underutilized sites in the community
- Public space improvements including open spaces, active gathering spaces, public art etc.
- Other features and characteristics that will enhance livability, vibrancy, convenience, and appeal of communities

2. **The State Conservation & Development Policies: The Plan for Connecticut (2018-2023) requires state funded projects to focus on infill development and redevelopment opportunities in areas with existing infrastructure, such as in cities or town centers, which are at an appropriate scale and density for the particular area; and promote the continued use or adaptive reuse of existing facilities, particularly those with historical and/or cultural significance, and support the redevelopment of former brownfields and other underutilized or abandoned facilities at a scale and density appropriate for the surrounding area.**

Please describe in the space provided how the proposed project will enable

- Adaptive reuse;
- Brownfield redevelopment;
- Historic and/or cultural preservation; and/or
- Redevelopment of areas with available infrastructure

SECTION II COMMUNITY BENEFIT/ENGAGEMENT, INCLUSIVE GROWTH AND RESILIENCE

1. **Provide a brief summary of how the community will benefit from this project. Why is this project a good fit and how do you know? What are the proactive efforts for proposed development to serve and benefit existing communities, their peoples and their cultures? Indicate how the community was, or will be, informed of the project and plans for community engagement throughout the project. How does the proposed project mitigate previous negative effects on historically disenfranchised communities, including people with disabilities and elder residents:**

2. If the project includes 10 or more new housing units, please describe the affordable housing plan for the units and confirm that it is in keeping with the CCC affordable housing requirements laid out in the Notice of Funding Availability.

3. Describe below how the proposed project impacts the community and provide a characteristic or feature that was otherwise absent from the community/region. Examples include:

- affordable/workforce housing,
- food access,
- open/recreational space,
- gathering space,
- public/regional facilities, and/or
- ADA Improvements

4. Explain how project features and characteristics will

- enhance resiliency in the community,
- support green energy,
- adopt climate change measures such as low impact development,
- minimize impacts to the flood plain and/or
- adopt sustainability and green building design.

5. Is the project site within these categories:

- Opportunity Zone – Yes ☐ No ☐ Details: (include confirmation – parcel ID etc.):

- Distressed Municipality – Yes ☐ No ☐ Details:

- Enterprise Zone – Yes ☐ No ☐ Details:

6. Please indicate what Diversity Equity and Inclusion (DEI) practices are currently being adopted by the Applicant Team that demonstrate and reflect a culture and commitment to diversity, equity, and inclusion. Also, explain how the Applicant Team is seeking to further its DEI commitment through this project. What are the plans for community engagement and local hiring?

7. Explain how the proposed project is aligned with Environmental Justice goals of 1. providing the same degree of protection from environmental and health hazards to all; and 2. To provide everyone equal access to the decision-making process to have a healthy environment in which to live, learn, and work.

SECTION III ECONOMIC IMPACT

1. Return on Investment – For each of the below questions, please be as detailed as possible in outlining the figures used to calculate percentages.

- A. **Applicant (Local) funding commitment:** What percentage of the total project cost is being funded with applicant funds? %
- B. **DECD share:** What percentage of the total project cost is being requested in Communities Challenge funds? %
- C. **Total non-state leverage:** What percentage of the total project cost is being funded by non-state dollars (equity and debt)? %
- D. **Private partner funding:** What percentage of the total project cost is being funded by the Private Partner (equity)? %
- E. **Private Funding:** What percentage of the total project cost is being funded by the private sector (private partner equity, bank loans, equity investment from investors etc.)? %

- 2. Job creation:** Please provide the number and type of permanent full-time equivalent (only direct) jobs expected to be created by the proposed project.

3. Increase in grand list

- A. Current valuation of property \$
- B. Projected valuation post-project \$

Additional Notes (if any):

SECTION IV SHOVEL READINESS

The CT Community Challenge Grant funds are intended to be gap financing to enable a transformative project idea to be implemented. The DECD funding should be the last funding in. Therefore, this Program would like to target shovel-ready projects that can be initiated immediately and completed within the next two to three years.

- 1. Has the approval from Town Council/Board of Alderman/Board of Selectman/Applicant Board/COG Board etc. been obtained a. to request this funding from DECD; 2. to undertake this project; and 3. partner with the private entity and other on the development team on the proposed project? If yes, please attach Approval/Certified Resolution.**

___ Yes

___ No

- 2. Please describe status of discussions of local approvals and participation of community groups and other key stakeholders.**

- A. Briefly describe any local support/approvals, or pre-development activities that support this project. Does the project have site plan, other planning and zoning approvals, variances etc. from the host municipality to move ahead with the project? If no, describe the plan or path that is charted out to obtain the same? What is the status and timeline of obtaining the same?**

- B. Does the project require local inland wetland permits and if so, have they been obtained/applied for? What is the status?**
- C. Please list any other local, state or federal approvals or permits which will be necessary for the project to proceed and the timetable and process to achieve them.**
- D. Will the project be a major traffic generator (MTG) as defined by Section 14-312-1 of the [Office of the State Traffic Administration \(OSTA\) regulations](#)? *An MTG is defined as any development of 100,000 square feet or more of gross floor area or 200 or more parking spaces.* What steps have been taken to initiate the process and what is the expected timeline?**

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6. Any other information that describes the shovel readiness of the project.

