

CONTRACT BID DOCUMENTS

FOR THE

**MUNICIPAL TRANSFER STATION
IMPROVEMENTS
108 ROSS ROAD
PRESTON, CONNECTICUT**

August 27, 2025

PREPARED FOR

**TOWN OF PRESTON
389 Route 2
PRESTON, CT 06365**

**Barton
&Loguidice**

855 Winding Brook Drive
Glastonbury, CT 06033
T: 860.633.8770
F: 860.633.5971

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TAB A

Invitation to Bid

INVITATION TO BID MUNICIPAL TRANSFER STATION IMPROVEMENT PROJECT

The Town of Preston, Connecticut is soliciting sealed bids for completing improvements to their Municipal Transfer Station located at 108 Ross Road.

This project generally consists of the partial reconstruction of an existing municipal transfer station. Improvements will include a new canopy, precast retaining wall with railings, concrete pads for dumpsters, waste collection hoppers, expansion of paved access drives and drainage improvements. Demolition of the existing transfer station while maintaining operations for Town residents will need to be completed, which will include removal of existing walls, concrete pads, scale, and scale house and possible removal of material from existing landfill for wall installation.

Sealed bids will be received by Sandra Allyn-Gauthier, First Selectwoman, Preston Town Hall, 389 Route 2, Preston, Connecticut, 06365, until **2:00 PM on Wednesday October 1, 2025** at which time they will be publicly opened and read aloud.

The Contract Documents, including bid specifications and drawings are available for review at the Preston Town Hall, First Selectwoman's Office, 389 Route 2, Preston, CT, and may be obtained from the Town's website [Bid Opportunities | Preston, CT](#) or from the Connecticut Department of Administrative Services' (DAS) Construction Services website.

A satisfactory Bid Bond or Certified Check, in an amount equal to five percent (5%) of the base bid, shall be submitted with each bid. The Bid Bond shall be made payable to Town of Preston and shall be properly executed by the Bidder and acceptable sureties. All bonds must be from sureties registered in the State of Connecticut.

No Bidder may withdraw his Bid for a period of sixty (60) days after the date of Bid opening.

The Town of Preston reserves the right to accept or reject any or all options, bids or proposals; to waive any technicality in any bid or part thereof, and to accept any bid deemed to be in the best interest of the Town of Preston.

The contractor who is selected to perform this State project must comply with CONN. GEN. STAT. §§ 4a-60, 4a-60a, 4a-60g, and 46a-68b through 46a-68f, inclusive, as amended by June 2015 Special Session Public Act 15-5.

State law requires a minimum of twenty-five (25%) percent of the state-funded portion of the contract be set aside for award to subcontractors holding current certification from the Connecticut Department of Administrative Services ("DAS") under the provisions of CONN. GEN. STAT. § 4a-60g. (25% of the total state-funded value with DAS-certified Small Businesses and 6.25% of the total state-funded value with DAS-certified Minority-, Women-, and/or Disabled-owned Businesses.) The contractor must demonstrate good faith effort to meet the 25% set-aside goals.

This contract is subject to Connecticut Prevailing Wages pursuant to Conn. Gen. Stat. § 31-53, et seq.

A 100% Labor and Materials Payment Bond and 100% Performance Bond is required.

The Town of Preston is an Affirmative Action/Equal Opportunity Employer. Minority/Women's Business Enterprises are encouraged to apply

Sandra Allyn-Gauthier,
First Selectwoman

TAB B

Instructions to Bidders

INSTRUCTION TO BIDDERS

1. PROJECT DESCRIPTION:

This project generally consists of the partial reconstruction of an existing municipal transfer station. Improvements will include a new canopy, precast retaining wall with railings, concrete pads for dumpsters, waste collection hoppers, expansion of paved access drives and drainage improvements. Demolition of the existing transfer station while maintaining operations for Town residents will need to be completed, which will include removal of existing walls, concrete pads, scale, and scale house and possible removal of material from existing landfill for wall installation.

The work described above includes furnishing, installing and incorporating all materials and equipment into the project as well as performing or providing all labor, supervision, equipment and services unless otherwise noted within the bid documents.

This contract is subject to Connecticut Prevailing Wages pursuant to Conn. Gen. Stat. § 31-53, et seq. The contractor who is selected to perform this State project must comply with CONN. GEN. STAT. §§ 4a-60, 4a-60a, 4a-60g, and 46a-68b through 46a-68f, inclusive, as amended by June 2015 Special Session Public Act 15-5. State law requires a minimum of twenty-five (25%) percent of the state-funded portion of the contract be set aside for award to subcontractors holding current certification from the Connecticut Department of Administrative Services (“DAS”) under the provisions of CONN. GEN. STAT. § 4a-60g. (25% of the total state-funded value with DAS-certified Small Businesses and 6.25% of the total state-funded value with DAS-certified Minority-, Women-, and/or Disabled-owned Businesses.) The contractor must demonstrate good faith effort to meet the 25% set-aside goals.

2. GENERAL:

Sealed Bids will be received at the office of the Town First Selectwoman of the Town of Preston located at the Preston Town Hall, 389 Route 2, Preston, CT 06365, until **2:00 PM on Wednesday October 1, 2025**, at which time the bids will be opened publicly and read aloud. Bids received after the Bid Opening date and/or time will be returned unopened.

3. CONTRACT DOCUMENTS:

These Contract Documents include a complete set of Bidding Forms which are not to be detached from the Contract Documents. Division II Construction Details and Division III Materials Section in the State of Connecticut Department of Transportation (CTDOT) Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, Form 819, dated 2024, as revised, may be downloaded here [Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, Form 819](#) shall be utilized where materials and specifications are not otherwise noted within the Contract Documents.

4. BIDS:

Bid Documents shall be enclosed in a sealed envelope addressed to the Office of the First Selectwoman, 389 Route 2, Preston, CT 06365 and clearly marked **“SEALED BID – MUNICIPAL TRANSFER STATION IMPROVEMENTS”** along with the name of Bidder, date and time of Bid Opening in order to guard against premature opening of the Bid.

All Bids must be submitted on forms supplied by the Owner and shall be subject to all requirements of the Contract Documents, including “Instructions to Bidders.” All Bids must be regular in every respect; no interlineations, ditto marks, excisions or special conditions shall be made or included in the Bid Form by the Bidders.

The Owner may consider as irregular any Bid on which there are any omissions, alterations of form, additions not called for, conditional or alternate Bids, or irregularities of any kind and, at its option, may reject same. The blank spaces in the proposal must be filled in correctly where indicated, typed or printed in ink, for each and every item for which a quantity is given. If any price is omitted, the Bid may be rejected. The Bidder shall sign his proposal correctly. If the proposal is made by an individual, his name and post office address must be shown. If made by a firm, partnership, or by a corporation, the proposal must be signed by an official of the firm, partnership, or corporation authorized to sign contracts, and also must show the post office address of the firm, partnership or corporation.

A Non-Collusion Affidavit shall be completed and returned with the submitted Bid. More than one proposal from an individual, a firm or partnership, a corporation or association under the same name or different names will not be considered. Reasonable ground for believing that any Bidder is interested in more than one proposal for the work contemplated will cause the rejection of all proposals in which such Bidder is interested. Proposals in which the prices are obviously unbalanced may be rejected.

5. ADDENDA & INTERPRETATIONS:

Any request from a prospective Bidder for interpretation of meaning of Contract Drawings, Specifications or other Contract Documents shall be made in writing to the office of Barton and Loguidice, LLC. 855 Winding Brook Drive. Glastonbury, CT 06033 and to be given consideration must be received at least seven (7) days prior to the date fixed for opening of proposals. Interpretations will be made in the form of written Addenda to Contract Documents, which Addenda shall become a part of the Contract. Such requests may be sent to Barton and Loguidice, LLC via e-mail to kgrindle@bartonandloguidice.com. Not later than four (4) days prior to date fixed for opening of proposals, Addenda will be placed on the Town and DAS websites listed in the Invitation to Bid. It is the responsibility of the bidder to verify that all Addenda have been received and incorporated into the submitted bid. Failure of any Bidder to receive any such Addenda shall not relieve Bidder from any obligations under his proposal as submitted. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

6. SITE CONDITIONS:

All information on the Drawings or in the contract Documents relating to subsurface conditions, utilities, and other structures is from best sources available at present to the Owner. All such information and drawings of existing construction are furnished only for the information and convenience of Bidders.

At the date fixed for opening of Bids, it will be presumed that each Bidder has made an examination of location and site of work to be done under Contract; has satisfied himself as to actual conditions, requirements and quantities of work; has considered federal, state and local laws and regulations that may affect cost, progress, performance or furnishing the Work; and has read and become thoroughly familiar with Contract Documents including Contract Drawings, Specifications, Addenda, and documents referenced therein.

The Owner and the Engineer assume no responsibility whatsoever with respect to ascertaining for the Contractor any facts concerning physical characteristics at the site of the project.

7. BIDDER'S QUALIFICATIONS:

The Owner shall make such investigation as deemed necessary to determine the ability of the Bidder to discharge the Contract. After Bid opening, Bidder shall be prepared to furnish the Owner with all written evidence as may be required for this purpose (e.g., financial data, previous experience, and present commitments) within five (5) days after Owner requests such evidence. Each Bid must contain evidence of Bidder's qualification to do business in the State of Connecticut or covenant to obtain such qualification prior to award of the contract.

Bids received from Bidders who have previously failed to complete contracts within the time required, or who have previously performed similar work in an unsatisfactory manner, may be rejected. A Bid may be rejected if the Bidder cannot show that they have the necessary capital and experience, and owns, controls, or can procure the necessary plan to commence and complete the work at the rate or time specified, and that they are not already obligated for the performance of other work which would delay the commencement, prosecution, or completion of the work.

8. MODIFICATION:

Any Bidder may modify their Bid at any time prior to the scheduled closing time for receipt of Bids, by submitting an appropriate document duly executed in a manner that Bid must be executed and delivered to the place where Bids are to be submitted. After opening of Bids, no Bidder may withdraw their proposal for a period of sixty (60) days. Owner may, in its sole discretion, release any Bid prior to that date.

9. REJECTION OF BIDS:

The Owner also reserves the right to reject any or all Bids, for any reason it deems advisable, and to award Contract or Contracts to any of the Bidders, regardless of amount of Bid. If the

Contract is awarded, it will be awarded to the lowest responsible and eligible Bidder (or Bidders) possessing skill, ability and integrity necessary for faithful performance of work.

10. TIME OF COMPLETION & LIQUIDATED DAMAGES:

The Bidder must agree to fully complete all work within **ninety (90) calendar days** of the issuance of the Notice to Proceed set forth in the Agreement. The Bidder must also agree to pay five hundred dollars (\$500.00) in liquidated damages for each calendar day that expires after the time specified in the Agreement.

11. AWARD OF CONTRACTS:

If the Contract is awarded, Owner will give successful Bidder a Notice of Award within forty five (45) days after the day of Bid opening. The successful Bidder shall then execute and deliver to the Owner, within ten (10) days after notification of the award, three (3) executed Agreements, Final Certificate of Insurance, Performance Bond, Payment Bond, Contractors Minority Business Enterprise Utilization Form and Schedule of Values on forms provided by the Owner. If the successful Bidder fails to comply with the requirements of these documents within ten (10) days of receiving said Notice, that Bidder shall forfeit Bid Security and, at the option of the Owner, the Award may become null and void. The Owner may then proceed to Award the Contract to another of the Bidders.

12. BID SECURITY:

Each Bid must be accompanied by a surety bond, certified or bank check, or a letter of credit, in the amount of 5% of the total of the Bid with the forms supplied by the Owner. Bid security of the successful Bidder will be retained until such Bidder has executed the Agreement, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of the seventh day after the Effective Date of the Agreement or the sixty-first day after Bid opening, whereupon the Bid security furnished by such Bidders will be returned. Bid security with Bids which are not competitive will be returned within seven (7) days of Bid opening.

13. SCHEDULE OF VALUES:

The apparent successful Bidder must submit, prior to the execution of an Agreement, a preliminary schedule of values for all of the Work. The preliminary schedule of values must be submitted after Bidding by the apparent low Bidder, and the schedule of values must be deemed acceptable by the Engineer, before the Agreement is executed.

14. SECURITY FOR FAITHFUL PERFORMANCE:

In addition to the Agreement, the successful Bidder shall also provide, within the time stipulated, a Construction Performance Bond by a company satisfactory to the Owner in an amount equal to One Hundred Percent (100%) of Estimated Total Contract Price recorded in

the Proposal section of the Contract as executed, and a Construction Payment Bond in like amount will be required from the successful Bidder for faithful performance of the Contract.

TAB C

Forms

Bid Proposal Form
Non-Collusion Affidavit of Bidder
Bid Bond
Agreement
Construction Performance Bond
Construction Payment Bond

BID PROPOSAL FORM

BID PROPOSAL

PROJECT IDENTIFICATION:

Municipal Transfer Station Improvement Project

THIS BID IS SUBMITTED TO:

Office of the First Selectwoman
Preston Town Hall
389 Route 2
Preston, Connecticut 06365
Attention: Sandra Allyn-Gauthier, First Selectwoman

The Undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with Owner in the form included in the Contract Documents to perform and furnish all Work as specified or indicated in the Contract Documents for the Bid Price and within the Bid Times indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.

Bidder accepts all terms and conditions of the Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for sixty (60) days after the day of Bid opening. Bidder will sign and deliver the required number of counterparts of the Agreement with the Bonds and other documents required by the Bidding Requirements within ten (10) days after the date of Owner's Notice of Award.

In submitting this Bid, Bidder represents, as more fully set forth in the Agreement, that:

1. Bidder has examined and carefully studied the Bidding Documents and the following Addenda receipt all of which is hereby acknowledged (List Addenda by Addendum Number and Date):

2. Bidder has visited the site and become familiar with and is satisfied as to the general, local and site conditions that may affect cost, progress, performance and furnishing of the Work.
3. Bidder is familiar with and is satisfied as to all federal, state and local Laws and regulations that may affect cost, progress, performance and furnishing of the Work.

4. Bidder has carefully studied all reports and explorations and tests of subsurface conditions at or contiguous to the site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) which have been identified in the Supplementary Conditions. Bidder acknowledges that Owner and Engineer do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Bidding Documents with respect to Underground Utilities at or contiguous to the site. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all such additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface, Underground Facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by Bidder and safety precautions and programs related thereto. Bidder does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the determination of the Bid for performance and furnishing of the Work in accordance with the times, price and other terms and conditions of the Contract Documents.
5. Bidder is aware of the general nature of Work to be performed by Owner and others at the site that relates to Work for which this Bid is submitted as indicated in the Contract Documents.
6. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies and data with the Contract Documents.
7. Bidder has given Engineer written notice of all conflicts, errors, ambiguities or discrepancies that Bidder has discovered in the Contract Documents and the written resolution thereof by Engineer is acceptable to Bidder, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work for which this Bid is submitted.
8. This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any person, firm or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Owner.
9. Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

UNIT PRICE SCHEDULE

ITEM NO.	SPECIFICATION SECTION	UNIT OF MEASURE	EST. QTY.	UNIT PRICE(\$)	EXTENDED PRICE(\$)
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1.	01 57 13 SILT FENCE	LF	320		
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UNIT PRICE IN WORDS:

2.	01 57 13 INLET PROTECTION	EA.	7		
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UNIT PRICE IN WORDS:

3.	01 57 21 ANTI-TRACKING PAD	LS	1		
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UNIT PRICE IN WORDS:

4.	01 71 13 MOBILIZATION & DEMOBILIZATION	LS	1		
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UNIT PRICE IN WORDS:

5.	01 71 23 CONSTRUCTION LAYOUT	LS	1		
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UNIT PRICE IN WORDS:

6.	02 41 00 DEMOLITION	LS	1		
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UNIT PRICE IN WORDS:

7.	02 61 16 WASTE MATERIAL DISPOSAL (LANDFILL MATERIAL)	LS	1		
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UNIT PRICE IN WORDS:

30. 32 92 00 SY 480
TURF AND GRASS

UNIT PRICE IN WORDS:

31. 33 34 00 LS 1
ONSITE WASTEWATER DISPOSAL
SEPTIC SYSTEM

UNIT PRICE IN WORDS:

32. 33 42 00 EA. 6
STORM DRAINAGE
STRUCTURE TYPE "CL"

UNIT PRICE IN WORDS:

33. 33 42 00 EA. 1
STORM DRAINAGE
STRUCTURE TYPE "C"

UNIT PRICE IN WORDS:

34. 33 42 00 EA. 1
STORM DRAINAGE
TREATMENT STRUCTURE

UNIT PRICE IN WORDS:

35. 33 42 00 LF 195
STORM DRAIN
PIPE (12" HDPE)

UNIT PRICE IN WORDS:

36. 33 42 00 LF 240
STORM DRAIN
PIPE (15" HDPE)

UNIT PRICE IN WORDS:

37. 33 42 00 EA 1
FLARED END

(15" HDPE) _____

UNIT PRICE IN WORDS:

38. 34 71 13 LF 216
VEHICLE BARRIERS
METAL GUIDE RAIL _____

UNIT PRICE IN WORDS:

39. 44 53 00 EA. 3
SOLID WASTE PROCESSING
EQUIPMENT (HOPPERS) _____

UNIT PRICE IN WORDS:

TOTAL OF ESTIMATED BASE BID PRICES: _____
(use words)

_____ (\$ _____)

Quantities are not guaranteed. Final payment will be based on actual quantities

TOTAL OF ESTIMATED ADD ALTERNATE BID PRICE: _____
(REMOVAL AND REPLACEMENT OF EXISTING PAVEMENT) (use words)

_____ (\$ _____)

Quantities are not guaranteed. Final payment will be based on actual quantities

Contractor shall include their anticipated date of substantial completion as an Exception to the Bid, if it differs from the Substantial Completion Date provided on page SP-2 of the Special Provisions, along with a written description for this exception.

EXCEPTIONS TO THE INVITATION TO BID (Select One)

_____ This bidder does not take exception to any requirements of the Invitation to Bid

_____ This bidder takes the following exceptions to the Invitation to Bid

Exceptions Taken _____

- 10. Bidder agrees that the Work will be substantially completed and completed and ready for final payment in accordance with Article 14 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- 11. Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified in the Agreement.
- 12. The following documents are attached to and made a part of this Bid:

Required Bid Security in the form of _____

- 13. Communications concerning this Bid shall be addressed to the address of Bidder below.
- 14. Terms used in this Bid which are defined in the General Conditions or Instructions to Bidders will have the same meanings indicated in the General Conditions or Instructions to Bidders.

SUBMITTED on: _____, 2025

By: _____ Title: _____

Bidder: _____

Address: _____

SEAL – if Bid is by a Corporation

NON-COLLUSION AFFIDAVIT OF BIDDER

BID BOND

BID BOND

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

BIDDER (Name and Address):

SURETY (Name and Address of Principal Place of Business):

OWNER (Name and Address):

BID

Bid Due Date:

Project (Brief Description Including Location):

BOND

Bond Number:

Date (Not later than Bid due date):

Penal sum

_____)
(Words)

_____)
(Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Bid Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

BIDDER

SURETY

(Seal
)

(Seal)

Bidder's Name and Corporate Seal

Surety's Name and Corporate Seal

By: _____
Signature and Title

By: _____
Signature and Title
(Attach Power of Attorney)

Attest: _____
Signature and Title

Attest: _____
Signature and Title

Note: Above addresses are to be used for giving required notice.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Surety's liability.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation shall be null and void if:
 - 3.1. Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2. All Bids are rejected by Owner, or
 - 3.3. Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default by Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

AGREEMENT

AGREEMENT

BETWEEN OWNER AND CONTRACTOR
ON THE BASIS OF A STIPULATED PRICE

THIS AGREEMENT is dated as of the _____ day of _____ in the year _____ by and between the Town of Preston (hereinafter called OWNER) _____ (hereinafter called CONTRACTOR).

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1. WORK

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

Improvements to Town of Preston Municipal Transfer Station

Article 2. ENGINEER

The Projects have been designed and administered by:

Barton and Loguidice, LLC.
855 Winding Brook Drive
Glastonbury, Connecticut 06033
Phone: (860) 633-8770

who are hereinafter called ENGINEERS and who are to act as OWNER's representatives from time to time, assume some duties and responsibilities and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents. OWNER will perform most of the duties associated with processing applications for payments in lieu of ENGINEER.

Article 3. CONTRACT TIMES

- 3.1 The Work to complete the overall project will be substantially completed within **ninty (90) calendar days** of issuance of Notice to Proceed as provided in paragraph 2.03 of the General Conditions and as modified by the Supplementary Conditions.
- 3.2 *Liquidated Damages.* OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and that OWNER may suffer financial loss if the Work is not completed within the times specified in paragraph 3.1 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving 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) CONTRACTOR shall pay OWNER

five hundred dollars (\$500.00) for each calendar day that expires after the time specified in paragraph 3.1 for Substantial Completion until the Work is substantially complete. After Substantial Completion, if CONTRACTOR shall neglect, refuse or fail to complete the remaining Work within the time specified in paragraph 3.1 for completion and readiness for final payment or any proper extension thereof granted by OWNER, CONTRACTOR shall pay OWNER five hundred dollars (\$500.00) for each calendar day that expires after the time specified in paragraph 3.1 for completion and readiness for final payment.

Article 4. CONTRACT PRICE

OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to paragraph 4.1 below:

- 4.1 In accordance with the Unit Price Schedule of the Contractor's Bid Proposal Form.
- 4.2 The total estimated base bid price based on estimated quantities is \$_____ ; Final payment will be based on actual quantities.

Article 5. PAYMENT PROCEDURES

CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by OWNER or ENGINEER as provided in the General Conditions and Supplementary Conditions.

5.1 *Progress Payments; Retainage.* OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR's Applications for Payment as recommended by the ENGINEER, each month during construction as provided in paragraphs 5.1.1 and 5.1.2. below. All such payments will be measured by the schedule of values established in paragraph 2.07 of 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 in the General Requirements. Beginning with the second Application for Payment, each Application shall include affidavit of Release of Liens from all subcontractors and suppliers of material and equipment.

5.1.1 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 ENGINEER shall determine, or OWNER may withhold, in accordance with paragraph 14.02 of the General Conditions.

95% of Work completed (with the balance being retainage).

90% (with the balance being retainage) of materials and equipment not incorporated in the Work (but delivered, suitably stored and accompanied by documentation satisfactory to OWNER as provided in paragraph 14.02 of the General Conditions).

- 5.1.2 Upon Substantial Completion, in an amount sufficient to increase total payments to CONTRACTOR to 98% of the Contract Price (with the balance being retainage), less such amounts as ENGINEER shall determine, or OWNER may withhold, in accordance with paragraph 14.02 of the General Conditions.
- 5.2 *Final Payment.* At the end of the One Year Correction Period, the CONTRACTOR shall submit to ENGINEER an Application for Payment of the retainage in accordance with paragraph 14.07 of the General Conditions.

Article 6. INTEREST

All moneys not paid when due as provided in Article 14 of the General Conditions shall bear interest at the maximum rate allowed by law at the place of the project.

Article 7. CONTRACTOR'S REPRESENTATIONS

In order to induce OWNER to enter into this Agreement, CONTRACTOR makes the following representations:

- 7.1 CONTRACTOR has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents including "technical data".
- 7.2 CONTRACTOR has visited the site and become familiar with and is satisfied as to the general, local and site conditions that may affect cost, progress, performance or furnishing of the Work.
- 7.3 CONTRACTOR is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, performance and furnishing of the Work.
- 7.4 CONTRACTOR has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.0.2 of the General Conditions. CONTRACTOR accepts the determination set forth in paragraph 4.0.2 of the Supplementary Conditions of the extent of the "technical data" contained in such reports and drawings upon which CONTRACTOR is entitled to rely as provided in paragraph 4.0.2 of the General Conditions. CONTRACTOR acknowledges that such reports and drawings are not Contract Documents and may not be complete for CONTRACTOR's purposes. CONTRACTOR acknowledges that OWNER and ENGINEER do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to Underground Facilities at or contiguous to the site. CONTRACTOR has obtained and carefully studied (or assumes responsibility for having done so) all such additional supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods,

techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto. CONTRACTOR does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the performance and furnishing of the Work at the Contract Price, within the Contract Times and in accordance with the other terms and conditions of the Contract Documents.

- 7.5 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.
- 7.6 CONTRACTOR has correlated the information known to CONTRACTOR, information and observations obtained from visits to the site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies and data with the Contract Documents.
- 7.7 CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities or discrepancies that CONTRACTOR has discovered in the Contract Documents and the written solution thereof by ENGINEER is acceptable to CONTRACTOR, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

Article 8. CONTRACT DOCUMENTS

The Contract Documents which comprise the entire agreement between OWNER and CONTRACTOR concerning the Work consist of the following:

- 8.1 This Agreement (pages A-1 to A-6, inclusive).
- 8.2 Exhibits to this Agreement (Exhibits A, B, C, D, E,).
- 8.3 Exhibit A – Contractor’s Certificate of Insurance
- 8.4 Exhibit B – Contractor’s Performance Bond & Payment Bond.
- 8.5 Exhibit C – Contractor’s Bid Proposal
- 8.6 Exhibit D – Bid Addenda (if any....)
- 8.7 Exhibit E – Original Bid Documents
- 8.8 Standard General Conditions of the Construction Contract
- 8.9 Supplementary Conditions
- 9.0 Special Provisions
- 9.1 Technical Specifications
- 9.2 The following which may be delivered or issued after the Effective Date of the Agreement and are not attached hereto: All Written Amendments and other documents amending, modifying or supplementing the Contract Documents pursuant to paragraph 3.0.4 of the General Conditions.

The documents listed in paragraphs 8.2 et seq. above are attached to this Agreement (except as expressly noted otherwise above).

There are no Contract Documents other than those listed in this Article 8. The Contract Documents may only be amended, modified, or supplemented as provided in paragraph 3.0.4 of the General Conditions.

Article 9. MISCELLANEOUS

- 9.1 Terms used in this Agreement which are defined in Article 1 of the General Conditions will have the meanings indicated in the General Conditions.
- 9.2 No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are 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.
- 9.3 OWNER and CONTRACTOR each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.
- 9.4 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.

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement, in triplicate. One counterpart each has been delivered to OWNER, CONTRACTOR and ENGINEER. All portions of the Contract Documents have been signed, initialed or identified by OWNER and CONTRACTOR or identified by OWNER and CONTRACTOR or identified by ENGINEER on their behalf.

This Agreement will be effective on _____, 2025, (which is the Effective Date of the Agreement).

OWNER: Town of Preston

CONTRACTOR: _____

By: Sandra Allyn-Gauthier, First Selectwoman

By: _____

[CORPORATE SEAL]

[CORPORATE SEAL]

Attest _____

Attest _____

Address for giving notices:

Address for giving notices:

389 Route 2

Preston, CT 06365

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

License No. _____

Agent for service of process: _____

(If CONTRACTOR is a corporation, attach evidence of authority to sign.)

CONSTRUCTION PERFORMANCE BOND

PERFORMANCE BOND

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

CONTRACTOR (Name and Address):

SURETY (Name and Address of Principal Place of Business):

OWNER (Name and Address):

CONTRACT

Date:

Amount:

Description (Name and Location):

BOND

Bond Number:

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

Company:

Signature: _____ (Seal)

Name and Title:

SURETY

Surety's Name and Corporate Seal (Seal)

By: _____
Signature and Title
(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

Attest: _____
Signature and Title

CONTRACTOR AS PRINCIPAL

Company:

Signature: _____ (Seal)

Name and Title:

SURETY

Surety's Name and Corporate Seal (Seal)

By: _____
Signature and Title
(Attach Power of Attorney)

Attest: _____
Signature and Title:

EJCDC No. C-610 (2002 Edition)

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, and the American Institute of Architects.

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner for the performance of the Contract, which is incorporated herein by reference.

2. If Contractor performs the Contract, Surety and Contractor have no obligation under this Bond, except to participate in conferences as provided in Paragraph 3.1.

3. If there is no Owner Default, Surety's obligation under this Bond shall arise after:

3.1. Owner has notified Contractor and Surety, at the addresses described in Paragraph 10 below, that Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with Contractor and Surety to be held not later than 15 days after receipt of such notice to discuss methods of performing the Contract. If Owner, Contractor and Surety agree, Contractor shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive Owner's right, if any, subsequently to declare a Contractor Default; and

3.2. Owner has declared a Contractor Default and formally terminated Contractor's right to complete the Contract. Such Contractor Default shall not be declared earlier than 20 days after Contractor and Surety have received notice as provided in Paragraph 3.1; and

3.3. Owner has agreed to pay the Balance of the Contract Price to:

1. Surety in accordance with the terms of the Contract;
2. Another contractor selected pursuant to Paragraph 4.3 to perform the Contract.

4. When Owner has satisfied the conditions of Paragraph 3, Surety shall promptly and at Surety's expense take one of the following actions:

4.1. Arrange for Contractor, with consent of Owner, to perform and complete the Contract; or

4.2. Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or

4.3. Obtain bids or negotiated proposals from qualified contractors acceptable to Owner for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by Owner and Contractor selected with Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Contract, and pay to Owner the amount of damages as described in Paragraph 6 in excess of the Balance of the Contract Price incurred by Owner resulting from Contractor Default; or

4.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

1. After investigation, determine the amount for which it may be liable to Owner and, as soon as practicable after the amount is determined, tender payment therefor to Owner; or
2. Deny liability in whole or in part and notify Owner citing reasons therefor.

5. If Surety does not proceed as provided in Paragraph 4 with reasonable promptness, Surety shall be deemed to be in default on this Bond 15 days after receipt of an additional written notice from Owner to Surety demanding that Surety perform its obligations under this Bond, and Owner shall be entitled to enforce any remedy available to Owner. If Surety proceeds as provided in Paragraph 4.4, and Owner refuses the payment tendered or Surety has denied liability, in whole or in part, without further notice Owner shall be entitled to enforce any remedy available to Owner.

6. After Owner has terminated Contractor's right to complete the Contract, and if Surety elects to act under Paragraph 4.1, 4.2, or 4.3 above, then the responsibilities of Surety to Owner shall not be greater than those of Contractor under the Contract, and the responsibilities of Owner to Surety shall not be greater than those of Owner under the Contract. To a limit of the amount of this Bond, but subject to commitment by Owner of the Balance of the Contract Price to mitigation of costs and damages on the Contract, Surety is obligated without duplication for:

6.1. The responsibilities of Contractor for correction of defective Work and completion of the Contract;

6.2. Additional legal, design professional, and delay costs resulting from Contractor's Default, and resulting from the actions or failure to act of Surety under Paragraph 4; and

6.3. Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of Contractor.

7. Surety shall not be liable to Owner or others for obligations of Contractor that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than Owner or its heirs, executors, administrators, or successors.

8. Surety hereby waives notice of any change, including changes of time, to Contract or to related subcontracts, purchase orders, and other obligations.

9. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the Work or part of the Work is located and shall be instituted within two years after Contractor Default or within two years after Contractor ceased working or within two years after Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

10. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the address shown on the signature page.

11. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

12. Definitions.

12.1. Balance of the Contract Price: The total amount payable by Owner to Contractor under the Contract after all proper adjustments have been made, including allowance to Contractor of any amounts received or to be received by Owner in settlement of insurance or other Claims for damages to which Contractor is entitled, reduced by all valid and proper payments made to or on behalf of Contractor under the Contract.

12.2. Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.

12.3. Contractor Default: Failure of Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.

12.4. Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract or to perform and complete or comply with the other terms thereof.

FOR INFORMATION ONLY – Name, Address and Telephone
Surety Agency or Broker
Owner's Representative (engineer or other party)

CONSTRUCTION PAYMENT BOND

PAYMENT BOND

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

CONTRACTOR (Name and Address):

SURETY (Name and Address of Principal Place of Business):

OWNER (Name and Address):

CONTRACT

Date:

Amount:

Description (Name and Location):

BOND

Bond Number:

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Payment Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

Company:

Signature: _____ (Seal)

Name and Title:

SURETY

(Seal)

Surety's Name and Corporate Seal

By:

Signature and Title

(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

Attest:

Signature and Title

CONTRACTOR AS PRINCIPAL

Company:

Signature: _____ (Seal)

Name and Title:

SURETY

(Seal)

Surety's Name and Corporate Seal

By:

Signature and Title

(Attach Power of Attorney)

Attest:

Signature and Title:

EJCDC No. C-615 (2002 Edition)

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, the American Institute of Architects, the American Subcontractors Association, and the Associated Specialty Contractors.

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner to pay for labor, materials, and equipment furnished by Claimants for use in the performance of the Contract, which is incorporated herein by reference.

2. With respect to Owner, this obligation shall be null and void if Contractor:
2.1. Promptly makes payment, directly or indirectly, for all sums due Claimants, and

2.2. Defends, indemnifies, and holds harmless Owner from all claims, demands, liens, or suits alleging non-payment by Contractor by any person or entity who furnished labor, materials, or equipment for use in the performance of the Contract, provided Owner has promptly notified Contractor and Surety (at the addresses described in Paragraph 12) of any claims, demands, liens, or suits and tendered defense of such claims, demands, liens, or suits to Contractor and Surety, and provided there is no Owner Default.

3. With respect to Claimants, this obligation shall be null and void if Contractor promptly makes payment, directly or indirectly, for all sums due.

4. Surety shall have no obligation to Claimants under this Bond until:

4.1. Claimants who are employed by or have a direct contract with Contractor have given notice to Surety (at the addresses described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

4.2. Claimants who do not have a direct contract with Contractor:

1. Have furnished written notice to Contractor and sent a copy, or notice thereof, to Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials or equipment were furnished or supplied, or for whom the labor was done or performed; and

2. Have either received a rejection in whole or in part from Contractor, or not received within 30 days of furnishing the above notice any communication from Contractor by which Contractor had indicated the claim will be paid directly or indirectly; and

3. Not having been paid within the above 30 days, have sent a written notice to Surety and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to Contractor.

5. If a notice by a Claimant required by Paragraph 4 is provided by Owner to Contractor or to Surety, that is sufficient compliance.

6. When a Claimant has satisfied the conditions of Paragraph 4, the Surety shall promptly and at Surety's expense take the following actions:

6.1. Send an answer to that Claimant, with a copy to Owner, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.

6.2. Pay or arrange for payment of any undisputed amounts.

7. Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by Surety.

8. Amounts owed by Owner to Contractor under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any performance bond. By Contractor furnishing and Owner accepting this Bond, they agree that all funds earned by Contractor in the performance of the Contract are dedicated to satisfy obligations of Contractor and Surety under this Bond, subject to Owner's priority to use the funds for the completion of the Work.

9. Surety shall not be liable to Owner, Claimants, or others for obligations of Contractor that are unrelated to the Contract. Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10. Surety hereby waives notice of any change, including changes of time, to the Contract or to related Subcontracts, purchase orders and other obligations.

11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Paragraph 4.1 or Paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, Owner, or Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory Bond and not as a common law bond.

14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. DEFINITIONS

15.1. Claimant: An individual or entity having a direct contract with Contractor, or with a first-tier subcontractor of Contractor, to furnish labor, materials, or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of Contractor and Contractor's Subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

15.2. Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.

15.3. Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract or to perform and complete or comply with the other terms thereof.

**FOR INFORMATION ONLY – Name, Address and Telephone
Surety Agency or Broker:
Owner's Representative (engineer or other party):**

TAB D

General Conditions

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 Law.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly By



PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
a practice division of the
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

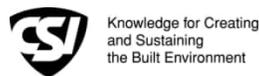
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AMERICAN SOCIETY OF CIVIL ENGINEERS

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The Associated General Contractors of America



Construction Specifications Institute

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National Society of Professional Engineers
1420 King Street, Alexandria, VA 22314

American Council of Engineering Companies
1015 15th Street, N.W., Washington, DC 20005

American Society of Civil Engineers
1801 Alexander Bell Drive, Reston, VA 20191-4400

These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor Nos. C-520 or C-525 (2002 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the EJCDC Construction Documents, General and Instructions (No. C-001) (2002 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (No. C-800) (2002 Edition).

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GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. 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 which is evidence of the agreement between Owner and Contractor covering the Work.

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. *Asbestos*--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*--The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidder*--The individual or entity who submits a Bid directly to Owner.

7. *Bidding Documents*--The Bidding Requirements and the proposed Contract Documents (including all Addenda).

8. *Bidding Requirements*--The Advertisement or Invitation to Bid, Instructions to Bidders, bid security of acceptable form, if any, and the Bid Form with any supplements.

9. *Change Order*--A document recommended by Engineer 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, issued on or after the Effective Date of the Agreement.

10. *Claim*--A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*--The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*-- Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor's submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*--The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*--The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any, (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.

15. *Contractor*--The individual or entity with whom Owner has entered into the Agreement.

16. *Cost of the Work*--See Paragraph 11.01.A for definition.

17. *Drawings*--That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*--The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. *Engineer*--The individual or entity named as such in the Agreement.

20. *Field Order*--A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

21. *General Requirements*--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

22. *Hazardous Environmental Condition*--The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

23. *Hazardous Waste*--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

24. *Laws and Regulations; Laws or Regulations*--Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

25. *Liens*--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

26. *Milestone*--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*--The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.

28. *Notice to Proceed*--A written notice given 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 under the Contract Documents.

29. *Owner*--The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.

30. *PCBs*--Polychlorinated biphenyls.

31. *Petroleum*--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

32. *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.

33. *Project*--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

34. *Project Manual*--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

35. *Radioactive Material*--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

36. *Related Entity* -- An officer, director, partner, employee, agent, consultant, or subcontractor.

37. *Resident Project Representative*--The authorized representative of Engineer who may be assigned to the Site or any part thereof.

38. *Samples*--Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

39. *Schedule of Submittals*--A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.

40. *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.

41. *Shop Drawings*--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

42. *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 for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.

43. *Specifications*--That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.

44. *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 at the Site.

45. *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.

46. *Successful Bidder*--The Bidder submitting a responsive Bid to whom Owner makes an award.

47. *Supplementary Conditions*--That part of the Contract Documents which amends or supplements these General Conditions.

48. *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 any Subcontractor.

49. *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 those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

50. *Unit Price Work*--Work to be paid for on the basis of unit prices.

51. *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, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

52. *Work Change Directive*--A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 Terminology

A. The following words or terms are not defined but, when used in the Bidding Requirements or Contract Documents, have the following 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 requirements of and information in the Contract Documents and conformance with the design concept of the completed 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 Paragraph 9.09 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 14.04 or 14.05).

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. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, "provide" is implied.

F. Unless stated otherwise in the Contract Documents, words or phrases which 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. 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 Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *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 Agreement 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 Agreement. 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 Agreement, whichever date is earlier.

2.04 *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 the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), 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 Documents;

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.

2.06 *Preconstruction Conference*

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 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

2.07 *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 2.05.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 component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, 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. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to Owner.

C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

A. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, 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, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement 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 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 Contract Documents. No such provision or instruction shall be effective to assign to Owner, or Engineer, or any of, their Related Entities, 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 Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. Reporting Discrepancies

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor may discover and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, 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 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

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 knew or reasonably should have known thereof.

B. Resolving Discrepancies

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

- a. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); 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 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;
2. Engineer's approval of a Shop Drawing or Sample; (Subject to the provisions of Paragraph 6.17.D.3); or
3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

A. Contractor and any Subcontractor or Supplier or other individual or entity performing or furnishing all of the Work under a direct or indirect contract with Contractor, 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 Engineer's consultants, including electronic media editions; or
2. reuse any of 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.

B. The prohibition 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.

3.06 *Electronic Data*

A. Copies of data furnished by Owner or Engineer to Contractor or Contractor to Owner or Engineer that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party..

C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *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. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

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 the Work is to be performed 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.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports of explorations and tests of subsurface conditions at or contiguous to the Site that Engineer has used in preparing the Contract Documents; and

2. those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that Engineer has used in preparing the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities 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.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition at or contiguous to the Site that is uncovered or revealed 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 4.02 is materially inaccurate; or

2. is of such a nature as to require a change in the Contract Documents; 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 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review:* After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. Possible Price and Times Adjustments

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition 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 meet any one or more of the categories described in Paragraph 4.03.A; and

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 Paragraphs 9.07 and 11.03.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

a. Contractor knew of the existence of such conditions at the time Contractor made a final 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

b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous

areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

c. Contractor failed to give the written notice as required by Paragraph 4.03.A.

3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, Owner and Engineer, and any of their Related Entities shall not be liable to Contractor for any claims, costs, losses, or 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) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated*: The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous 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 shall not be responsible for the accuracy or completeness of any such information or data; 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 such information and data,

b. locating all Underground Facilities shown or indicated in the Contract Documents,

c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction, and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, 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 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *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.

4.06 *Hazardous Environmental Condition at Site*

A. *Reports and Drawings*: Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the Engineer in the preparation of the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified

in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities 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 any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) 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.

E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered to Contractor written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. 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, either party may make a Claim therefor as provided in Paragraph 10.05.

F. 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. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, 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: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06. G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, 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 created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 - BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish performance and payment bonds, 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 Documents. 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 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent must be accompanied by a certified copy of the agent's authority to act.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, 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 requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

A. Contractor shall deliver to Owner, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

B. Owner shall deliver to Contractor, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

5.04 *Contractor's Liability Insurance*

A. Contractor shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which 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:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;

3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or

b. by any other person for any other reason;

5. 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; and

6. 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.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, include as additional insured (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, 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;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

3. include completed operations insurance;

4. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;

5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

6. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and

7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment.

a. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, 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.