Additional Notes (if any):

SECTION V APPLICANT TEAM CAPABILITY

- 1. Provide at least five examples of similar scale projects that the Applicant Team has undertaken including references:** For each project: Provide project name; address; project scope; total project costs; details of funding sources; if DECD/other state agency funding was involved; project period; indication if project was completed on time and on budget; project issues and how they were resolved, and project testimonials/references and contact information.



Additional Notes (if any):

- 2. Please list the project team members. Please summarize their experience and skillset to undertake such projects. Please include the percentage of team members' expected available time to work on this project if the project is selected. Development team members including municipalities must demonstrate sufficient time allocated to manage this funding if awarded.**

(Developer, environmental professionals, environmental attorneys, financial partners, development consultants, municipal officials, development companies, etc.).



3. Please describe new partnerships that offer creative and dynamic solutions to the project described in the application.

SECTION VI CHECKLIST OF DOCUMENTS

Please attach copies of the following documentation, as applicable.

All documents with an asterisk* are required documents.

Please note: All documents should be numbered and named in accordance with the checklist items below PRIOR to submittal to DECD

- ☐ 1. Tax Assessor Property Card(s)*
- ☐ 2. Letter of Intent to Purchase Property/Purchase and Sales Agreement
- ☐ 3. Access Agreement or documentation from owner indicating willingness to provide access
- ☐ 4. Articles of Incorporation (if applicable, for EDAs and private entities)
- ☐ 5. Certificate of Legal Existence (for private entities)*
- ☐ 6. Locational Maps, Site Plan, Conceptual Project Plan*
- ☐ 7. Market Study, if available
- ☐ 8. Feasibility Study/Structural Analysis, if available
- ☐ 9. Town Council Approval/Certified Resolution
- ☐ 10. Site Plan/Zoning Approvals
- ☐ 11. Local Inland/Wetland Permits (if applicable)
- ☐ 12. Copies of Available Local, State and Federal Permits (if applicable)
- ☐ 13. SHPO Project Notification Form and Determination Letter (if available)*
- ☐ 14. Supporting Environmental Documentation (that support the application)
- ☐ 15. Project Pro Forma Worksheet
- ☐ 16. Municipal Certification of Eligibility for Discretionary State Funding
- ☐ 17. Project Testimonials/Examples and References

SECTION VII CERTIFICATION BY APPLICANT

It is hereby represented by the undersigned, that to the best of my knowledge and belief no information or data contained in the application and attachments are in any way false or incorrect and that no material information has been omitted. Your application and the contents of your application and our discussions with you are subject to public disclosure. We may communicate with the municipality, state agencies (including the CT Office of Policy and Management, DEEP, the CT Department of Transportation, the CT Department of Housing, the CT Department of Public Health), the EPA, and the general public. Projects **funded under this program may be subject to the Connecticut Environmental Policy Act ("CEPA"), as well** as other environmental regulations, and DECD regulations related to procurement and bidding procedures. State funding may require placement of a lien on project property. In addition, if the applicant is a private corporation, a personal guaranty may be also required from each owner of 10% or more. In addition, the undersigned agrees that any funds provided pursuant to this application will be utilized exclusively for the purposes represented in this application, as may be amended and agreed to by the DECD. DECD reserves the right to modify or waive any requirement, condition or other term set forth in this Application, to request additional information at any time from one or more applicants, to select any number of applications submitted to this program, or to reject any or all such applications, in **each case at DECD's sole discretion**. DECD may exercise the foregoing rights at any time without notice and without liability to any applicant or any other party. Applications to this program shall be prepared at the sole expense of the applicant and shall not obligate DECD to procure any of the services described therein or herein from any applicant. DECD shall not be obligated to any applicant until a final written agreement has been executed by all necessary parties thereto and all applicable approvals have been obtained. As such, any funds expended by the applicant prior to these approvals will be done so entirely at the risk of the applicant.

Signature:	Printed Name:
Date:	Title:

PLEASE READ CAREFULLY: The response fields included within this application have been assigned character limit restrictions. Please be sure that all text is visible within the provided spaces. Once the document has been signed, any text extending beyond the space provided **WILL NOT BE VISIBLE**. Please adjust your response lengths accordingly.

In addition, the document cannot be edited once a signature is applied using the sign option on Adobe Acrobat. Please make sure the application is complete and all responses are visible (start and end of response) prior to applying your signature.

SECTION VIII REMINDERS (BEFORE SUBMITTAL)

Before submitting a completed application package, please check the following:

- Ensure that all response fields have been completed/filled in. If fields are left blank, DECD may deem the application incomplete. If a particular field is not applicable, please state as such and state the reasons.
- Responses should be included in the allotted space provided in this application.
- Ensure that all required attachments (documents marked with an asterisk* in **Section VI**) are submitted along with the completed application form. Ensure that items included with the application submittal are checked off in the boxes provided in Section VI.
- The attachments should be submitted as individual documents (named and numbered in accordance with **Section VI** above). Please do not submit attachments as a single combined PDF.
- Ensure that the Application form has been signed & dated.