5.06 *Property Insurance*

A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full 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 interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions,

and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, false work, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, (other than caused by flood) and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;

5. allow for partial utilization of the Work by Owner;

6. include testing and startup; and

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

B. Owner shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.

D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies 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 of the insureds or additional insureds thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, 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 Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured or additional insured (and the officers, directors, 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 as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, 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 utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.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, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order .

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract

Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, 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. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.01 *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. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

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. The superintendent will be Contractor's representative at the Site and shall have authority to act on behalf of Contractor. All communications given to or

received from the superintendent shall be binding on Contractor.

6.02 *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. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *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.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, 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.

6.04 *Progress Schedule*

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 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 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "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 specification or description 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 or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. *"Or-Equal" Items:* If in Engineer's sole discretion 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, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, 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

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.

2. Substitute Items

a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. Contractor shall submit sufficient information as provided below to allow Engineer to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented in the General Requirements and as Engineer may decide is appropriate under the circumstances.

d. 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:

1) shall certify that the proposed substitute item will:

a) perform adequately the functions and achieve the results called for by the general design,

b) be similar in substance to that specified, and

c) be suited to the same use as that specified;

2) will state:

a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time;

b) whether or not 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

c) whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

3) will identify:

a) all variations of the proposed substitute item from that specified, and

b) available engineering, sales, maintenance, repair, and replacement services;

4) and shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change,

B. Substitute Construction Methods or Procedures: If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.

C. Engineer's Evaluation: Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

D. Special Guarantee: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

E. Engineer's Cost Reimbursement: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute item so proposed or submitted by Contractor, Contractor shall reimburse Owner for the charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the 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.

F. Contractor's Expense: Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 Concerning Subcontractors, Suppliers, and Others

A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. 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 any right of Owner or Engineer to reject defective Work.

C. 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. 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 anything in the Contract Documents create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual

or entity except as may otherwise be required by Laws and Regulations.

D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.

E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.

F. 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.

G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, 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 such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *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, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, 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.

6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, 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 opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *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 knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear 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. However, it shall not be Contractor's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 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.

6.11 Use of Site and Other Areas

A. Limitation on Use of Site and Other Areas

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, 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 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 by or based upon Contractor's performance of the Work.

B. Removal of Debris During Performance of the Work: During the progress of the Work Contractor shall keep the Site and other 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 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 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 property to stresses or pressures that will endanger it.

6.12 Record Documents

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

6.13 Safety and Protection

A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. 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, 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 owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

C. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.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 (except damage or loss attributable to the fault of Draw-

ings or Specifications or to the acts or omissions of Owner or Engineer or , 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).

D. Contractor's duties and responsibilities for safety and for protection of the Work 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 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *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.

6.15 *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.

6.16 *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.

6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the acceptable Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. Shop Drawings

a. Submit number of copies specified in the General Requirements.

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 6.17.D.

2. *Samples*: Contractor shall also submit Samples to Engineer for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals.

a. Submit number of Samples specified in the Specifications.

b. 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 6.17.D.

B. 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. Submittal Procedures

1. Before submitting each Shop Drawing or Sample, Contractor shall have determined and verified:

a. all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

b. the suitability of all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

c. all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto; and

d. shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

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 and approval of that 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 both a written communication separate from the Shop Drawing's or Sample Submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

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 (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval 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 6.17.C.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's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

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.

6.18 Continuing the Work

A. 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, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 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 Related Entities shall be entitled to rely on representation of 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 or the issuance of a notice of acceptability by Engineer;

6. any inspection, test, or approval by others; or

7. any correction of defective Work by Owner.

6.20 Indemnification

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, 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 respective consultants, agents, officers, directors, partners, or employees 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 6.20.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 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, 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.

6.21 *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 law.

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, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to 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 6.21, 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 6.17.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 - OTHER WORK AT THE SITE

7.01 *Related Work at Site*

A. Owner may perform other work related to the Project at the Site with Owner's employees, or via other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to Contractor prior to starting any such other work; and
2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.

B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and shall properly coordinate the Work with theirs. 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 their work and will only cut or alter their work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, 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.

7.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. the specific matters to be covered by such authority and responsibility will be itemized; and

3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.

B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's actions or inactions.

C. Contractor shall be liable to Owner and any other contractor for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's action or inactions.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

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

8.02 *Replacement of Engineer*

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

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

8.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

A. Owner's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by Engineer in preparing the Contract Documents.

8.06 *Insurance*

A. Owner's responsibilities, if any, in respect of purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility in respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *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.

8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. If and to the extent Owner has agreed to furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents, Owner's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *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 Documents and will not be changed without written consent of Owner and Engineer.

9.02 *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 9.09. 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.

9.03 *Project Representative*

A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. 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.

9.04 *Authorized Variations in Work*

A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which 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. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

B. In connection with 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, see Paragraph 6.21.

C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.

D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

A. 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 Paragraph 10.05.

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

A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question

B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believe that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.

C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.

D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show

partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents 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 14.07.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 9.09 shall also apply to, the Resident Project Representative, if any, and assistants, if any.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.01 *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 by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall

promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *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 as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.B.

10.03 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;

2. 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; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

A. If notice 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) is required by the provisions of any bond to be given to a surety, 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.

10.05 *Claims*

A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

B. *Notice:* Written notice stating the general nature of each Claim, shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Time shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. deny the Claim in whole or in part,

2. approve the Claim, or

3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 - COST OF THE WORK;
ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in Paragraph 11.01.B.

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 at the Site. 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, 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 11.01.

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, 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 5.06.D), 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 telegrams, long distance telephone calls, telephone service at the Site, expresses, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. 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 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which 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 Paragraphs 11.01.A and 11.01.B.

C. Contractor's Fee: When all the Work 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 or when a Claim for an 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 12.01.C.

D. Documentation: Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, 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.

11.02 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

1. Contractor agrees that:

a. 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

b. 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

1. 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.

11.03 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. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

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. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 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; and

2. there is no corresponding adjustment with respect any other item of Work; and

3. Contractor believes that Contractor 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 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for 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, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an

allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* 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 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;

b. for costs incurred under Paragraph 11.01.A.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 Paragraph 12.01.C.2.a is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

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 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted

by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, 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 Price or the Contract Times, or both. 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.

C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is 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 described in this Paragraph 12.03.C.

D. Owner, Engineer and the Related Entities of each of them shall not be liable to Contractor for any claims, costs, losses, or 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) sustained by Contractor on or in connection with any other project or anticipated project.

E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

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

13.03 *Tests and Inspections*

A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;

2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in said Paragraph 13.04.C; and

3. as otherwise specifically provided in the Contract Documents.

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 and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to

be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

E. 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, it must, if requested by Engineer, be uncovered for observation.

F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.

B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, 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, furnishing all necessary labor, material, and equipment.

C. If it is found that the uncovered Work is defective, 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 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 Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.

D. 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, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *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, 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.

13.06 *Correction or Removal of Defective Work*

A. Promptly after receipt of notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. 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 removal (including but not limited to all costs of repair or replacement of work of others).

B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *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 land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or
2. correct such defective Work; or
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 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. 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) will be paid by Contractor.

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 13.07, 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 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. 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) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *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 in accordance with Paragraph 13.06.A, 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, 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 13.09, 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, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, 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 (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) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. 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 13.09.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The Schedule of Values established as provided in Paragraph 2.07.A 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.

14.02 *Progress Payments*

A. 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 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.

B. *Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, 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 on the Site 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, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and to 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 Documents; or

b. that 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 moneys 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 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent

inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
- b. the Contract Price has been reduced by Change Orders;
- c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
- d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Payment Becomes Due

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. Reduction in Payment

1. Owner may refuse to make payment of the full amount recommended by Engineer because:

- a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
- b. 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;
- c. there are other items entitling Owner to a set-off against the amount recommended; or
- d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.

2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action 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, when Contractor corrects to Owner's satisfaction the reasons for such action.

3. If it is subsequently determined that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1.

14.03 Contractor's Warranty of Title

A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 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 (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.

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 tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will within 14 days after submission of the tentative certificate to Owner notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will within said 14 days execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial

Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to complete or correct items on the tentative list.

14.05 *Partial Utilization*

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. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor will certify to Owner and Engineer that such part of the Work is substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and 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 14.04 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 5.10 regarding property insurance.

14.06 *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 is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *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, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.7;

b. consent of the surety, if any, to final payment;

c. a list of all Claims against Owner that Contractor believes are unsettled; and

d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner or Owner's property might in any way be responsible 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.

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 Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. 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 14.09. 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. Payment Becomes Due

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and , will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance

with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 *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 notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will 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 established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);

2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;

3. Contractor's disregard of the authority of Engineer; or

4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion),

2. 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

3. complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.02.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 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) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed 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.

D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

E. 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. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B, and 15.02.C.

15.03 *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;

3. 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) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) 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 15.03.

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 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 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 16 - DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be

governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions, or

2. agrees with the other party to submit the Claim to another dispute resolution process, or

3. gives written notice to the other party of their intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 - MISCELLANEOUS

17.01 *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 to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents 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.

17.03 *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 Documents. 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.

17.04 *Survival of Obligations*

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

17.05 *Controlling Law*

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

17.06 *Headings*

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

TAB E

Supplementary Conditions

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the General Conditions and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

ARTICLE 1 REVISIONS:

1.01.19 Engineer

After the word "Agreement" add the words "OWNER may perform some or all of the duties and assume responsibilities of ENGINEER discussed in these General Conditions including, but not limited to, processing of applications of payments and reviewing submittals."

1.01.37 Resident Project Representative

After the word "Engineer" add "or Owner"

After the word "thereof" add the words "for part-time or full-time observation of work as it proceeds in the field. These efforts include interpretation of drawings and specifications, review of field change orders, and review of payment applications."

ARTICLE 2 REVISIONS:

2.05 Before Starting Construction

Delete Article 2.05.B.3 and add the following new Article 2.05.D:

Documentation submitted by CONTRACTOR prior to execution of Agreement shall include a preliminary schedule of values for all of the Work that 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. The approved schedule of values shall follow the format provided in the Bidding Documents.

ARTICLE 3 REVISIONS:

3.06 The Contract Documents are complementary; what is called for by one is as binding as if called for by all. In resolving conflicts, errors, and discrepancies, the documents shall be given precedence in the following order: Agreement, Specifications, Drawings. Within the specifications the order of precedence shall be as follows: Special Provisions, Instructions to Bidders, General Conditions, Technical Provisions. Figure dimensions on Drawings shall govern over scale/dimensions, and detailed Drawings shall govern over general Drawings. The Contractor assumes full responsibility for having familiarized itself with the nature and extent of the Contract Documents, work, locality, and local conditions that may in any manner affect the work to be done.

ARTICLE 4 REVISIONS:

4.01 Availability of Lands

Add the following:

- A. If the Contractor, by direct negotiation and bargaining with any land owner, lessee or tenant, has secured for himself any right to use more space or greater privileges in the space provided for purposes incidental to the performance of the Contract, he shall, upon request of the Owner's Representative, furnish to the Owner's Representative proper evidence that such additional right have been properly secured and assurance that no damage to or claim upon the Owner will arrive there from. The Owner shall not be liable in any way for any expense incurred by the Contractor in securing any such right to use additional property.

- B. If access is provided by means of any road or driveway or through private lands, the Contractor shall permit the regular Owners or users thereof to use the same so far as it is consistent with the construction of the work. If any existing driveway or road is damaged by his use thereof, the Contractor shall at once restore it to as good condition as it would have been had he not used it. The Contractor and those under him using any private road or driveway must assume to use that road or driveway on an "as is" basis and use it at their own risk. Neither the Owner nor the land owner shall be liable for damage to persons or property of the Contractor's forces arising from any defect in such road or driveway, except as such defect may be the consequence of negligence of the Owner or the land owner after the award of the Contract.

ARTICLE 5 REVISIONS:

5.04 Contractor's Liability Insurance

Add the following:

- A. The Contractor shall purchase the following types of insurance, and maintain all insurance coverage for the life of the contract and said insurance shall be in effect for 2 years following Substantial Completion, from an insurance company or companies with an A.M. Best rating of A- (VII) or better. The Owner, Engineer, and their respective consultants shall be named as additional insureds under each and every one of the Contractor's insurance policies (with the exception of the workers compensation policy). Such insurance shall protect and indemnify the Owner from all claims which may arise out of or result from the Contractor's obligations under this Agreement, whether caused by the Contractor or by a subcontractor or any person or entity directly or indirectly employed by said Contractor or by anyone for whose acts said Contractor may be liable:

1. Worker's Compensation

Contractor shall provide worker's compensation and employer's liability insurance that complies with the laws and regulations of the State of Connecticut with limits no less than \$1,000,000 each accident by bodily injury. \$1,000,000 each accident by disease; and a policy limit of \$1,000,000. Such policy shall contain a waiver of subrogation endorsement in favor of the Owner.

2. Commercial General Liability Insurance

Contractor shall provide a commercial general liability insurance policy that includes products, operations and completed operations. Limits should be at least: Bodily injury & property damage with an occurrence limit of \$1,000,000; Personal & advertising injury limit of \$1,000,000 per occurrence; General aggregate limit of \$2,000,000 (other than products and completed operations); Products and completed operations aggregate limit of \$2,000,000. The policy shall name the Owner as an additional insured.

- Such coverage will be provided on an occurrence basis and will be primary and shall not contribute in any way to any insurance or self-insured retention carried by the Owner.

- Such Policy shall include the following endorsements: ISO Forms CG2010 (07-04) and CG 2037 (07-04).

3. Commercial Automobile Insurance

Contractor shall provide commercial automobile insurance for any autos (symbol 1 or equivalent) in the amount of \$1,000,000 each accident covering bodily injury and property damage on a combined single limit basis. Such coverage shall also include hired and non-owned automobile coverage.

4. Umbrella Liability Insurance

Contractor shall provide an umbrella liability policy in excess (without restriction or limitation) of those limits described in items (1) through (3). Such policy shall contain limits of liability in the amount of \$5,000,000 each occurrence and \$5,000,000 in the aggregate which may be amended during the term of the contract if deemed reasonable and customary by the Owner at the sole cost and expense of the Contractor.

5. Errors/Omission: Professional Liability

Contractor shall provide, if required by the Owner, errors & omissions coverage covering the contractor's professional liability with a limit of \$1,000,000 per claim

and \$1,000,000 in the aggregate, and maintain such policy for one year after Substantial Completion.

6. Pollution Liability

Contractor shall provide, if required by the Owner, pollution liability coverage covering the contractor's pollution liability exposure, with a limit of \$1,000,000 per claim and \$1,000,000 in the aggregate, and maintain such policy for the duration of the project.

7. The limits specified in the Contract Documents are minimum requirements and shall not be construed in any way as limits of liability or as constituting acceptance by Owner of responsibility for losses in excess of such limits. The Contractor shall be responsible for all deductibles and self-insured retentions applicable to any insurance. No acceptance and/or approval of any insurance by Owner shall be construed as relieving or excusing Contractor from any liability or obligation imposed by the provisions of the Contract Documents.

- B. Insurance requirements shall also apply to all Subcontractors, and the Contractor shall not allow any Subcontractor to commence work until the Subcontractor's insurance has been obtained. Subcontractors must name Town of Preston as an additional insured.

ARTICLE 6 REVISIONS:

Add the following:

6.06 Concerning Subcontractors, Suppliers, and Others

Add the following after the first sentence :

In addition to all other obligations assumed by a Subcontractor, all Subcontractors shall assume an independent obligation to assume and comply with insurance and indemnification due to the Owner and Engineer from the Contractor under this Agreement.

6.10.A Taxes

- A. "To the extent that the Town of Preston is exempt from Connecticut sales tax, the Contractor may purchase materials or supplies to be consumed in the performance of this contract without payment of such tax."

6.11.A.1 Use of Site and Other Areas

- A.1 "The exact limit of Work and equipment storage shall be verified and agreed to by Owner and Contractor in the field."

ARTICLE 11 REVISIONS:

Add the following:

11.04 Equipment Rental Rates Not Otherwise Covered

With regard to rental rates applicable to work not covered by either Lump Sum pay items or Unit Adjustments, for any power-operated machinery, trucks or equipment, necessary to use, the Engineer will allow the Contractor the rental rate set forth in the most current edition of the "Rental Rate Blue Book," including all Rate Adjustment Tables and amendments, as published by Dataquest, Inc. of San Jose, California in effect at the time the work is performed for Contractor-owned equipment or at a lower rate, if submitted by the Contractor.

- A. Should the proper completion of the work require equipment of a type not covered by the above-mentioned schedule, the Engineer will allow Contractor a reasonable rental rate which shall be based on that prevailing in the area of the work and shall be agreed upon in writing before the work is begun. However, the Contractor shall show the sources for the rates he has proposed.
- B. For power-operated machinery, truck or equipment, which the Contractor must obtain by rental, he shall inform the Engineer of his need to rent the equipment prior to using it on the work. He shall be paid the actual rental for the equipment, provided that rate does not exceed the rental rate set forth in the "Rental Rate Blue Book", including all Rate Adjustment Tables and amendments as published by Dataquest, Inc. The Contractor shall provide a copy of the paid receipt for the rental expense incurred.
- C. The estimated operating cost per hour will apply only to the actual time the equipment is operating. Operators will be paid as stated hereinbefore for labor except for certain trucks listed in the "Rental Rate Blue Book" as published by Dataquest, Inc. which show the operators to be included.
- D. For rented equipment not owned by the Contractor or a subsidiary of the Contractor, the following rates shall apply:
 1. The daily rate per hour shall apply when the equipment is specifically assigned to the work by the Engineer for a period of 7 consecutive calendar days or less.
 2. The weekly rate per hour shall apply when the assigned time exceeds 7 consecutive calendar days but does not exceed 21 calendar days.
 3. The monthly rate per hour shall apply when the assigned time exceeds 21 consecutive calendar days.
- E. For Contractor-owned equipment or equipment rented or obtained from a subsidiary of the Contractor, the maximum hourly rate to be used shall be the monthly rate as set forth in the current edition of the "Rental Rate Blue Book", including Rate Adjustment Tables and amendments as published by Dataquest, Inc., divided by 176 (176 working hours per month).

ARTICLE 15 REVISIONS:

Delete the word “persistent” from Article 15.0.2.A.1

ARTICLE 17 REVISIONS:

Add the following:

17.05 Controlling Law:

- B. To the extent of any conflict between the requirements, duties, or obligations set forth in the Contract Documents and the provisions of Connecticut’s RCSA 22a-482-4, the provisions of RCSA 22a-482-4 shall control.”

17.07 Time for Completion and Liquidated Damages:

- A. It is hereby understood and mutually agreed, by and between Contractor and Owner, that the date of beginning and the time for completion as specified in the Agreement of the work to be done hereunder are essential conditions of this Contract; and it is further mutually understood and agreed that the Work embraced in this Agreement shall be commenced on a date to be specified in the Notice to Proceed.
- B. Contractor agrees that said Work shall be prosecuted regularly, diligently and uninterruptedly at such rate of progress as will insure full completion thereof within the time specified. It is expressly understood and agreed, by and between Contractor and Owner, that the time for the completion of the Work described herein is a reasonable time for the completion of the same, taking into consideration the average climatic range and conditions in this locality.
- C. If said Contractor shall neglect, fail or refuse to complete the Work within the time herein specified, or any proper extension thereof granted by Owner, then the Contractor does hereby agree to pay to Owner the amount specified in the Agreement, not as a penalty but as Liquidated Damages for such breach of Agreement, for each and every calendar day that Contractor shall be in default after the time stipulated in the Agreement for completing the Work.
- D. The said amount is fixed and agreed upon by and between Contractor and Owner because of the impracticality and extreme difficulty of fixing and ascertaining the actual damages Owner would in event sustain, and said amount shall be retained from time to time by the Owner from current periodical estimates.

TAB F

Special Provisions

SPECIAL PROVISIONS

DESCRIPTION:

These Special Provisions amend or supplement the Division II Construction Details (Technical Provisions) and Division III Materials Section in the State of Connecticut Department of Transportation (CTDOT) Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, Form 819, dated 2024, which are incorporated herein and are referred to herein after at "Form 819." Only the Form 819 Division II Construction Details and Division III Materials Section are incorporated herein.

Copies of Form 819 and supplements may be downloaded here:

[Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, Form 819:](#)

GENERAL:

Special Provision amendments or supplements that apply throughout Form 819 Division Details (Technical Provisions) are outlined below:

1. Replace the word "State" and the word "Department, wherever they appear, with the word "Town" throughout Form 819.
2. Method of Measurement: Lump sum work items for this project will not be measured separately for payment unless additions, deletions or modifications to the Work are ordered by an Owner issued Change Order.
3. Basis for Payment: Lump sum work items for this lump will not be paid for separately unless additions, deletions or modifications to the Work are ordered by an Owner issued Change Order. Progress payments will be made against the entire project using an approved Schedule of Values.

RELEVANT SECTIONS:

The following is a list of relevant sections of Form 819 that apply to this project. Note: This list is provided as reference only, meaning that it does not exclusively limit the scope of work for this project.

<u>Section</u>	<u>Description</u>
2.01	Clearing & Grubbing
2.02	Earth Excavation
2.07	Borrow
2.09	Subgrade
2.12	Subbase
2.13	Granular Fill
3.04	Processed Aggregate Base
9.22	Bituminous Concrete
9.44	Topsoil

- 9.50 Turf Establishment
- 9.75 Mobilization

SUBMITTALS:

The Contractor shall submit digital (.pdf) copies of each shop drawing/product data to the Town or it’s agent for approval, prior to construction. The Town or its agent will endeavor to respond with their approval and/or review comments within a (2) week period of their receipt of said submittals. The Contractor shall make submittals to include but not limited to the sections of the Form 819 above and per the special provisions hereon.

COORDINATION OF WORK:

The Contractor shall coordinate with the Town and its agents accordingly.

SCHEDULE:

The contract time for this project is anticipated to be ninety (90) calendar days, starting on the Notice to Proceed date, and does not allow for a winter shutdown period. The intended project schedule is based upon a contract authorization at the Preston Board of Selectman’s regular meeting on October 8, 2025 and is as follows:

Bids Due:	October 1, 2025
Notice of Award:	October 9, 2025
Contract Signing:	October 15, 2025
Notice to Proceed:	October 22, 2025
Substantial Completion:	January 20, 2026

Note: The Town may consider adjusting the date of substantial completion based upon the recommendation of the selected contractor, this adjustment may be due to contractor’s available laborforce and project backlog, product lead times or anticipated weather conditions. All other aspects of the project must be completed within the 90 day construction period. **Contractor shall include their anticipated date of substantial completion on the invitation to bid, along with a written description for this exception.**

The Contractor and Town Preston shall coordinate and agree upon a Sequence of Construction prior to issuance of Notice to Proceed.

LIQUIDATED DAMAGES:

The Contractor is hereby notified that liquidated damages in the amount of five hundred dollars (\$500.00) per consecutive calendar day apply to this project in order to help ensure a timely completion.

PREVAILING WAGE RATES:

The Contractor is hereby notified that the bid shall be submitted with consideration of prevailing wage rates if the total cost of construction exceeds \$100,000.

UTILITY COORDINATION:

The Contractor is hereby notified that if existing utilities are planned for temporary and/or permanent relocation to support this project, including Eversource Energy or any other utility, the Contractor is responsible for coordinating the necessary utility relocations or modifications to complete the work.

MAINTENANCE & PROTECTION OF TRAFFIC:

The Contractor is hereby notified that the existing transfer station must remain operational for Town residents throughout the construction period. Temporary locations for compactors and waste containers along with revised traffic patterns shall be coordinated with Town staff. The Contractor shall be responsible for furnishing, installing and maintaining all temporary pedestrian & traffic barriers and construction signage as required for the duration of the contract period. The Contractor shall coordinate the location of these barriers with the Town of Preston or their agent. There shall be no separate measurement and payment for maintenance & protection of traffic.

PORTABLE CHEMICAL TOILET FACILITY:

The Contractor shall furnish one (1) portable chemical toilet for the entire duration of the contract time period to support this construction project. There shall be no separate measurement and payment for portable chemical toilet facilities.

CONSTRUCTION STAKING:

The Contractor is hereby notified that prior to construction Barton and Loguidice, LLC. shall provide the contractor with control points and a bench mark shall be established on a fixed point on site. Additional staking for construction activities shall be the responsibility of the contractor. There shall be no separate measurement and payment for additional construction staking.

INSPECTION:

The Contractor is hereby notified that the Town or it's agents, shall coordinate and perform all inspections as deemed necessary to ensure proper construction/installation.

TESTING:

The Contractor is hereby notified that the Town or it's agent, Barton and Loguidice, LLC., shall coordinate and perform all tests as deemed necessary to ensure proper construction/installation.

PERMITS:

The Contractor is hereby notified that the Town of Preston will waive all local municipal permit fees for this project. It is the responsibility of the contractor to obtain all local and other permits required for this project.

CALL-BEFORE- YOU- DIG (CBYD):

The Contractor is hereby notified that they shall contact Call-Before-You-Dig (CBYD) 1-800-922-4455 www.cbyd.com and obtain authorization prior to start of work as required by law.

TAB G

Technical Specifications

TOWN OF COVENTRY
TECHNICAL SPECIFICATIONS
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SECTION 01 11 00
SUMMARY OF WORK

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This work includes but is not limited to the partial reconstruction of an existing municipal transfer station. Improvements will include a new retaining wall with railings, concrete pads for dumpsters, expansion of pavement areas and drainage improvements. Demolition of the existing site will need to be completed which will include removal of existing walls, concrete pads, scale, and scale house and possible removal of material from existing landfill for wall installation. The contractor shall be responsible for but not limited to: maintaining overall site conditions, maintaining access to towns public works facility, installing and maintaining erosion control measures, and restoration of site.

1.02 CONTRACT

- A. Construct work under the unit bid prices provided by the Contractor in accordance with the Contract Documents.

1.03 PHASING OF WORK

- A. The total contract time will be ninety (90) consecutive calendar days, beginning at a date to be specified in the Notice to Proceed. Work shall be substantially complete at this time.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Not Applicable.

PART 3 - EXECUTION

3.01 GENERAL

- A. Not Applicable.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work which conforms to this Specification and is performed shall not be measured for separate payment, but shall be included as part of the general work.

4.02 PAYMENT

- A. This work will not be paid for separately, but shall be included as part of the general work, which shall include all materials, equipment, tools, labor, and work incidental thereto.

END OF SECTION

SECTION 01 31 19 PROJECT MEETINGS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Owner shall schedule and administer pre-construction meeting, periodic progress meetings, and specially called meetings throughout the progress of the work. Owner, or Owner's Representative, shall:
 - 1. Prepare agenda for meetings.
 - 2. Preside at meetings.
 - 3. Record the minutes; include all significant proceedings and decisions.
 - 4. Reproduce and distribute copies of minutes within three (3) working days after each meeting to all participants in the meeting and to all parties affected by decisions made at the meeting.

- B. Contractor shall make physical arrangements for meetings. Representatives of contractors, subcontractors and suppliers attending the meetings shall be qualified and authorized to act on behalf of the entity each represents. Engineer will ascertain that Work is expedited consistent with Contract Documents and the construction schedules.

- C. Related requirements specified in other sections:
 - 1. Summary of Work
 - 2. Submittals
 - 3. Project Record Documents
 - 4. Operating and Maintenance Data

1.02 PRE-CONSTRUCTION MEETING

- A. To be scheduled at site within five (5) days after the effective date of agreement but before the Contractor starts the work. Attendance to include:
 - 1. Owner's Representative
 - 2. Engineer
 - 3. Contractor and Contractor's Superintendent

- B. Suggested Agenda:
 - 1. Distribution and discussion of a list of major subcontractors and suppliers and projected construction schedule.

2. Critical work sequencing.
3. Major equipment deliveries and priorities.
4. Project coordination - designate responsible personnel.
5. Procedures and processing of field decisions, proposal requests, submittals, Change Orders, and Applications for Payment.
6. Adequacy of distribution of Contract Documents.
7. Procedures for maintaining Record Documents.
8. Use of premises, including office and storage areas.
9. Construction facilities, controls and construction aids.
10. Temporary utilities.
11. Safety and first-aid procedures.
12. Security and housekeeping procedures.

1.03 PROGRESS MEETINGS

A. Biweekly plus special meetings will be scheduled at site as required by progress of the work. Attendance to include Engineer and consultants, Contractor and Subcontractors and Suppliers as appropriate to the agenda.

B. Suggested Agenda:

1. Review of work progress since previous meeting.
2. Field observations, problems, conflicts.
3. Problems which impede Construction Schedule.
4. Review of off-site fabrication, delivery schedules.
5. Corrective measures and procedures to regain projected schedule.
6. Revisions to Construction Schedule.
7. Plan progress, schedule during succeeding work period.
8. Coordination of rules.
9. Review of submittal schedules; expedite as required.
10. Maintenance of quality standards.
11. Review proposed changes for effect on Construction Schedule and on completion date, and effect on other contracts of the project.
12. Outstanding items.
13. Other business.

PART 2 - PRODUCTS

2.01 GENERAL

A. Not Applicable.

PART 3 - EXECUTION

3.01 GENERAL

- A. Not Applicable.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work which conforms to this Specification and is performed shall not be measured for separate payment, but shall be included as part of the general work.

4.02 PAYMENT

- A. This work will not be paid for separately, but shall be included as part of the general work, which shall include all materials, equipment, tools, labor, and work incidental thereto.

END OF SECTION

SECTION 01 33 00
SUBMITTALS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work under this specification covers the following work:

- Submittal procedures
- Required submittals
- Proposed products list
- Shop drawings
- Product data
- Samples
- Weight Tickets
- Record Drawings (Redlined plans)
- Any Other Information Required to be Submitted by the Contractor in Accordance with the Contract Documents

PART 2 - PRODUCTS

A. Not Applicable.

PART 3 - EXECUTION

3.01 SUBMITTAL PROCEDURES

- A. Each submittal shall be accompanied with a transmittal letter and shall include six copies for review and distribution by the Owner or Designee.
- B. Contractor shall sequentially number the transmittal forms. Resubmittals to have original number with an alphabetic suffix.
- C. Identify Project, Contractor, Subcontractor or supplier; pertinent Drawing sheet and detail number(s), and specification Section number, as appropriate.
- D. Apply Contractor's stamp, signed or initialed certifying that review, verification of products required, field dimensions, adjacent construction Work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents.
- E. Schedule submittals to expedite the project.
- F. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work.

- G. Provide space for Contractor and Engineer review stamps.
- H. Revise and resubmit submittals as required, identify all changes made since previous submittal.
- I. Distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.

3.02 REQUIRED SUBMITTALS

- A. The Contractor shall provide submittals in accordance with the requirements specified herewithin for the following items:
 - 1. All components of the installation as required by these specifications or the Owner.
 - 2. Drawings of proposed installation if different from Contract Drawings.

3.03 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial progress schedule in duplicate within five (5) days after date of Owner-Contractor agreement for Owner's review.
- B. Revise and resubmit as required.
- C. Submit revised schedules bi-weekly, identifying changes since previous version.
- D. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate the early and late start, early and late finish, float dates, and duration.
- E. Indicate estimated percentage of completion for each item of Work at each submission.
- F. Indicate submittal dates required for shop drawings, product data, samples, and product delivery dates, including those furnished by Owner.

3.04 PROPOSED PRODUCTS LIST

- A. Within 10 days after date of Owner-Contractor agreement, submit complete list of major products proposed for use, with name of manufacturer, trade name, and model number for each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

3.05 SHOP DRAWINGS

- A. Submit the number of copies, which Contractor requires, plus five copies which will be retained by Owner.
- B. After review distribute in accordance with Article on Procedures above and for record documents.

3.06 PRODUCT DATA

- A. Submit the number of copies which the Contractor requires, plus five copies which will be retained by the Owner.
- B. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information unique to this project.
- C. After review, distribute in accordance with Article on Procedures above and provide copies for Record Documents.

3.07 SAMPLES

- A. Submit samples, when specified in individual specification sections, to illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- B. Submit the number of samples specified in individual specification sections; one of which will be retained by Owner.

3.08 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting, operation and maintenance and finishing, in quantities specified for product data.
- B. Identify conflicts between manufacturers' instructions and Contract Documents.

3.09 MANUFACTURER'S CERTIFICATES

- A. When specified in individual specification sections, submit manufacturers' certificate to Owner for review, in quantities specified for product data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or product, but must be acceptable to Owner.

3.10 RECORD DRAWINGS (REDLINED PLANS)

- A. Submit record drawings (redlined plans) in accordance with the applicable requirements of the Owner as specified within the Contract Documents for all permanent installation work.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work which conforms to this Specification and is performed shall not be measured for separate payment, but shall be included as part of the general work.

4.02 PAYMENT

- A. This work will not be paid for separately, but shall be included as part of the general work, which shall include all materials, equipment, tools, labor, and work incidental thereto.

END OF SECTION

SECTION 01 43 00
QUALITY CONTROL AND ASSURANCE

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work includes:
 - 1. Quality assurance and control of installation
 - 2. References
 - 3. Field samples
 - 4. Manufacturers' field services and reports

1.02 RELATED WORK

- A. This specification is related to all work related to this project.

1.03 QUALITY ASSURANCE

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with specified standards as a minimum quality of the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- C. Perform work by persons qualified to produce workmanship of specified quality.
- D. Obtain copies of standards when required by Contract Documents.
- E. Should specified reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.

1.04 SUBMITTALS

- A. None

PART 2 - PRODUCTS

2.01 GENERAL

- A. Not Applicable.

PART 3 - EXECUTION

3.01 GENERAL

- A. Not Applicable.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work which conforms to this Specification and is performed shall not be measured for separate payment, but shall be included as part of general work.

4.02 PAYMENT

- A. This work will not be paid for separately, but shall be included as part of the general work, which shall include all materials, equipment, tools, labor, and work incidental thereto.

END OF SECTION

SECTION 01 45 23
TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The Owner will select and will pay for an Independent Testing Laboratory to perform inspections and in place testing as required by the Contract Documents. The Contractor shall engage the services of the designated laboratory. The cost of laboratory testing which is considered to be the Contractor's responsibility, includes, but not limited to testing required to demonstrate material quality is in compliance with the Contract Documents.
- B. The Contractor shall employ the services of a separate qualified laboratory for additional samples and tests required by the Contractor beyond the specified requirements. The Owner will not pay for any additional Contractor testing required to fulfill the intent of these contract documents. Costs associated with re-testing after results of initial testing indicates non-conformance with the plans or Specifications shall be the responsibility of the Contractor.
- C. The Contractor shall arrange for any inspections required by the State or the Town officials. The Contractor shall bear the costs of any such inspections.
- D. The Testing Laboratory shall demonstrate in providing comparable services to those specified in the Contract Documents.

1.02 RELATED WORK

- A. Section 31 23 00 – Excavation and Fill
- B. Section 31 23 23 – General Fill & Borrow
- C. Section 31 23 25 – Granular Material
- D. Section 32 91 19 – Topsoil Placement and Grading
- E. Section 32 92 00 – Turf and Grasses
- F. Any other testing required by one or more of the various Technical Specification Sections of the Contract Documents and not itemized above.

1.03 QUALITY ASSURANCE

- A. Comply with the requirements of ANSI/ASTM E329 and ANSI/ASTM D3740 – latest revisions.
- B. All testing laboratories shall be licensed/authorized to operate in the State of Connecticut.

- C. Testing laboratories shall maintain a full time CT Registered Engineer on staff to review services.
- D. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to either the National Bureau of Standards (NBS) Standards or accepted values of natural physical constants. All testing equipment used on this project shall have been calibrated within the last thirty (30) calendar days prior to the date of performing the Contract required testing.

1.04 SUBMITTALS

- A. Prior to the start of work, submit the name, address, and telephone number and names of full time CT Registered Professional Engineer and responsible officer of the laboratory required by and to be paid for by the Contractor. Testing laboratory to be approved by owner or designee.
- B. Submit copy of report of laboratory facilities inspection made by Materials Reference Laboratory of NBS during most recent tour of inspection, with memorandum of remedies of any deficiencies reported by the inspection. Submit evidence of calibration in conformance with Part 1.02.D above.

1.05 LABORATORY RESPONSIBILITIES

- A. Test the samples submitted by the Contractor.
- B. Provide qualified personnel at site after due notice; cooperate with Engineer and Owner in performance of services.
- C. Perform specified inspection, sampling, and testing of products.
- D. Ascertain compliance of materials and mixes with requirements of Contract Documents.
- E. Promptly notify Engineer, Owner and Contractor of observed irregularities or non-conformance of work or products.
- F. Perform additional inspections and tests required by Engineer.

1.06 LABORATORY DUTIES

- A. Cooperate with Owner, and Contractors, provide qualified personnel promptly on notice. Perform specified inspections, sampling and testing of materials and methods of construction; ascertain compliance with requirements of Contract Documents.

B. Promptly notify Owner, and Contractors of irregularities or deficiencies of work, which are observed during performance of services. Submit two (2) copies of reports of inspections and tests to the Engineer, addressed to the Owner, including:

C.

1. Date issued
2. Project title and number
3. Testing Laboratory name and address
4. Name and signature of Inspector
5. Date of inspection or sampling
6. Record of temperature and weather
7. Date of test
8. Identification of product and specification section
9. Location in project
10. Type of inspection or test
11. Observations regarding compliance with Contract Documents.

D. Laboratory is not authorized to release, revoke, alter or enlarge on requirements of Contract Documents; to approve or accept any portion of work, or perform any duties of the contractor.

E. Laboratory may not assume any duties of the Contractor; and the Laboratory has no authority to stop work.

1.07 CONTRACTOR RESPONSIBILITIES

A. Deliver to laboratory at designated location, adequate samples of materials proposed to be used which require testing, along with proposed mix designs.

B. Cooperate with Laboratory personnel and provide access to work.

C. Provide to Laboratory, preliminary representative samples of materials to be tested in required quantities.

D. Furnish casual labor and facilities to provide access to work to be tested, to obtain and handle samples at the site, and to facilitate inspections and test.

E. Notify Laboratory sufficiently in advance of operations to allow for his assignment of personnel and schedule of tests.

F. Arrange with Laboratory, and pay for, any additional samples and testing required for Contractor's convenience.

- G. Arrange with Laboratory, and pay for, any additional inspections, sampling and testing required when initial tests indicate that work does not comply with Contract Documents.

- H. Arrange for and conduct any inspections required by State and/or local building, fire protection, safety, health or environmental officials.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Not Applicable.

PART 3 - EXECUTION

3.01 GENERAL

- A. Not Applicable.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work which conforms to this Specification and is performed shall not be measured for separate payment, but shall be included as part of general work.

4.02 PAYMENT

- A. This work will not be paid for separately, but shall be included as part of the general work, which shall include all materials, equipment, tools, labor, and work incidental thereto.

END OF SECTION

SECTION 01 57 13 SEDIMENTATION CONTROL SYSTEM

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This work shall consist of furnishing, placing, maintaining and removal of sedimentation control systems (hay bales, silt fences, straw waddles fabric geotextile, inlet sediment control devices, etc.), as shown on the plans or as directed by the Engineer and where necessary to prevent erosion and control sedimentation.
- B. The sedimentation control system shall be placed prior to beginning construction activities. For stockpiles, sediment control system shall be placed on the first day the stockpile is used.

1.02 RELATED WORK

- A. Section 01 57 26 – Site Watering for Dust Control
- B. Section 31 11 00 – Clearing & Grubbing
- C. Section 31 23 00 – Excavation and Fill
- D. Section 31 23 13 – Formation of Subgrade
- E. Section 31 23 23 – General Fill & Borrow
- F. Section 31 23 25 – Granular Material
- G. Section 32 91 19 – Topsoil Placement and Grading
- H. Section 32 92 00 – Turf and Grasses

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.
- B. References to "2002 Connecticut Guidelines for Soil Erosion and-Sedimentation Control", as amended.

1.04 SUBMITTALS

- A. Submit haybales, silt fence, straw waddles, inlet protection and filter fabric geotextiles to the Engineer for approval.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Silt fence shall be a woven geotextile conforming to the plans and specifications. Filter fabric shall be a non-woven geotextile. Geotextiles shall conform to Form 819 Article M.08.01-26.
- B. Inlet protection shall be a woven geotextile conforming to the plans and specifications. Filter fabric shall be a woven polypropylene geotextile and fits the opening of a catch basin. Geotextiles shall conform to Form 819 Article M.08.01-26.
- C. Haybales shall conform to Form 818 Article 2.19.02.

PART 3 - EXECUTION

3.01 GENERAL

- A. The work shall conform to the requirements of Form 819 Article 2.19.03.
- B. The work shall include the implementation of the appropriate portions of the erosion and sedimentation control plan.
- C. The Contractor shall appoint an individual, acceptable to the Engineer, to coordinate and supervise the maintenance and control of sedimentation and erosion control systems and devices. Compliance with these provisions shall also be included in all subcontract agreements.
 - 1. Provide the Engineer with daily logs of the construction progress, updated schedules and conditions of on-site sedimentation and erosion controls/water quality.
 - 2. All sedimentation and erosion control devices shall be inspected weekly by the Contractor to verify their operation and to determine the cleaning and repair necessary for the duration of this Contract. In addition, special attention shall be given to the adequacy of the control systems prior to severe storm weather forecasts. Suspend operations (earthwork) for major storm events and implement additional sedimentation and erosion controls as necessary. Inspect control systems during and after storms to determine necessary repairs.

3. Repairs to sedimentation control systems directed by the Engineer shall be accomplished within 24 hours of the directive or as soon as possible prior to storm forecasts.
 4. Contractor shall maintain on-site, at all times, replacement materials for the devices utilized, readily available for necessary repairs.
 5. The Contractor shall comply with the Best Management Practices as shown in Form 819, Article 1.10.03 and "2002 Connecticut Guidelines for Soil Erosion and Sedimentation Control", as amended.
- D. The Engineer has the authority to control the surface area of each material exposed by construction operations and to direct the Contractor to immediately provide permanent or temporary pollution control measures to prevent contamination of adjacent wetlands, watercourses or other areas of water impoundment. Every effort shall be made by the Contractor to prevent erosion on the site and abutting property.
- E. The Engineer shall limit the surface area of earth material exposed if the Contractor fails to sufficiently protect the slopes to prevent pollution.
- F. The erosion control features installed by the Contractor shall be maintained by the Contractor to ensure their efficient operation, and he shall remove/replace such installations if ordered by the Engineer.
- G. The Contractor shall operate all equipment and perform all construction operations so as to minimize pollution. The Contractor shall cease any of his operations, which will increase pollution during rainstorms.

3.02 HAY BALE INSTALLATION

- A. Hay bales shall be placed as shown on the plans or as directed by the Engineer. They shall be held in place by two wooden stakes in each bale driven a minimum of eighteen (18) inches into the ground. Bales shall be maintained or replaced until they are no longer necessary for the purpose intended or are ordered removed by the Engineer.

3.03 SILT FENCE INSTALLATION

- A. Silt fence shall be mounted on wood-stakes or posts with or without fence backing as recommended by the fabric manufacturer. The bottom six (6") inches of the fabric shall be buried by trenching, laying the six (6") inch section horizontally on the ground and burying by ramping the soil up to the silt fence.

- B. Maintain silt fence throughout the contract period and remove all such temporary features when directed. Any damaged during construction shall be replaced at no additional cost to the Owner.
- C. Sediment buildup shall be removed from behind silt fence before it exceeds six (6") inches in depth. Silt fence shall be inspected weekly and repaired/replaced as necessary. Additional inspections may be required prior to or immediately following any major rainstorms. Silt fence shall be removed at the completion of the project.

3.04 INLET PROTECTION INSTALLATION

- A. Inlet protection shall be installed as shown on the plans or as directed by the Engineer. Inlet protection sacks shall be installed per manufacturers' recommendations and be maintained throughout the contract period. Any damaged during construction shall be replaced at no additional cost to the Owner.

3.05 MAINTENANCE

- A. Sedimentation control measures shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.
- B. Should the sedimentation control measure decompose or become ineffective prior to the end of the expected usable life, the sedimentation control measure shall be replaced promptly.
- C. Sediment deposits shall be removed when they reach approximately one-half the height of the sedimentation control measure.
- D. Any sediment deposits remaining in place after the sedimentation control measure is no longer required shall be dressed to conform to the existing grade, prepared and seeded.

3.06 REMOVAL AND CLEANUP

- A. All temporary erosion control facilities when ordered by the Engineer shall be removed in a neat and workmanlike manner, and shall also include removal and disposal of accumulated silt.
- B. Sediment deposits are to be removed when they reach approximately one-half the height of the device, i.e. silt fence, hay bales, etc. Accumulations of one-half of the wet storage volume in any temporary sediment trap will be used as criteria for commencement of cleaning operation. Disposal of materials removed during cleaning

operations shall be the responsibility of the Contractor. Dispose material off-site or as directed by the Engineer.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. Silt Fence will be measured for payment by the actual number of linear feet of the product installed and accepted. The measured length shall be from end to end along the centerline through all sections of fencing placed.
- B. Inlet Protection shall be measured by each catch basin that is protected by the device. Replacement of inlet sedimentation control device due to damage shall not be measured for payment.

4.02 PAYMENT

- A. Silt Fence shall be paid for at the contract unit price per linear foot for "Silt Fence", complete in place which price shall include all materials, equipment, tools and labor incidental thereto.
- B. Inlet Protection shall be paid for at the contract unit price per each for "Inlet Protection", which price shall include all materials, equipment, tools and labor incidental to the installation, maintenance, replacement, removal and disposal of the system and surplus material.

END OF SECTION

SECTION 01 57 00 TEMPORARY CONTROLS - ANTI-TRACKING APRON

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this specification covers furnishing and installing anti-tracking aprons as shown on the plans or as directed by the Engineer.

1.02 RELATED WORK

- A. Section 01 57 21 – Sedimentation Control System
- B. Section 01 57 26 – Dust Control
- C. Section 31 11 00 – Clearing & Grubbing
- D. Section 31 23 00 – Excavation and Fill
- E. Section 31 23 13 – Formation of Subgrade
- F. Section 31 37 00 – Riprap
- G. Section 31 11 23 – Processed Aggregate Base Course
- H. Section 32 91 19 – Topsoil Placement and Grading
- I. Section 32 92 00 – Turf and Grasses

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.

1.04 SUBMITTALS

- A. No submittals are required.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Crushed stone shall conform to the requirements of Form 819, Article M1.01.01, No. 4.
- B. Geotextile shall conform to the requirements of Form 819, Article M.08.01-19.

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

- A. The Contractor shall install all anti-tracking pads at the locations, to the dimensions and details shown on the plans or as directed by the Engineer.
- B. The Contractor shall maintain all anti-tracking pads to ensure effective, working order. If any pad becomes full of sediment or is otherwise rendered ineffective, the Contractor shall remove the contaminated stone and replace it with new stone or take other appropriate measures to ensure proper operation and intent.
- C. The Contractor shall immediately remove all sediment spilled, dropped, washed or tracked onto public right-of-way.
- D. The Contractor shall remove all anti-tracking pads completely when no longer required for the purpose intended.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. This work shall not be measured but will be paid at the contract lump sum price for "Anti-Tracking Apron".

4.02 PAYMENT

- A. This work shall be paid for at the contract lump sum price for "Anti-Tracking Apron" which price shall include installation, maintenance, removal, materials, tools, equipment and labor incidental thereto.

END OF SECTION

SECTION 01 57 26 SITE WATERING FOR DUST CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

- A. During the progress of the work, the Contractor shall conduct his operations and maintain the area of his activities so as to minimize the creation and dispersion of dust. If the Engineer decides that it is necessary to use water or calcium chloride for more effective dust control, the Contractor shall furnish and spread the material, as directed.

1.02 RELATED WORK

- A. Section 01 57 13 – Sedimentation Control System
- B. Section 31 11 00 – Clearing & Grubbing
- C. Section 31 23 00 – Excavation and Fill
- D. Section 31 23 13 – Formation of Subgrade
- E. Section 32 91 19 – Topsoil Placement and Grading
- F. Section 32 92 00 – Turf and Grasses

1.03 SUBMITTALS

- A. Submit material certification with specification for calcium chloride.

1.04 PRODUCT HANDLING

- A. Calcium chloride to be delivered in sealed bags.

PART 2 - PRODUCTS

2.01 CALCIUM CHLORIDE

- A. Calcium chloride shall conform to the requirements of ASTM Specification D98 and may be Type 1 or Type 2.
- B. Water for dust control shall be potable.

PART 3 - EXECUTION

3.01 WATER FOR DUST CONTROL

- A. Water trucks shall be capable of applying a uniform spread of water over the surface.
- B. A suitable device for a positive shut-off and for regulating the flow of water shall be located so as to permit positive operation control.
- C. Water shall be applied when directed by the Engineer.

3.02 CALCIUM CHLORIDE FOR DUST CONTROL

- A. Calcium chloride shall be applied only at the locations and at such times and in the amount as may be directed by the Engineer.
- B. It shall be spread in such manner and by such devices that uniform distribution is attained over the entire area on which it is ordered placed.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work which conforms to this Specification and is performed shall not be measured for separate payment, but shall be included as part of the general work.

4.02 PAYMENT

- A. This work will not be paid for separately, but shall be included as part of the general work, which shall include all materials, equipment, tools, labor, and work incidental thereto.

END OF SECTION

SECTION 01 71 13 MOBILIZATION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This item shall consist of all work necessary for the movement of personnel and equipment to the project site, and for the establishment of all field offices, buildings and other facilities necessary to the performance of the work.
- B. The Contractor shall provide all temporary facilities necessary for the proper completion of the work. Temporary facilities shall include but not be limited to contractor's water supply, electrical, telephone, and sanitary services. It is anticipated that a construction field trailer will not be necessary for this project.

1.02 RELATED WORK

- A. Not applicable

1.03 SUBMITTALS

- A. No submittals are required.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Not applicable.

PART 3 - EXECUTION

3.01 GENERAL

- A. Not applicable.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. This work shall not be measured but will be paid at the contract lump sum price for "Mobilization".

4.02 PAYMENT

- A. This This work shall be paid for at the contract lump sum price for "Mobilization" which price shall include all materials, equipment, tools, labor and all incidentals thereto.

END OF SECTION

SECTION 01 71 23 CONSTRUCTION LAYOUT

PART 1 – GENERAL

1.01 DESCRIPTION

- A. The work under this item shall consist of all construction layout and reference staking necessary for the proper control and satisfactory completion of all work on the project. Also included in this item is an as built survey of the site after completion of the project.

1.02 RELATED WORK

- A. Section 01 57 21 – Anti-Tracking Apron
- B. Section 04 20 00 – Unit Masonry
- C. Section 31 11 00 – Clearing & Grubbing
- D. Section 01 57 13 – Sedimentation Control System
- E. Section 31 23 13 – Formation of Subgrade
- F. Section 31 37 00 – Riprap
- G. Section 33 42 00 – Stormwater Drainage – Structures
- H. Section 33 42 00 – Stormwater Detention Basin
- I. Section 32 12 16 – Bituminous Concrete
- J. Section 32 31 13 – Chain Link Fence & Gates
- K. Section 32 32 13 – Cast in Place Concrete Retaining Wall
- L. Section 32 91 19 – Topsoil Placement and Grading

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.

1.04 SUBMITTAL

- A. No submittals are required.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Stakes shall be of the quality specified in Form 819, Article 9.80.02.

PART 3 - EXECUTION

3.01 GENERAL

- A. The work shall conform to Form 819, Article 9.80.03 except as amended below:
 - 1. Paragraph 1 of Article 9.80.03 is deleted.
 - 2. The Town shall provide to the Contractor all control points and bench marks in the field necessary for the prosecution of the work.
 - 3. A digital copy of the contract plans will be furnished in AutoCAD format to the contractor upon request.
 - 4. Contractor shall be responsible for all construction layout and staking.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work which conforms to this Specification and is performed shall not be measured for separate payment, but shall be included as part of the general work. work shall not be measured but will be paid for at the contract lump sum price. Fifty percent of this item will be certified for payment when 10% of the contract is complete. Seventy-five percent of this item will be certified for payment when 30% of the contract is complete. One-hundred percent of this item will be certified for payment when 50% of this contract is complete.

4.02 PAYMENT

- A. This work shall be paid for at the contract lump sum price for "Construction Layout" which price shall include materials, equipment, tools, labor and all incidentals thereto.

END OF SECTION

SECTION 02 41 00 DEMOLITION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The work of this specification includes, but is not limited to, the demolition and offsite disposal of existing structures, scale, excavated material, etc. in accordance with the plans, these specifications or as directed by the Engineer.

1.02 RELATED WORK

- A. Section 01 57 13 – Sedimentation Control System
- B. Section 31 11 00 – Clearing & Grubbing

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Not applicable.

PART 3 - EXECUTION

3.01 GENERAL

- A. Remove all existing structures and/or materials specified on plans.

3.02 CONSTRUCTION METHODS

- A. Unless otherwise directed, all work shall comply with Form 819 Article 9.99.03
- B. Comply with all applicable regulations for disposal of materials. On-site burning will not be permitted. All material shall be disposed of off-site unless otherwise specified by the plans or directed by the Engineer.

- C. Protect existing utilities.
- D. Protect horizontal and vertical control points.
- E. Install erosion control devices prior to demolition operations, as applicable or as directed by owner/engineer.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. This work shall not be measured but shall be paid for at the contract lump sum price. Off site disposal of demolition debris and all objectionable material shall not be measured separately for payment, but shall be included in the work.

4.02 PAYMENT

- B. This work shall be paid for at the contract lump sum price for "Demolition" which price shall include materials, equipment, tools, labor and all incidentals thereto.

END OF SECTION

SECTION 02 61 16
WASTE MATERIAL DISPOSAL

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Work under this item shall consist of the loading, transportation and final off-site disposal/recycling/treatment of all excavated waste materials (excluding dewatering fluids), which have been generated from excavation activities within project limits. The materials, after proper characterization by the Contractor, shall be loaded, transported to and managed of at a permitted solid waste disposal or resource recovery facility.
- B. The Contractor must identify an appropriately permitted solid waste disposal or resource recovery facility in order to properly manage the waste materials generated from this work.

1.02 RELATED WORK

- A. Section 03 40 00 – Precast Concrete Retaining Wall
- B. Section 31 23 00 – Excavation and Fill
- C. Section 31 23 13 – Formation of Subgrade

1.03 SUBMITTALS

- A. The Contractor shall submit in writing to the Engineer, for review and approval, prior to the excavation of waste materials:
 - A letter listing the name of the waste disposal facility that the Contractor will use to receive excavated wastes from this Project.
 - A letter listing the name(s) of the waste transporter(s) that the Contractor will use to transport excavated wastes from this Project.
 - A copy of the proposed disposal facility's application form, acceptance criteria, and sampling frequency requirements for waste characterization, as applicable.
 - A copy of the proposed disposal facility's permit and a certified statement that it can accept the materials generated from this project.

1.04 APPLICABLE REGULATIONS

- A. In order to prevent environmental pollution arising from the construction activities related to the performance of this Agreement, the Contractor and his subcontractors shall comply with all applicable Federal, State, and local laws and regulations

concerning waste material disposal, as well as the specific requirements stated in this Section and elsewhere in the Specifications.

- B. The Contractor is advised that the disposal of excess excavated material in wetlands, stream corridors, and plains is strictly prohibited even if the permission of the property owner is obtained. Any violation of this restriction by the Contractor or any person employed by him, will be brought to the immediate attention of the responsible regulatory agencies, with a request that appropriate action be taken against the offending parties. Therefore, the Contractor will be required to remove the fill at his own expense and restore the area impacted.

PART 2 – PRODUCTS

- A. Not Applicable

PART 3 - EXECUTION

3.01 GENERAL

- A. All excavated waste materials shall be placed in waste collection containers and immediately covered when not actively filling to prevent potential issues with odors and vectors.

3.02 WASTE DISPOSAL

- A. All full waste containers shall be removed from the site within twenty-four hours and properly managed at an offsite disposal facility.
- B. Disposal of all excavated waste materials shall be by the Contractor at an appropriately permitted, offsite waste disposal facility at his own expense. If any waste or surplus material is dumped in unauthorized areas, the Contractor shall remove the material and restore the area to the condition of the immediate adjacent undisturbed area. The Contractor is responsible for any fines associated with improper disposal of waste material.
- C. The Contractor shall obtain and complete all paperwork necessary to arrange for material disposal, including disposal facilities waste profile sheets. It is solely the Contractor's responsibility to coordinate the disposal of excavated waste materials with the selected and approved disposal facility(s).
- D. Upon receipt of the final approval from the facility, the Contractor shall arrange for the loading, transport and disposal of the materials in accordance with all Federal and State

regulations. No claim will be considered based on the failure of the Contractor's disposal facility(s) to meet the Contractor's production rate or for the Contractor's failure to select sufficient facilities to meet its production rate.

- E. All waste manifests, materials shipping records logs, or bills of lading utilized to accompany the transportation of the waste materials shall be prepared by the Contractor and signed by an authorized Project representative, as Generator, for each load of material that leaves the site. The Contractor shall forward the appropriate original copies of all manifests, materials shipping records logs, or bills of lading to the Engineer the same day the material leaves the Project site.
- F. A load-specific certificate of disposal and weight ticket, signed by the authorized agent representing the waste disposal facility, shall be obtained by the Contractor and promptly delivered to the Engineer for each load.
- G. Disposal of all construction waste materials, including but not limited to, refuse, demolition waste material, muck, wood, rock, boulders, floating debris, trash, garbage, etc. that are not suitable for reuse at the site, shall be by the Contractor at a appropriately permitted, offsite waste disposal facility at his own expense. If any waste or surplus material is dumped in unauthorized areas, the Contractor shall remove the material and restore the area to the condition of the immediate adjacent undisturbed area. The Contractor is responsible for any fines associated with improper disposal of waste material.
- H. No materials shall be burned at the site.

3.02 MATERIAL TRANSPORTATION

- A. In addition to all pertinent Federal, State, and local laws or regulatory agency policies, the Contractor shall adhere to the following precautions during the transport of waste materials off-site:
 - 1. Transported waste materials are to be covered sufficiently to preclude the loss of material during the transport prior to leaving the site and are to remain covered until the arrival at the selected treatment/recycling/disposal facility.
 - 2. All vehicles departing the site are to be properly logged to show the vehicle identification, driver's name, time of departure, destination, and approximate volume and contents of material.

3. No materials shall leave the site unless a disposal facility willing to accept all of the material being transported has agreed to accept the type and quantity of waste.

3.03 EQUIPMENT DECONTAMINATION

- A. All equipment shall be provided to the work site free of gross contamination. The Engineer may prohibit from the site any equipment that in his opinion has not been thoroughly decontaminated prior to arrival. Any decontamination of the Contractor's equipment prior to arrival at the site shall be at the expense of the Contractor. The Contractor is prohibited from decontaminating equipment on the Project that has not been thoroughly decontaminated prior to arrival.
- B. The Contractor shall furnish labor, materials, tools and equipment for decontamination of all equipment and supplies that are used to handle excavated waste materials. Decontamination shall be conducted at an area designated by the Engineer and shall be required prior to equipment and supplies leaving the Project, between stages of the work, or between excavation or handling of non-controlled and controlled materials.
- C. The Contractor shall use dry decontamination procedures. Residuals from dry decontamination activities shall be collected and managed as excavated waste materials. If the results from dry methods are unsatisfactory to the Engineer, the Contractor shall modify decontamination procedures as required.
- D. The Contractor shall be responsible for the collection and treatment/recycling/disposal of any liquid wastes that may be generated by its decontamination activities in accordance with applicable regulations.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The removal of existing landfill material shall conform to this Specification and shall be measured in cubic yards. Removal of waste material will be required to install retaining wall, canopy foundations, associated backfill materials.

4.02 PAYMENT

- A. This work shall be paid for at the contract unit price per cubic yard for "Waste Material Disposal", which shall include all materials, equipment, tools, labor, and work incidental thereto.

END OF SECTION

SECTION 03 30 00 CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - 1. Cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures and finishes for the following applications:
 - a. Footings for Canopy.

1.02 RELATED WORK

- A. Section 03 48 13 – Precast Concrete Bollards
- B. Section 03 33 10 – Concrete Pads & Sidewalks
- C. Section 05 12 00 – Steel Canopy
- D. Section 32 11 23 – Processed Aggregate Base Course
- E. Section 32 12 16 – Bituminous Concrete

1.03 SUBMITTALS

- A. Product Data: For product indicated.
- B. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
 - 1. Indicate amounts of mixing water to be withheld for later addition at Project site.
 - 2. Indicate amount of fly ash in the mix.
- C. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement. Comply with ACI Manual of Standard Practice for Detailing Reinforced Concrete Structures.
 - 1. Blockouts for Architectural Joint Systems: Indicate blockouts and coordination with architectural joint systems

- D. Material Test Reports: For the following, from a qualified testing agency, indicating compliance with requirements:
 - 1. Aggregates.
- E. Material Certificates: For each of the following, signed by manufacturers:
 - 1. Cementitious materials.
 - 2. Admixtures.
 - 3. Form materials and form-release agents.
 - 4. Steel reinforcement and accessories.
 - 5. Waterstops.
 - 6. Curing compounds.
 - 7. Floor and slab treatments.
 - 8. Bonding agents.
 - 9. Adhesives.
 - 10. Vapor retarders.
 - 11. Semirigid joint filler.
 - 12. Joint-filler strips.
 - 13. Repair materials.

1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94 requirements for production facilities and equipment.
- B. Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated, as documented according to ASTM E 548.
 - 1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-01 or an equivalent certification program.
 - 2. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician – Grade I. Testing Agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician - Grade II.
- C. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from one source, and obtain admixtures through one source from a single manufacturer.
- D. Welding: No welding of reinforcing will be allowed.

- E. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
1. ACI 301, "Specification for Structural Concrete."
 2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."
 3. ACI 318, "Building Code Requirements for Reinforced Concrete".
 4. Concrete Reinforcing Steel Institute (CRSI), "Manual of Standard Practice".
 5. ACI 304, "Recommended Practice for Measuring, Mixing Transporting, and Placing Concrete".
 6. ACI 305, "Hot Weather Concreting".
 7. ACI 306, "Cold Weather Concreting".
 8. ACI 315, "Details and Detailing of Concrete Reinforcement".
 9. ACI 347, "Recommended Practice for Concrete Formwork".
 10. ACI 211, "Recommended Practice for Selecting Proportions for Normal and Heavyweight Concrete".
 11. ACI 214, "Recommended Practice for Evaluation of Compressive Test Results of Concrete".
 12. ACI 302, "Guide for Concrete Floor and Slab Construction".
 13. ACI 201, "Guide to Durable Concrete".
- F. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.
- G. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01.
1. Before submitting design mixtures, review concrete design mixture and examine procedures for ensuring quality of concrete materials. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:
 - a. Contractor's superintendent.
 - b. Independent testing agency responsible for concrete design mixtures.
 - c. Ready-mix concrete manufacturer.
 - d. Concrete subcontractor.
 2. Review special inspection and testing and inspecting agency procedures for field quality control, concrete finishes and finishing, cold- and hot-weather concreting procedures, curing procedures, construction contraction and isolation joints, and joint-filler strips, semirigid joint fillers, forms and form removal limitations, shoring and reshoring procedures, vapor-retarder installation, anchor rod and anchorage device installation tolerances, steel reinforcement installation, floor and slab flatness and levelness measurement, concrete repair procedures, and concrete protection.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage. Avoid damaging coatings on steel reinforcement.
- B. Waterstops: Store waterstops under cover to protect from moisture, sunlight, dirt, oil, and other contaminants.

1.06 PROJECT CONDITIONS

- A. Protection of footings against freezing: Cover completed work at footing level with sufficient temporary or permanent cover as required to protect footings and adjacent subgrade against possibility of freezing, maintain cover for time period as necessary.
- B. Protect adjacent finish materials against spatter during concrete placement.

1.07 STORAGE OF MATERIALS

- A. Metal Reinforcement: Store on wood mud sills, off ground. Keep clean of dirt. Provide proper drainage of groundwater.

PART 2 - PRODUCTS

2.01 CONCRETE MATERIALS

- A. Cement: shall be American-made Portland Cement, free from water soluble salts or alkalis which will cause efflorescence on exposed surfaces. Portland Cement shall be Type II, ASTM C150. Use only one brand of cement for each type of cement throughout project. Contractor shall be responsible for whatever steps are necessary to insure that no visual variations in color will result in exposed concrete and shall place on order and secure in advance a sufficient quantity of this cement to complete concrete work specified herein.
 - 1. Fly Ash: ASTM C 618 Standard Specification for Fly Ash and Raw or Calcined Natural Pozzolan for Users as a Mineral Admixture in Portland Cement Concrete. ASTM C 311, Standard Methods of Sampling and Testing Fly Ash and Natural Pozzolans for Use as a Mineral Admixture in Portland Cement Concrete.
 - 2. Ground Granulated Blast-Furnace Slag: ASTM C 989, Ground Granulated Blast-Furnace Slag for Use in Concrete Mortars. Grade 100 or 120. Standard Practice ACI 226.R1, Ground Granulated Blast-Furnace Slag as a Cementitious Constituent in Concrete.
- B. Normal weight Fine Aggregate: shall be washed, inert, natural sand conforming to ASTM C33 and following additional requirements:

Sieve	Retained Percent
#4	0 - 5
#16	25 - 40
#50	70 - 87
#100	93 - 97
Fineness Modulus	2.80 (Plus/Minus 0.20)
Organic	Plate 2 maximum
Silt	2.0 percent maximum
Mortar Strength	100 percent minimum compression ratio
Soundness	5 percent maximum loss, magnesium sulfate, five cycles

- C. Normal weight Coarse Aggregate: shall be well graded crushed stone or washed gravel conforming to ASTM C33 and the following additional requirements:

Designated Size (inches)	3	2	1-1/2	1	3/4	1/2	3/8
F.M.(+/-0.20)	7.95	7.45	7.20	6.95	6.70	6.10	4.50

Organic	Plate 1 maximum
Silt	1.0 percent maximum
Soundness	5 percent maximum loss, magnesium sulfate, five cycles

Maximum designated sizes for normal weight coarse aggregate to be used in concrete sections shall be as noted below, except that sizes shall also be chosen in conjunction with required clearances.

1. One and one-half inches for sections over ten inches in thickness.
2. One inch for sections more than eight and up to ten inches in thickness.
3. Three-quarter inch for sections more than three and up to eight inches in thickness.

- D. Concrete Fill for Steel Stair and Landing Pans: Shall be composed of 1:2:2 mix with three-eighths inch maximum size normal weight aggregate and shall be placed with a 0 inches to 1 inch slump.

- E. Water: Shall be from approved source, potable, clean and free from oils, acids, alkali, organic matter and other deleterious material.

- F. Admixtures:

1. Water-reducing agent: ASTM C 494, Type A, and containing not more than 0.1 percent chloride ions by weight of cement.

- a. "WRDA" - W.R. Grace & Co.
 - b. "PDA25" - Protex Industries, Inc.
 - c. "Pozzolith 344H" - Master Builder's Co.
 - d. Note: Water-reducing agent shall be by same manufacturer as air-entraining agent.
2. Air-entraining agent: ASTM C 260, certified by manufacturer to be compatible with other required admixtures.
- a. "DAREX AEA" - W.R. Grace & Co.
 - b. "PROTEX AEA" - Protex Industries
 - c. "MB-VR" or "MB-AE" - Master Builder's Co.
3. Superplasticizer: High-range water-reducer conforming to ASTM C494, Type F or Type G.
4. Water-Reducing; Non-Chloride Accelerator Admixture: ASTM C 494, Type C or E, and containing not more than 0.1 percent chloride ions by weight of cement.

Products: Provide one of the following:

- a. "Accelguard 80", Euclid Chemical Co.
 - b. "Pozzotec 20", Master Builders
 - c. "Daraset Accelerator", W. R. Grace
5. Water-Reducing, Retarding Admixture: ASTM C 494, Type D., and containing not more than 0.1 percent chloride ions by weight of cement.

Products: Provide one of the following:

- a. "Pozzolith 100XR", Master Builders
 - b. "Eucon Retarder 75", Euclid Chemical Co.
 - c. "Daratard", W. R. Grace
6. Concrete Waterproofing admixture: Concrete moisture proofing admixture for interior slab-on-grade construction. (Note: sheet vapor retarder must be compatible with concrete waterproofing admixture and conform to ASTM E 1745-09 Class A vapor barrier maintaining a permeance of 0.01 US perms (grains/ft²*hr*inHg) or less. Sheet vapor barrier shall include manufacturer's recommended adhesive or pressure-sensitive tape.) The Manufacturer shall issue a 10 year warranty, that the product will stop moisture emission from the concrete, and such warranty shall include labor and material for repair, removal and replacement of a moisture remediation system and replacement of flooring materials like or if not available exceeding the quality of the original products.

Products: Provide one of the following:

- a. Barrier-1 Admixture, Barrier-1, Inc.
- b. Concure Systems Admixture, Concure Systems.
- c. Moxie 1800 Super-Admix, Moxie International

7. Prohibited Admixtures: Calcium chloride thyocyanates of admixtures containing more than 011 percent chloride ions are not permitted.

2.02 CONCRETE MIXTURES

- A. The Contractor shall recommend, on the basis of trial mixes and strength curves specified below, design mixes for each type and strength of concrete. The Testing Agency will verify that the proposed mix designs conform to all specification requirements.
- B. Sufficient materials for concrete mix design shall be furnished by Contractor not less than five weeks before use. Duplicate small samples plainly and neatly labeled with source, where proposed to be used, date, and name of collector shall be provided and presented to Testing Agency for permanent reference.
- C. Mixes shall be designed in accordance with "Method 1" of ACI 301, and the requirements of this Section. All concrete is normalweight unless specifically designated otherwise; air-dry weight not to exceed 150 lbs. per cubic foot.
- D. Limiting values shown below apply for specific strengths of concrete with coarse aggregates less than one and one-half inches unless noted otherwise in TABLE A below.

TABLE A

Use compressive strengths of concrete as shown on the drawings and classes of concrete generally as tabulated below.

1. Class I: All interior concrete not specifically mentioned.
2. Class II: Interior slabs on grade.
3. Class III: All exterior concrete, including but not limited to, walls and foundations.
4. Class IV: Concrete fill on metal deck.
5. Class V: Concrete subject to deicers.
6. Class VI: Concrete framing members.
7. Class VII: Concrete site work, including curbs and sidewalks.
8. Class VIII: Concrete pavement.
9. Class IX: Concrete columns and Piers.

Class Requirements	Strength @ 28 Days	Maximum Water/Cement	Slump	Special
I	3000 PSI	0.54	4"	Note (1)
II	4000 PSI	0.45	3"	Note (3) Note (4) Note (6)
III	4000 PSI	0.54	4"	Note (1) Note (2)
IV	3500 PSI	0.45	3"	Note (1) Note (3) Note (4) Note (6)
V	4000 PSI	0.40	3"	Note (1) Note (2) Note (3)
VI	4000 PSI	0.45	3"	Note (1) Note (3) Note (4)
VII	4500 PSI	0.45	4"	Note (1) Note (2)
VIII	4500 PSI	0.45	4"	Note (1) Note (2) Note (5)
IX	4000 PSI	0.45	4"	Note (1) Note (2) Note (3)

Table A (Continued)

Slump values are those which will be measured at the point of discharge and prior to the addition of super-plasticizer.

Note (1) Use water reducing admixture

Note (2) Use air-entraining admixture

Note (3) High range water reducing admixture (super-plasticizer) may be used to increase slump to a maximum value of 8".

Note (4) Limit air content to 3%.

Note (5) Pigmented concrete with stamped finish, Color to be selected by Landscape Architect.

Note (6) Concrete Waterproofing Admixture.

- E. In all slabs and walls exposed to weather, all concrete shall contain the approved air-entraining admixture as per manufacturer's written instructions, to provide entrained air, by volume, in the cured concrete within 4.5 to 6.5 percent.
- F. Water-Reducing Admixture - The approved water-reducing admixture shall be used in all concrete, in accordance with manufacturer's written instructions.
- G. Concrete slabs, including slabs on grade, shall have a maximum water cement ratio of 0.45.
- H. The approved superplasticizer shall be used in all concrete slabs, including slabs on grade.
- I. Water content and cement content of concrete to be used in work shall be based on curve showing relation between water content, cement content, and 7 and 28 day compressive strengths of concrete made using proposed materials. Curves shall be determined by four or more points, each representing an average of at least three test specimens at each age, and shall have range of values sufficient to yield desired data, including all compressive strengths required by Contract Documents, without extrapolation. Design mix of concrete to be used in work, as determined from curve, shall correspond to following test strengths (TABLE B) obtained in laboratory trial mixtures, but in no case shall resulting mix conflict with limiting values as specified in TABLE A.

TABLE B

Minimum Strength of Lab Trial Mixes (psi)

Design Strength	Trial Mix Strength	
	7-days	28-days
3000	2700	3750
3500	3150	4375
4000	3800	5000
5000	4750	5750
6000	5700	6800

- J . Any deviation from approved mix design, which Contractor deems desirable under certain project conditions, will not be allowed without written approval of the Engineer. Cost of any additional testing by Testing Agency associated therewith shall be paid for by Contractor.

K.Evaluation and Acceptance of Concrete

1. The evaluation and acceptance of concrete shall be governed by "Building Code Requirements for Reinforced Concrete" (ACI 318).
2. In general, the strength level of the concrete will be considered satisfactory if the averages of all sets of three consecutively tested concrete specimens equal or exceed the required strength and no individual strength test result falls below the required strength by more than 500 PSI.
3. If the above requirements are not met, and if the likelihood of low strength concrete is confirmed, additional tests shall be performed at the Contractor's expense as outlined in Chapter 4 of the ACI 318 Code or other action appropriate to the circumstances and as determined by the Architect/Engineer shall be taken to assure the load-carrying capacity of the structure under design loads.

2.03 FORM MATERIALS

- A. Construct formwork to shapes, lines, and dimensions required, plumb and straight, secured and braced sufficiently rigid to prevent deformation under load, and sufficiently tight to prevent leakage, all in conformance with ACI Standard 347, "Recommended Practice for Concrete Formwork".
- B. Formwork for exposed concrete shall be medium-density plastic overlaid plywood, 5/8" minimum thickness; for concealed concrete shall be "Plyform" plywood, 5/8" minimum thickness.

- C. Formwork for pan joists shall be re-usable, fiberglass forms.
- D. Chamfer Strips: Half-inch, 45 degree poplar wood strips, nailed six inches on center, and installed in inside corners of all forms for all exterior corners and edges of permanently exposed concrete, unless otherwise directed by the Engineer.
- E. Form Ties and Spreaders: Richmond Tyscrus by Richmond Screw Anchor Co.; Superior-ties by Superior Concrete Accessories, Ind.; or Sure-Grip Ties by Dayton Sure-Grip and Shore Co. Wire ties shall not be used. Ties for foundation walls shall be snap-ties or type specified above with removal cones and shall incorporate water seal washer. Ties shall be arranged in a symmetrical manner.
- F. Form Release Agent: Non-staining and non-emulsifiable type, or equal approved by the Engineer. Form release agent shall be biodegradable and shall not impart any stain to concrete nor interfere with adherence of any material to be applied to concrete surfaces.

2.04 REINFORCEMENT AND ACCESSORIES

- A. Reinforcing Steel Bars: shall be newly rolled billet steel conforming to ASTM A615 Grade 60. Bars shall be bent cold.
- B. Welded Wire Fabric: shall conform to ASTM A185.
- C. All embedded items shall be hot-dip galvanized after fabrication in accordance with ASTM A123.

All hot-dip galvanized steel shall be inspected for compliance with ASTM A123 and shall be marked with a stamp that indicates the number of ounces of zinc per square foot of steel. A notarized Certificate of Compliance with all of the above shall be required from the galvanizer.

- D. Reinforcement Accessories: shall conform to Product Standard PS7-766, National Bureau of Standards, Department of Commerce, Class C, as produced by Superior Concrete Accessories, Inc.; Dayton Sure-Grip Co.; or R.K.L. Building Specialties Co., Inc. Reinforcement accessories shall include spacers, chairs, ties, slab bolsters, clips, chair bars, and other devices for properly assembling, placing, spacing, supporting, and fastening reinforcement.
- E. Tie wire shall be annealed wire of sufficient strength for intended purpose, but not less than No. 18 gage. Metal supports shall be of such type as not to penetrate surface of formwork and show through surface of concrete. Accessories touching interior formed surfaces exposed to view shall have not less than 1/8 inch of plastic between metal and

concrete surface. Plastic tips shall extend not less than 1/2 inch up on metal legs. Individual and continuous slab bolsters and chairs shall be of type to suit various conditions encountered and must be capable of supporting 300 pound load without damage or permanent distortion.

2.05 MISCELLANEOUS MATERIALS

- A. Grout: shall be ready-to-use metallic aggregate product requiring only addition of water at job site such as "Embeco Pre-mixed Grout" by Master Builder's; "Vibro-Foil Ready-Mixed" by W.R. Grace & Co.; or "Ferrolith G" by Sonneborn Building Products, Inc. Grout shall be easily workable and shall have no drying shrinkage at any age. Compressive strength of grout (2" x 2" cubes) shall not be less than 5000 psi at 7 days, and 7500 psi at 28 days.
- B. Membrane Curing Compound: shall conform to ASTM C309, Type 1. Product used shall be shown to be compatible with the later application of coatings. Curing compound shall not be used on any floor slab scheduled to receive an adhered floor finish.
- C. Chemical Hardener: All exposed concrete slabs shall be hardened with three applications of fluosilicate chemical hardener followed by two applications of clear acrylic concrete sealer by Sonneborn Division, ChemRex Inc. "Lapidolith"; or equal product by W.R. Meadows Co. or Concrete Service Material Company.
- D. Bonding Compound: Acrylic or Styrene Butadiene:
- Products: Provide one of the following:
- "J-40 Bonding Agent", Dayton Superior Corp.
 - "Everbond", L & M Construction Chemicals
 - "SBR Latex", Euclid Chemical Company
 - "Daraweld C", W. R. Grace Company
- E. Epoxy Adhesive: ASTM C 881, two component material suitable for use on dry or damp surfaces. Provide material "Type", "Grade", and "Class" to suite project requirements.
- Products: Provide one of the following:
- "Thiopoxy", W. R. Grace Co.
 - "Sikadur Hi-Mod", Sika Chemical Co.
 - "Euco Epoxy 452 or 620", Euclid Chemical Co.
- F. Structural Repair Compound: The Euclid Chemical Company's "Euco Epoxy #460 or #463, Sika Corporation's "Colma-Dur LV", or L & M Construction Chemical's "Epopatch".
- G. Absorption Cover: Burlap cloth made from jute or kenaf, weighting approximately 9 oz. per sq. yd., complying with AASHTO M 182, Class 2.

- H. Moisture-Retaining Cover: One of the following, complying with ASTM C 171.
1. Waterproof paper
 2. Polyethylene film
 3. Polyethylene-coated burlap
- I. Premoulded Joint Filler: Homex 300 expansion joint filler, ¼" thick by full depth of slab for building slabs, ½" thick by full depth of slab for site work slabs and pavement, as manufactured by Homasote Company. Equivalent non-bituminous material may be used if approved by the Architect/Engineer.
- J. Urethane Joint Filler: Self leveling two part elastomeric joint filler.
Products: Provide one of the following:
1. "Sikaflex-2c NS/SL", Sika Corporation
 2. "3200 Hand-Mix", The Burke Company
 3. "Mark-262", Poly-Carb, Inc.
- K. Compressible Backup Material: Closed cell polyethylene foam rod equivalent to Ethafoam sealant backer rod, manufactured by Dow Chemical Company.
- L. Dovetail Slots: Shall be 22 gage material.
Products: Provide one of the following:
1. "D/A 100", Dur-O-Wal
 2. "AA 100", AA Wire Product Company
 3. "No. 100 Standard", Heckmann
- M. PVC Waterstop: Provide polyvinyl Chloride waterstops conforming to Corps of Engineers CRD-C 572 flat, dumbbell type or centerbulb type waterstops at construction joints and other joints as indicated. Size to suite the joint.
- Manufacturer: Subject to compliance with requirements, provide products of one of the following:
1. Anti-Hydro Waterproofing Co.
 2. The Burke Co.
 3. Harbour Town Products
 4. W. R. Meadows
- N. Below Grade Wall Waterproofing: As specified in Division 07.
- O. Wall Joint Waterproofing: Volclay Hydrobar tube waterproofing manufactured by American Colloid Company.

- P. Joint Seal: Trowel grade form of volclay bentonite with a consistency similar to grease manufactured by American Colloid Company.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Examine all work prepared by others to receive work of this Section and report any defects affecting installation to the Contractor for correction. Commencement of work will be construed as complete acceptance of preparatory work by others.

3.02 HANDLING, STORAGE, AND PROTECTION OF MATERIALS

- A. Handle and store materials separately in such manner as to prevent intrusion of foreign matter, segregation, or deterioration. Do not use foreign materials or those containing ice. Remove improper and rejected materials immediately from point of use. Cover materials, including steel reinforcement and accessories, during construction period. Stockpile concrete constituents properly to assure uniformity throughout project.

3.03 FORMWORK

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.
- C. Construct forms tight enough to prevent loss of concrete mortar.
- D. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
1. Install keyways, reglets, recesses, and the like, for easy removal.
 2. Do not use rust-stained steel form-facing material.
- E. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.

- F. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.
- G. Chamfer exterior corners and edges of permanently exposed concrete.
- H. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.
- I. Set and maintain formwork to insure complete concrete work within tolerance limits listed in ACI 347 latest edition, "Recommended Practice for Concrete Formwork", and with following additional requirements:
 - 1. Maximum variations from plumb:
 - a. In surfaces of columns and walls:

In any 10 feet of length	1/4 inch
Maximum for entire length	1/2 inch
 - 2. Maximum variations from established position in plan shown on the drawings:

Column	1/2 inch
Walls	3/4 inch
 - 3. Variations in cross-sectional dimensions of columns and beams and in thickness of slabs and walls.

Minus	1/8 inch
Plus	1/4 inch
- J. For a minimum of one hour prior to concrete placement, wet forms continuously with water to swell forms in order to prevent leakage of concrete matrix and to minimize absorption of concrete matrix water by form materials. This requirement may be waived for those specific cases where the Engineer deems it unnecessary or impractical. Care must be exercised to prevent a build-up of water at base of forms.
- K. Before form materials can be re-used, surfaces that will be in contact with freshly cast concrete shall be thoroughly cleaned, damaged areas repaired and projecting nails withdrawn. Re-use of form material shall be subject to approval by the Engineer. Follow form liner manufacturer recommendation on reuse of form liner.

- L. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.04 PLACING OF REINFORCEMENT

- A. Reinforcement shall be placed in accordance with requirements of CRSI 93, "Recommended Practice for Placing Reinforcing Bars" and CRSI 93, "Recommended Practice for Placing Bar Supports" and with further requirements below.
- B. Reinforcement shall be accurately placed in accordance with Contract Documents and shall be firmly secured in position by wire ties, chairs, spacers, and hangers, each of type approved by the Engineer.
- C. Bending, welding or cutting reinforcement in field in any manner other than as shown on Drawings, is prohibited, unless specific approval for each case is given by the Engineer.
- D. Reinforcement shall be continuous through construction joints unless otherwise indicated on Drawings.
- E. Reinforcement shall be spliced only in accordance with requirements of Contract Documents or as otherwise specifically approved by the Engineer. Splices of reinforcement at points of maximum stress shall generally be avoided. Welded wire fabric shall lap six inches or one space plus two inches whichever is larger, and shall be wired together.
- F. At time concrete is placed, reinforcement shall be free of excessive rust, scale, or other coatings that will destroy or reduce bond requirements. Reinforcement expected to be exposed to weather for a considerable length of time shall be painted with a heavy coat of cement grout. Protect stored materials so as not to end or distort bars in any way. Bars that become damaged will be rejected.
- F. Before concrete is cast, check all reinforcement after it is placed to insure that reinforcement conforms to Contract Documents and approved Shop Drawings. Such checking shall be done only by qualified experienced personnel. In addition, the Engineer shall be notified at least 36 hours prior to concrete placement and given opportunity to inspect completed reinforcement and formwork before concrete placement. Prior approval of Shop Drawings shall in no way limit the Engineer's right to demand modifications or additions to reinforcement or accessories.

3.05 JOINTS

- A. Construction and control joints indicated on Drawings are mandatory and shall not be omitted.

- B. Joints not indicated or specified shall be placed to least impair strength of structure and shall be subject to approval of the Engineer.
- C. Provide keyways at least 1-1/2" deep in construction joints in walls, slabs, and between walls and footings; accepted bulkheads designed for this purpose may be used for slabs.
- D. Place construction joints perpendicular to main reinforcement. Continue reinforcement across construction joints, except as otherwise indicated.
- E. Waterstops: Install waterstops in construction joints where indicated on the drawings in accordance with the manufacturer's recommendations. Each piece of premoulded waterstop shall be the maximum practicable length to limit the number of joints. Joint at intersections and at ends shall be made in accordance with the manufacturer's recommendations and shall develop effective watertightness equal to that of the continuous waterstop.
- F. Isolation Joints in Slabs-on-Ground: Construct isolation joints in slabs-on-ground at points of contact between slabs-on-ground and vertical surfaces, such as column pedestals, foundation walls, grade beams, and elsewhere as indicated, using 1/2" thick premoulded joint filler through full thickness of slab.
- G. Contraction (Control) Joints on Slabs-on-Ground: Construct contraction joints in slabs-on-ground to form panels of patterns as shown. Use saw cuts 1/8" x ¼ slab depth, unless otherwise indicated.
 - 1. Contraction Joints in unexposed floor slabs shall be formed by saw cuts as soon as possible after slab finishing as may be safely done without dislodging aggregate.
- H. If joint patterns not shown, provide joints not exceeding 15 feet in either direction and located to conform to bay spacing wherever possible (at column centerlines, half bays, third-bays), with equal or close to equal spacings in each direction.
- I. At exposed interior construction and contraction joints in floor slabs shall be filled with the specified urethane joint filler. Joint preparation and mixing and placing of the joint filler shall be in strict accordance with the directions of the manufacturer. Joints shall not be filled sooner than 28 days after slab placement. Carefully clean joints prior to filling with joint filler.

3.06 INSTALLATION OF EMBEDDED ITEMS

- A. Conform to requirements of ACI 318, paragraph 6.3, "Conduits and Pipes Embedded in Concrete", and as specified below.
- B. Install steel sleeves, embedded wall plates and similar items, furnished by other trades, at locations shown on the drawings.
- C. Anchor bolts for column baseplates shall be installed with templates provided. Vertical alignment and plan locations shall be maintained within one-sixteenth inches of the locations shown on the drawings.
 - 1. Inspection shall be performed by a surveyor licensed in the state the project is located. Certify compliance with shop drawings.
- D. No pipes or conduit of any kind is permitted to be installed in slabs in metal deck.

3.07 MIXING, CONSISTENCY, AND DELIVERY OF CONCRETE

- A. Concrete shall be ready-mixed, produced by plant acceptable to the Engineer. Hand or site mixing shall not be done. Constituents, including admixtures except certain corrosion inhibitors and superplasticizers, shall be batched at central batch plant. Admixtures shall be premixed in solution form and dispensed as recommended by manufacturer.
- B. Central plant and rolling stock equipment and methods shall conform with Truck Mixer and Agitator Standard of Truck Mixer Manufacturer's Bureau of National Ready-Mixed Concrete Association, and Contract Documents. Consistency of concrete at time of deposit shall be as follows:

Portion of Structure	Slump	
	Recommended	Max. Range
Walls columns	4"	3" - 5"
Slabs, beams	3"	2" - 4"

- C. Ready mixed concrete shall be transported to site in watertight agitator or mixer trucks loaded not in excess of rated capacities. Discharge at site shall be within one and one-half hours after cement was first introduced into mix. Discard cement not discharged within one and one-half hours and dispose of legally. Concrete with a temperature greater than 85 degrees F. shall not be placed. Central mixed concrete shall be plant mixed a minimum of five minutes. Agitation shall begin immediately after premixed concrete is placed in truck and shall continue without interruption until discharged.

Transit mixed concrete shall be mixed at mixing speed for at least ten minutes immediately after charging truck followed by agitation without interruption until discharged. Concrete shall be furnished by a single plant unless accepted by the Engineer in writing.

- D. Retempering of concrete which has partially hardened, that is, mixing with or without additional cement, aggregates, or water, will not be permitted.

3.08 PLACING CONCRETE

- A. Preplacement Inspection: Before placing concrete, inspect and complete formwork installation, reinforcing steel, and items to be embedded or cast-in. Notify other crafts to permit installation of their work, cooperate with other trades in setting such work. Moisten wood forms immediately before placing concrete where form coatings are not used.
- B. Remove water and foreign matter from forms and excavations and, except in freezing weather or as otherwise directed, thoroughly wet wood forms just prior to placing concrete. Place no concrete on frozen soil and provide adequate protection against frost action during freezing weather.
- C. To secure full bond at construction joints, surfaces of concrete already placed, including vertical and inclined surfaces, shall be thoroughly cleaned of foreign materials and laitance, roughened with suitable tools such as chipping hammers or wire brushes, and recleaned by stream of water or compressed air. Well before new concrete is deposited, joints shall be saturated with water. After free or glistening water disappears joints shall be given thorough coating of neat cement slurry mixed to consistency of very heavy paste. Surface shall receive coating of approximately one-eighth inch thick; this shall be scrubbed in by means of stiff bristle brushes. New concrete shall be deposited before neat cement dries or changes color.
- D. Do not place concrete having slump outside of allowable slump range.
- E. Transport concrete from mixer to place of final deposit as rapidly as practical by methods which prevent separation of ingredients and displacement of reinforcement, and which avoid rehandling. Deposit no partially hardened concrete. When concrete is conveyed by chutes, equipment shall be of such size and U-shaped design as to insure continuous flow in chute. Flat (coal) chutes shall not be employed. Chutes shall be of metal or metal lined and different portions shall have approximately same slope. Slope shall not be less than 25 degrees nor more than 45 degrees from horizontal and shall be such as to prevent segregation of ingredients. Discharge end of chute shall be provided with baffle plate or spout to prevent segregation. If discharge end of chute is more than five feet above surface of concrete in forms, spout shall be used, and lower and maintained as

- near surface of deposit as practicable. When operation is intermittent, chute shall discharge into hopper. Chute shall be thoroughly cleaned before and after each run and debris and any water used shall be discharged outside forms. Concrete shall not be allowed to flow horizontally over distances exceeding five feet.
- F. Concrete shall be placed in such manner as to prevent segregation, and accumulations of hardened concrete on forms or reinforcement above mass of concrete being placed. To achieve this end, suitable hoppers, spouts with restricted outlets and tremies shall be used as required.
- G. During and immediately after depositing, concrete shall be thoroughly compacted by means of internal type mechanical vibrators or other tools, or by spading to produce required quality of finish. Vibration shall be done by experienced operators under close supervision and shall be carried on only enough to produce homogeneity and optimum consolidation without permitting segregation of constituents or "pumping" of air. Vibrators used for normalweight concrete shall operate at speed at not less than 7,000 vpm and be of suitable capacity. Do not use vibrators to move concrete. Vibration shall be supplemented by proper wooden spade puddling to remove included bubbles and honeycomb adjacent to visible surfaces. At least one vibrator shall be on hand for every 10 cubic yards of concrete placed per hour, plus one spare. Vibrators shall be operable and on site prior to starting placement.
- H. Vertical lifts shall not exceed 18 inches. Vibrate completely through successive lifts to avoid pour lines. Vibrate first lift thoroughly until top of lift glistens to avoid stone pockets, honeycomb, and segregation.
- I. Concrete shall be deposited continuously, and in layers of such thickness that no concrete will be deposited on concrete which has hardened sufficiently to cause formation of seams and planes of weakness within section. If section cannot be placed continuously between planned construction joints, as specified, field joint and additional reinforcement shall be introduced so as to preserve structural continuity. The Engineer shall be notified in any such case.
- J. Cold joints, particularly in exposed concrete, including "honeycomb", are unacceptable. If they occur in concrete surfaces exposed to view, the Engineer will require that entire section in which blemish occurs be removed and replaced with new materials at Contractor's expense.
- K. When placing exposed concrete walls or columns, strike corners of forms rapidly and repeatedly from outside along full height while depositing concrete and vibrating.

- L. Chutes, hoppers, spouts, adjacent work, etc. shall be thoroughly cleaned before and after each run and water and debris shall be discharged outside form.

3.09 FINISHING OF UNFORMED CONCRETE SURFACES

- A. Smooth troweled finish: shall be provided where concrete flatwork is to be exposed in the finished work or is to receive resilient flooring materials.
 - 1. After floating, being first trowel finish operation using a power-driven trowel. Begin final troweling when surface produces a ringing sound as trowel is moved over surface. Consolidate concrete surface by final hand-troweling operation, free of trowel marks, uniform in texture and appearance, and with surface leveled to tolerances of $F_F 20 - F_L 17$. Grind smooth surface defects which would telegraph through applied floor covering system. For concrete slabs on metal deck level surface to a tolerance of $F_F 25$.
- B. Floated finish: shall be provided where concrete flatwork is to receive waterproofing membranes or setting beds for finished materials.
- C. Rough struck surface shall be provided at top of pedestals.
- D. Steel Broom Finish (with smooth edging): shall be provided at exterior concrete walks, pavements and steps. Sidewalks shall receive a broom finish perpendicular to the run of the sidewalk.
- F. Site curbs shall receive a rubbed and brushed finish.
- E. Contractor, at his own expense, shall level depressed spots and grind high spots in concrete surfaces which are in excess of specified tolerances. Leveling materials proposed for providing proper surface shall be approved by the Engineer.

3.10 REPAIRING OF UNFORMED CONCRETE SURFACES

- A. Tops of slabs and top of walls shall be repaired by using either same material as originally cast or by use of dry-pack material, as approved by the Engineer. Areas affected shall be chipped back square and to depth of one inch minimum. Hole shall then be moistened with water for a minimum of two hours, followed by brush coat of 1/16 inch thick cement paste. Immediately plug hole with concrete, or with dry pack material consisting of 1:1.5 mixture of cement and concrete sand mixed slightly damp to touch. Hammer dry-pack into hole until dense, and excess paste appears on surface. Finish patch flush and to same texture as surrounding concrete. For large repairs employ 1-1-2 mixture of cement, concrete sand and pea gravel at same dry-pack consistency.

3.11 CURING AND PROTECTION

- A. When concrete is placed at or below ambient air temperatures of 40 degrees F. or whenever in opinion of the Engineer, such or lower temperatures are likely to occur within 48 hours after placement of concrete, cold weather concreting procedures, according to ACI 306 and as specified herein, shall be followed. To this end, entire area affected shall be protected by adequate housing or covering, and heating. No salt, chemicals or other foreign materials shall be used in the mix to lower freezing point of concrete.
- B. Protect concrete work against injury from heat, cold, and defacement of any nature during construction operations.
- C. Concrete shall be treated and protected immediately after concreting or cement finishing is completed, to provide continuous moist curing above 50 degrees F. for at least seven days, regardless of ambient air temperatures.
- D. Concrete shall be wet cured for a minimum of 96 hours after placing and finishing.
- E. Curing compounds will not be permitted for slabs, and framed concrete structure.
- F. Keep permanent temperature record showing date and outside temperature for concreting operations. Thermometer readings shall be taken at start of work in morning, at noon, and again late in afternoon. Locations of concrete placed during such periods shall likewise be recorded, in such manner as to show any effect temperatures may have had on construction. Copies of temperature record shall be distributed daily to the Engineer.

3.12 HARDENER

- A. Prepare surfaces and apply surface hardener to all concrete floors not receiving resilient flooring, ceramic tile or membrane waterproofing.
- B. Prepare surface and apply special sealer system to all concrete flatwork and curbs exposed to the elements.

3.13 REMOVAL OF FORMWORK, SHORING AND RESHORING

- A. Contractor shall be responsible for proper removal of formwork, shoring, and reshoring.
- B. Forms shall be removed only after concrete has attained sufficient strength to support its shown weight, construction loads to be placed thereon and lateral loads, without damage to structure or excessive deflection.

- C. Forms and supports shall remain in place for not less than minimum periods of time noted below. These periods represent cumulative number of days or fractions thereof, consecutive unless otherwise approved by the Engineer during which time mean daily air temperature at surfaces of concrete is above 50 degrees F.
1. Vertical surfaces: concrete shall have reached 100 day-degrees* and shall have attained strength of not less than 30 percent of f'c. Where such forms also support formwork for slab or beam soffits, removal times for latter shall govern.
 2. Horizontal surfaces: except as noted below, concrete shall have reached 300 day-degrees* of curing and attained strength of not less than 60 percent of f'c.
 - a. Soffits of beams or girders shall remain supported and in place until concrete has attained 600 day-degrees*.
 - b. Forms and supports of floor slabs shall remain in place until concrete has reached 400 day-degrees*.

*Definition of day-degrees: Total number of days times mean daily air temperature at surfaces of concrete. For example, five days at temperature of 60 degrees F. equals 300 day degrees. Days or fractions of days in which temperature is below 50 degrees F. shall not be included in calculation of day-degrees.

- D. Form removal shall be so performed that reshores are placed at same time as stripping operations, and that no area larger than one-fourth of a slab panel is unsupported at any time.
- E. Any test cylinders required to verify the specified minimum strengths for form removal shall be field cured under the same conditions as the concrete they represent. Such cylinders and testing shall be at the Contractor's expense.

3.14 REPAIRING AND FINISHING OF FORMED AND ARCHITECTURAL CONCRETE SURFACES

- A. In accordance with the provisions of ACI 301, Chapter 10, all concrete shall have "smooth form finish".
- B. Intent of this Specification is to require forms, mixtures of concrete, and workmanship so that concrete surfaces will require no patching, except for plugging of tie holes. However, where patching is acceptable to the Engineer, procedure described below shall be followed.
- C. Defective concrete and honeycombed areas shall not be patched unless examined and approval is given by the Engineer. If such approval is received by Contractor, areas

involved shall be chipped down square and at least one inch deep to sound concrete by means of cold chisels or pneumatic chipping hammers. If honeycomb exists around reinforcement, chip to provide clear space at least three-quarter inch wide all around steel to afford proper ultimate bond thereto. For areas less than one and one-half inches deep, patch shall be made in same manner as described above for filling unformed concrete surfaces, care being exercised to use crumbly-dry (non-trowelable) mixtures and to avoid sagging. Thicker repairs shall require build-up in successive days, each layer being applied as described. To aid strength and bonding of multiple layer repairs, non-shrink, non-metallic aggregate shall be used as an additive as follows:

Materials	Volumes	Weights
Cement	1.0	1.0
Non-Metallic Aggregate	0.15	0.25
Sand	1.5	1.55

For very heavy (generally, formed) patches, pea gravel may be added to mixture and proportions modified as follows:

Materials	Volumes	Weights
Cement	1.0	1.0
Non-Metallic Aggregate	0.2	0.33
Sand	1.0	1.0
Pea Gravel	1.5	1.55

After hardening, rub lightly as described above for form tie holes.

1. Mortar for patching shall be same mix as above except aggregate shall pass a No. 14 sieve.
2. For all concrete to receive "smooth" finish, remove formwork fins and clean entire surface of grease, form oil, laitance, dust, and other foreign matter.
3. "Smooth" finish shall consist of having all fins removed, joint marks smoothed off, blemishes removed, and surfaces left smooth and unmarred.
4. Begin finishing operations as soon as practicable after removal of forms, continue with curing operations after finishing is completed. After concrete has been well cured, carefully inspect surfaces. Remove any fins, rough spots, streaks, hardened mortar or grout and other foreign material. Patch defects with finishing mortar as specified above, to satisfaction of the Engineer.

- D. Patches which become crazed, cracked, or sound hollow upon tapping shall be removed and replaced with new material at Contractor's expense.

3.15 CLEANING

- A. Concrete surfaces shall be cleaned of objectionable stains as determined by the Engineer. Materials containing acid in any form or methods which will damage "skin" of concrete surfaces shall not be employed, except where otherwise specified.

3.16 QUALITY CONTROL

- A. The testing laboratory will analyze the proposed concrete design mix and sample and test aggregate and concrete as follows:

1. Fine Aggregate Tests: Organic content, sieve analysis, fineness modulus.
2. Coarse Aggregate Tests: Sieve analysis
3. Mix Design: Refer to Section 033000-1.3 and 2.5 for requirements and submittal format.

- B. The Testing Laboratory will perform the following field tests:

1. Secure samples in accordance with ASTM C 172 except modified for slump to comply with ASTM C 94.
2. Slump: ASTM C 143, one test for each 100 cubic yards, or fraction thereof, at point of discharge for each day's pour of each type of concrete; additional tests when concrete consistency seems to have changed.
3. Air Content: ASTM C 173, volumetric method for lightweight or normal weight concrete. ASTM C 231 pressure method for normal weight concrete, one for each day's pour of each type of air-entrained concrete.
4. Concrete Temperature: Test hourly when air temperature is 40 deg F (4 deg C) and below, and when 80 deg F (27 deg C) and above, and each time a set of compression test specimens made.
5. Compression Test Specimen: ASTM C 31; one set of 4 standard cylinders for each compressive strength test, unless otherwise directed. Mold and store cylinders for laboratory cured test specimens except when field-cure test specimens are required.
6. Compressive Strength Tests: ASTM C 39; one set for each day's pour exceeding 5 cu. yds. plus additional sets for each 100 cu. yds. Of each concrete class placed in any one day; one specimen tested at 7 days, two specimens tested at 28 days, and one specimen retained in reserve for later testing if required.
7. When frequency of testing will provide less than 5 strength tests for a given class of concrete, conduct testing from at least 5 randomly selected batches or from each batch if fewer than 5 are used.

8. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, evaluate current operations and provide corrective procedure for protecting and curing the in-place concrete.
 9. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength, and no individual strength test result falls below specified compressive strength by more than 500 psi.
- C. Test results will be reported in writing to the Structural Engineer and Contractor within 24 hours after tests. Reports of compressive strength tests shall contain the project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength and type of break for both 7-day tests and 28-day tests.
1. Additional Tests: The testing service will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by the Engineer. Testing service may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed. Contractor shall pay for such tests when unacceptable concrete is verified.
 2. Reinforcing: The testing service will inspect the location and installation details of all reinforcing steel for compliance with the approved drawings, specifications and ACI 318.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. Cast in Place Concrete – Slab on Grade shall be measured by the square foot. Reinforcing steel, wire mesh reinforcement, expansion joint, joint fillers/sealers, detectable warning surfaces, and curing compounds shall not be measured separately for payment, but shall be included in this work.

4.02 PAYMENT

- A. Cast in Place Concrete shall be paid for at the contract unit price per square foot for "Cast in Place Concrete" which price shall include materials, equipment, tools, labor and all incidentals thereto.
- B. Cast in Place Concrete shall be paid for at the contract unit price per square foot for "Cast in Place Concrete" which price shall include materials, equipment, tools, labor and all incidentals thereto.

END OF SECTION

SECTION 03 31 00 CONCRETE FOUNDATION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:

1. Cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures and finishes for the following applications:

- a. Steel canopy foundation & misc. footings

This work shall consist of constructing a concrete foundation for the steel canopy in accordance with the Contract. The Contractor is responsible for furnishing all design, materials, products, accessories, tools, equipment, services, transportation, labor and supervision required for design, installation and testing of concrete for this Project.

The Contractor shall design and install the concrete foundation to achieve the load capacities specified in the preliminary canopy plans, following the provision of the reaction loads by the canopy manufacturer and the verification of these maximum loads by the Engineer. The loads on the contract plans are based on preliminary loads and will need to be confirmed and potentially updated when the Contractor selects the canopy manufacturer.

1.02 RELATED WORK

- A. Section 05 12 00 – Steel Canopy

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.

1.04 SUBMITTALS

- A. Contractor shall submit foundation design that's signed and sealed by a professional engineer and approved by the project Engineer.

- B. Submit concrete mix design, reinforcing steel, expansion joint, joint fillers/sealers, and curing compounds to the Engineer for approval.
- C. Submit concrete delivery tickets.
- D. Submit material certificate for all reinforcing steel, expansion joint, joint fillers/sealers and curing compounds.

PART 2 - PRODUCTS

2.01 CONCRETE

- A. Concrete shall conform to Form 819, Article M.03.01, Class pcc04460 – 4,400psi or otherwise noted.
- B. Reinforcing steel shall conform to Form 819, Article M.06.01.
- C. Preformed expansion joint material shall conform to Form 819, Article M.03.08.

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

- A. Concrete foundation installations shall conform to Form 819 Article 6.01.03 and Article 6.02.03.
- B. Soils Beneath the footing base shall be clay, sandy clay, silty clay, clayey silt, silt or sandy silt, or better, with a minimum allowable soil bearing capacity of 3,000 psf according to table 1804.2 of the connecticut state building code. If the existing soils do not meet or exceed the requirements, the engineer shall be notified prior to construction of the foundation.
- C. The loads shown on the plans are preliminary and will need to be updated when the Contractor selects a Bridge Manufacturer. The Bridge Manufacturer will specify the vertical and longitudinal loads from the superstructure.
- D. The test pit data on the plans shall be considered to be representative of the in-situ subsurface conditions likely to be encountered on the project site and be used as the basis for foundation design, using generally accepted engineering judgment and methods. The Town may conduct additional geotechnical investigations at no additional cost to the contractor.
- E.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. This work shall be measured by the cubic yards of concrete. Reinforcing steel, expansion joint, joint fillers/sealers, and curing compounds shall not be measured separately for payment, but shall be included in this work.

4.02 PAYMENT

- A. Concrete foundation shall be paid for at the contract unit price per cubic yard for "Concrete Foundation" which price shall include materials, equipment, tools, labor and all incidentals thereto.

END OF SECTION

SECTION 03 40 00 PRECAST CONCRETE RETAINING WALL

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this specification covers designing, furnishing and installing a precast concrete retaining wall system complete as shown on the plans or as directed by the Engineer.

1.02 RELATED WORK

- A. Section 01 71 23 – Construction Staking
- B. Section 31 23 00 – Excavation and Fill
- C. Section 31 23 23 – General Fill & Borrow
- D. Section 31 23 13 – Formation of Subgrade
- E. Section 31 23 25 – Granular Material

1.03 QUALITY ASSURANCE

- A. Design Reference: AASHTO, Standard Specifications for Highway Bridges, 17th Editions 2002, with interims or AASHTO LRFD Bridge Design Specifications, 4th Edition, 2007 with interims.
- B. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.

1.04 SUBMITTALS

- A. The Contractor shall submit two sets of calculations, construction and fabrication drawings for all precast retaining walls bearing the stamp of professional engineer licensed in the State of Connecticut to the Engineer for approval.
- B. The Contractor shall submit manufacturer's product data and installation instructions to the Engineer for approval.
- C. The Contractor shall submit select granual backfill material to the Engineer for approval.

- D. The Contractor shall submit manufacturer's test reports certifying that the precast retaining wall units manufactured meet the requirements of this specification and the plans.
- E. Construction Drawings shall include the following: retaining wall layout and retaining wall heights; plan, elevation and typical sections; types, locations and properties of all drainage materials, appurtenances and special installation requirements not covered in this specification.
- F. Fabrication Drawings shall include the following: unit-reinforcing diagrams and rebar lists, special hardware requirements, dimensioning for custom cast pieces (bevels, sloped tops, penetrations, and framing for culvert pipes, etc.).

PART 2 - PRODUCTS

2.01 CONCRETE UNITS

- A. The contractor shall supply and install precast reinforced concrete ATLAS Retaining Wall units and related materials from Atlas Concrete Products. Contact info: Bob Rizzo, 1-860-224-2244, www.atlasconcrete.com. Contractor shall provide alternate bid pricing when specifying approved equal style/manufacturer options.
- B. The units shall be manufactured in an NPCA, PCI or DOT certified precast concrete plant. The material used in concrete for the precast units shall have a compressive strength of 4,000 psi at 28 days or as otherwise noted in the approved drawings. The concrete mix design used to make the units will be submitted and approved by the Engineer prior to the manufacture of any units.
- C. Testing and Inspection: Acceptability of the concrete for the precast units will be determined on the basis of compression tests, certifications and visual inspection. The concrete strength requirements for the precast units shall be considered satisfied regardless of curing age when compression test results indicate that the concrete strength will conform to 28-day specifications. The Supplier shall furnish facilities and perform all necessary sampling and testing in an expeditious and satisfactory manner. Units utilizing Type I or II cement shall be considered acceptable for placement in the wall when 7-day initial strengths exceed 85 percent of 28-day requirement.
- D. Casting: The units shall be cast in steel forms with dimensional tolerances that will assure the production of uniform units. See the Contract Plans for the specified architectural finish.
- E. Curing: The reinforced concrete units shall be cured for a sufficient length of time so that the concrete will develop the specified compressive strength. Units shall be

considered acceptable for placement in the wall when 7-day initial strengths exceed 85 percent of 28-day requirement.

- F. Removal of Forms: The units shall remain in place until they can be removed from the form without damage to the unit.
- G. Rejection of Precast Components: Precast concrete wall components not meeting the quality standards of this Section and referenced Specifications will be rejected or repaired. In addition, any of the following defects may be sufficient cause for rejection if not satisfactorily repaired:
 - 1. Defects that indicate unsatisfactory molding
 - 2. Defects indicating honeycombed or open texture concrete
 - 3. Defects in the physical characteristics
- H. Handling, Storage and Shipping: All units shall be handled, stored, and shipped in such a manner as to avoid chipping, cracking, fracturing and excessive bending stresses.

2.02 JOINT MATERIALS

- A. Horizontal Joints – Expansion joint filler, conforming to ASTM D 1751, or equal.
- B. Vertical Joints – A 12-inch width of filter cloth such as Mirafi 160 N or approved equal shall be placed on the back face to cover the vertical joints.

2.03 SELECT GRANULAR BACKFILL

- A. Select Granular Backfill: Backfill between the precast concrete units may be one of the following locally available materials:
 - 1. Crushed or natural sand
 - 2. Crushed or uncrushed gravel
 - 3. Recycled concrete
 - 4. Old ballast
 - 5. Slag

The general gradation requirement of this backfill material is:

<u>Sieve Size</u>	<u>Percent Passing</u>
3 inch	100
3/4 inch	20-100
No. 200	0-15

General Design Parameters:

Angle of Internal Friction	34°
Unit Weight (density)	120 pcf or as specified
Compaction - 95% of Standard Proctor, ASTM D-698 (AASHTO T-99)	

Locally produced materials with a gradation that falls between the upper and lower limits stated above would be considered. If the locally available material meets the gradation and angle of internal friction requirements stated above, but not the unit weight, the wall design could be modified to reflect the actual properties.

PART 3 - EXECUTION

3.01 CONSTRUCTION REQUIREMENTS

- A. Install products in accordance with manufacturer's printed installation instructions and approved shop drawings.
- B. All products and accessories shall be approved by the Engineer prior to installation.

3.02 EXAMINATION

- A. Verify locations of utilities and existing structures prior to excavation.
- B. Examine the Project site and evaluate conditions where the retaining wall will be constructed. Notify the proper supervising authority in writing of any conditions that may interfere with the proper construction of the wall, or delay completion.
- C. Promptly notify the wall design engineer of site conditions, which may affect wall performance, soil conditions observed other than those assumed, or other conditions that may require a reevaluation of the wall design.

3.03 EXCAVATION

- A. Contractor shall excavate to the lines and grades shown on the construction drawings. The contractor shall be careful not to disturb base beyond the lines indicated and shall be responsible for slope stability and protection of the open excavation.
- B. Over-excavated areas shall be filled with suitable base or backfill material and compacted to 95% modified proctor.

3.04 FOUNDATION PREPARATION

- A. Foundation soil shall be evaluated by a Geotechnical Engineer or Owner's Representative to ensure that the bearing soils meet or exceed the design conditions or assumptions.
- B. Compact the graded area with an appropriate roller weighing a minimum of 8 tons by at least 3 passes or as directed by the Geotechnical Engineer or manufacturer's installation instructions.
- C. Remove and replace any soft or loose foundation soils to insure that there is adequate bearing capacity as directed by the Geotechnical Engineer or Owner's Representative.
- D. The owner or the owner's engineer, prior to installation of the precast retaining wall, shall approve the soil foundation preparation.
- E. At each unit foundation level, a leveling pad per the manufacturer's installation manual shall be provided.

3.05 FIELD QUALITY CONTROL

- A. Owner shall employ the services of an independent geotechnical or materials engineering firm to provide soil testing and quality assurance inspection for wall construction and soils work. Contractor shall provide any quality control testing or inspection not provided by the Owner.
- B. Contractor shall be responsible for proper installation and quality control of all precast wall components and appurtenant materials.
- C. Owner shall, at their expense, retain a qualified professional to monitor and perform quality assurance checks of the installer's work.
- D. Quality Assurance should include foundation soil inspection, frequent backfill compaction testing, verification of geotechnical design parameters and compliance with Construction Drawings and Project Specifications.

3.06 SELECT GRANULAR BACKFILL

- A. Backfill placement shall closely follow the erection of each course of precast concrete units. The backfill lift should be uniform in thickness and compacted within the limits shown on the Plans. Each lift shall be compacted to at least 95% of maximum laboratory dry density in accordance with ASTM D-698. Placement and

compaction of the backfill shall be accomplished without displacement of the precast concrete units.

B. Conduct sampling and testing at a minimum frequency listed below:

1. Compaction Test: Each course of units at 100 ft intervals.
2. Gradation Test: Weekly unless material comes from a pre-approved stockpile.

3.07 CLEANING

- A. After completion of wall installation, remove construction debris and restore any adjacent finished areas affected by wall construction to their pre-construction state.
- B. Wash the wall face to remove soiling and stains. Do not use acid or detergents that may "burn" or discolor face.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. This work shall not be measured but will be paid at the contract lump sum price. Excavation, leveling pads, precast concrete units, geotextile reinforcement, joint material, drainage material, and backfill shall not be measured separately for payment, but shall be included in this work.

4.02 PAYMENT

- A. This work shall be paid for at the contract lump price for "Precast Concrete Retaining Wall" which price shall include materials, equipment, tools, labor and all incidentals thereto.

END OF SECTION

SECTION 03 81 13
FLAT CONCRETE SAWING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this specification covers saw cutting existing bituminous concrete pavement as shown on the plans or as directed by the Engineer.

1.02 RELATED WORK

- A. Section 31 23 00 – Excavation and Fill
- B. Section 32 12 16 – Bituminous Concrete
- C. Section 32 16 13 – Bituminous Concrete Curb

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024".

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

- A. All bituminous concrete pavement to be removed shall be cut uniformly along lines as shown on the plans or as directed by the Engineer.
- B. Bituminous concrete pavement shall be cut with an approved concrete saw completely through the full depth of the pavement.
- C. Bituminous curbs shall be cut at the designated lines.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work which conforms to this Specification and is performed shall not be measured for separate payment, but shall be included as part of the general work.

4.02 PAYMENT

- A. This work will not be paid for separately, but shall be included as part of the general work, which shall include all materials, equipment, tools, labor, and work incidental thereto.

END OF SECTION

SECTION 05 12 00 STEEL CANOPY

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this specification covers furnishing and installing a fully engineered 30' X 108' steel canopy system complete as shown on the plans or as directed by the Engineer and shall be regarded as minimum standards for design and fabrication. The steel canopy system shall include five steel columns with base plates, a 14' minimum clearance, standard 'bottom deck' style roof system and be compliant with all applicable local, state & federal codes.
- B. The work included under this item shall consist of design, fabricating, finishing, transporting and erecting the steel canopy. These specifications are based on products designed and manufactured by Shelters Direct, TFC Canopy or approved equal.

1.02 RELATED WORK

- A. Section 03 30 00 – Cast-In-Place Concrete
- B. Section 03 31 00 - Canopy Foundation
- C. Section 03 40 00 – Precast Concrete Retaining Wall

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024".
- B. Each Contractor is required to identify their intended supplier as part of the bid submittal. Qualified canopy manufacturers must have at least 5 years of experience fabricating these types of structures and shall have an up to date quality certification. All suppliers shall fabricate their product utilizing a modern fabrication facility owned and operated by the canopy manufacturer, no brokers are allowed.
- C. Canopy manufacturers are noted below:

Shelters Direct
1-800-393-9400
E-mail: sales@sheltersdirect.com

TFC Canopy
1-800-832-3212
E-mail: tfc@centurionind.com

Jeremy Paterson

Canopy manufacturers, other than those listed above, may be used provided the Engineer receives the following information:

- Manufacturer's Product Literature,
- Name and resume of Manufacturer's design professional who will be signing and sealing the engineering submittals,
- Copy of current certifications,
- Representative copies of detailed drawings, field procedures, calculations, quality control manual, welder's certifications, proof of in-house C.W.I.,
- Listing of projects including owner, location, size, year of fabrication, contact person,
- Certification by the Manufacturer's Design Professional that the canopy proposed will be in accordance with all project development done up to the date of these specifications.

1.1 Canopy Manufacturer's Design Professional and Submittals

The canopy manufacturer shall have as a direct employee, an engineer who is experienced in canopy design to be in responsible charge of all engineering related task and design. The engineer shall have a minimum of 10 years of experience and be a currently licensed civil or structural Professional Engineer in the State of Connecticut and shall be the engineer who will seal and sign the plans, who shall also be available for consultation in interpreting his/her computations and drawings, and in the resolution of any problems which may occur during the performance of the work. Please note that each working drawing must be sealed.

The canopy manufacturer shall prepare and submit shop drawings and structural calculations to the Engineer for approval by the Designer prior to fabrication. Shop drawings shall be unique drawings prepared to illustrate the specific portion of the canopy being fabricated. All relative design information, including but not limited to governing codes, design parameters, member sizes, reactions, details, dimensions related to substructures, material specifications, required welding, dimensions necessary to fabricate and general notes shall be clearly specified on the drawings. Drawings shall have cross-referenced details and sheet numbers. All drawings shall be signed and sealed by a Professional Engineer licensed in the state of Connecticut.

Engineering drawings, 11x17 format, shall be prepared and submitted to the

Contractor or Owner for their review after receipt of the order. Submittal drawings shall be unique drawings, prepared to illustrate the specific portion of the canopy being fabricated. All relative design information such as member size, material specification, dimensions necessary to fabricate and required welding shall be clearly shown on the drawings. Drawings shall have referenced details and sheet numbers.

Manufacturer shall prepare and submit engineering drawings and structural calculations for review after receipt of order.

Structural calculations shall include:

- Complete design
- Analysis and code checks for the controlling members
- Connectivity and support conditions

- D. Codes and Standards: Comply with all local, State and Federal codes including but not limited to the following, except as otherwise indicated:
1. AISC "Code of Standard Practice for Steel Buildings and Bridges".
 2. AISC "Specifications for the Design, Fabrication, and Erection of Structural Steel for Buildings", including "Commentary" and Supplements thereto as issued.
 3. AISC "Specifications for Structural Joints using ASTM A 325 or A 490 Bolts" approved by the Research Council on Riveted and Bolted Structural Joints of the Engineering Foundation.
 4. ANSI/AWS D1.1 "Structural Welding Code".
 5. ASTM A 6 "General Requirements for Delivery of Rolled Steel Plates, Shapes, Sheet Piling and Bars for Structural Use".
 6. ASTM A709 "Specifications for Carbon and High Strength Low Alloy Structural Steel Shapes, Plates, and Bars and Quenched and Tempered Alloy Structural Steel Plates for Bridges."

1.04 SUBMITTALS

- A. Submit shop drawings for all steel canopy system components to the Engineer for approval prior to fabrication. Shop drawings shall include an erection sequence including any temporary bracing or supports proposed.
- B. Submit material certificates for all steel canopy system components.
- C. Submit welding certifications for welders who will be used for any field welding if required.

- D. The Contractor shall submit two sets of calculations, construction and fabrication drawings for all canopy foundations bearing the stamp of professional engineer licensed in the State of Connecticut to the Engineer for approval. Final plans to be submitted to wall manufacturer to incorporate into walls final design.
- E. Field Measurements: Submit field measurements of as-built anchor bolt locations and spacing with shop drawings for review.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver canopy steel to project site at such intervals to insure uninterrupted progress of work.
- B. Deliver anchor bolts and anchorage devices, which are to be embedded in cast-in-place concrete, in ample time to not delay work.
- C. Store materials to permit easy access for inspection and identification. Keep steel members off ground, using pallets, platforms, or other supports. Protect steel members and packaged materials from erosion and deterioration.
- D. Do not store materials on structure in a manner that might cause distortion or damage to members or supporting structures. Repair or replace damaged materials or structures as directed.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Supply and install 30'x 108' Steel Canopy pursuant to the specifications and design plans.
- B. All structural steel for the canopy shall be hot dip galvanized after fabrication. The bidders may submit an alternate for a painted canopy system.

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

- A. Shop Fabrication and Assembly: Fabricate and assemble structural assemblies in shop to greatest extent possible. Fabricate items of structural steel in accordance with AISC Specifications for building steel, and as indicated on final shop drawings with the modifications and additional requirements specified in this Section.

1. Properly mark and match-mark materials for field assembly. Fabricate for delivery sequence which will expedite erection and minimize field handling of materials.
 2. Where finishing is required, complete assembly, including welding of units, before start of finishing operations. Provide finish surfaces of members exposed in final structure free of markings, burrs, and other defects. Welds shall be finished flush and smooth.
- B. Connections: Weld or bolt shop connections, as indicated.
1. Bolt field connections, except where welded connections or other connections are indicated.
 - a. Diameter of holes in bolted parts shall be 1/16" greater than the nominal diameter of the bolt. No unfinished holes will be accepted, and enlargement of holes shall not be accomplished by burning. Burrs resulting from drilling or punching shall be ground to the surface of the material. Shearing and punching shall be done cleanly so as not to deform or mar adjacent surfaces.
 2. Eccentric connections shall be avoided if possible. Where necessary, care shall be taken that all shears, tensions and connections provided by eccentricities are amply provided for in connections and that harmful additional stress are not introduced into members.
- C. High-Strength Bolted Construction: Install high-strength threaded fasteners in accordance with AISC "Specifications for Structural Joints using ASTM A 325 or A 490 Bolts" (RCRBSJ).
1. Bolts which have been completely tightened shall be marked with an identifying symbol.
 2. The tightening of the bolts with other than calibrated wrenches will not be permitted. Contractor shall submit to Engineer a certification that the calibrating device for setting the calibrated wrenches for high-strength bolts has been checked by the testing laboratory. If at any time during construction the Engineer has reason to question the accuracy of the calibrating setting device, he may, at his option, require that the machine be sent back to the Contractor for certification of its accuracy by the testing laboratory. In any case, the calibrating setting device must be checked for accuracy after each six-month period of use on the project, and proof of certification must be submitted to the Engineer.
 3. High strength bolts shall have a hardened washer under the element (nut or thread) turned in tightening. Beveled washers shall be provided in all bolt connections to sloping flanges of American Standard beams and channels.

4. High strength bolts once tightened shall not be loosened and re-used.
- D. Welded Construction: Comply with AWS Codes for procedures, appearance and quality of welds, and methods used in correcting welding work.
1. Assemble and weld built-up sections by methods which will produce true alignment of axes without warp.

3.02 INSPECTION

- A. Erector must examine areas and conditions under which structural steel work is to be installed, and notify Contractor in writing of conditions detrimental to proper and timely completion of work. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to the Erector.

3.02 ERECTION

- A. Surveys: Employ a registered professional engineer or land surveyor for accurate erection of structural steel. Check elevations of concrete bearing surfaces, and locations of anchor bolts and similar devices, before erection work proceeds, and report discrepancies to the Engineer. Do not proceed with erection until corrections have been made, or until compensating adjustments to structural steel work have been agreed upon with the Engineer.
- B. Temporary Shoring and Bracing: Provide temporary shoring and bracing members with connections of sufficient strength to bear imposed loads. Remove temporary members and connections when permanent members are in place and final connections are made. Provide temporary guy lines to achieve proper alignment of structures as erection proceeds.
- C. Anchor Bolts: Furnish anchor bolts and other connectors required for securing structural steel to foundations and other in-place work.
1. Furnish templates and other devices as necessary for presetting bolts and other anchors to accurate locations.
- D. Setting Bases and Bearing Plates: Clean concrete bearing surfaces of bond-reducing materials and roughen to improve bond to surfaces. Clean bottom surface of base and bearing plates.
1. Set loose and attached base plates and bearing plates for structural members on leveling nuts other adjusting devices.

- E. Tighten anchor bolts after supported members have been positioned and plumbed. Do not remove leveling nuts prior to packing with grout.
- F. Pack grout solidly between bearing surfaces and bases or plates to ensure that no voids remain. Finish exposed surfaces, protect installed materials, and allow to cure.
 - 1. For proprietary grout materials, comply with manufacturer's instructions.
- G. Field Assembly: Set structural frames accurately to lines and elevations indicated. Align and adjust various members forming part of complete frame or structure before permanently fastening. Clean bearing surfaces and other surfaces which will be in permanent contact before assembly. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
 - 1. Level and plumb individual members of structure within specified AISC tolerances.
 - 2. Establish required leveling and plumbing measurements on mean operating temperature of structure. Make allowance for difference between temperature at time of erection and mean temperature at which structure will be when completed and in service.
 - 3. Splice members only where indicated and accepted on shop drawings.
- H. High Strength Bolts: Installation shall be performed by using pneumatic powered impact wrenches with sufficient capacity and on adequate supply of compressed air, or installation shall be performed in accordance with the turn-of-the-nut method outlined in the AISC "Specification for Structural Joints using ASTM A-325 or A 490 Bolts", with the following modification:
 - 1. Use a hardened washer under either the bolt head or nut, whichever is turned in tightening.
- I. Welding: Field welding shall not be allowed without prior approval of the Engineer. All field welding approved shall be executed in accordance with all requirements of AWS. All field welding shall be done by manual shielded metal-arc welding, only.
 - 1. All groove welds shall be continuous and full penetration welds unless otherwise shown on the design drawings. Welds made without the aid of a backing shall have their roots chipped, ground or gouged out to sound metal from the second side, before welding is done from the second side.
- J. Comply with AISC Specifications for bearing, adequacy of temporary connections, alignment, and removal of paint on surfaces adjacent to field welds.

1. Do not enlarge unfair holes in members by burning or by use of drift pins, except in secondary bracing members. Ream holes that must be enlarged to admit bolts.
- K. Gas Cutting: Do not use gas cutting torches in field for correcting fabrication errors in primary structural framing. Cutting will be permitted only on secondary members which are not under stress, as acceptable to Engineer. Finish gas-cut sections equal to a sheared appearance when permitted.
- L. Touch-Up Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of galvanized coating. Apply touch up galvanizing compound to exposed areas on perimeter columns and beams, using same material as used for shop touch up.
- M. Galvanizing: All steel indicated to be "galvanized" shall be cleaned and hot dipped galvanized in strict accordance with ASTM A123.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. This work shall not be measured but will be paid at the contract lump sum price for "Steel Canopy System".

4.02 PAYMENT

- A. This work shall be paid for at the contract lump sum price for "Steel Canopy System" which price shall include materials, equipment, tools, labor and all incidentals thereto.

END OF SECTION

SECTION 05 51 00 METAL STAIRS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this specification covers furnishing and installation of a prefabricated and painted metal stair assembly meeting all local, state and federal building codes, at the exterior location shown on the plans, or as directed by the Engineer.

1.02 RELATED WORK

- A. Section 01 71 23 – Construction Layout
- B. Section 32 12 16 – Bituminous Concrete

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.
- B. The 2022 Connecticut State Building Code comprising by reference all applicable national model codes including but not limited to the 2021 International Building Code.
- B. Installer Qualifications: Fabricator of products.
- C. Welding Qualifications: Qualify procedures and personnel according to the following:
 - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
 - 2. AWS D1.3/D1.3M, "Structural Welding Code - Sheet Steel."

1.04 SUBMITTALS

- A. Product Data: For metal stairs and the following:
 - 1. Anti-slip serrated grating metal stair treads.
 - 2. Abrasive nosings.
 - 3. Shop primer & weather resistant paint products.
 - 4. Handrail wall brackets, if applicable.
- B. Shop Drawings:
 - 1. Include plans, elevations, sections, details, and attachments to other work.
 - 2. Indicate sizes of metal sections, thickness of metals, profiles, holes, and field

- joints.
3. Include plan at each level.
 4. Indicate locations of anchors, weld plates, and blocking for all connection points.
- C. Delegated-Design Submittal: For stairs and railings, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
- D. Qualification Data: For professional engineer's experience with providing delegated- design engineering services of the kind indicated, including documentation that engineer is licensed in the State in which Project is located.
- E. Welding certificates.
- F. Paint Compatibility Certificates: From manufacturers of topcoats applied overshop primers, certifying that shop primers are compatible with topcoats.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer to design stairs and railings, including attachment to building construction.
- B. Structural Performance of Stairs: Metal stairs shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
1. Uniform Load: 100 lbf/sq. ft.
 2. Concentrated Load: 300 lbf applied on an area of 4 sq. in.
 3. Uniform and concentrated loads need not be assumed to act concurrently.
 4. Stair Framing: Capable of withstanding stresses resulting from railing loads in addition to loads specified above.
 5. Limit deflection of treads, platforms, and framing members to L/360 or 1/4 inch, whichever is less.
- C. Structural Performance of Railings: Railings, including attachment to building construction, shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
1. Handrails and Top Rails of Guards:
 - a. Uniform load of 50 lbf/ft. applied in any direction.
 - b. Concentrated load of 200 lbf applied in any direction.
 - c. Uniform and concentrated loads need not be assumed to act concurrently.
 2. Infill of Guards:
 - a. Concentrated load of 50 lbf applied horizontally on an area of 1 sq. ft.
 - b. Infill load and other loads need not be assumed to act concurrently.
 3. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
 - a. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100

deg C), material surfaces.

4. Seismic Performance of Stairs: Metal stairs shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
 - a. Component Importance Factor: 1.5.

2.02 METALS

- A. Metal Surfaces: Provide materials with smooth, flat surfaces unless otherwise indicated. For components exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.
- B. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- C. Steel Tubing for Railings: ASTM A 500/A 500M (cold formed) or ASTM A 513/A 513M.
- D. Steel Pipe for Railings: ASTM A 53/A 53M, Type F or Type S, Grade A, Standard Weight (Schedule 40), unless another grade and weight are required by structural loads. Uncoated, Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, either commercial steel, Type B, or structural steel, Grade 25, unless another grade is required by design loads; exposed.
- F. Uncoated, Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, either commercial steel, Type B, or structural steel, Grade 30, unless another grade is required by design loads.

2.03 ABRASIVE NOSE

- A. Extruded Units: Aluminum units with abrasive filler consisting of aluminum oxide, silicon carbide, or a combination of both, in an epoxy-resin binder. Fabricate units in lengths necessary to accurately fit openings or conditions.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Safety Tread Co., Inc.
 - b. Amstep Products.
 - c. Armstrong Products, Inc.
 - d. Balco, Inc.
 - e. Granite State Casting Co.
 - f. Nystrom, Inc.
 - g. Upnovr, Inc.
 - h. Wooster Products Inc.
 2. Provide ribbed units, with abrasive filler strips projecting 1/16 inch above aluminum extrusion.
 3. Nosings: Square-back units, 3 inches wide, without lip.

4. Nosings: Two-piece units, 3 inches wide, with subchannel for casting into concrete.
- B. Provide anchors for embedding units in concrete, either integral or applied to units, as standard with manufacturer.
- C. Apply clear lacquer to concealed surfaces of extruded units set into concrete.

2.04 FASTENERS

- A. General: Provide zinc-plated fasteners with coating complying with ASTM B 633 or ASTM F 1941/F 1941M, Class Fe/Zn 5 where built into exterior walls.
 1. Select fasteners for type, grade, and class required.
- B. Fasteners for Anchoring Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated and capable of withstanding design loads.
- C. Bolts and Nuts: Regular hexagon-head bolts, ASTM A 307, Grade A; with hex nuts, ASTM A 563; and, where indicated, flat washers.
- D. Post-Installed Anchors: Torque-controlled expansion anchors or chemical anchors capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488/E 488M, conducted by a qualified independent testing agency.
 1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B 633 or ASTM F 1941/F 1941M, Class Fe/Zn 5, unless otherwise indicated.

2.05 MISCELLANEOUS MATERIALS

- A. Handrail Wall Brackets: Cast nickel-silver, aluminum, bronze, or stainless steel, center of rail 3-1/8 inches from face of wall.
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Blum, Julius & Co., Inc.
 - b. The Wagner Companies., R&B Wagner, Inc.
- B. Welding Electrodes: Comply with AWS requirements.
- C. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd

primer complying with MPI#79 and compatible with topcoat.

PART 3 - EXECUTION

3.01 FABRICATION GENERAL

- A. Provide complete stair assemblies, including metal framing, hangers, struts, railings, clips, brackets, bearing plates, and other components necessary to support and anchor stairs and platforms on supporting structure.
 - 1. Join components by welding unless otherwise indicated.
 - 2. Use connections that maintain structural value of joined pieces.

- B. Assemble stairs and railings in shop to greatest extent possible.
 - 1. Disassemble units only as necessary for shipping and handling limitations.
 - 2. Clearly mark units for reassembly and coordinated installation.

- C. Cut, drill, and punch metals cleanly and accurately.
 - 1. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated.
 - 2. Remove sharp or rough areas on exposed surfaces.

- D. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.

- E. Form exposed work with accurate angles and surfaces and straight edges.

- F. Weld connections to comply with the following:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. Weld exposed corners and seams continuously unless otherwise indicated.
 - 5. At exposed connections, finish exposed welds to comply with NOMMA's "Voluntary Joint Finish Standards" for:
 - a. Building Stair: Finish #1 - No evidence of welded joint, as shown in NAAMM AMP 521.

- G. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners where possible.
 - 1. Where exposed fasteners are required, use Phillips flat-head (countersunk) screws or bolts unless otherwise indicated.
 - 2. Locate joints where least conspicuous.

3.02 FABRICATION OF STAIR RAILINGS

- A. Fabricate railings to comply with requirements indicated for design, dimensions, details, finish, and member sizes, including wall thickness of member, post spacings, wall bracket spacing, and anchorage, but not less than that needed to withstand indicated loads.
 - 1. Rails and Posts: 1-5/8-inch diameter top and bottom rails and posts.
 - 2. Picket Infill at Building Stairs: 1/2-inch to 3/4-inch round or square pickets spaced less than 4 inches clear.
- B. Welded Connections: Fabricate railings with welded connections.
 - 1. Cope components at connections to provide close fit, or use fittings designed for this purpose.
 - 2. Weld all around at connections, including at fittings.
 - 3. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 4. Obtain fusion without undercut or overlap.
 - 5. Remove flux immediately.
 - 6. Finish welds to comply with NOMMA's "Voluntary Joint Finish Standards" for:
 - a. At Building Stairs: Finish #1 - No evidence of welded joint as shown in NAAMM AMP 521.
- C. Form changes in direction of railings as follows:
 - 1. By bending or by inserting prefabricated elbow fittings.
 - 2. By flush bends or by inserting prefabricated flush-elbow fittings.
 - 3. By radius bends.
 - 4. By inserting prefabricated elbow fittings.
- D. For changes in direction made by bending, use jigs to produce uniform curvature for each repetitive configuration required. Maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.

- E. Close exposed ends of railing members with prefabricated end fittings.
- F. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated.
 - 1. Close ends of returns unless clearance between end of rail and wall is 1/4 inch or less.
- G. Connect posts to stair framing by direct welding unless otherwise indicated.
- H. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, end closures, flanges, miscellaneous fittings, and anchors for interconnecting components and for attaching to other work.
 - 1. Furnish inserts and other anchorage devices for connecting to concrete or masonry work.
 - 2. For nongalvanized railings, provide nongalvanized ferrous-metal fittings, brackets, fasteners, and sleeves, except galvanize anchors embedded in exterior masonry and concrete construction.
 - 3. Provide type of bracket with predrilled hole for exposed bolt anchorage and that provides 1-1/2-inch clearance from inside face of handrail to finished wall surface.

3.03 FINISHES

- A. Pre-fabricated stairs shall be delivered prepainted.
- B. Color to be coordinated with the town prior to ordering stairs.
- C. Touchup Painting: Installer will be responsible for any touchup painting required after installation is complete per manufacturers recommendations. Paint shall match brand and color.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. Metal Stairs shall be measured by the by the number of each metal stair furnished and installed complete.

4.02 PAYMENT

- A. Metal Stairs shall be paid for at the contract unit price per each "Metal Stair" completed in place, which price shall include all materials, equipment, tools and labor incidental thereto.

END OF SECTION

SECTION 05 52 13 PIPE AND TUBE RAILINGS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this specification covers furnishing and installing steel hand railings on retaining walls, wing walls and at other locations as shown on the drawings, in accordance with the designs, dimensions instructions by ENGINEER, and these specifications.

1.02 RELATED WORK

- A. Section 03 40 00 – Precast Concrete Retaining Wall

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.
- B. Codes and Standards: Comply with provisions of following, except as otherwise indicated:
 - 1. American Institute of Steel Construction, Inc. (AISC).
 - 2. American Welding Society (AWS).
 - a. AWS D1.1/D1.1M, Structural Welding Code – Steel.
 - 3. ASTM International (ASTM):
 - a. ASTM A53/A53M, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
 - b. ASTM A501, Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing.

1.04 SUBMITTALS

- A. Submit shop drawings for all steel hand rail components to the Engineer for approval prior to fabricaton.
- B. Contractor shall provide color schedule according to the drawings and specifications. Color shall be shown on the drawings or shall be selected by Engineer from color systems of recognized paint companies. If materials of other manufacturers are used, colors shall match those selected.

- C. If requested by Engineer, prepare and submit paint samples. Resubmit samples until accepted.
- D. As part of the submittal, include a letter listing the brand and quality of each different material for use on the project. Materials listed shall be accepted by Engineer before ordering materials.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Steel Railings and Steel Sleeves:
 - 1. Pipes shall be standard weight pipe conforming to ASTM A53/A53M. Steel Tubing shall conform to ASTM A501 or as designated on the Drawings.
 - 2. Galvanized pipe and tubing shall be required when designated on the Drawings.
 - 3. Sleeves shall be galvanized on all surfaces.
 - 4. Weathering steel shall be required when designated on the Drawings.
 - 5. Swing gates shall be installed at the center of each open top container location beneath canopy No. 2. Gate openings shall be a total of 16'-0" and be comprised of 2 – 8' hinged gate panels installed with latch system and plunger rod catch at midpoint.
- B. Fasteners:
 - 1. Acceptable expansion bolts are as follows:
 - a. Hilti Corp; Kwik Bolts.
 - b. Wej-it Corp; Standard Wej-its.
 - c. Use; Taper-Bolts.
 - d. Olin Corp; Trubolt.
 - e. Phillips; Red Head Wedge Anchors.
 - 2. Other brands of expansion bolts will be considered upon submission to Engineer of data sheets describing capacities and installation procedures of bolts.
 - 3. The bolts, nuts, and washers shall be galvanized.
- C. Contractor shall fabricate plates or structural shapes as indicated on the drawings. Include welded anchors where detailed and furnish all items to be embedded in concrete or masonry.

2.02 FABRICATION

- A. Field measure the headwall, wingwall, or location where the railing is to be installed, compare to the drawings, and review with Engineer prior to fabrication.
- B. Construct all items of sizes, shape, and materials as contractor shall indicate and specify. Fabricate structural steel in accordance with AISC Specifications and additional requirements specified hereafter; perform fabrication and assembly in the shop to the greatest extent possible; form materials well, with sharp angles or lines, free from bends, twists, or open joints; shear and punch clean, true lines and surfaces; thickness of metal and details of assembly and supports shall provide ample strength and rigidity.
- C. Contractor shall perform welding in the shop with welders qualified under the AWS D1.1/D1.1M welding code for class of work employed; protect adjacent construction and materials against damage; neatly and symmetrically make all welds; fill or grind to a uniform, smooth shape; where required to present uniform appearance, fill space between welds and weld irregularities with suitable metal putty or compound made for this purpose.
- D. Contractor shall provide concealed fastenings wherever possible; do not use screws or bolts where they can be avoided; where used, heads shall be countersunk, screwed up tight and threads nicked to prevent loosening; and make threaded connections tight so that threads shall be entirely concealed by fittings.
- E. All products not specified by name shall be "best grade" or "first line" products available by the manufacturer. Railings which are not designated to be painted shall be galvanized or weathering steel according to the drawings. Shop clean primer on hollow metal work immediately before painting to remove grease and dirt film from surfaces.

PART 3 - EXECUTION

3.01 GENERAL

- A. Contractor shall erect structural steel in accordance with the AISC specifications with modifications and additional requirements specified hereafter.
- B. Erect all work true to lines and planes, with vertical lines plumb and horizontal lines level.
- C. Weld or bolt all permanent connections.

3.02 MISCELLANEOUS ANGLES, LINTELS, PLATES, AND EMBEDDED ITEMS

- A. All welding procedures shall conform to AWS D1.1/D1.1M. All welds shall develop capacity of members being joined, unless specific length or extent is noted on the drawings.
- B. Finish all cut ends neatly without irregular torch marks or sharp fins. Grind all cut surfaces to a smooth surface. Clean off all loose scale, rust, and foreign matter.
- C. Any shop paint on surfaces adjacent to joints to be field welded shall be wire brushed to reduce the paint film to a minimum. Grind down burrs and sharp ridges at all exposed corners and surfaces of welds prior to field painting. After field welding, welded joints to be field primed.
- D. The expansion bolts shall be installed per manufacturer's recommendations.

3.03 PAINTING

- A. Examine surfaces scheduled to receive paint and finishes for conditions that may adversely affect execution, permanence, or quality of work and which cannot be put into an acceptable condition through preparatory work as included under paragraph preparation.
- B. Preparation:
 - 1. Sand metal surfaces between coats to ensure smoothness and adhesion of subsequent coats. Use extra fine sandpaper to avoid cutting the edge when sanding. Apply putty or spackling compound after surfaces are primed and primer is dry. Bring material flush with adjoining surfaces.
 - 2. Surfaces shall be perfectly dry, clean, and smooth before finish is applied to surfaces.
 - 3. Remove foreign material from unprimed metal with wire brush and dust clean.
 - 4. Touch up shop-primed metals with a primer similar to the existing.
 - 5. Wash Zinc-Coated metal (Galvanized Surfaces) with mineral spirits and prime as specified.
 - 6. Furnish and lay drop cloths or mask off areas where finishing is being done to protect floors and other work from damage during the execution of work.

Where it becomes necessary to remove temporary coverings placed by others, replace same in proper manner.

7. Damage to Work of others: Be responsible for any damage done to the work of other trades, repairing same to the satisfaction of Engineer. Replace any materials damaged to such an extent that they cannot be restored to their original condition.

B. Workmanship:

1. Existing Surfaces: If the surfaces are not in proper shape for painting, repair, rebuild, or refinish before proceeding with the work. Contractor is responsible for any poor work caused by improper surfaces. The application of the first coat does not relieve contractor of the responsibility for failure of the base coat. Do not apply any coats on either damp or wet surfaces and in no case until the preceding coat is dry and hard.
2. Apply materials evenly without runs or sagging of materials and according to the manufacturer's requirements. Sand work between coats.

3.04 TOUCH-UP PAINTING

- A. Contractor shall, after erection of steel, apply touch-up paint to field bolt heads and nuts, field welds, and abrasions. When zinc coating has been scratched or removed from surfaces, three (3) coats of zinc rich paint shall be applied over the areas where the coating has been disturbed. Where excessive removal or damage to the zinc coating has occurred, replacement of zinc coating by hot dipping in a zinc bath may be necessary at the direction of the Engineer.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. Pipe and Tube Railings shall be measured by the linear foot.
- B. Pipe and Tube Railing Barrier Gates installed within the metal railing system shall be measured by each.

4.02 PAYMENT

- A. This work shall be paid for at the contract unit price per linear foot for "Pipe and Tube Railings" which price shall include materials, equipment, tools, labor and all incidentals thereto.
- B. This work shall be paid for at the contract unit price per each for "Pipe and Tube Railing Barrier Gates" which price shall include materials, equipment, tools, labor and all incidentals thereto.

END OF SECTION

SECTION 26 05 00 COMMON WORK RESULTS FOR ELECTRICAL

PART 1 – GENERAL

1.01 DESCRIPTION

- A. This Section covers the specification of basic materials and methods for furnishing and installing electrical system work. Refer to general conditions, supplementary conditions, and any applicable parts of the specification package for other general requirements or as directed by the Engineer.
- B. All work and materials shall comply with the latest rules, applicable regulations & codes required by Federal, State and local laws or regulations. Permits, fees or charges for inspection or other services shall be paid for by the contractor, unless otherwise noted. Codes & ordinances are minimum requirements & properly executed without expense to the owner, but do not relieve the contractor from work shown that exceeds minimum requirements.
- C. Furnish and install all materials and equipment and provide all labor required and necessary to complete the work shown on the drawings and/or specified and all other work and miscellaneous items, not specifically mentioned, but reasonably inferred for a complete installation, including all accessories required for testing the systems. It is the intent of the drawings and specifications that all systems be complete and ready for operation.
- D. This work includes but is not limited to furnishing all labor, materials, equipment and incidentals required to construct and install the complete electrical systems shown on accompanying plans and specified herein. This work shall include, but not be limited to:
 - A. Electric & communications services.
 - B. Distribution for power & controls, to facility including all electric aspect downstream of meter
 - C. Grounding, controls, and systems, as required.
 - D. Lighting, lighting control & special equipment wiring
 - E. Operational Tests & Adjustments
 - F. Electric devices as shown or as required
 - G. HVAC & mechanical systems wiring for scale house
 - H. Energy conservation controls such as occupancy sensors, timers, etc.

1.02 RELATED WORK

Related work specified in other Divisions of the Specification includes, but is not limited to:

- A. Section 31 23 00_Excavation and Fill
- B. Section 31 23 35 – Bedding for Pipes & Structures
- C. Section 32 12 16_Bituminous Concrete

1.03 QUALITY ASSURANCE

- A. All electrical systems shall be in accordance with the plans.
- B. All work of this Division shall conform to standards set forth in applicable codes:
- C. The contractor shall insure that all workmanship, all materials employed, all required equipment and the manner and method of installation conforms to accepted construction and engineering practices and that each piece of equipment is in satisfactory working condition to satisfactorily perform its functional operation. Provide quality assurance tests and operational check on all components of the electrical distribution system, controls, all lighting fixtures, & special systems.

1.04 GENERAL

This Division includes electrical work for site improvements and within buildings, as shown on the drawings and as described in the general provisions of the Contract. All General and Supplementary Conditions apply to this Section. Related or necessary electrical work described or specified elsewhere is included in this section. All work and materials shall comply with the latest rules, applicable regulations & codes required by Federal, State and local laws or regulations. Permits, fees or charges for inspection or other services shall be paid for by the contractor. Codes & ordinances are minimum requirements & properly executed without expense to the owner, but do not relieve the contractor from work shown that exceeds minimum requirements.

1.05 SITE CONDITIONS

- A. The successful bidder will be held to have familiarized themselves with all discernible conditions. No extra payment will be allowed for work required because of existing conditions, whether specifically mentioned or not.
- B. Lines of other service that are damaged as a result of this work shall be promptly repaired at no expense to the owner & to the complete satisfaction of the owner. Field verification or correction of scale dimensions on plans shall be performed by the contractor. Actual locations, distances, and levels shall be governed by field conditions.

1.06 DRAWINGS AND SPECIFICATIONS

- A. Drawings and all specifications shall be considered as a whole & work of this Division shown anywhere therein shall be furnished under this Division. Drawings are diagrammatic and indicate the general arrangement of equipment and wiring. Most direct routing of conduits and wiring is not assured. Exact requirements shall be governed by architectural, structural and mechanical conditions of the job. Consult all other drawings in preparation of the work. Extra lengths of wiring or addition of pull or junction boxes, etc., necessitated by such conditions shall be included in the bid. Some equipment is specifically designated on the drawings. It is not the intent to sole source any item unless explicitly stated. Items have been specified based upon design requirements.
- B. Bidders are encouraged to submit products for approval. With respect to order of precedence between contract documents, Contractor should be aware that the most specific documentation or information has the highest precedence.

1.07 SAFETY AND INDEMNITY

- A. The contractor shall be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the work. This requirement will apply continuously and not be limited to normal working hours. No act, service, drawing review or construction review by the owner is intended to include review of the adequacy of the contractor's safety measures in, on, or near the construction site.

1.08 CONSTRUCTION OBSERVATION

- A. Prior to covering: any major portion of the materials installed under this section, notify the Engineer/Owner so an observation can be made.

1.09 INSTRUCTION OF OWNER'S PERSONNEL

- A. The contractor shall conduct an on-site instructional tour of the entire project. The personnel designated by the owner shall be instructed in: operation of all electrical & control systems, trouble-shooting procedures, preventative maintenance procedures, uses of O & M manual, re-lamping and cleaning of lighting fixtures and operation of all special systems.

1.10 PROJECT COMPLETION

- A. Upon completion of all work & systems operational checks, the contractor shall request a final construction observation be performed. The engineer shall compile

a punch list of items to be completed or corrected. The contractor shall notify the owner upon completion of the items.

1.11 GUARANTEE

- A. All work under this section shall be guaranteed in writing to be free of defective work, materials, or parts for a period of one (1) year, after final acceptance of the work under the contract. Repair, revision or replacement of any and all defects, failure or inoperativeness shall be done by the contractor at no cost to the owner.

1.12 SUBMITTALS

- A. Submit product data for each type of product indicated.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

1.13 ELECTRICAL SUPPORTS AND SEISMIC RESTRAINTS

- A. Comply with seismic-restraint requirements in the IBC. Provide hangers and supports for electrical equipment and systems. Provide seismic restraints for electrical equipment and systems. Support systems shall be adequate for weight of equipment including associated conduit and conductors. The Engineer's drawings constitute an integral part of this work but is not exhaustive of all elements. They indicate the schematic layout of the electrical system and show approximate locations. The contractor is to be aware that all elements may not be shown but may be necessary for complete and functional systems. All items not specifically mentioned in the specifications or noted on the drawings, but which obviously are required to make the working installation complete, shall be included in the contract. Mounting detail & incidental apparatus is not shown.

PART 2 - PRODUCTS

2.01 GENERAL

- A. All electrical products used on this project shall conform, unless otherwise specifically noted, to NEMA and/or ANSI applicable standards. In addition, materials and equipment shall be sized, and installed according to the National Electric Code (NEC), NFPA, OSHA, and the regulations of local authorities and utilities. Materials shall have the approval of an independent testing laboratory such as UL or approved equal.

- B. Where materials, equipment, apparatus or other products are specified by manufacturer, brand name, type or catalog number, such designations are to establish standards of desired quality and style and shall form the basis of the bid.
- C. Materials so specified shall be furnished under the contract unless changed by mutual agreement between the Contractor and the Engineer. Where two or more designations are listed, choice shall be optional with the Contractor.

2.02 MATERIAL APPROVAL

- A. All materials must be new and UL listed or by an independent testing laboratory. Submit shop drawings and materials on equipment, apparatus & devices to be used to the engineer.

2.03 O&M MANUAL

- A. Submit Operation and Maintenance Manuals of equipment to the owner, quantity and delivery method (paper, digital, etc.) to be identified by the owner.

2.04 RECORD DRAWINGS

- A. Keep an as built plan set of revisions on the project. Submit a redline as built drawing to the engineer at completion of job.

2.05 MATERIAL HANDLING

- A. Deliver, store, and handle materials in a manner to prevent damage. Protect equipment from weather and dampness.

2.06 MANUFACTURERS

- A. Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include but are not limited to manufacturers specified or pre bid approved equal. Subject to compliance with requirements, provide products by the manufacturers specified or submit an equal with the bid.

2.07 GROUNDING WORK

- A. Provide a copper grounding conductor in each conduit whether shown or not shown. Provide one copper clad steel, 5/8" x 8', ground rod driven for each compactor independent of other grounding sources and as required by the manufacturer. Supply a #1 bonding jumper and clamps on the compactor unit and on the ground rods.

PART 3 – EXECUTION-CONSTRUCTION METHODS

3.01 GENERAL

- A. Work shall present a neat coordinated appearance. Install work as shown on Contract Drawings and as described herein. Modify work as necessary to:
 - a. Provide adequate clearance and ready access to all parts of the work, for inspection, operation, safe maintenance and repair, and code conformance.
 - b. Coordinate and arrange work to avoid conflicts and as needed for satisfactory space conditions.
 - c. Where space is inadequate, consult Engineer before proceeding with installation.
- B. Comply with laws, ordinances, rules and regulations of Local, State and Federal authorities having jurisdiction, rules and regulations of National Board of Fire Underwriters, National Electric code and local utility companies.
- C. All work shall be completed recognizing the National Electric Code as the minimum standard. Interpretations of the N.E.C. rest with the Authority Having Jurisdiction & enforced by the local enforcing authority.
- D. Equipment and materials shall be new, of first quality, selected and arranged to fit properly into spaces indicated. Install equipment and materials in accordance with manufacturer's recommendations. All terminals in equipment, terminal blocks, etc. shall be copper and shall be made tight with terminal threads in full engagement.
- E. Wire splices shall be waterproofed if below grade and are to have heat shrink insulation and covering if above grade.

3.02 WORKMANSHIP & CONTRACTOR'S QUALIFICATIONS

- A. Only quality workmanship will be accepted. Provide experienced journeymen & a foreman in charge of this work.

3.03 COORDINATION

- A. Coordinate work with other trades to avoid conflict and to provide correct rough-in and connection for equipment furnished under trades that require electrical connections. Inform contractors of other trades of the required access to and clearances around electrical equipment to maintain serviceability & code compliance.
- B. Verify equipment dimensions and requirements with provisions specified under this Section. Check actual job conditions before fabricating work. Report necessary changes in time to prevent needless work. Changes or additions subject to additional

compensation, which are made without the authorization of the owner, shall be at contractor's risk and expense.

- C. Coordinate arrangement, mounting, and support of electrical equipment:
 - 1. To allow maximum possible headroom.
 - 2. To provide for ease of disconnecting the equipment with minimum interference to other installations.
 - 3. To allow right of way for piping and conduit installed at required slope.
 - 4. So that raceway, cable, & wire-way are clear of obstructions & of the working /access space of other equipment.
 - 5. Coordinate installation of required supporting devices & set sleeves in concrete, & other structural components.
 - 6. Coordinate location of access panels & doors for electrical items that are otherwise concealed.
 - 7. Coordinate electrical testing of electrical, mechanical & architectural items, so equipment & systems that are functionally interdependent are tested to demonstrate successful interoperability.

3.04 MANUFACTURER'S INSTRUCTIONS

- A. This specification calls for installation to be made in accordance with manufacturer's recommendations and shall be available to the owner. Follow manufacturer's instructions where they cover points not specifically indicated on drawings and specifications. If they are in conflict with the drawings and specifications obtain clarification from the engineer before starting work.
- B. Install conduit and fittings per manufacturer's direction. All terminations shall be separable (threaded) type. Run conduit exposed on side wall and ceiling surfaces spaced off 3/4". Bury conduit 24" min. deep with warning type 6" below finish grade. Install yellow plastic warning tape over all buried conduits.
- C. Circuit breaker sizes shall be appropriate to the load and can be changed if requirements change the sizes shown.

3.05 WIRING METHODS, WIRE IN CONDUIT

- A. All wiring is to be within a conduit system approved for the purpose. Provide a complete conduit system between enclosures and junction boxes.

3.06 SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Electrical penetrations occur when raceways, cables, wireways, cable trays, or busways penetrate concrete slabs, concrete or masonry walls, or fire-rated floor and wall assemblies. Install sleeves for penetrations of fire-rated floor and wall assemblies unless

openings compatible with firestop system used are fabricated during construction of floor or wall. Seal space outside of sleeves with grout for penetrations of concrete and masonry and with approved joint compound for gypsum board assemblies. Maintain indicated fire rating of walls, partitions, ceilings, and floors at raceway and cable penetrations. Install sleeves and seal raceway and cable penetration sleeves with firestop materials. Install to seal underground, exterior wall penetrations. Apply fire-stopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly.

3.07 EXCAVATION AND BACKFILL

- A. Excavation: the contractor shall do all necessary excavation of whatever substances encountered for proper laying of all raceways or cables. Excavated materials not required for fill shall be removed from the site as directed by the owner.
- B. Excavation shall be carried low enough to allow minimum coverage over raceways. Excess excavation below required level shall be backfilled at the contractor's expense with earth, sand or gravel. Perform all backfilling.

3.08 COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION

- A. Headroom Maintenance: Arrange & install components and equipment to provide maximum possible headroom consistent with these requirements. Install Equipment to facilitate service, maintenance, and repair or replacement of components of both electrical equipment and other nearby installations. Connect in such a way as to facilitate future disconnecting with minimum interference with other items in the vicinity.

3.09 APPLICATION OF ELECTRICAL SUPPORTS AND SEISMIC RESTRAINTS

- A. Comply with NECA 1 for application of hangers and supports for electrical equipment and systems.
- B. Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for EMT, IMC, and RMC as required by NFPA 70. Minimum rod size shall be 1/4 inch diameter.
- C. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted or other support system. Secure raceways and cables to trapeze member with two-bolt conduit clamps. Spring-steel clamps designed for supporting single conduits without bolts may be used for 1.5" and smaller raceways serving branch circuits and communication systems above suspended ceilings and for fastening raceways to trapeze supports.

3.10 SUPPORT INSTALLATION

- A. Comply with NECA 1 for installation requirements. Raceway Support Methods: In addition to NECA 1 methods, EMT may be supported by openings through structure members, as permitted in NFPA 70.
- B. Strength of Support and Seismic-Restraint Assemblies: Select sizes of components so strength will be adequate to carry present and future static and seismic loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lbs. (90 kg).
- C. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by To Wood: Fasten with lag screws or through bolts, To New Concrete: Bolt to concrete inserts, To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units, To Existing Concrete: Expansion anchor fasteners. Instead of expansion anchors, powder-actuated driven threaded studs provided with lock washers and nuts may be used in existing standard-weight concrete 4 inches (100 mm) thick or greater.
- D. To Light Steel: Sheet metal screws.

3.11 INSTALLATION OF FABRICATED METAL SUPPORTS

- A. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. This work shall not be measured but will be paid at the contract lump sum price for "Electrical Improvements".

4.02 PAYMENT

- A. This work shall be paid for at the contract lump sum price for "Electrical Improvements" which price shall include all materials, equipment, tools, labor and all incidentals thereto.

END OF SECTION

SECTION 31 11 00 CLEARING & GRUBBING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The work of this specification includes, but is not limited to clearing & grubbing the ground of trees, stumps, brush, rubbish and all objectionable material in accordance with the plans, these specifications or as directed by the Engineer. This work shall also include the clearing of the ground necessary for the construction and installation of proposed site improvements.
- B. Included in this work shall be the preservation from injury or defacement of vegetation and objects designated to remain.

1.02 RELATED WORK

- A. Section 01 57 21 – Anti-Tracking Apron
- B. Section 01 57 13 – Sedimentation Control System
- C. Section 01 57 26 – Dust Control
- D. Section 31 23 00 – Excavation and Fill
- E. Section 31 23 13 – Formation Subgrade

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Not applicable.

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

- A. Unless otherwise directed, all work shall comply with Form 819 Article 2.01.03.
- B. Remove all stumps, roots, etc., within fill areas.

- C. Comply with all applicable regulations for disposal of materials. On-site burning will not be permitted. All material shall be disposed of off-site.
- D. Protect existing utilities and work already installed by others.
- E. Protect horizontal and vertical control points.
- F. Install erosion control devices prior to beginning grubbing operations, except where said grubbing will be in conflict with the erosion control fences.
- G. Chipped wood shall be stockpiled in sufficient quantities to place 4" of wood mulch on areas shown on plans. Excess material shall be removed from site.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. Clearing and Grubbing shall not be measured but will be paid at the contract lump sum price for "Clearing and Grubbing". Chipping of trees and stockpiling of mulch, disposal of stumps, brush, rubbish, and all objectionable material shall not be measured separately for payment, but shall be included in the work.

4.02 PAYMENT

- A. Clearing and Grubbing shall be paid for at the contract lump sum price for "Clearing and Grubbing" of the area specified, complete in place which price shall include all materials, equipment, tools and labor incidental thereto.

END OF SECTION

SECTION 31 23 00 EXCAVATION AND FILL

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work under this section shall consist of all earthwork inside the limits of the project which includes, but is not limited to; moving provided fill material, excavating; stockpiling materials as needed; grading and compacting to obtain the required finish contours and elevations; dewatering; and the disposal or relocation of surplus and unsuitable material.

1.02 RELATED WORK

- A. Section 01 57 21 – Anti-Tracking Apron
- B. Section 01 57 13 – Sedimentation Control System
- C. Section 01 57 20 – Dust Control
- D. Section 01 71 23 – Construction Layout
- E. Section 31 23 13 – Formation of Subgrade
- F. Section 32 91 19 – Topsoil Placement and Grading

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.

1.04 PROJECT CONDITIONS

- A. All information given on the plans or within the contract documents, relating to subsurface conditions and existing pipes and other structures is from best sources at present available to the Owner and Engineer and is for information only.
- B. All such information and drawings of existing construction are furnished only for the information and convenience of the Contractor. It shall be understood and agreed that the Owner and Engineer do not warrant or guarantee that materials encountered during construction will be the same as those indicated by information given on the drawings. The Contractor must satisfy himself regarding character, quantities and conditions of the various materials and work to be done.

PART 2 – PRODUCTS

2.01 GENERAL FILL & BORROW

- A. General fill and borrow shall meet the requirements of Section 31 23 23 General Fill & Borrow.

PART 3 - EXECUTION

3.01 GRADING

- A. Grading shall be performed to the lines, grades, and contours shown on drawings.
- B. All sedimentation control measures shall be placed prior to beginning construction.
- C. Finished grades are shown on the plans and the Contractor shall grade to those limits. If changes to the plans are made, those changes will be transmitted to the Contractor in the form of a change order.
- D. In fill areas, the topsoil shall be removed and the existing soil shall be compacted to the appropriate density (95%) prior to beginning fill operations.
- E. All soft and yielding material and other portions of the subgrade which will not compact readily when rolled, vibrated or tamped shall be clarified, blended and handled to obtain the proper moisture content to facilitate compaction. At the direction of the Engineer, unsuitable material shall be removed and replaced with suitable material.
- F. General fill will be placed between the existing site grades and the proposed site grades. General fill shall also be utilized in excavated areas that must be brought up to grade. After all grading of the subgrade for the backfill has been substantially completed and all drains laid, the backfill shall be brought to the lines, grades and cross-sections shown on the plans or where directed by the Engineer and in accordance with these specifications.
- G. Should the volume of on-site general fill be insufficient to obtain the required proposed grades, borrow shall be supplied and placed as general fill.
- H. Fill operations shall commence in all low areas and proceed in such manner that the entire fill is raised uniformly and shaped to provide positive drainage at all times. The Contractor shall construct and maintain on the site, all ditches and channels necessary to keep the site in a dry, workable condition. Where water is infiltrating into an excavation, the Contractor shall provide for pumping and other drainage facilities to divert water from such excavation to a water outlet.

3.02 EARTH EXCAVATION

- A. Earth excavation shall include all materials removed as indicated or directed except water and rock.

3.04 PLACEMENT OF FILL

- A. The embankment shall be constructed by depositing successive layers of fill for the full width of the embankment, unless a partial width is permitted by the Engineer. No embankment layer shall be deposited on surfaces of snow or ice, nor shall it be placed on frozen or unstable surfaces.
- B. The depths of each layer, before compaction, shall not exceed 6 inches except as directed by the Engineer and as noted below.
- C. The embankment shall be crowned or pitched to provide drainage at the close of each day's operation.
- D. The entire area of each layer shall be leveled off by suitable grading equipment and shall be compacted as hereinafter specified.
- E. No stone over 5 inches in its greatest dimension shall be placed within 12 inches of the elevation of the top of the prepared subgrade unless otherwise approved by the engineer.
- F. Areas to receive topsoil shall be graded to accept the topsoil to within no more than 0.10 feet of the grades shown on the plans. Variations shall not be completely in one direction.
- G. When embankments are to be constructed on slopes steeper than 1 vertical to 3 horizontal, the slope of the existing ground on which the embankment is to be placed shall be plowed deeply or cut into steps before the filling is begun.
- H. Large stones shall not be placed in nests but shall be distributed over the area; and the interstices shall be filled with spalls, finer fragments or earth to form a solid, compact mass.
- I. No rock fill shall be placed above an elevation which is 2 feet below the top of the embankment, unless shown on the plans or approved by the Engineer.

- J. The Contractor shall be required to construct fills and embankments which are stable and non-deforming. The blending of materials may be required to achieve this condition.

3.05 COMPACTION

- A. The entire area of each layer shall be uniformly compacted to at least the required minimum density by use of compaction equipment consisting of rollers, compactors, or a combination thereof. Earth-moving and other equipment not specifically manufactured for compaction purposes will not be considered as compaction equipment.
- B. The dry density for soil after compaction shall be not less than 95 percent of the dry density for that soil when tested in accordance with AASHTO T180, Method D.
- C. If necessary to obtain the required compaction, water shall be added to acquire optimum moisture content.
- D. In areas where compaction is found not to comply with Contract Documents, any necessary retesting and re-compaction shall be done at the Contractor's expense.
- E. The Contractor shall maintain sufficient reference points to provide vertical and horizontal locations of soil test locations.
- F. Compaction for each layer of fill shall be achieved prior to the placing of subsequent layers and shall conform to Section 2.02.03-6 of the Standard Specifications.
- G. Jetting, flooding, or other similar methods of compaction will not be permitted.

3.06 DEWATERING

- A. Prevent surface water and subsurface or ground water from flowing into excavations and from flooding project site and surrounding area.
- B. Establish and maintain temporary drainage ditches and other diversions outside excavation limits to convey rainwater and water removed from the excavation or runoff from adjacent areas. Do not use trench excavation as temporary drainage ditches.
- C. All dewatering discharge shall be to a sediment basin or recharge basin.

3.07 MATERIAL STORAGE

- A. Stockpile satisfactory excavated materials where directed, until required for backfill or fill. Place, grade and shape stockpiles for proper drainage.

3.08 COLD WEATHER PROTECTION

- A. Protect excavation bottoms against freezing when atmospheric temperature is less than 35°F (1°C) prior to placing any material.

3.09 MOISTURE CONTROL

- A. Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to the surface of subgrade or layer of soil material, to prevent free water appearing on surface during or subsequent to compaction operations.
- B. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density. Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by, harrowing or pulverizing until moisture content is reduced to a satisfactory value.

3.10 DISPOSAL OF UNSUITABLE MATERIAL

- A. All material excavated and unsuitable for fill material shall become the property of the Contractor and shall be removed from the site and disposed of by the Contractor unless otherwise directed by the Engineer.

3.11 DISPOSAL OF SURPLUS MATERIAL

- A. All surplus material excavated from the site and not required to satisfactorily complete the work, shall become the property of the Contractor and shall be removed from the site and disposed of by the Contractor unless otherwise directed by the Engineer.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. Excavation and/or Fill shall not be measured but will be paid at the contract unit price for "Formation of Subgrade".

4.02 PAYMENT

- A. This work shall be paid for at the contract unit price for "Formation of Subgrade", which price shall include all materials, equipment, tools, and transfer of materials to/from the site and labor incidental thereto.

END OF SECTION

SECTION 31 23 13 FORMATION OF SUBGRADE

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work under this specification covers the formation of subgrade. The subgrade is the plane coincident with the bottom of the subbase as shown on the plans or as directed by the Engineer. The work of formation of subgrade shall be performed at this plane. After all earth excavation and trench excavation for these areas have been substantially completed, the subgrade shall be brought to the lines, grades and cross sections shown on the plans or as directed by the Engineer.

1.02 RELATED WORK

- A. Section 01 57 21 – Anti-Tracking Apron
- B. Section 01 57 13 – Sedimentation Control System
- C. Section 01 57 26 – Dust Control
- D. Section 01 71 23 – Construction Layout
- E. Section 31 23 00 – Excavation and Fill

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.

PART 2 – PRODUCTS

2.01 GENERAL

- A. Not applicable.

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

- A. Formation of subgrade shall be performed in conformance with Form 819, Article 2.09.03.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. Formation of subgrade shall be measured in square yards. Payment lines for formation of subgrade shall be coincident with the bottom of the subbase.

4.02 PAYMENT

- A. This work shall be paid for at the contract unit price per square yard for "Formation of Subgrade" which price shall include materials, equipment, tools, labor and all incidentals thereto.

END OF SECTION

SECTION 31 23 23 GENERAL FILL & BORROW

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this section shall consist of providing all labor, equipment and materials for providing and placing general fill and/or borrow. General fill (aka "common fill") and/or borrow shall be located and placed as shown on the plans and in accordance with this technical specification.

1.02 RELATED WORK

- A. Section 01 45 23 – Testing Laboratory Services
- B. Section 31 23 00 – Excavation and Fill
- C. Section 31 23 13 – Formation of Subgrade

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.
- B. The Contractor shall assist the Engineer in all testing required. The Contractor shall supply any laborers and equipment necessary for assistance in the testing at no additional cost. This work may include, but is not limited to providing material, samples, digging test pits and revising work to meet the intent of the plans and specifications. The cost of all testing shall be borne by the Contractor.

1.43 SUBMITTALS

- A. A materials certificate with sieve analyses shall be submitted for borrow material.

PART 2 - PRODUCTS

2.01 GENERAL FILL & BORROW

- A. General fill material shall be from onsite excavations or regrading and shall be subject to the approval of the Engineer.
- B. This material shall be screened to remove large cobbles prior to use.

C. Borrow, to be provided only if pre-existing material is inadequate, shall meet the requirements of Form 819 Article 2.07.02.

D. Testing Schedule:

Sieve Test One (1) source sample from each source or if a change in material is evident, as directed by the engineer.

Proctor Test One (1) proctor per source.

Compaction Test As Directed by the Owner/Engineer, not to exceed one (5) per acre. Perform tests as per ASTM D2922/3017 (Nuclear Density Gauge).

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

- A. General fill and/or borrow shall be placed and compacted in conformance with Form 819, Section 2.07.03.
- B. The Contractor shall assure that the finished grading of the general fill after compaction will provide a smooth surface with no protruding objects. Grading shall be performed in accordance with plans or as directed by the Engineer to assure that no ponding or low spots occur, except as designated.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. General fill material created from regrading or general earthwork, shall not be measured for payment but shall be included in the associated work.
- B. Borrow fill required if the existing general fill is insufficient in volume to obtain the required grades will be measured by the cubic yards installed and compacted in place.

4.02 PAYMENT

- A. General fill material created from regrading or general earthwork, shall not be paid for separately but shall be included in the associated work.

- B. Borrow shall be paid for at the contract unit price per cubic yard of "General Fill and Borrow" which price shall include all materials, equipment, tools and labor incidentals thereto.

END OF SECTION

SECTION 31 23 25
GRANULAR FILL

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Work of this specification covers furnishing and placing compacted granular fill for foundation for structures and locations shown on the plans or as directed by the Engineer.

1.02 RELATED WORK

- A. Section 03 40 00 – Precast Concrete Retaining Wall

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.

1.04 SUBMITTALS

- A. Submit certified test results from a testing laboratory to the Engineer for approval. Test results must indicate characteristics of materials including gradations. The cost of all testing shall be borne by the Contractor.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Pervious structural fill materials shall conform to the requirements of Form 819, Articles M.02.05, with the exception that reclaimed miscellaneous aggregate shall not be allowed.

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

- A. Pervious structural fill installation shall conform to Form 819, Article M.02.05.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. This work shall not be measured but will be paid at the unit price for "Precast Concrete Retaining Wall".

4.02 PAYMENT

- A. This work shall be paid for at the unit price for "Precast Concrete Retaining Wall" which price shall include all materials, equipment, tools, labor and all incidentals thereto.

END OF SECTION

SECTION 31 23 33
TRENCHING AND BACKFILLING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this specification covers trench excavation and backfilling for the installation of all storm water drainage, sanitary sewer, gas service, water service, telephone service, cable service, conduits and associated appurtenances as shown on the plans or as directed by the Engineer. Furthermore, work under this specification covers trench excavation of earth, rock, and unsuitable materials.

1.02 RELATED WORK

- A. Section 31 23 13 – Formation of Subgrade
- B. Section 01 57 13 – Sedimentation Control System
- C. Section 31 23 35 – Bedding for Pipes and Structures
- D. Section 33 42 00 – Stormwater Drainage – Piping and Structures
- E. Section 33 70 00 – Underground Conduit

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2020" and including all Supplemental Specifications.

1.04 SUBMITTALS

- A. None Required

PART 2 - PRODUCTS

2.01 GENERAL

- A. Lumber used for sheeting, rangers, bracing and other construction purposes shall be sound, straight grained spruce or fir and shall be free from shakes, loose knots and other defects liable to impair its strength or durability. Lumber sheeting may be reused if in good condition.
- B. Steel sheeting components shall meet the requirements of ASTM A328.

PART 3 - EXECUTION

3.01 GENERAL

- A. Trench excavation and backfilling shall be performed in accordance with Form 819, Article 2.05.03 and Article 10.01.03
- B. Trench excavation and backfilling shall be performed to the lines and grades necessary to install the relevant underground utility pipe, conduit and appurtenances as shown on the plans or as directed by the Engineer. In all cases, the banks shall be as nearly vertical as practicable.
- C. Except where rock or unsuitable material is encountered, care shall be taken not to excavate below the depths indicated. The Contractor shall furnish and employ such shores, braces, sheeting, pumps, etc., as may be necessary for the protection of property, proper completion of the work and the safety of the public and employees of the Contractor and the Owner. All bracing, sheeting, etc., shall be removed when no longer required for the construction or safety of the work.
- D. The material remaining at the bottom of the trench upon which the utility bedding is to be placed shall be smoothed and compacted. Any part of the bottom of the trench inadvertently excavated below the specified grade shall be filled with utility bedding at the Contractor's expense and thoroughly compacted to the satisfaction of the Engineer.
- E. After the excavation is completed; the Contractor shall notify the Engineer. No masonry, pipe or other material shall be placed in the excavated area until the Engineer has approved the character of the foundation material.
- F. During excavation, material suitable for general fill shall be piled in an orderly manner a sufficient distance from the banks of the trench to avoid overloading and to prevent slides or cave-ins. All excavated materials shall be incorporated into plan fills or removed and properly disposed of.
- G. Excavation shall consist of the removal of all encountered materials including, but not limited to rock, clay, silt, sand, muck, gravel, hardpan, loose shale, loose stone in masses, boulders, existing pipe, manholes and other concrete or masonry structures, and buried stumps and debris.
- H. Unless otherwise specified or approved by the Engineer, excavation shall be by cut and cover.

3.02 EXTENT OF OPEN EXCAVATION

- A. The extent of excavation open at any time will be controlled by the conditions but shall always be confined to the limits prescribed by the Engineer.

3.03 TRENCH WIDTH

- A. Trench widths shall be as specified on the plans and shall not be unnecessarily widened. Every effort shall be made to keep the sides of the trenches firm and undisturbed until backfilling has been completed and consolidated.

3.04 SHEETING AND BRACING

- A. The Contractor shall furnish, put in place and maintain such sheeting, bracing, shoring, etc., as may be necessary to support the sides of the excavation and to prevent any movement of earth other than that intended to be accomplished by the excavation. Such sheeting, shoring and bracing shall be done as may be necessary for the protection of the work and for the safety of personnel and shall comply with the safety precautions as outlined in the Associated General Contractors of America, "Manual of Accident Prevention in Construction", and the "Occupational Safety and Health Act" of 1970 (OSHA). Sheeting, bracing, shoring etc., shall be installed in such a manner as to prevent material in behind the sheeting or bracing from falling into the trench.

3.05 SEEPAGE OR SURFACE WATER

- A. To insure proper conditions at all times during construction, the Contractor shall provide and maintain ample means and devices with which to intercept and/or remove promptly and dispose properly of all water entering trenches and other excavations. Excavations shall be kept dry until the structures, pipes and appurtenances to be built therein have been completed to such extent that they will not be floated or otherwise damaged.
- B. All water pumped or drained from the work shall be disposed of in a suitable manner without undue interference with other work or damage to pavements, other surfaces or property. If such water is to be discharged to a stream or storm drainage system, the Contractor shall be responsible for removing all particulate matter which may be deposited in the stream or storm drainage system. The Contractor shall submit his proposed methods or procedures to the Engineer and shall maintain compliance with applicable laws and regulations.

3.06 EXCAVATION NEAR EXISTING FACILITIES

- A. Attention is directed to the fact that there are storm drains, water mains and services, sanitary sewer mains and laterals, gas mains and services, and other utilities in certain locations. Some of these have been indicated on the plans, but no attempt has been

made to show all of the existing conditions, and the completeness or accuracy of the information given is not guaranteed. In advance of normal machine excavation, location of services shall be investigated and the expected location marked. It shall be the responsibility of the Contractor to contact the appropriate utility company and "Call-Before-You-Dig" (1 (800) 922-4455) at least 72 hours in advance of any excavation to have utility locations marked out. As the excavation approaches these services and other expected pipes, conduits or other underground structures, digging by machinery shall be discontinued, and the excavation shall be done by means of hand tools.

3.07 UNAUTHORIZED EXCAVATION

- A. If the bottom of any excavation is inadvertently taken out beyond the limits indicated or prescribed, the resulting void shall be backfilled at the Contractor's expense with gravel fill, sand, pipe bedding, or concrete as deemed appropriate by the Engineer.

3.08 ELIMINATION OF UNSUITABLE MATERIAL

- A. If material unsuitable for foundation (in the opinion of the Engineer) is found at or below the grade to which excavation would normally be carried in accordance with the plans and specifications, the Contractor shall remove such material to the required width and depth and replace it with granular fill, pipe bedding, sand, or concrete as directed by the Engineer. All unsuitable excavated material shall become the property of the Contractor and shall be disposed of at no additional cost to the Owner.

3.09 DISPOSAL OF SURPLUS MATERIAL

- A. All surplus excavated material shall become the property of the Contractor and shall be disposed of at no additional cost to the Owner.

3.10 BACKFILL

- A. Backfill for utility work, above the line of narrow trench limit, shall be compacted in layers not more than six (6) inches compacted thickness. No stones larger than two (2) inches shall be placed within two (2) feet of the utility in backfilling. When any stone is used in the remainder of backfilling, each piece shall be embedded in dirt, and no stone weighting over fifty pounds shall be included in the trench. Nesting of stones will not be allowed.

3.11 COMPACTION

- A. The entire area of each layer of fill shall be uniformly compacted to at least the required minimum density by use of compaction equipment consisting of rollers, compactors or a combination thereof. Earth moving and other equipment not specifically

manufactured for compaction purposes will not be considered as compaction equipment.

- B. The compaction of backfill shall not be less than 98 percent of the dry density for that soil when tested in accordance with AASHTO T180, Method D.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. There shall be no separate measurement for "Trenching and Backfilling".

4.02 PAYMENT

- A. There shall be no separate payment for "Trenching and Backfilling".

END OF SECTION

SECTION 31 23 35
BEDDING FOR PIPES & STRUCTURES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this specification covers furnishing and installing bedding materials for all pipes and structures as shown on the plans or as directed by the Engineer. Also, work under this specification includes furnishing and installing associated detectable warning tape and filter fabric.

1.02 RELATED WORK

- A. Section 31 23 33 – Trenching and Backfilling
- B. Section 33 42 00 – Stormwater Drainage – Piping and Structures
- C. Section 33 70 00 – Underground Conduit

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.

1.04 SUBMITTALS

- A. Submit certified test results from a testing laboratory to the Engineer for approval. Test results must indicate characteristics of materials, including: gradation, plasticity and compaction. The cost of all testing shall be borne by the Contractor.

PART 2 - PRODUCTS

2.01 BEDDING MATERIALS

- A. Bedding materials for ductile iron (DI) and copper water services shall be sand conforming to Form 819, Article M.11.04, Fine Aggregate for Mortar Note.
- B. Bedding materials for polyvinyl chloride (PVC) gravity sanitary sewer pipe and precast concrete sanitary manholes shall be $\frac{3}{4}$ " crushed stone conforming to Form 819, Article M.01.01, No. 6.
- C. Bedding materials for high density polyethylene (HDPE) pressure sewer pipe shall be sand conforming to Form 819, Article M.11.04, Fine Aggregate for Mortar Note.

- D. Bedding materials for precast concrete sanitary manhole shall be $\frac{3}{4}$ " crushed stone conforming to Form 819, Article M.01.01, No. 6.
- E. Bedding materials for storm drain shall be $\frac{3}{4}$ " crushed stone conforming to Form 819, Article M.01.01, No. 6.
- F. Bedding materials for high density polyethylene (HDPE) pressure storm drainage pipe shall be sand conforming to Form 819, Article M.11.04, Fine Aggregate for Mortar Note.
- G. Bedding materials for storm drainage structures shall be $\frac{3}{4}$ " crushed stone conforming to Form 819, Article M.01.01, No. 6.
- H. Bedding materials for conduits shall be sand conforming to Form 819, Article M.11.04, Fine Aggregate for Mortar Note.

2.02 DETECTABLE WARNING TAPE

- A. Detectable warning tape shall be proprietary product consisting of continuously printed metallic detection tape intended for direct burial service, not less than 6" wide x 4mils thick. Printed words shall read "Caution (appropriate utility) Line Buried Below". Color shall be appropriate for the utility.

2.03 FILTER FABRIC

- A. Filter Fabric material shall be geotextile conforming to Form 819, Article M.08.01-19.

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

- A. Materials shall be provided by the Contractor from sources outside the project limits in the quantities required for completion of the work and shall be approved by the Engineer prior to use in the work. Laboratory testing to establish sieve analysis and conformance to material gradations will be the responsibility of the Contractor.
- B. The bottoms of excavations and trenches shall be thoroughly compacted and in approved condition prior to placing the bedding.
- C. Filter fabric shall be installed as shown on the plan or as directed by the Engineer.

- D. The bedding shall be placed in layers not exceeding six (6") inches in loose depth. Each layer shall be thoroughly compacted, by tamping or other approved method, to achieve the compaction specified below.
- E. The pipe bedding shall be carefully graded and shaped so that the full length of pipe barrel shall have complete and uniform bearing and the bedding compacted in a careful and thorough manner along both sides of pipes to provide proper support and bedding for the pipes. Bell holes and depressions for joints shall be dug after the bedding has been graded and compacted and shall be a size suitable for the proper jointing of the pipe. The Contractor shall exercise care in all placing and compacting operations so as to prevent disturbing joints, displacement or damage to the pipes.
- F. Detectable warning tape shall be installed as shown on the plan or as directed by the Engineer.

3.02 INSPECTION

- A. As the work progresses, the pipe will be checked by the Engineer to determine whether any disturbing of joints, displacement or damage to the pipes has occurred. If the inspection of pipe shows poor alignment, displaced pipe, disturbed joints, damage to pipe or any other defects, the Contractor shall correct all deficiencies in a satisfactory manner, at no added expense to the Owner.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. There shall be no separate measurement for "Bedding for Pipes and Structures".

4.02 PAYMENT

- A. There shall be no separate payment for "Bedding for Pipes and Structures".

END OF SECTION

SECTION 31 37 00 RIPRAP

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this specification covers furnishing and installing materials to construct riprap swales, outlet pads and level spreaders as shown on the plans or as directed by the Engineer.

1.02 RELATED WORK

- A. Section 01 57 21 – Anti-Tracking Apron
- B. Section 01 57 13 – Sedimentation Control System
- C. Section 01 71 23 – Construction Layout
- D. Section 31 23 00 – Excavation and Fill
- E. Section 33 42 00 – Stormwater Drainage – Piping and Structures
- F. Section 32 91 19 – Topsoil Placement and Grading
- G. Section 32 92 00 – Turf and Grasses

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.

1.04 SUBMITTALS

- A. Riprap will be visual inspected by the Engineer for acceptance.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Riprap shall conform to Form 819 Article M.12.02 and shall be the size/type indicated on the plans.
- B. Bedding material shall conform to Form 819 Article M.02.01.
- C. Filter fabric geotextile shall conform to Form 819 Article M08.01-19

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

- A. Riprap swales, outlet pads and level spreaders installations shall conform to Form 819, Article 7.03.03.
- B. The area to be protected by riprap shall be accurately shaped prior to placing of any bedding material or riprap. Bedding material shall be placed on the prepared area and compacted to the depth, lines and grades indicated on the plans.
- C. The riprap shall be placed to its full course thickness in one operation in such a manner as to produce reasonably well-graded mass or rock without causing displacement of the underlying material.
- D. The finished surface shall be free from pockets of small stones and clusters of larger stones. Placing this material by methods likely to cause segregation of the various sizes of stone will not be permitted.
- E. Rearranging of individual stones by mechanical or hand methods will be required to the extent necessary to obtain a reasonably well graded distribution of the specified stone sizes. The completed course shall be of the specified thickness and to the lines and grades as shown on the plans.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. The work which conforms to this specification shall be measured as defined below.
 - 1. This work shall not be measured but will be paid at the contract lump sum price for "Detention Basin".
 - 2. Excavation, bedding material, and filter fabric shall not be measured for payment, but shall be included in the contract unit price for the related item.

4.02 PAYMENT

- A. This work shall be paid for at the contract lump sum price for "Detention Basin" which price shall include all materials, equipment, tools, labor and all incidentals thereto.

END OF SECTION

SECTION 32 11 23 PROCESSED AGGREGATE BASE COURSE

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this specification covers furnishing and installing processed aggregate base materials consisting of a clean mixture of broken stone as shown on the plans or as directed by the Engineer.

1.02 RELATED WORK

- A. Section 01 57 21 – Anti-Tracking Apron
- B. Section 01 57 13 – Sedimentation Control System
- C. Section 01 57 26 – Dust Control
- D. Section 32 12 16 – Bituminous Concrete
- E. Section 03 33 10 – Concrete Pads

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.

1.04 SUBMITTALS

- A. Submit material certification and gradation with specifications for processed aggregate base to the Engineer for approval.
- B. Submit a weight ticket for material at time of delivery.

PART 2 - PRODUCTS

- A. Processed aggregate base materials shall conform to the requirements of Form 819, Article M. 05.01. Coarse aggregate shall be broken stone, gravel or reclaimed. Miscellaneous aggregate shall not be allowed.

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

- A. Processed aggregate base installation shall conform to Form 819, Article 3.04.03.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. Processed aggregate base shall be measured in cubic yards. Processed aggregate base will be measured horizontally in place after final grading and compaction. The thickness will be as indicated on the plans, or as ordered by the Engineer.

4.02 PAYMENT

- A. This work shall be paid for at the contract unit price per cubic yard for "Processed Aggregate Base Course", complete in place which price shall include all materials, equipment, tools, and labor incidental thereto.

END OF SECTION

SECTION 32 12 16 BITUMINOUS CONCRETE

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this specification covers furnishing and installing bituminous concrete pavement as shown on the plans or as directed by the Engineer.

1.02 RELATED WORK

- A. Section 03 81 13 – Flat Concrete Sawing
- B. Section 33 49 00 – Stormwater Drainage - Structures
- C. Section 32 11 23 – Processed Aggregate Base Course
- D. Section 32 16 13 – Bituminous Concrete Curb
- E. Section 03 48 13 – Precast Concrete Bollards
- F. Section 03 33 10 – Concrete Pads & Sidewalks
- G. Section 32 17 23 – Pavement Markings
- H. Section 32 91 19 – Topsoil Placement and Grading

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.

1.04 SUBMITTALS

- A. Submit mix design and job mix formula for all bituminous concrete, including all coarse aggregate, fine aggregate, mineral filler and liquid bituminous materials to the Engineer for approval.
- B. Submit material delivery tickets for all bituminous concrete and tack coat materials.
- C. Submit material certificate for all bituminous concrete and tack coat.

PART 2 - PRODUCTS

2.01 BITUMINOUS CONCRETE

- A. The bituminous concrete materials and mixtures shall conform to the requirements Form 819, Article M.04 and shall be of the class specified on the plans.

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

- A. Bituminous concrete installation shall conform to Form 819, Article 4.06.03.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. Bituminous concrete pavement shall be measured by the ton and in accordance with Form 819 Article 4.06.04. Tack coat material shall not be measured separately for payment, but shall be included in the work.

4.02 PAYMENT

- A. Bituminous concrete pavement shall not be paid for at the contract unit price per ton for "HMA S1". Paving will be conducted by the Town of Coventry.
- B. Bituminous concrete pavement shall not be paid for at the contract unit price per ton for "HMA S0.5". Paving will be conducted by the Town of Coventry.

END OF SECTION

SECTION 32 15 40 CRUSHED STONE SURFACING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this specification covers furnishing and installing materials to construct a gravel driveway/apron and stone surfacing as shown on the plans or as directed by the Engineer.
- B. Work under this specification also covers furnishing and installing materials to reconstruct an existing driveway as shown on the plans or as directed by the Engineer.

1.02 RELATED WORK

- A. Section 01 57 13 – Sedimentation Control System
- B. Section 01 71 23 – Construction Layout
- C. Section 31 23 00 – Excavation and Fill
- D. Section 31 23 13 – Formation of Subgrade
- E. Section 32 91 19 – Topsoil Placement and Grading
- F. Section 32 92 00 – Turf and Grasses
- G. Section 33 46 11 – Stormwater Detention Basin

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024".

1.04 SUBMITTALS

- A. Submit certified test results from a testing laboratory to the Engineer for approval. Test results must indicate characteristics of materials including gradations.
- B. Gravel will be visually inspected by the Engineer for acceptance prior to installation.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Gravel / crush stone shall conform to Form 819 Article M1.01.01 No.4 and M.02.03

- B. Subbase material shall conform to Form 819 Article M.02.01.

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

- A. Contractor shall install gravel maintenance driveway at the locations, to the dimensions and details shown on the plans or as directed by the Engineer.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. Work conforming to this specification shall be measured by the actual number of square yards placed in accordance with the limits indicated on the plan. Excavation, subbase material, geotextile and formation of subbase shall not be measured for payment, but shall be included in the contract unit price for the related item.

4.02 PAYMENT

- A. Gravel Driveway/Apron shall be paid for at the contract unit price per square yard of "Crushed Stone Surfacing (Gravel Driveway)" which shall include all materials, equipment, tools and labor incidental thereto.
- B. Gravel Apron shall be paid for at the contract unit price per square yard of "Crushed Stone Surfacing (Stone Surface)" which shall include all materials, equipment, tools and labor incidental thereto.

END OF SECTION

SECTION 32 16 13 BITUMINOUS CONCRETE CURB

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this specification covers furnishing and installing bituminous concrete curb as shown on the plans or as directed by the Engineer.
- B. Work under this specification also covers furnishing tack coat material prior to the curb placement.

1.02 RELATED WORK

- A. Section 03 81 13 – Flat Concrete Sawing
- B. Section 33 42 00 – Stormwater Drainage - Structures
- C. Section 32 12 16 – Bituminous Concrete
- D. Section 03 33 10 – Concrete Pads & Sidewalks
- E. Section 32 91 19 – Topsoil Placement and Grading

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.

1.04 SUBMITTALS

- A. Submit mix design and job mix formula for all bituminous concrete, including all coarse aggregate, fine aggregate, mineral filler and liquid bituminous materials to the Engineer for approval.
- B. Submit material certificate for all bituminous concrete and tack coat.

PART 2 - PRODUCTS

2.01 BITUMINOUS CONCRETE

- A. The bituminous concrete curbing materials and mixture shall conform to the requirements of Form 819, Section M.04, Curb Mix.
- B. Tack coat material shall meet the requirements of Section M.04 Curb Mix.

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

- A. The bituminous concrete curbing installation shall conform to Form 819, Article 8.15.03.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. A. Bituminous concrete curb shall be measured by the linear feet. Bituminous concrete curb shall be measured for payment along the top of curb. Tack coat shall not be measured separately for payment, but shall be included in the work.

4.02 PAYMENT

- A. Bituminous concrete curb shall be paid for at the contract unit price per linear foot for "Bituminous Concrete Curb" of the type specified, complete in place, which price shall include materials, equipment, tools, labor and all incidentals thereto.

END OF SECTION

SECTION 32 17 23 PAVEMENT MARKINGS AND SIGNAGE

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this specification covers furnishing and installing signage as shown on the plans or as directed by the Engineer.

1.02 RELATED WORK

- A. Section 32 12 16 - Bituminous Concrete
- B. Section 32 16 13 - Bituminous Concrete Curb

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2020" and including all Supplemental Specifications.

1.04 SUBMITTALS

- A. Submit paint technical data to the Engineer for approval.
- B. Submit signage components product data to the Engineer for approval.
- C. Submit material certificate for paint.
- D. Submit material certificate for all signage components.

PART 2 - PRODUCTS

2.01 PAINTED PAVEMENT MARKINGS

- A. Painted pavement marking materials shall conform to Form 819, Article 12.09.02, Article M.07.20 for waterborne pavement marking paint.

2.03 SIGNAGE

- A. Signage materials shall conform to the requirements of Form 819, Article 12.08.02.

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

- A. Painted pavement marking installations shall conform to Form 819, Article 12.09.03.
- B. Signage installations shall conform to Form 819, Article 12.08.03.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. Painted pavement markings shall be measured per linear foot for each type of marking placed and accepted. Pavement markings will be installed by the Town of Coventry.
- B. Painted legends, arrows & markings shall be measured per square foot of marking placed and accepted. Pavement markings will be installed by the Town of Coventry.
- C. Signage shall be measured for payment by the number of square feet of sign face-sheet aluminum of this type specified, installed and accepted.

4.02 PAYMENT

- A. Painted pavement markings shall be paid for at the contract unit price per linear foot of "Painted Pavement Markings (Width & Color)", which price shall include all materials, equipment, labor and incidentals for layout, pavement cleaning, installation and protection during drying.
- B. Painted pavement legends, arrows, and markings shall be paid for at the contract unit price per square foot of "Painted Pavement Legends, Arrows & Markings" specified style and color, which price shall include all materials, equipment, labor and incidentals for layout, pavement cleaning, installation and protection during drying.
- C. Signage shall be paid for at the contract unit price per square foot "Sign Face Sheet Aluminum" of the type specified complete in place, which price shall include the completed sign, supports, mounting, hardware, all materials, equipment, labor and work incidentals thereto.

END OF SECTION

SECTION 32 91 19 TOPSOIL PLACEMENT AND GRADING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Furnish, place and shape topsoil where shown on the plans and as directed by the Engineer. Generally, any disturbed area which is not riprap, bituminous concrete pavement, concrete, or gravel surface shall receive topsoil.
- B. Place and shape any topsoil stockpiled on site during the grading operation to a depth of 4-inches unless otherwise noted on the plans.

1.02 RELATED WORK

- A. Section 01 57 21 – Anti-Tracking Apron
- B. Section 01 57 13 – Sedimentation Control System
- C. Section 01 57 26 – Dust Control
- D. Section 31 37 00 – Riprap
- E. Section 33 42 00 – Stormwater Drainage - Structures
- F. Section 32 12 16 – Bituminous Concrete
- G. Section 32 92 00 – Turf and Grasses
- H. Section 03 33 10 – Concrete Pads & Sidewalks

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.

PART 2 - PRODUCTS

2.01 TOPSOIL

- A. The term topsoil used herein shall mean that portion of the soil profile defined technically as the "A" horizon by Soil Science of America. Topsoil as delivered to the site or stockpiled shall have a pH between 6.0 and 7.0 and shall contain not less than 3 percent organic matter as determined by loss-on-ignition of oven-dried samples at 100 degrees Celsius drawn by the Engineer. Topsoil may include up to 50 percent by volume of composted and cured material.

- B. As determined on the basis of material passing the 20-mesh sieve and subjected to partial mechanical analysis, the following textural classes shall be acceptable:
- Loamy sand, with not more than 80 percent sand
 - Sandy loam
 - Loam
 - Sandy clay loam, with not more than 30 percent clay
 - Silt loam, with not more than 60 percent silt
- C. The topsoil to be furnished by the Contractor shall be loose, friable, reasonably free of admixtures of subsoil, free from refuse, stumps, roots, brush, weeds, rocks and stones 1-1/4 inch in overall dimension. The topsoil shall also be free from any material that will prevent the formation of a suitable seed bed or prevent seed germination and plant growth.
- D. Any material delivered to the project which does not meet specifications or which has become mixed with undue amounts of subsoil during any operation at the source or during placing or spreading will be rejected and shall be replaced by the Contractor with acceptable material.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. The areas on which topsoil is to be placed shall be graded to a reasonably true surface. Topsoil shall then be spread and shaped to the lines and grades shown on the Drawings, or as directed by the Engineer. No loam shall be spread in water or while frozen or muddy.
- B. The depth stated in the Contract to which the topsoil is to be placed is that required after settlement of the material has taken place.
- C. All stones, roots, debris, sod, weeds and other undesirable material shall be removed. After shaping and grading, all trucks and other equipment shall be excluded from the topsoiled area to prevent excessive compaction.
- D. During hauling and spreading operations, the Contractor shall immediately remove any material dumped or spilled on the pavement.
- E. After topsoil has been spread, it shall be carefully prepared by scarifying or harrowing and hand raking. All stiff clods, lumps, roots, litter and other foreign material shall be removed from the loamed area and disposed of by the Contractor. The areas shall also be free of smaller stones in excessive quantities, as determined by the Engineer. During the rolling, all depressions caused by settlement or rolling shall be filled with additional

loam and the surface shall be regraded and rolled until a smooth and even finished grade is created.

- F. It shall be the Contractor's responsibility to restore to the line, grade and surface all eroded areas with approved material and to keep top soiled areas in acceptable condition until the completion of the construction work.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. Topsoil shall be measured in square yards. Topsoil, which conforms to this specification and to the thickness indicated on the plans, shall be measured by the actual number of square yards placed within the horizontal limits indicated on the plans.

4.02 PAYMENT

- A. Topsoil shall be paid for at the contract unit price per square yard of "Strip, Stockpile and Place 4" Topsoil" which price shall include all materials, testing, equipment, tools and labor incidental thereto.

END OF SECTION

SECTION 32 92 00 TURF AND GRASSES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Turf establishment shall consist of the application of lime, fertilizer, seed and mulch to all topsoil areas disturbed by the work to provide a uniform stand of established perennial turf grass.

1.02 RELATED WORK

- A. Section 01 57 21 – Anti-Tracking Apron
- B. Section 01 57 13 – Sedimentation Control System
- C. Section 03 33 10 – Concrete Pads & Sidewalks
- D. Section 31 25 14 – Erosion Control Blanket
- E. Section 31 37 00 – Riprap
- F. Section 33 42 00 – Stormwater Drainage - Structures
- G. Section 32 12 16 – Bituminous Concrete
- H. Section 32 31 00 – Chain Link Fence & Gates
- I. Section 32 91 19 – Topsoil Placement and Grading

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.

1.04 SUBMITTALS

- A. Submit, to the Engineer, affidavits certifying that fertilizer, lime and seed comply with the Specifications.
- B. Submit hydro-seed procedure, manufacturer's data and application rates for approval by Engineer.
- C. Submit testing results from topsoil analysis, to the Engineer.

1.05 PRODUCT HANDLING

- A. Deliver seed, lime and fertilizer in new, clean, sealed containers.

PART 2 – PRODUCTS

2.01 FERTILIZER

Fertilizer shall conform to the requirements of Form 819 Article M.13.03, or an alternative approved by the Engineer to meet the requirements of the topsoil testing.

2.02 SEED

Seed mixture shall conform to the requirements of Form 819 Article M.13.04 unless otherwise specified in the contract documents. Slopes greater than 5 to 1, 5 horizontal to 1 vertical, shall have *Conwed Hydromulch*, or approved equal, applied at 1200 # per acre with emulsion tackifier applied at a rate of consistent with manufactures recommendation for these slopes.

2.03 LIME

Lime shall conform to the requirements of Form 819 Article 17.13.02.

2.04 MULCH

Mulch shall conform to the requirements of Form 819 Article M.13.05.

PART 3 – EXECUTION

3.01 GENERAL

- A. Construction methods shall be those established as agronomically acceptable and feasible and which are approved by the Engineer.

3.02 SEED BED

- A. The areas shall be made friable and receptive to seeding by approved methods, which will not disrupt the line and grade of the slope surface. In no event will seeding be permitted on hard or crusted soil surface.
- B. All areas to be seeded shall be reasonably free from weeds taller than three (3) inches. Removal of weed growth from the slope areas shall be by approved methods, including hand mowing, which do not rut or scar the slope surface, or cause excessive disruption of the slope line or grade. Seeding on level areas shall not be permitted until substantially all weed growth is removed. Seeding on slope areas shall not be permitted without removal or cutting of weed growth.

3.03 SEEDING SEASON

- A. The calendar dates for seeding shall be: August 15 to September 15 & April 15 to June 15. Seeding at other times shall be done when acceptable to the Engineer.

3.04 TOPSOIL ANALYSIS

- A. The topsoil placed for turf establishment shall be tested to determine the liming and fertilizing requirements prior to any application of seed, lime or fertilizer. The topsoil shall be tested by a Cooperative Extension Service of the University of Connecticut or other testing facility approved by the Engineer. The Contractor is responsible for testing topsoil from each source utilized or where directed by the Engineer when a distinct change in the topsoil is observed by the Engineer.

3.05 SEEDING METHODS

- A. Lime shall be applied at a rate determined from tests conducted by the Contractor and approved by the Engineer. The maximum application rate allowed is 100 lbs./1000 square feet.
- B. The grass seed mixture shall be applied by the hydroseeding method. The rate of application for final turf establishment shall be 120 pounds of seed mixture per acre. Slopes greater than 5 to 1, 5 horizontal to 1 vertical, shall have *Conwed Hydromulch*, or approved equal, applied at 1200 # per acre with emulsion tackifier applied at a rate of consistent with manufactures recommendation for these slopes.
- C. Fertilizer shall be applied at a rate determined from tests conducted by the Contractor and approved by the Engineer.

3.06 REPLANTING

- A. The Contractor shall be required to replant areas damaged by water, wind, fire, equipment or pedestrian traffic when ordered by the Engineer at no cost to the Owner.
- B. All areas and spots that do not show a prompt catch shall be reseeded at fifteen day intervals until a growth of grass is established over the entire area at no additional expense to the Owner.

3.07 COMPACTION

- A. The Contractor shall keep all equipment and vehicular and pedestrian traffic off areas that have been seeded to prevent excessive compaction and damage to young plants. Where such compaction has occurred, the Contractor shall rework the soil to make a suitable seedbed; then reseed and reline such areas with the full amounts of the specified materials, at no extra expense to the Owner.

3.08 STAND OF GRASS

- A. The Contractor shall provide and maintain, using acceptable and appropriate practices and at no additional expense, a uniform stand of established turf grass.

3.09 ESTABLISHMENT

- A. The Contractor shall keep all seeded areas free from weeds and debris, such as stones and wire.
- B. Clean up shall include, but not be limited to, the removal of all debris from the turf establishment operations from the site, and/or elsewhere on adjacent properties publicly and privately owned.

3.10 MOWING

All seeded areas shall receive at least one (1) mowing before substantial completion or project acceptance. The mower blades shall be set to produce a 2 to 3 inch-mowed height.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. Turf establishment which conforms to this specification shall be measured for payment by the number of square yards of surface area of turf establishment.
- B. Turf establishment and other temporary control measures that are made necessary by the Contractor's negligence, carelessness, failure to install permanent controls as part of the work as originally scheduled and as ordered by the Engineer shall not be measured for payment.
- C. Turf establishment and other temporary control measures that are made necessary in areas used by the Contractor and not shown to be part of the work (borrow pits, disposal areas, storage areas, etc.) shall be the responsibility of the Contractor and shall not be measured for payment.

4.02 PAYMENT

- A. Turf establishment shall be paid for at the contract unit price per square yard for "Turf and Grasses" and shall include materials, testing, equipment, tools, and labor incidental thereto.

END OF SECTION

SECTION 33 42 00 STORMWATER DRAINAGE - PIPING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this specification covers furnishing and installing new storm drains, consisting of pipe and flared ends of the type, size and length as shown on the plans or as directed by the Engineer.

1.02 RELATED WORK

- A. Section 01 57 13 – Sedimentation Control System
- B. Section 31 23 35 – Bedding for Pipes and Structures
- C. Section 31 23 00 – Excavation and Fill
- D. Section 31 37 00 – Riprap

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.

1.04 SUBMITTALS

- A. Submit storm drain pipe and flared end materials technical data to the Engineer for approval.
- B. Submit material certification and gradation with specifications for bedding material to the Engineer for approval.
- C. Submit filter fabric geotextile material technical data to the Engineer for approval.

PART 2 - PRODUCTS

2.01 PIPE

- A. Storm drain piping shall conform to Form 819, Article M.08.01-25 High Density Polyethylene Pipe (HDPE) shall be smooth interior surface (Type S) unless otherwise noted on the plans.

2.02 FLARED ENDS

- A. Storm drain pipe flared ends shall conform to Form 819, Article M.08.01-11, High Density Polyethylene Pipe (HDPE) shall be smooth interior surface (Type S) unless otherwise noted on the plans.

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

- A. Storm drain pipe installation shall conform to Form 819, Article 6.86.03.
- B. Storm drain pipe flared end installation shall conform to Form 819, Article 6.86.03

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. Storm drain pipe shall be measured by linear feet of pipe. Storm drain pipe shall be measured along the center line of the pipe. Storm drain pipe couplings shall not be measured separately for payment, but shall be included in the work. Trench excavation and backfilling, bedding material, and filter fabric geotextile shall not be measured separately for payment, but shall be included in the work.
- B. Storm underdrain pipe shall be measured by linear feet of pipe. Storm underdrain pipe shall be measured along the center line of the pipe. Storm underdrain pipe couplings shall not be measured separately for payment, but shall be included in the work. Trench excavation and backfilling, bedding material, and filter fabric geotextile shall not be measured separately for payment, but shall be included in the work.
- C. Storm drain flared ends shall be measured by the number of each flared end of the size specified. Trench excavation and backfilling, bedding material, and filter fabric geotextile shall not be measured separately for payment, but shall be included in the work.

4.02 PAYMENT

- A. Storm drain pipe shall be paid for at the contract unit price per linear foot for "Storm Utility Drainage Piping – (12" and 15") HDPE Pipe" of the size specified, complete in place which price shall include all materials, equipment, tools and labor incidental thereto.
- B. Storm drain flared ends shall be paid for at the contract unit price per each "Storm Utility Drainage Piping – (15") HDPE Flared End" of the size specified, complete in place which price shall include all materials, equipment, tools and labor incidental thereto.

END OF SECTION

SECTION 33 42 00 STORMWATER DRAINAGE - STRUCTURES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this specification covers furnishing and installing of storm drainage structures, including catch basins, detention basin outlet structures, and stormwater treatment structures complete, as shown on the plans or as directed by the Engineer.

1.02 RELATED WORK

- A. Section 01 57 21 – Anti-Tracking Apron
- B. Section 01 57 13 – Sedimentation Control System
- C. Section 01 57 26 – Dust Control
- D. Section 01 71 23 – Construction Layout
- E. Section 31 23 00 – Excavation and Fill
- F. Section 31 37 00 – Riprap
- G. Section 32 12 16 – Bituminous Concrete
- H. Section 33 42 00 – Stormwater Drainage – Piping
- I. Section 33 46 11 – Stormwater Detention Basin

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.

1.04 SUBMITTALS

- A. Submit storm drainage structure components shop drawings and technical data to the Engineer for approval.
- B. Submit material certification and gradation with specifications for bedding material to the Engineer for approval.
- C. Submit filter fabric geotextile material technical data to the Engineer for approval.
- D. Submit material certificates for all storm drainage structure components and filter fabric geotextiles. All precast concrete drainage structure components shall be appropriately marked with manufacturer stenciled cast date.

PART 2 - PRODUCTS

2.01 CATCH BASINS

- A. Catch basins shall conform to the requirements of Form 819, Article 5.07.02.

2.02 STORMWATER TREATMENT STRUCTURE

- A. Stormwater treatment structure shall be designed to remove a minimum of 80% of the total suspended soils from the Water Quality Flow (See Grading & Drainage Plan Notes). Shop drawings of the proposed system must be reviewed and approved by the design engineer prior to submittal to the town for review.

2.03 BEDDING MATERIAL

- A. Bedding material shall conform to Form 819, Article M.01.01, No. 67 crushed stone.

2.04 FILTER FABRIC GEOTEXTILE

- A. Filter fabric shall be a non-woven geotextile. Geotextile shall conform to Form 819 Article M.08.01-19.

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

- A. Storm drainage structures installation shall conform to Form 819, Article 5.07.03.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. Catch basins shall be measured by the number of each catch basin furnished and installed complete. Trench excavation and backfilling, bedding material and filter fabric geotextile shall not be measured separately for payment, but shall be included in the work.
- B. Stormwater treatment structures shall be measured by the number of each stormwater treatment structure furnished and installed complete. Trench excavation and

backfilling, bedding material, and filter fabric geotextile shall not be measured separately for payment, but shall be included in the work.

4.02 PAYMENT

- A. Catch basins shall be paid for at the contract unit price per each "Catch Basin" complete in place, which price shall include all materials, equipment, tools and labor incidental thereto.
- B. Stormwater treatment structure shall be paid for at the contract unit price per each "Stormwater Treatment Structure" complete in place, which price shall include all materials, equipment, tools and labor incidental thereto.

END OF SECTION

SECTION 33 70 00
UNDERGROUND CONDUIT

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this specification covers furnishing and installing underground conduits for telephone, cable, data, concrete handholes, control and power systems as shown on the plans or as directed by the Engineer.

1.02 RELATED WORK

- A. Section 31 23 35 – Bedding for Pipes & Structures
- B. Section 31 23 33 – Trenching and Backfilling

1.03 QUALITY ASSURANCE

- A. All material, equipment and workmanship shall conform to the following standards of the latest edition:

- National Electrical Code
 - Underwriter's laboratories
 - Connecticut Basic Building Code
 - OSHA-U.S. Labor Department
 - NFPA Codes

- B. The contractor shall comply with all requirements of local authorities and utility companies having jurisdiction.

- C. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.

1.04 SUBMITTALS

- A. Submit conduit, fittings, material certificates and concrete handhole technical data to the Engineer for approval.

PART 2 - PRODUCTS

A. CONDUITS

1. Underground polyvinyl chloride conduit (PVC) and fittings shall be UL listed, and shall conform to the requirements of the latest UL and ANSI standards, Schedule 40 grade.
2. Rigid Galvanized Steel Conduit (RGS) and fittings shall be galvanized steel. Each section of conduit shall be labeled as UL listed, and shall conform to the requirements of the latest UL and ANSI standards for Rigid Galvanized Steel Conduit.

B. HAND HOLES

1. Hand holes shall be polymer concrete with fiberglass reinforcing.

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

- A. All underground conduit shall be installed in conformance with State and Local regulations and Section M.15.09 of form 819.
- B. All underground conduit shall be furnished and installed to the types, sizes and at the locations shown on the plans or as directed by the Engineer.
- C. Trench excavation shall be performed in accordance with Section 2.05.03 of Form 819.
- D. Bedding material and detectable warning tape shall be installed in accordance with Section M.08.03 of Form 819.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. This work shall not be measured but will paid at the lump sum price for "Electrical Improvements".

4.02 PAYMENT

- A. This work shall be paid for at the lump sum price for "Electrical Improvements" which price shall include all materials, equipment, tools, labor and all incidentals thereto.

END OF SECTION

SECTION 34 71 13 VEHICLE BARRIERS - GUIDE RAIL

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this specification covers furnishing and installing Metal Beam Rail System RB-350 complete, including terminals elements, as shown on the plans or as directed by the Engineer.

1.02 RELATED WORK

- A. Section 32 12 16 – Bituminous Concrete
- B. Section 32 16 13 – Bituminous Concrete Curb
- C. Section 32 91 19 – Topsoil Placement and Grading
- D. Section 32 92 00 – Turf and Grasses

1.03 QUALITY ASSURANCE

- A. Where Form 819 is referred to, it means "State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction, Form 819, 2024" and including all Supplemental Specifications.

1.04 SUBMITTALS

- A. Submit shop drawing to the Engineer for approval. The shop drawings shall include at a minimum the following: metal beam rail plan view layout, component member details, material designations, end anchorage details.
- B. Submit material delivery tickets for all concrete materials.
- C. Submit material certificates for all metal beam rail system components.

PART 2 - PRODUCTS

- A. The Metal Beam Rail system materials shall be RB-350 conforming to the requirements of Form 819, Article M10.02., Galvanized.

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

- A. The Metal Beam Rail system installation shall conform to Form 819, Article 9.10.03, Article 9.11.03, and Article 9.12.03.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. Metal Beam Rail shall be measured by the linear foot of rail installed and completed. Terminal ends shall be included in the measured linear footage of rail completed.

4.02 PAYMENT

- A. This work shall be paid for at the contract unit price per linear foot for "Vehicle Barrier - Guide Rail" which price shall include materials, equipment, tools, labor and all incidentals thereto.

END OF SECTION

SECTION 44 53 00 SOLID WASTE PROCESSING EQUIPMENT

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this specification covers relocating three self-contained waste compactor units which the Town of Preston owns or leases and fabricating and installing hoppers at each of these three new locations, as shown on the plans or as directed by the Engineer.

1.02 RELATED WORK

- A. Section 03 33 00 – Concrete Pads and Sidewalks
- B. Section 26 05 00 – Electrical

1.03 QUALITY ASSURANCE

- A. All materials, methods and installation practices shall be in compliance with industry standard practices, meet all local, State and Federal Codes codes and be in accordance with the plans and specifications.
- B. All associated electrical systems shall be in accordance with the plans, and floor plans.

1.04 SUBMITTALS

- A. Submit all waste hopper system components and material certifications to the Engineer for approval.

PART 2 - PRODUCTS

2.01 GENERAL

- A. The Town of Preston owns one self-contained waste compactor and leases two self-contained waste compactors from Casella Waste Systems. The contractor is responsible for relocating all three units and their associated electrical services, hydraulic systems and power control units from their existing location to the proposed locations shown on the plans. This work shall be coordinated with Town staff and representatives from Casella Waste Systems.

- B. The waste hoppers and windscreens shall be constructed in accordance with the details shown on the plans and be comprised of 7 gauge steel and wrapped in 3" channel, the hopper sidewalls shall be 12 gauge steel. Steel safety gates shall be hinged left and hinged right and include magnetic interlock switches. The waste hoppers shall be painted to match the compactors or as directed by the Town. The waste hoppers shall be supplied and installed by Atlantic Recycling Equipment, Rollinsfield New Hampshire, (603) 749-2414 or approved equal.

C. HOPPER

1. ¼" Hot Rolled sheet for the hopper walls.
2. 3" x 4.1 Structural Channel wraps on 16" centerlines.
3. Channel wraps will be stitch welded 3" on 12" centerlines.
4. Full Weld the interior of the hopper and stitch weld the exterior with 3" welds on 12" centers.
5. Prime the interior and exterior of the hopper and only coat the exterior with the top coat of paint.
6. Hopper will need to be fully freestanding to accommodate the removal of the self-contained compactor unit.

D. WIND SCREENS

1. Three (3) sides of the hopper.
2. Built with 7 gauge sheet steel, re-enforced with 3" x 4.1 Structural channels.
3. Overall height shall be as noted on the plans.
4. Wind screens will be painted to match the compactor.

E. SAFETY GATE SYSTEM

1. Twin swing gates with a 6" Kick Plate anywhere that concrete curbing/retaining wall is not present for the full length of the opening.
 - i. Kick plate should be no less than a 6" x 2" x ¼" structural tube.
2. Gates be built with no less than 2" x 2" x 1/8"
 - i. Structural square tubing.
 - ii. Require the interior cross bars of the gates to be on 8" centerlines.
 - iii. Three (3) Heavy Duty Greaseable Hinges per gate.
 - iv. Gates must be secured and lockable and both gates will require Magnetic interlocks installed.
3. The gate will be painted to match the hopper.

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

- A. Furnish and install waste hopper systems complete at the locations shown on the plans or approved by the Engineer.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

- A. Waste hoppers shall be measured by the number of each waste hopper system complete furnished and installed. Associated safety gates, interlock switches and control equipment shall not be measured separately for payment, but shall be included in the work.

4.02 PAYMENT

- A. Waste hopper shall be paid for at the contract unit price per each waste hopper which price shall include all materials, equipment, tools, labor and all incidentals thereto.

END OF SECTION

TAB H

Prevailing Wage Rate Information

3f) Terrazzo Mechanics & Marble Setters	40.6	34.93
-----LABORERS-----		
4) Group 1: General laborers, carpenter tenders, concrete specialists, wrecking laborers and fire watchers.	35.7	28.85
4) Group 1a: Acetylene Burners (Hours worked with a torch)	36.7	28.85
4a) Group 2: Mortar mixers, plaster tender, power buggy operators, powdermen, fireproofers/mixer/nozzleman (Person running mixer and spraying fireproof only).	35.95	28.85
4b) Group 3: Jackhammer operators/pavement breaker, mason tender (brick), mason tender (cement/concrete), forklift operators and forklift operators (masonry).	36.2	28.85
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).	36.7	28.85
4d) Group 5: Air track operator, sand blaster and hydraulic drills.	36.45	28.85
4e) Group 6: Blasters, nuclear and toxic waste removal.	38.7	28.85
4f) Group 7: Asbestos/lead removal and encapsulation (except it's removal from mechanical systems which are not to be scrapped).	38.7	28.85
4g) Group 8: Bottom men on open air caisson, cylindrical work and boring crew.	36.2	28.85

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4h) Group 9: Top men on open air caisson, cylindrical work and boring crew.	35.7	28.85
4i) Group 10: Traffic Control Signalman	21.42	28.85
4j) Group 11: Toxic Waste Removers A or B With PPE	38.7	28.85
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.	42.03	29.19
5a) Millwrights	43.25	29.13
5b) Carpenter - Welder	42.53	29.19
5c) Carpenter: Working with creosote lumber or acid	43.03	29.19
6) Electrical Worker (including low voltage wiring) (Trade License required: E1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)	48.25	35.22+3% of gross wage
7a) Elevator Mechanic (Trade License required: R-1,2,5,6)	66.72	38.435+a+b
-----OUTSIDE LINE CONSTRUCTION-----		
Groundman	30.87	13.91
Linemen/Cable Splicer	56.12	32.85
8) Glazier (Trade License required: FG-1,2)	43.13	26.50+ a

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9) Ironworker, Ornamental, Reinforcing, Structural, and Precast Concrete Erection	45.25	43.62 + a
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----OPERATORS----

Group 1: Crane Handling or Erecting Structural Steel or Stone; Hoisting Engineer (2 drums or over). (Trade License Required)	58.19	29.80 + a
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Group 1a: Front End Loader (7 cubic yards or over); Work Boat 26 ft. and Over	53.33	29.80 + a
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Group 2: Cranes (100 ton rate capacity and over); Bauer Drill/Caisson. (Trade License Required)	57.78	29.80 + a
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Group 2a: Cranes (under 100 ton rated capacity).	56.79	29.80 + a
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Group 2b: Excavator over 2 cubic yards; Pile Driver (\$3.00 premium when operator controls hammer)	52.92	29.80 + a
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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)	51.92	29.80 + a
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Group 4: Trenching Machines; Lighter Derrick; CMI Machine or Similar; Koehring Loader (Skooper); Goldhofer.	51.42	29.80 + a
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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).	50.63	29.80 + a
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Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller.	50.63	29.80 + a
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Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	50.22	29.80 + 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).	49.77	29.80 + a
Group 8: Mechanic; Grease Truck Operator; Hydroblaster; Barrier Mover; Power Stone Spreader; Welding; Work Boat Under 26 ft.; Transfer Machine; Rigger Foreman.	49.25	29.80 + 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).	48.67	29.80 + a
Group 10: Vibratory hammer; ice machine; diesel and air, hammer, etc.	45.96	29.80 + a
Group 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment.	45.96	29.80 + a
Group 12: Wellpoint Operator.	45.87	29.80 + a
Group 13: Compressor Battery Operator.	45.12	29.80 + a
Group 14: Elevator Operator; Tow Motor Operator (solid tire no rough terrain).	43.6	29.80 + a
Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	43.06	29.80 + a
Group 16: Maintenance Engineer.	42.2	29.80 + 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.	47.91	29.80 + a
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Group 18: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (Minimum for any job requiring a CDL license); Rigger; Signalman.	44.7	29.80 + a
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Surveyor: Chief of Party	48.16	29.80 + a
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Surveyor: Assistant Chief of Party	44.41	29.80 + a
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Surveyor: Instrument Man	42.73	29.80 + a
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Surveyor: Rodman or Chainman	36.78	29.80 + a
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-----PAINTERS (Including Drywall Finishing)-----

10a) Brush and Roller	39.57	26.50
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10b) Taping Only/Drywall Finishing	40.32	26.50
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10c) Paperhanger and Red Label	40.07	26.50
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10d) Spray	42.57	26.50
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10e) Spray Helper	40.57	26.50
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10f) Blast	44.57	26.50
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10g) Blast Helper	40.57	26.50
11) Plumber (excluding HVAC pipe installation) (Trade License required: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2)	50.58	36.30
12) Well Digger, Pile Testing Machine	37.26	24.05 + a
13) Roofer (composition)	45.15	22.44
14) Roofer (slate & tile)	45.65	22.44
15) Sheetmetal Worker (Trade License required for HVAC and Ductwork: SM-1,SM-2,SM-3,SM-4,SM-5,SM-6)	44.7	44.38
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)	50.58	36.30
-----TRUCK DRIVERS-----		
17) Block Truck	37.48	32.68 + a
17a) 2 Axle	36.16	32.68 + a
17ab) Helpers	34.66	32.68 + a
17b) 3 Axle, 2 Axle Mixer	36.27	32.68 + a
17c) 3 Axle Mixer	36.33	32.68 + a

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17d) 4 Axle	36.39	32.68 + a
17e) 4 Axle Mixer	37.19	32.68 + a
17ef) 5 Axle	36.39	32.68 + a
17eg) 5 Axle Mixer	37.19	32.68 + a
17f) Heavy Duty Trailer (40 Tons and Over)	38.66	32.68 + a
17g) Euclids and Semi-Trailer	36.44	32.68 + a
17h) Heavy Duty Trailer up to 40 tons	37.39	32.68 + a
17i) Snorkle Truck	36.54	32.68 + a
17j) Swivel Dump and Tack Truck	36.39	32.68 + a
18) Sprinkler Fitter (Trade License required: F-1,2,3,4)	53.76	33.44 + a
19) Theatrical Stage Journeyman	25.76	7.34

Welders: Rate for craft to which welding is incidental.

Surveyors: Hazardous material removal: \$3.00 per hour premium.

*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.

Truck Drivers: Trainers Premium: \$3.00 over wage rate.

Truck Drivers: Night Premium - Mixer Drivers: \$2.00 over wage rate.

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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.

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TAB I

Commission on Human Rights and Opportunities
(CHRO) Contract Compliance

Commission On Human Rights And Opportunities (CHRO) Contract Compliance

The contractor who is selected to perform this project must comply with 4a-60, 4a-60a, 4a-60g, and 46a-68b through 46a-68f, inclusive, as amended by June 2015 Special Session Public Act 15-5 of the Connecticut General Statutes (C.G.S.).

For municipal construction contracts valued over \$50,000, state law requires the contractor, general contractor, or construction manager at risk to set a goal of twenty-five per cent (25%) for award to eligible subcontractors holding current small business enterprise (SBE) certification from the DAS under the provisions of C.G.S. 4a-60g. Of the portion of contracts set aside for SBEs, a goal of twenty-five percent (25%) (or 6.25% of the value of the entire contract funded by the state) must be set aside for awards to eligible contractors holding current minority business enterprise certification (i.e.: DAS certified Minority ("MBE"), Women ("WBE") and/or Disabled ("DisBE") owned businesses). The contractor, general contractor, construction manager at risk must make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such projects.

For Contracts Equal to or Greater than \$500,000.00

The contract cannot be awarded until:

The Contractor has submitted an approved Affirmative Action Plan to CHRO

OR

Authorization has been obtained from CHRO to execute contract and retain 2% per month of the total contract value until CHRO approves the Contractor's Affirmative Action Plan.

Non-Discrimination and Affirmative Action Provisions

(A)(1) The Contractor agrees and warrants that in the performance of the Contract such Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, sexual orientation, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such Contractor that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the state of Connecticut. The Contractor further agrees to take affirmative action to insure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to of race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such Contractor that such disability prevents performance of the work involved; (2) the Contractor agrees, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, to state that it is an "affirmative action-equal opportunity employer" in accordance with regulations adopted by the commission; (3) the Contractor agrees to provide each labor union or representative of workers with which such Contractor has a collective bargaining agreement or other contract or understanding and each vendor with which such Contractor has a contract or understanding, a notice to be provided by the commission advising the labor union or workers' representative of the Contractor's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (4) the Contractor agrees to comply with each provision of this section and sections 46a-68e and 46a-68f and with each regulation or relevant order issued by said commission pursuant to sections 46a-56, 46a-68e, 46a-68f and 46a-86; (5) the Contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor as relate to the provisions of this section and section 46a-56.

(B) Any Contractor who is a party to a municipal public works contract or quasi-public agency project, where any such contract is valued at less than \$50,000 for each year of the contract, shall provide the Commission on Human Rights and Opportunities with a written or electronic representation that complies with the nondiscrimination agreement and warranty under subsection (A)(1) above, provided if there is any change in such representation, the Contractor shall provide the updated representation to the Commission not later than 30 days after such change. Any Contractor who is a party to a municipal public works contract or a quasi-public agency project, where any such contract is valued at \$50,000 or more for any year of the contract, shall provide the Commission with any one of the following: (1) Documentation in the form of a company or corporate policy adopted by resolution of the board of directors, shareholder, managers, members or other governing body of such Contractor that

complies with the nondiscrimination agreement and warranty under subsection (A)(1) of this section; (2) Documentation in the form of a company or corporate policy adopted by a prior resolution of the board of directors, shareholders, managers, members or other governing body of such contractor if (a) the prior resolution is certified by a duly authorized corporate officer of such contractor to be in effect on the date the documentation is submitted, and the executive director of the Commission on Human Rights and Opportunities or designee certifies that the prior resolution complies with the nondiscrimination agreement and warranty under subdivision (A)(1) of this section; or (3) Documentation in the form of an affidavit signed under penalty of false statement by a chief executive officer, president, chairperson or other corporate officer duly authorized to adopt company or corporate policy that certifies that the company or corporate policy of the contractor complies with the nondiscrimination agreement and warranty under subdivision (A)(1) of this section and is in effect on the date the affidavit is signed..

- (C) If the Contract is a municipal public works contract or a quasi-public agency project, the Contractor agrees and warrants that s/he will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such public works project. The Contractor shall include the provisions of subdivision (A)(1) of this section in every subcontract or purchase order entered into to fulfill any obligation of a municipal public works contract or contract for a quasi-public agency project, and such provisions shall be binding on a subcontractor, vendor or manufacturer, unless exempted by regulations or orders of the Commission on Human Rights and Opportunities. The Contractor shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such provisions, including sanctions for noncompliance in accordance with section 46a-56; provided, if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission regarding a state contract, the contractor may request the state of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the state and the state may so enter.
- (D) "Minority business enterprise" means any small contractor or supplier of materials fifty-one per cent or more of the capital stock, if any, or assets of which is owned by a person or persons: (1) Who are active in the daily affairs of the enterprise, (2) who have the power to direct the management and policies of the enterprise and (3) who are members of a minority, as such term is defined in subsection (a) of section 32-9n; and "good faith" means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations. "Good faith efforts" shall include, but not be limited to, those reasonable initial efforts necessary to comply with statutory or regulatory requirements and additional or substituted efforts when it is determined that such initial efforts will not be sufficient to comply with such requirements. Determination of the Contractor's good faith efforts shall include, but shall not be eliminated to, the following factors: The contractor's employment and subcontracting policies, patterns and practices; affirmative advertising recruitment and training; technical assistance activities and such other reasonable activities or efforts as

the Commission on Human Rights and Opportunities may prescribe that are designed to ensure the participation of minority business enterprises in municipal public works contracts or quasi-public agency projects. "Municipal public works project" means that portion of an agreement entered into on or after October 1, 2015, between any individual, firm or corporation and a municipality for the construction, rehabilitation, conversion, extension, demolition or repair of a public building, highway or other changes or improvements in real property, which is financed in whole or in part by the state, including, but not limited to, matching expenditures, grants, loans, insurance or guarantees but excluding any project of an alliance district, as defined in section 10-262u, finance by the state funding in an amount equal to fifty thousand dollars or less. "Quasi-public agency project" means the construction, rehabilitation, conversion, extension, demolition or repair of a building or other changes or improvements in real property pursuant to a contract entered into on or after October 1, 2015, which is financed in whole or in part by a quasi-public agency using state funds, including, but not limited to, matching expenditures, grants, loans, insurance or guarantees.

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Commission On Human Rights And Opportunities (CHRO) Contract Compliance

The contractor who is selected to perform this project must comply with 4a-60, 4a-60a, 4a-60g, and 46a-68b through 46a-68f, inclusive, as amended by June 2015 Special Session Public Act 15-5 of the Connecticut General Statutes (C.G.S.).

For municipal construction contracts valued over \$50,000, state law requires the contractor, general contractor, or construction manager at risk to set a goal of twenty-five per cent (25%) for award to eligible subcontractors holding current small business enterprise (SBE) certification from the DAS under the provisions of C.G.S. 4a-60g. Of the portion of contracts set aside for SBEs, a goal of twenty-five percent (25%) (or 6.25% of the value of the entire contract funded by the state) must be set aside for awards to eligible contractors holding current minority business enterprise certification (i.e.: DAS certified Minority ("MBE"), Women ("WBE") and/or Disabled ("DisBE") owned businesses). The contractor, general contractor, construction manager at risk must make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such projects.

For Contracts Equal to or Greater than \$500,000.00

The contract cannot be awarded until:

The Contractor has submitted an approved Affirmative Action Plan to CHRO

OR

Authorization has been obtained from CHRO to execute contract and retain 2% per month of the total contract value until CHRO approves the Contractor's Affirmative Action Plan.

Non-Discrimination and Affirmative Action Provisions

(A)(1) The Contractor agrees and warrants that in the performance of the Contract such Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, sexual orientation, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such Contractor that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the state of Connecticut. The Contractor further agrees to take affirmative action to insure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to of race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such Contractor that such disability prevents performance of the work involved; (2) the Contractor agrees, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, to state that it is an "affirmative action-equal opportunity employer" in accordance with regulations adopted by the commission; (3) the Contractor agrees to provide each labor union or representative of workers with which such Contractor has a collective bargaining agreement or other contract or understanding and each vendor with which such Contractor has a contract or understanding, a notice to be provided by the commission advising the labor union or workers' representative of the Contractor's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (4) the Contractor agrees to comply with each provision of this section and sections 46a-68e and 46a-68f and with each regulation or relevant order issued by said commission pursuant to sections 46a-56, 46a-68e, 46a-68f and 46a-86; (5) the Contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor as relate to the provisions of this section and section 46a-56.

(B) Any Contractor who is a party to a municipal public works contract or quasi-public agency project, where any such contract is valued at less than \$50,000 for each year of the contract, shall provide the Commission on Human Rights and Opportunities with a written or electronic representation that complies with the nondiscrimination agreement and warranty under subsection (A)(1) above, provided if there is any change in such representation, the Contractor shall provide the updated representation to the Commission not later than 30 days after such change. Any Contractor who is a party to a municipal public works contract or a quasi-public agency project, where any such contract is valued at \$50,000 or more for any year of the contract, shall provide the Commission with any one of the following: (1) Documentation in the form of a company or corporate policy adopted by resolution of the board of directors, shareholder, managers, members or other governing body of such Contractor that

complies with the nondiscrimination agreement and warranty under subsection (A)(1) of this section; (2) Documentation in the form of a company or corporate policy adopted by a prior resolution of the board of directors, shareholders, managers, members or other governing body of such contractor if (a) the prior resolution is certified by a duly authorized corporate officer of such contractor to be in effect on the date the documentation is submitted, and the executive director of the Commission on Human Rights and Opportunities or designee certifies that the prior resolution complies with the nondiscrimination agreement and warranty under subdivision (A)(1) of this section; or (3) Documentation in the form of an affidavit signed under penalty of false statement by a chief executive officer, president, chairperson or other corporate officer duly authorized to adopt company or corporate policy that certifies that the company or corporate policy of the contractor complies with the nondiscrimination agreement and warranty under subdivision (A)(1) of this section and is in effect on the date the affidavit is signed..

- (C) If the Contract is a municipal public works contract or a quasi-public agency project, the Contractor agrees and warrants that s/he will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such public works project. The Contractor shall include the provisions of subdivision (A)(1) of this section in every subcontract or purchase order entered into to fulfill any obligation of a municipal public works contract or contract for a quasi-public agency project, and such provisions shall be binding on a subcontractor, vendor or manufacturer, unless exempted by regulations or orders of the Commission on Human Rights and Opportunities. The Contractor shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such provisions, including sanctions for noncompliance in accordance with section 46a-56; provided, if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission regarding a state contract, the contractor may request the state of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the state and the state may so enter.
- (D) "Minority business enterprise" means any small contractor or supplier of materials fifty-one per cent or more of the capital stock, if any, or assets of which is owned by a person or persons: (1) Who are active in the daily affairs of the enterprise, (2) who have the power to direct the management and policies of the enterprise and (3) who are members of a minority, as such term is defined in subsection (a) of section 32-9n; and "good faith" means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations. "Good faith efforts" shall include, but not be limited to, those reasonable initial efforts necessary to comply with statutory or regulatory requirements and additional or substituted efforts when it is determined that such initial efforts will not be sufficient to comply with such requirements. Determination of the Contractor's good faith efforts shall include, but shall not be eliminated to, the following factors: The contractor's employment and subcontracting policies, patterns and practices; affirmative advertising recruitment and training; technical assistance activities and such other reasonable activities or efforts as

the Commission on Human Rights and Opportunities may prescribe that are designed to ensure the participation of minority business enterprises in municipal public works contracts or quasi-public agency projects. "Municipal public works project" means that portion of an agreement entered into on or after October 1, 2015, between any individual, firm or corporation and a municipality for the construction, rehabilitation, conversion, extension, demolition or repair of a public building, highway or other changes or improvements in real property, which is financed in whole or in part by the state, including, but not limited to, matching expenditures, grants, loans, insurance or guarantees but excluding any project of an alliance district, as defined in section 10-262u, finance by the state funding in an amount equal to fifty thousand dollars or less. "Quasi-public agency project" means the construction, rehabilitation, conversion, extension, demolition or repair of a building or other changes or improvements in real property pursuant to a contract entered into on or after October 1, 2015, which is financed in whole or in part by a quasi-public agency using state funds, including, but not limited to, matching expenditures, grants, loans, insurance or guarantees.

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COMMISSION ON HUMAN RIGHTS AND OPPORTUNITIES
CONTRACT COMPLIANCE REGULATIONS
NOTIFICATION TO BIDDERS

(Revised 09/3/15)

The contract to be awarded is subject to contract compliance requirements mandated by Sections 4a-60 and 4a-60a of the Connecticut General Statutes; and, when the awarding agency is the State, Sections 46a-71(d) and 46a-81i(d) of the Connecticut General Statutes. There are Contract Compliance Regulations codified at Section 46a-68j-21 through 43 of the Regulations of Connecticut State Agencies, which establish a procedure for awarding all contracts covered by Sections 4a-60 and 46a-71(d) of the Connecticut General Statutes.

According to Section 46a-68j-30(9) of the Contract Compliance Regulations, every agency awarding a contract subject to the contract compliance requirements has an obligation to “aggressively solicit the participation of legitimate minority business enterprises as bidders, contractors, subcontractors and suppliers of materials.” “Minority business enterprise” is defined in Section 4a-60 of the Connecticut General Statutes as a business wherein fifty-one percent or more of the capital stock, or assets belong to a person or persons: “(1) Who are active in daily affairs of the enterprise; (2) who have the power to direct the management and policies of the enterprise; and (3) who are members of a minority, as such term is defined in subsection (a) of Section 32-9n.” “Minority” groups are defined in Section 32-9n of the Connecticut General Statutes as “(1) Black Americans . . . (2) Hispanic Americans . . . (3) persons who have origins in the Iberian Peninsula . . . (4) Women . . . (5) Asian Pacific Americans and Pacific Islanders; (6) American Indians . . .” An individual with a disability is also a minority business enterprise as provided by Section 4a-60g of the Connecticut General Statutes. The above definitions apply to the contract compliance requirements by virtue of Section 46a-68j-21(11) of the Contract Compliance Regulations.

The awarding agency will consider the following factors when reviewing the bidder’s qualifications under the contract compliance requirements:

- (a) the bidder’s success in implementing an affirmative action plan;
- (b) the bidder’s success in developing an apprenticeship program complying with Sections 46a-68-1 to 46a-68-17 of the Administrative Regulations of Connecticut State Agencies, inclusive;
- (c) the bidder’s promise to develop and implement a successful affirmative action plan;
- (d) the bidder’s submission of employment statistics contained in the “Employment Information Form”, indicating that the composition of its workforce is at or near parity when compared to the racial and sexual composition of the workforce in the relevant labor market area; and
- (e) the bidder’s promise to set aside a portion of the contract for legitimate minority business enterprises. See Section 46a-68j-30(10)(E) of the Contract Compliance Regulations.

INSTRUCTIONS AND OTHER INFORMATION

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

1) **Definition of Small Contractor**

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

MANAGEMENT: Managers plan, organize, direct, and control the major functions of an organization through subordinates who are at the managerial or supervisory level. They make policy decisions and set objectives for the company or departments. They are not usually directly involved in production or providing services. Examples include top executives, public relations managers, managers of operations specialties (such as financial, human resources, or purchasing managers), and construction and engineering managers.

BUSINESS AND FINANCIAL OPERATIONS: These occupations include managers and professionals who work with the financial aspects of the business. These occupations include accountants and auditors, purchasing agents, management analysts, labor relations specialists, and budget, credit, and financial analysts.

MARKETING AND SALES: Occupations related to the act or process of buying and selling products and/or services such as sales engineer, retail sales workers and sales representatives including wholesale.

LEGAL OCCUPATIONS: In-House Counsel who is charged with providing legal advice and services in regards to legal issues that may arise during the course of standard business practices. This category also includes assistive legal occupations such as paralegals, legal assistants.

COMPUTER SPECIALISTS: Professionals responsible for the computer operations within a company are grouped in this category. Examples of job titles in this category include computer programmers, software engineers, database administrators, computer scientists, systems analysts, and computer support specialists.

ARCHITECTURE AND ENGINEERING: Occupations related to architecture, surveying, engineering, and drafting are included in this category. Some of the job titles in this category include electrical and electronic engineers, surveyors, architects, drafters, mechanical engineers, materials engineers, mapping technicians, and civil engineers.

OFFICE AND ADMINISTRATIVE SUPPORT: All clerical-type work is included in this category. These jobs involve the preparing, transcribing, and preserving of written communications and records; collecting accounts; gathering and distributing information; operating office machines and electronic data processing equipment; and distributing mail. Job titles listed in this category include telephone operators, bill and account collectors, customer service representatives, dispatchers, secretaries and administrative assistants, computer operators and clerks (such as payroll, shipping, stock, mail and file).

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

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

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

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

PRODUCTION WORKERS: The job titles included in this category are chemical production machine setters, operators and tenders; crushing/grinding workers; cutting workers; inspectors, testers sorters, samplers, weighers; precious stone/metal workers; painting workers; cementing/gluing machine operators and tenders; etchers/engravers; molders, shapers and casters except for metal and plastic; and production workers.

<p><u>White</u> (not of Hispanic Origin)- All persons having origins in any of the original peoples of Europe, North Africa, or the Middle East.</p> <p><u>Black</u>(not of Hispanic Origin)- All persons having origins in any of the Black racial groups of Africa.</p> <p><u>Hispanic</u>- All persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.</p>	<p><u>Asian or Pacific Islander</u>- All persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes China, India, Japan, Korea, the Philippine Islands, and Samoa.</p> <p><u>American Indian or Alaskan Native</u>- All persons having origins in any of the original peoples of North America, and who maintain cultural identification through tribal affiliation or community recognition.</p>
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BIDDER CONTRACT COMPLIANCE MONITORING REPORT

PART I - Bidder Information

Company Name Street Address City & State Chief Executive	Bidder Federal Employer Identification Number _____ Or Social Security Number _____
Major Business Activity (brief description)	Bidder Identification (response optional/definitions on page 1) -Bidder is a small contractor. Yes ___ No ___ -Bidder is a minority business enterprise Yes ___ No ___ (If yes, check ownership category) Black ___ Hispanic ___ Asian American ___ American Indian/Alaskan Native ___ Iberian Peninsula ___ Individual(s) with a Physical Disability ___ Female ___
Bidder Parent Company (If any)	- Bidder is certified as above by State of CT Yes ___ No ___
Other Locations in Ct. (If any)	

PART II - Bidder Nondiscrimination Policies and Procedures

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

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

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

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

Yes__ No__

PART IV - Bidder Employment Information

Date:

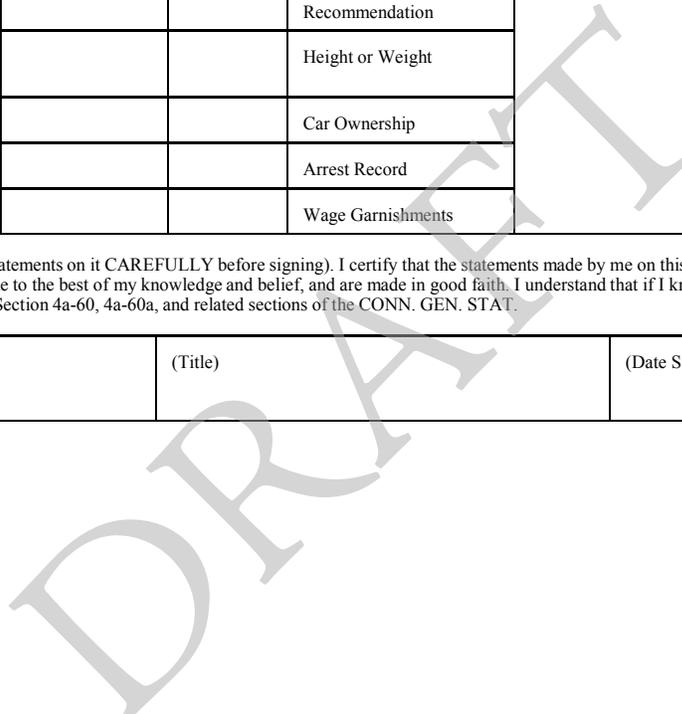
JOB CATEGORY *	OVERALL TOTALS	WHITE (not of Hispanic origin)		BLACK (not of Hispanic origin)		HISPANIC		ASIAN or PACIFIC ISLANDER		AMERICAN INDIAN or ALASKAN NATIVE	
		Male	Female	Male	Female	Male	Female	Male	Female	male	female
Management											
Business & Financial Ops											
Marketing & Sales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

*NOTE: JOB CATEGORIES CAN BE CHANGED OR ADDED TO (EX. SALES CAN BE ADDED OR REPLACE A CATEGORY NOT USED IN YOUR COMPANY)

1. Which of the following recruitment sources are used by you? (Check yes or no, and report percent used)				2. Check (X) any of the below listed requirements that you use as a hiring qualification (X)	3. Describe below any other practices or actions that you take which show that you hire, train, and promote employees without discrimination
SOURCE	YES	NO	% of applicants provided by source		
State Employment Service				Work Experience	
Private Employment Agencies				Ability to Speak or Write English	
Schools and Colleges				Written Tests	
Newspaper Advertisement				High School Diploma	
Walk Ins				College Degree	
Present Employees				Union Membership	
Labor Organizations				Personal Recommendation	
Minority/Community Organizations				Height or Weight	
Others (please identify)				Car Ownership	
				Arrest Record	
				Wage Garnishments	

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

(Signature)	(Title)	(Date Signed)	(Telephone)
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TAB J

Regulations of Connecticut State Agencies (RCSA)
Section 22a-482-4
Administrative Program Elements

REGULATIONS OF CONNECTICUT STATE AGENCIES

RCSA Sec. 22a-482-4 Administrative Program Elements shall be amended to substitute 'Owner' and 'Contractor' where appropriate. All sections which are not so amended remain in effect.

Sec. 22a-482-4. Administrative program elements

(a) **Allowable Grant Costs.** Those costs associated with the planning, design and construction of pollution abatement facilities eligible for state grant assistance are as follows:

(1) costs of salaries, benefits, and expendable materials the municipality incurs for the project, except as provided for in subdivision (b) (8) of this section;

(2) costs under construction contracts;

(3) professional and consultant services;

(4) engineering report costs directly related to the pollution abatement facility;

(5) sewer system evaluation;

(6) project feasibility and related engineering reports;

(7) costs of complying with the Connecticut Environmental Policy Act, section 22a-1a to 22a-1h of the General Statutes, including costs of public notices and hearings;

(8) preparation of construction drawings, specifications, estimates and construction contract documents;

(9) reasonable landscaping;

(10) materials acquired, consumed, or expended specifically for the project;

(11) shop equipment installed at the pollution abatement facility necessary to the operation of the facility;

(12) a reasonable inventory of laboratory chemicals and supplies necessary to initiate plant operations;

(13) development and preparation of a preliminary and final plan of operation and an operation and maintenance manual;

(14) start-up services for new pollution abatement facilities;

(15) project identification signs;

(16) costs of complying with the procurement requirements of this section;

(17) the costs of technical services for assessing the merits of or negotiating the settlement of a claim by or against the municipality provided;

(A) a formal grant amendment is executed specifically covering the costs before they are incurred;

(B) the costs are not incurred to prepare documentation that should be prepared by the contractor to support a claim against the municipality; and

(C) the Commissioner determines that there is a significant state interest in the issues involved in the claim;

(18) change orders and the costs of meritorious contractor claims for increased costs, provided the costs are not caused by the municipality's mismanagement or vicarious liability for the improper action of others. Settlements, arbitration awards, and court judgments which resolve contractor claims shall be reviewed by the Commissioner and shall be allowable only to the extent they are not caused by municipality mismanagement, are reasonable, and do not attempt to pass on to the State of Connecticut the costs of events that were the responsibility of the municipality, contractor or others;

(19) costs necessary to mitigate only direct, adverse, or physical impacts resulting from the building of the pollution abatement facility;

(20) the cost of groundwater monitoring facilities necessary to determine the possibility

Regulations of Connecticut State Agencies

- of groundwater deterioration, depletion or modification resulting from the project;
- (21) for individual and small community systems, allowable costs which include:
 - (A) the cost of major rehabilitation, upgrading, enlarging and installing small and onsite systems, but in the case of privately owned systems, only for principal residences;
 - (B) conveyance pipes from the property line to an offsite treatment unit which serves a cluster of buildings;
 - (C) treatment and treatment residue disposal portions of toilets with composting tanks, oil flush mechanisms, or similar in-house devices;
 - (D) treatment or pumping units from the incoming flange, when located on private property, and conveyance pipes, if any, to the collector sewer; and
 - (E) the cost of restoring individual system building sites to their original condition;
 - (22) necessary safety equipment applicable to federal, state and local requirements;
 - (23) a portion of the costs of collection system maintenance equipment, as determined by the Commissioner;
 - (24) the cost of mobile equipment necessary for the operation of the overall pollution abatement facility, transmission of wastewater or sludge, or for the maintenance of equipment. These items include:
 - (A) portable stand-by generators;
 - (B) large portable emergency pumps to provide “pump-around” capability in the event of a pump station failure or pipeline breaks; and
 - (C) sludge or septic tank trucks, trailers, and other vehicles having as their sole purpose the transportation of liquid or dewatered wastes from the collector point (including individual or on-site systems) to the pollution abatement facility or disposal site;
 - (25) replacement parts identified and approved in advance by the Commissioner as necessary to assure uninterrupted operation of the pollution abatement facility, provided they are critical parts or major system components which are:
 - (A) not immediately available or whose procurement involves an extended “lead-time”;
 - (B) identified as critical by the equipment supplier(s); or
 - (C) critical but not included in the inventory provided by the equipment supplier(s);
 - (26) allowable costs for infiltration/inflow which include:
 - (A) the cost of sewer system and pollution abatement facility capacity adequate to transport and treat nonexcessive infiltration/inflow; and
 - (B) the costs of sewer system rehabilitation necessary to eliminate excessive infiltration/inflow as determined in a sewer system evaluation survey under section 22a-482-3 (g);
 - (27) the costs of royalties for the use of rights in a patented process or product with the prior approval of the Commissioner;
 - (28) the cost of legal and engineering services incurred by the municipality in deciding procurement protests and defending their decisions in protest appeals with the prior approval of the Commissioner;
 - (29) the cost of the services of the prime engineer required under subdivision (p) (10) of this section during the first year following initiation of operation of the pollution abatement facility; and
 - (30) the costs of municipal employees attending training workshops or seminars that are

necessary to provide instruction in administrative, fiscal or contracting procedures required to complete the construction of the pollution abatement facility, if approved in advance by the Commissioner.

(b) **Unallowable Grant Project Costs.** Costs which are not necessary for the construction of a pollution abatement facility are unallowable. Such costs include, but are not limited to:

- (1) basin or areawide planning not directly related to the project;
- (2) bonus payments not legally required for completion of construction before a contractual completion date;
- (3) personal injury compensation or damage arising out of the project whether determined by arbitration, negotiation, or otherwise;
- (4) unallowable costs for small and onsite systems which include:
 - (A) modification to physical structure of homes or commercial establishments;
 - (B) conveyance pipes from the house to the treatment unit located on user's property;and
- (C) wastewater generating fixtures such as commodes, sinks, tubs and drains;
- (5) fines and penalties due to violations of, or failure to comply with, federal, state, or local laws and regulations;
- (6) costs outside the scope of the approved project;
- (7) approval, preparation, issuance and sale of bonds or other forms of indebtedness required to finance the project, and the interest on them;
- (8) ordinary operating expenses of local government, such as salaries and expenses of a mayor, city council members, or city attorney, except as provided in subdivision (h) (13) of this section;
- (9) the costs of acquisition (including associated level, administrative, and engineering) of sewer rights-of-way, pollution abatement facility sites (including small systems sites), sanitary landfill sites and sludge disposal sites, except as provided in subsection (c) of this section;
- (10) costs for which payment has been or will be received under any federal assistance program;
- (11) the cost of vehicles used primarily for transportation, such as pickup trucks;
- (12) costs of equipment or materials acquired in violation of the procurement provisions of this section;
- (13) the cost of furnishings including draperies, furniture and office equipment;
- (14) the cost of ordinary site and building maintenance equipment, such as lawn mowers, snowblowers and vacuum cleaners;
- (15) costs of monitoring equipment used by industry for sampling and analysis of industrial discharges to a municipal pollution abatement facility;
- (16) construction of privately-owned pollution abatement facilities, including pretreatment facilities, except for individual systems;
- (17) preparation of applications, including a plan of study and permits required by federal, state or local laws and regulations;
- (18) administrative, engineering and legal activities associated with the establishment of special departments, agencies, commissions, regions, districts or other units of

government;

(19) the cost of a pollution abatement facility or any part thereof that would provide capacity for new habitation or other establishments to be located on environmentally sensitive land such as wetlands, floodplains, or prime agricultural lands;

(20) the costs of legal services of defending or negotiating the settlement of a claim by or against the municipality; and

(21) all incremental costs of delay due to the award of any significant subagreements for construction more than 12 months after the construction grant award.

(c) Allowable Grant Project Costs, If Approved.

(1) The cost (including associated legal, administrative and engineering costs) of land acquired in fee simple or by lease or easement that will be an integral part of the treatment process or that will be used for the ultimate disposal of residues resulting from such treatment provided the Commissioner approves it in the grant agreement. These costs include:

(A) the cost of a reasonable amount of land, considering irregularities in application patterns, and the need for buffer areas, berms, and dikes;

(B) the cost of land acquired for a soil absorption system for a group of two or more homes;

(C) the cost of land acquired for composting or temporary storage of compost residues which result from wastewater treatment;

(D) the cost of land acquired for storage of treated wastewater in land treatment systems before land application; and

(E) the cost paid by the municipality for eligible land in excess of just compensation based on the appraised value, the municipality's record of negotiation or a condemnation proceeding, as determined by the Commissioner, shall be unallowable.

(2) The cost associated with the preparation of the pollution abatement facility site before, during and, to the extent agreed on in the grant agreement, after building. These costs include:

(A) the cost of demolition of existing structures on the pollution abatement facilities site (including rights-of-way), if building cannot be undertaken without such demolition;

(B) the cost of removal, relocation or replacement of utilities, for which the municipality is legally obligated to pay under section 22a-470 of the General Statutes; and

(C) the cost of restoring streets and rights-of-way to their original condition. The need for such restoration shall result directly from the construction and is generally limited to repaving the width of trench.

(3) The cost of acquiring all or part of existing publicly or privately owned pollution abatement facilities, provided all of the following criteria are met:

(A) the acquisition, in and of itself, considered apart from any upgrade, expansion or rehabilitation, provides new pollution control benefits;

(B) the acquired pollution abatement facility was not built with previous federal or state financial assistance; and

(C) the primary purpose of the acquisition is not the reduction, elimination, or redistribution of public or private debt.

(d) Allowable Loan Project Costs:

(1) all costs allowable for grant participation under subsections (a) and (c) of this section;
(2) all costs necessary to complete the project including land, legal, rights-of-way, interest and claim settlements;

(3) all costs associated with incremental capacity for growth; and

(4) those costs a reasonable business person would incur when operating his or her own business necessary to construct the project.

(e) Unallowable Loan Project Costs:

(1) costs associated with improvements to municipal or private property not related to pollution control;

(2) costs associated with the liability of other contractors and subcontractors; and

(3) costs associated with waste, fraud or abuse.

(f) Required Provisions for Architectural/Engineering Contracts.

(1) Subagreement Enforcement.

(A) Commissioner's Authority. At a municipality's request the Commissioner may provide technical and legal assistance in the administration and enforcement of any subagreement related to a pollution abatement facility for which state financial assistance was made and intervene in any civil action involving the enforcement of such subagreements, including subagreement disputes which are the subject of either arbitration or court action. Any assistance to be provided is at the discretion of the Commissioner and in a manner determined by him or her to best serve the public interest. Factors which the Commissioner may consider in determining whether to provide assistance include:

(i) available department resources;

(ii) planned or ongoing enforcement action;

(iii) the municipality's demonstration of good faith in attempting to resolve the contract matters at issue;

(iv) the municipality's adequate documentation of the need for assistance; and

(v) the state's interest in the contract matters at issue.

(B) Municipality Request. The municipality's request for technical or legal assistance should be submitted in writing and be accompanied by documentation adequate to inform the Commissioner of the nature and necessity of the requested assistance.

(C) Privity of Subagreement. The Commissioner's technical or legal involvement in any subagreement dispute will not make the Commissioner a party to any subagreement entered into by the municipality.

(D) Municipality Responsibility. The provision of technical or legal assistance under this section in no way releases the municipality from its obligations under sections 22a-482-1 to 22a-482-4, inclusive, or affects the Commissioner's right to take remedial action against a municipality that fails to carry out those obligations.

(2) Subagreement Provisions.

(A) Each subagreement shall include provisions defining a sound and complete agreement, including the:

(i) nature, scope, and extent of work to be performed;

(ii) time frame for performance;

(iii) total cost of the subagreement; and

(iv) payment provisions.

(B) All subagreements awarded in excess of \$10,000 shall contain provisions requiring compliance with state and federal equal employment opportunity laws and regulations.

(3) Model Subagreement Clauses. Municipalities shall include subparagraphs (A) to (L), inclusive, of this subdivision or their equivalent in all subagreements for architectural or engineering services. (Municipalities may substitute other terms for “municipality” and “engineer” in their subagreements.)

(A) Supersession. The municipality and the engineer agree that this and other appropriate clauses in this section, or their equivalent, apply to the state grant eligible work to be performed under this subagreement and that these clauses supersede any conflicting provisions of this subagreement.

(B) Privity of Subagreement. This subagreement is expected to be funded in part with funds from the State of Connecticut, Department of Environmental Protection (DEP). Neither the state nor any of its departments, agencies, or employees is or will be a party to this subagreement or any lower tier subagreement. This subagreement is subject to sections 22a-482-1 to 22a-482-4 of the Regulations of Connecticut State Agencies in effect on the date of the grant award for the project.

(C) Changes to Subagreement.

(i) The municipality may at any time, by written order, make changes within the general scope of this subagreement in the services or work to be performed. If such changes cause an increase or decrease in the engineer’s cost or time required to perform any services under this agreement, whether or not changed by any order, an equitable adjustment shall be made and this subagreement shall be modified in writing. The engineer must assert any claim for adjustment under this clause in writing within 30 days from the date of receipt by the engineer of the notification of change, unless the municipality grants additional time before the date of final payment.

(ii) No services for which additional compensation will be charged by the engineer shall be furnished without the written authorization of the municipality.

(iii) In the event that there is a modification of the Commissioner’s requirements relating to the services to be performed under this agreement after the date of execution of this agreement, the increased or decreased cost of performance of the services provided for in the agreement shall be reflected in an appropriate modification of this agreement.

(D) Termination of Subagreement.

(i) This subagreement may be terminated in whole or in part in writing by either party in the event of substantial failure by the other party to fulfill its obligations under this subagreement through no fault of the terminating party. However, no termination may be effected unless the other party is given not less than ten (10) calendar days written notice (delivered by certified mail, return receipt requested) of intent to terminate and an opportunity for consultation with the terminating party prior to termination.

(ii) This subagreement may be terminated in whole or in part in writing by the municipality for its convenience, provided that the engineer is given not less than ten (10) calendar days written notice (delivered by certified mail, return receipt requested) of intent to terminate and an opportunity for consultation with the terminating party prior to termination.

(iii) If termination for default is effected by the municipality, an equitable adjustment in

the price provided for in this subagreement shall be made, but no amount shall be allowed for anticipated profit on unperformed services or other work and any payment due to the engineer at the time of termination may be adjusted to cover any additional costs to the municipality because of the engineer's default. If termination for default is effected by the engineer; or if termination for convenience is effected by the municipality; the equitable adjustment shall include a reasonable profit for services or other work performed. The equitable adjustment for any termination shall provide for payment to the engineer for services rendered and expenses incurred prior to the termination, in addition to termination and settlement costs reasonably incurred by the engineer relating to commitments which had become firm prior to the termination.

(iv) Upon receipt of a termination action pursuant to subparagraphs (D) (i) or (D) (ii) of this subdivision, the engineer shall promptly discontinue all services affected (unless the notice directs otherwise) and deliver or otherwise make available to the municipality all data, drawings, specifications, reports, estimates, summaries and such other information and materials as may have been accumulated by the engineer in performing this subagreement, whether completed or in process.

(v) Upon termination under subparagraphs (D) (i) or (D) (ii) of this subdivision, the municipality may take over the work and may award another party a subagreement to complete the work under this subagreement.

(vi) If, after termination for failure of the engineer to fulfill contractual obligations, it is determined that the engineer had not failed to fulfill contractual obligations, the termination shall be deemed to have been for the convenience of the municipality. In such event, adjustment of the price provided for in this subagreement shall be made as provided in subparagraph (D) (iii) of this subdivision.

(E) Remedies. Except as may be otherwise provided in this subagreement, all claims, counter-claims, disputes, and other matters in question between the municipality and the engineer arising out of or relating to this subagreement, or the breach thereof, will be decided by arbitration, if the parties mutually agree, or in a court of competent jurisdiction within the district in which the municipality is located.

(F) Price Reduction for Defective Cost or Pricing Data (This clause is applicable if the amount of the agreement exceeds \$100,000). The engineer warrants that cost and pricing data submitted for evaluation with respect to negotiation of prices for negotiated subagreements and lower tier subagreements is based on current, accurate, and complete data supported by books and records. If the municipality or Commissioner determines that any price, including profit, negotiated in connection with this subagreement, any lower tier subagreement, or any amendment thereunder was increased by any significant sums because the data provided was incomplete, inaccurate, or not current at the time of submission, then such price, cost or profit shall be reduced accordingly, and the subagreement shall be modified in writing to reflect such reduction.

(NOTE- Since the subagreement is subject to reduction under this clause by reason of defective cost or pricing data submitted in connection with certain subcontractors, the engineer may wish to include a clause in each such subcontract requiring the subcontractor to appropriately indemnify the engineer. It is also expected that any subcontractor subject to such indemnification will generally require substantially similar indemnification for

defective cost or pricing data required to be submitted by lower tier subcontractors.)

(G) Audit; Access to Records.

(i) The engineer shall maintain books, records, documents, and other evidence directly pertinent to performance on grant work under this agreement in accordance with generally accepted accounting principles and practices consistently applied. The engineer shall also maintain the financial information and data used by the engineer in the preparation or support of the cost submission required for any negotiated subagreement or change order in effect on the date of execution of this agreement and a copy of the cost summary shall be submitted to the municipality. The municipality and Commissioner or any of his or her duly authorized representatives shall have access to all such books, records, documents, and other evidence for inspection, audit, and copying during normal business hours. The engineer will provide proper facilities for such access and inspection.

(ii) The engineer agrees to include subparagraphs (G) (i) to (G) (v) of this subdivision, inclusive, in all his contracts and all lower tier subcontracts directly related to project performance that are in excess of \$10,000, and to make subparagraphs (G) (i) to (G) (v) of this subdivision, inclusive, applicable to all change orders directly related to project performance.

(iii) Audits conducted under this subparagraph shall be in accordance with generally accepted auditing standards and established procedures and guidelines of the reviewing or audit department and shall meet the requirements of section 7-396a of the General Statutes.

(iv) The engineer agrees to the disclosure of all information and reports resulting from access to records under subparagraphs (G) (i) and (G) (ii) of this subdivision to any of the parties referred to in subparagraph (G) (i) of this subdivision, provided that the engineer is afforded the opportunity for an audit exit conference and an opportunity to comment and submit any supporting documentation on the pertinent portions of the draft audit report and that the final audit report will include written comments of reasonable length, if any, of the engineer.

(v) The engineer shall maintain and make available records under subparagraphs (G) (i) and (G) (ii) of this subdivision during performance on grant funded work under this agreement and until three (3) years from the date of final grant payment for the project. In addition, those records which relate to any dispute appeal arising under a grant agreement, to litigation, to the settlement of claims arising out of such performance, or to costs or items to which an audit exception has been taken, shall be maintained and made available until three (3) years after the date of resolution of such appeal, litigation, claim, or exception.

(H) Covenant Against Contingent Fees. The engineer warrants that no person or selling agency has been employed or retained to solicit or secure this subagreement upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, except bona fide employees or bona fide established commercial or selling agencies maintained by the engineer for the purpose of securing business. For breach or violation of this warranty the municipality shall have the right to annul this agreement without liability or, in its discretion, to deduct from the contract price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

(I) Gratuities.

(i) If the municipality finds after a notice and hearing that the engineer, or any of the

engineer's agents or representatives, offered or gave gratuities (in the form of entertainment, gifts, or otherwise) to any official, employee, or agent of the municipality or the state, in an attempt to secure a subagreement or favorable treatment in awarding, amending, or making any determinations related to the performance of this agreement, the municipality may, by written notice to the engineer, terminate this agreement. The municipality may also pursue other rights and remedies that the law or this subagreement provides. However, the existence of the facts on which the municipality bases such findings shall be in issue and may be reviewed in proceedings under subparagraph (E) of this subdivision.

(ii) In the event this subagreement is terminated as provided in subparagraph (I) (i) of this subdivision the municipality may pursue the same remedies against the engineer as it could pursue in the event of a breach of the subagreement by the engineer and, as a penalty, in addition to any other damages to which it may be entitled by law, may pursue exemplary damages in an amount (as determined by the municipality) which shall be not less than three, nor more than ten times the costs the engineer incurs in providing any such gratuities to any such officer or employee.

(J) Responsibility of the Engineer.

(i) The engineer shall be responsible for the professional quality, technical accuracy, timely completion, and the coordination of all designs, drawings, specifications, reports, and other services furnished by the engineer under this subagreement. The engineer shall, without additional compensation, correct or revise any errors, omissions, or other deficiencies in his designs, drawings, specifications, reports, and other services.

(ii) The engineer shall perform the professional services necessary to accomplish the work required to be performed under this subagreement, in accordance with this subagreement and applicable requirements of the Commissioner in effect on the date of execution of the assistance agreement for this project.

(iii) Approval by the municipality or the Commissioner of drawings, designs, specifications, reports, and incidental work or materials furnished hereunder shall not, in any way, relieve the engineer of responsibility for the technical adequacy of his work. Neither the municipality's nor Commissioner's review, approval, acceptance, or payment for any of the services shall be construed as a waiver of any rights under this subagreement or of any cause of action arising out of the performance of this subagreement.

(iv) The engineer shall be and shall remain liable, in accordance with applicable law, for all damages to the municipality or the state caused by the engineer's negligent performance of any of the services furnished under this subagreement, except for errors, omissions, or other deficiencies to the extent attributable to the municipality, municipality-furnished data, or any third party. The engineer shall not be responsible for any time delays in the project caused by circumstances beyond the engineer's control.

(v) The engineer's obligations under this subparagraph are in addition to the engineer's other expressed or implied warranties under this subagreement or state law and in no way diminish any other rights that the municipality may have against the engineer for faulty materials, equipment, or work.

(K) Payment.

(i) Payment shall be made in accordance with the payment schedule incorporated in this subagreement, as soon as practicable, upon submission of statements requesting payment

by the engineer to the municipality. If no such payment schedule is incorporated in this subagreement, the payment provisions of subparagraph (K) (ii) of this subdivision shall apply.

(ii) The engineer may request monthly progress payments and the municipality shall make them, as soon as practicable, upon submission of statements requesting payment by the engineer to the municipality. When such progress payments are made, the municipality may withhold up to ten (10) percent of the vouchered amount until satisfactory completion by the engineer of work and services within a step called for under this subagreement. When the municipality determines that the work under this subagreement, or any specified task hereunder, is substantially complete and that the amount of retained percentages is in excess of the amount considered by the municipality to be adequate for its protection, it shall release to the engineer such excess amount.

(iii) No payment request made under subparagraph (K) (i) or (K) (ii) of this subdivision shall exceed the estimated amount and value of the work and services performed by the engineer under this subagreement. The engineer shall prepare the estimates of work performed and shall supplement them with such supporting data as the municipality may require.

(iv) Upon satisfactory completion of the work performed under this subagreement, as a condition precedent to final payment under this subagreement or to settlement upon termination of the subagreement, the engineer shall execute and deliver to the municipality a release of all claims against the municipality arising under or by virtue of this subagreement, other than such claims, if any, as may be specifically exempted by the engineer from the operation of the release in stated amounts to be set forth therein.

(L) Copyrights and Rights in Data.

(i) The engineer agrees that any plans, drawings, designs, specifications, computer programs (which are substantially financed by state funds), technical reports, operating manuals, and other work submitted with an engineering report, with a design or for construction with financing assistance, or which are specified to be delivered under this subagreement, or which are developed or produced and paid for under this subagreement (referred to in subparagraph (L) (ii) of this subdivision as "subject data"), and including all raw data obtained or generated by the engineer during the course of his work under this subagreement, are subject to certain rights in the United States. These rights include the right to use, duplicate, and disclose such subject data, in whole or in part, in any manner for any purpose whatsoever, and to have others do so. If the material is copyrightable, the engineer may copyright it, subject to the rights of the state described herein, but the municipality and the state reserve a royalty-free, nonexclusive, and irrevocable license to reproduce, publish, and use such materials, in whole or in part, and to authorize others to do so. The engineer shall include appropriate provisions to achieve the purpose of this condition in all subcontracts expected to produce copyrightable subject data; and

(ii) all such subject data furnished by the engineer pursuant to this subagreement are instruments of his services in respect to the project. It is understood that the engineer does not represent such subject data to be suitable for reuse on any other project or for any other purpose. If the municipality reuses the subject data without the engineer's specific written verification or adaptation, such reuse will be at the risk of the municipality without liability

to the engineer. Any such verification or adaptation will entitle the engineer to further compensation at rates agreed upon by the municipality and the engineer.

(g) **Required Provisions for Construction Contracts.** Municipalities must include, when appropriate, subdivisions (1) to (14), inclusive, of this subsection, or their equivalent, in each subagreement and may substitute other terms for “grantee” and “contractor” in their subagreements.

(1) Supersession. The municipality and the contractor agree that the following general provisions, or their equivalent, apply to eligible work to be performed under this contract and that these provisions supersede any conflicting provisions of this contract.

(2) Privity of Contract. This contract is expected to be funded in part by the State of Connecticut. Neither the state, nor any of its departments, agencies, or employees is or will be a party to this contract or any lower tier subcontract. This contract is subject to sections 22a-482-1 to 22a-482-4, inclusive, of the Regulations of Connecticut State Agencies.

(3) Changes for Contracts for Construction.

(A) The municipality may, at any time, without notice to any surety, by written order designated or indicated to be a change order, make any change in the work within the general scope of the subagreement, including but not limited to changes:

- (i) in the specifications (including drawings and designs);
- (ii) in the time, method, or manner of performance of the work;
- (iii) in the municipality-furnished facilities, equipment, materials, services, or site; or
- (iv) directing acceleration in the performance of the work.

(B) A change order shall also be any other written or oral order (including direction, instruction, interpretation or determination) from the municipality which causes any change, provided the contractor gives the municipality written notice stating the date, circumstances, and source of the order and that the contractor regards the order as a change order.

(C) Except as provided in subdivision (3) of this subsection, no order, statement, or conduct of the municipality shall be treated as a change under subdivision (3) of this subsection or entitle the contractor to an equitable adjustment.

(D) If any change under subdivision (3) of this subsection causes an increase or decrease in the contractor’s cost or the time required to perform any part of the work under this contract, whether or not changed by any order, an equitable adjustment shall be made and the subagreement modified in writing. However, for claims based on defective specifications, no claim for any change under subparagraph (B) of this subdivision shall be allowed for any costs incurred more than 20 days before the contractor gives written notice as required in subparagraph (B) of this subdivision. In the case of defective specifications for which the municipality is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the contractor in attempting to comply with those defective specifications.

(E) If the contractor intends to assert a claim for an equitable adjustment under this clause, he shall, within thirty (30) days after receipt of a written change order under subparagraph (A) of this subdivision, or the furnishing of a written notice under subparagraph (B) of this subdivision, submit to the grantee a written statement setting forth the general nature and monetary extent of such claim. The municipality may extend the 30-day period. The statement of claim may be included in the notice under subparagraph (B)

of this subdivision.

(F) No claim by the contractor for an equitable adjustment shall be allowed if made after final payment under this contract.

(4) Changes for Contracts for Supplies.

(A) The municipality may at any time, by a written order and without notice to the sureties, make changes within the general scope of this subagreement in any one or more of the following:

(i) drawings, designs, or specifications, where the supplies to be furnished are to be specially manufactured for the municipality;

(ii) method of shipment or packing; and (iii) place of delivery.

(B) If any change causes an increase or decrease in the cost or the time required to perform any part of the work under this subagreement, whether or not changed by any such order, an equitable adjustment shall be made in the subagreement price or delivery schedule, or both, and the subagreement shall be modified in writing. Any claim by the contractor or adjustment under this clause shall be asserted within thirty (30) days from the date of receipt by the contractor of the notification of change. If the municipality decides that the facts justify such action, the municipality may receive and act upon any such claim asserted at any time before final payment under this subagreement. Where the cost of property is made obsolete or excessive as a result of a change is included in the contractor's claim for adjustment, the grantee shall have the right to prescribe the manner of disposition of such property. Nothing in this subdivision shall excuse the contractor from proceeding with the subagreement as changed.

(5) Differing Site Conditions.

(A) The contractor shall promptly, and before such conditions are disturbed, notify the municipality in writing of:

(i) subsurface or latent physical conditions at the site differing materially from those indicated in this subagreement; or

(ii) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this subagreement. The municipality shall promptly investigate the conditions and, if it finds that conditions are materially different and will cause an increase or decrease in the contractor's cost or the time required to perform any part of the work under this subagreement, whether or not changed as a result of such conditions, an equitable adjustment shall be made and the subagreement modified in writing.

(B) No claim of the contractor under this subdivision shall be allowed unless the contractor has given notice required in subparagraph (A) of this subdivision. However, the municipality may extend the prescribed time.

(C) No claim by the contractor for an equitable adjustment shall be allowed if asserted after final payment under this subagreement.

(6) Suspension of Work.

(A) The municipality may order the contractor, in writing, to suspend, delay, or interrupt all or any part of the work for such period of time as the municipality may determine to be appropriate for the convenience of the municipality.

(B) If the performance of all or any part of the work is suspended, delayed, or interrupted

for an unreasonable period of time by an act of the municipality in administration of the contract, (or if no time is specified, within a reasonable time), an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) necessarily caused by such unreasonable suspension, delay, or interruption and the contract modified in writing. However, no adjustment shall be made under this subdivision for any suspension, delay, or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the contractor, or for which an equitable adjustment is provided for, or excluded, under any other provision of the contract.

(C) No claim under this subdivision shall be allowed for any costs incurred more than twenty (20) days before the contractor notified the municipality in writing of the act or failure to act involved (this requirement does not apply to a claim resulting from a suspension order), and unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of such suspension, delay, or interruption, but not later than the date of final payment under the contract.

(7) Termination.

(A) This contract may be terminated in whole or in part in writing by either party in the event of substantial failure by the other party to fulfill its obligations under this subagreement through no fault of the terminating party, provided that no termination may be effected unless the other party is given not less than ten (10) calendar days written notice (delivered by certified mail, return receipt requested) of intent to terminate and an opportunity for consultation with the terminating party prior to termination.

(B) This contract may be terminated in whole or in part in writing by the municipality for its convenience, provided that the contractor is given not less than ten (10) calendar days written notice (delivered by certified mail, return receipt requested) of intent to terminate and an opportunity for consultation with the terminating party prior to termination.

(C) If termination for default is effected by the municipality, an equitable adjustment in the price provided for in this contract shall be made but no amount shall be allowed for anticipated profit on unperformed services or other work, and any payment due to the contractor at the time of termination may be adjusted to cover any additional costs to the municipality because of the contractor's default. If termination for default is effected by the contractor, or if termination for convenience is effected by the municipality, the equitable adjustment shall include a reasonable profit for services or other work performed. The equitable adjustment for any termination shall provide for payment to the contractor for services rendered and expenses incurred prior to the termination in addition to termination settlement costs reasonably incurred by the contractor relating to commitments which had become firm prior to the termination.

(D) Upon receipt of a termination action pursuant to subparagraphs (A) or (B) of this subdivision, the contractor shall promptly discontinue all services affected (unless the notice directs otherwise), and deliver or otherwise make available to the municipality all data, drawings, specifications, reports, estimates, summaries and such other information and materials as may have been accumulated by the contractor in performing this contract whether completed or in process.

(E) Upon termination under subparagraphs (A) or (B) of this subdivision the municipality

may take over the work and may award another party a contract to complete the work under this contract.

(F) If, after termination for failure of the contractor to fulfill contractual obligations, it is determined that the contractor had not failed to fulfill contractual obligations, the termination shall be deemed to have been for the convenience of the municipality. In such event, adjustment of the price provided for in this contract shall be made as provided in subparagraph (C) of this subdivision.

(8) Remedies. Except as may be otherwise provided in this contract, all claims, counter-claims, disputes, and other matters in question between the municipality and the contractor arising out of or relating to this contract or the breach thereof will be decided by arbitration, if the parties mutually agree, or in a court of competent jurisdiction within the district in which the municipality is located.

(9) Price Reduction for Defective Cost or Pricing Data.

NOTE— This subdivision is applicable to any contract negotiated between the municipality and its contractor in excess of \$500,000; negotiated change orders in excess of \$500,000 or 10 percent of the contract, whichever is less, affecting the price of a formally advertised, competitively awarded, fixed price contract; or any lower tier subcontract or purchase order in excess of \$500,000 or 10 percent of the assistance agreement, whichever is less, under a contract other than a formally advertised, competitively awarded, fixed price subagreement. This subdivision is not applicable for contracts to the extent that they are awarded on the basis of effective price competition.

The contractor and subcontractor, where appropriate, warrant that cost and pricing data submitted for evaluation with respect to negotiation of prices for negotiated contracts, lower tier subcontracts and change orders is based on current, accurate, and complete data supported by their books and records. If the municipality or the Commissioner determines that any price (including profit) negotiated in connection with this contract, any lower tier subcontract, or any amendment thereunder was increased by any significant sums because the data provided was incomplete, inaccurate, or not current at the time of submission, then such price, cost, or profit shall be reduced accordingly, and the contract shall be modified in writing to reflect such reduction. Failure to agree on a reduction shall be subject to subdivision (8) of this subsection.

NOTE— Since the contract is subject to reduction under this subdivision by reason of defective cost or pricing data submitted in connection with lower tier subcontracts, the contractor may wish to include a clause in each lower tier subcontract requiring the lower tier subcontractor to appropriately indemnify the contractor. It is also expected that any lower tier subcontractor subject to such indemnification will generally require substantially similar indemnification for defective cost or pricing data required to be submitted by lower tier subcontractors.

(10) Audit; Access to Records.

(A) The contractor shall maintain books, records, documents, and other evidence directly pertinent to performance on grant work under this contract in accordance with generally accepted accounting principles and practices consistently applied. The contractor shall also maintain the financial information and data used by the contractor in the preparation or support of the cost submission required under section 22a-482-4 (i) (6) for any negotiated

contract or change order and a copy of the cost summary submitted to the municipality. The municipality and the Commissioner or any of his or her authorized representatives shall have access to all such books, records, documents, and other evidence for the purpose of inspection, audit and copying during normal business hours. The contractor will provide proper facilities for such access and inspection.

(B) If this is a formally advertised, competitively awarded, fixed price contract, the contractor agrees to make subparagraphs (A) to (F), inclusive, of this subdivision applicable to all negotiated change orders and contract amendments affecting the contract price. In the case of all other types of prime contracts, the contractor agrees to include subparagraphs (A) to (F), inclusive, of this subdivision in all his subcontracts in excess of \$10,000 and to subparagraphs (A) through (F), inclusive, of this subdivision applicable to all change orders directly related to project performance.

(C) Audits conducted under this subdivision shall be in accordance with generally accepted auditing standards and established procedures and guidelines of the reviewing or audit departments and shall meet the requirements of section 7-396a of the General Statutes.

(D) The contractor agrees to disclose all information and reports resulting from access to records under subparagraphs (A) and (B) of this subdivision to any of the parties referred to in subparagraph (A) of this subdivision.

(E) Records under subparagraphs (A) and (B) of this subdivision shall be maintained and made available during performance on assisted work under this contract and until three years from the date of final state payment for the project. In addition, those records which relate to any dispute appeal arising under a grant assistance agreement, to litigation, to the settlement of claims arising out of such performance, or to costs or items to which an audit exception has been taken, shall be maintained and made available until three years after the date of resolution of such appeal, litigation, claim, or exception.

(F) This right of access provision (with respect to financial records) applies to:

- (i) negotiated prime subagreements;
- (ii) negotiated change orders or contract amendments in excess of \$10,000 affecting the price of any formally advertised, competitively awarded, fixed price contract; and
- (iii) subcontracts or purchase orders under any contract other than a formally advertised, competitively awarded, fixed price contract. However, this right of access does not apply to a prime contract, lower tier subcontract, or purchase order awarded after effective price competition, except with respect to records pertaining directly to contract performance, (excluding any financial records of the contractor), if there is any indication that fraud, gross abuse, or corrupt practices may be involved or if the contract is terminated for default or for convenience.

(11) **Covenant Against Contingent Fees.** The contractor warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the contractor for the purpose of securing business. For breach or violation of this warranty the grantee shall have the right to annul this agreement without liability or, at its discretion, to deduct from the contract price or consideration, or otherwise recover the full amount of such commission, percentage, brokerage, or contingent fee.

(12) Gratuities.

(A) If the municipality finds, after a notice and hearing, that the contractor, or any of the contractor's agents or representatives, offered or gave gratuities (in the form of entertainment, gifts, or otherwise) to any official, employee, or agent of the municipality or the state, in an attempt to secure a contract or favorable treatment in awarding, amending, or making any determinations related to the performance of this agreement, the municipality may, by written notice to the contractor, terminate this agreement. The municipality may also pursue other rights and remedies that the law or this agreement provides. However, the existence of the facts on which the municipality bases such findings shall be in issue and may be reviewed in proceedings under subdivision (8) of this subsection.

(B) In the event this contract is terminated, as provided in subparagraph (A) of this subdivision, the municipality may pursue the same remedies against the contractor as it could pursue in the event of a breach of the contract by the contractor and, as a penalty, in addition to any other damages to which it may be entitled by law, may pursue exemplary damages in an amount (as determined by the grantee) which shall be not less than three nor more than ten times the costs the contractor incurs in providing any such gratuities to any such officer or employee.

(13) Responsibility of the Contractor.

(A) The contractor agrees to perform all work under this agreement in accordance with this agreement's designs, drawings, and specifications.

(B) The contractor warrants and guarantees for a period of one (1) year from the date of substantial completion of the system that the completed system is free from all defects due to faulty materials, equipment or workmanship; and the contractor shall promptly make whatever adjustments or corrections necessary to cure such defects, including repairs of any damage to other parts of the system resulting from such defects. The municipality shall give notice to the contractor of observed defects with reasonable promptness. In the event that the contractor fails to make adjustments, repairs, corrections or other work that may be made necessary by such defect, the municipality may do so and charge the contractor the cost incurred. The performance bond shall remain in full force and effect through the guarantee period.

(C) The contractor's obligations under this subdivision are in addition to the contractor's other express or implied warranties under this agreement or state law and in no way diminish any other rights that the municipality may have against the contractor for faulty material, equipment, or work.

(14) Final Payment. Upon satisfactory completion of the work performed under this agreement, as a condition before final payment under this agreement, or as a termination settlement under this agreement, the contractor shall execute and deliver to the municipality a release of all claims against the municipality arising under or by virtue of this agreement, except claims which are specifically exempted by the contractor to be set forth therein. Unless otherwise provided in this agreement or by state law or otherwise expressly agreed to by the parties to this agreement, final payment under this agreement or settlement upon termination of this agreement shall not constitute a waiver of the municipality's claims against the contractor or his sureties under this agreement or applicable performance and payment bonds.

(h) Procurement Requirements—General.

(1) **Applicability.** This subsection defines the responsibilities of the state and the municipality and the minimum procurement standards for each municipality's procurement system.

(2) **Municipality Responsibility.**

(A) The municipality is responsible for the settlement and satisfactory completion, in accordance with sound business judgment and good administrative practice, of all contractual and administrative issues arising out of subagreements entered into under the assistance agreement. This includes issuance of invitations for bids or requests for proposals, selection of contractors, award of subagreements, settlement of protests, claims, disputes and other related procurement matters.

(B) The municipality shall maintain a subagreement administration system to assure that contractors perform in accordance with the terms, conditions and specifications of their subagreements.

(C) The municipality shall review its proposed procurement actions to avoid purchasing unnecessary or duplicative items.

(D) The municipality shall consider consolidating its procurement or dividing it into parts to obtain a more economical purchase.

(E) Where appropriate, the municipality shall make an analysis of lease versus purchase alternatives in its procurement actions.

(F) A municipality may request technical assistance from the Commissioner for the administration and enforcement of any subagreement awarded under this section. However, such assistance does not relieve the municipality of its responsibilities under this section, 22a-482-4.

(G) A municipality may use innovative procurement methods or procedures only if it receives the Commissioner's prior written approval.

(3) **Municipality Reporting Requirements.** The municipality shall request, in writing, the Commissioner's authorization to award each construction subagreement which has an aggregate value over \$10,000. The request shall include:

(A) name, address, telephone number and employee identification number of the construction contractor;

(B) amount of the award;

(C) estimated starting and completion dates;

(D) project number, name and site location of the project; and

(E) copy of the tabulations of bids or offers and the name of each bidder or offeror.

(4) **Copies of Contract Documents.** The municipality shall promptly submit to the Commissioner copies of any prime contract or modification thereof, and revisions to plans and specifications.

(5) **Limitations on Subagreement Award.**

(A) The municipality shall award subagreements only to responsible contractors that possess the potential ability to perform successfully under the terms and conditions of a proposed procurement. A responsible contractor is one that has:

(i) financial resources, technical qualifications, experience, an organization and facilities adequate to carry out the project, or a demonstrated ability to obtain these;

- (ii) resources to meet the completion schedule contained in the subagreement;
 - (iii) a satisfactory performance record for completion of subagreements;
 - (iv) accounting and auditing procedures adequate to control property, funds and assets;
- and

(v) demonstrated compliance or willingness to comply with the civil rights, equal employment opportunity, labor laws and other statutory requirements.

(B) The municipality shall not make awards to contractors who have been suspended or debarred by a Connecticut state agency.

(6) Violations. The municipality shall refer violations of law to the local or state officials having the proper jurisdiction.

(7) Competition.

(A) The municipality shall conduct all procurement transactions in a manner that provides maximum open and free competition.

(B) Procurement practices shall not unduly restrict or eliminate competition. Examples of practices considered to be unduly restrictive include:

- (i) noncompetitive practices between firms;
- (ii) organizational conflicts of interest;
- (iii) unnecessary experience and bonding requirements;
- (iv) local laws, ordinances, regulations or procedures which give local bidders or proposers preference over other bidders or proposers in evaluating bids or proposals; and
- (v) placing unreasonable requirements on firms in order for them to qualify to do business.

(C) The municipality may use a prequalification list(s) of persons, firms or products if it:

- (i) updates its prequalified list(s) at least every six months;
- (ii) reviews and acts on each request for prequalification made more than thirty (30) days before the closing date for receipt of proposals or bid opening; and
- (iii) gives adequate public notice of its prequalification procedures in accordance with the public notice procedures.

(D) A municipality may not use a prequalified list(s) of persons or firms if the procedure unnecessarily restricts competition.

(8) Profit.

(A) Municipalities shall assure that only fair and reasonable profits are paid to contractors awarded subagreements under state assistance agreements.

(B) The municipality shall negotiate profit as a separate element of price for each subagreement in which there is no price competition or where price is based on cost analysis.

(C) Where the municipality receives two or more bids, profit included in a formally advertised, competitively bid, fixed price subagreement shall be considered reasonable.

(D) Off-the-shelf or catalog supplies are exempt from this subparagraph.

(9) Use of Small, Minority, and Women's Businesses. The municipality shall take affirmative steps to assure that small, minority, and women's businesses are used to the maximum extent practicable. The Commissioner may impose goals as conditions of financial assistance.

(10) Privity of Subagreement. The state shall not be a party to any subagreement nor to

any solicitation or request for proposals.

(11) Documentation.

(A) Procurement records and files for procurements in excess of \$10,000 shall include the following:

- (i) the basis for contractor selection;
- (ii) written justification for selection of the procurement method;
- (iii) written justification for use of any specification which does not provide for maximum free and open competition;
- (iv) written justification for the type of subagreement; and
- (v) the basis for award cost or price, including a copy of the cost or price analysis made and documentation of negotiations; and

(B) The municipality shall state the reasons in writing for rejecting any or all bids and the justification for procurements on a noncompetitively negotiated basis and make them available for public inspection.

(12) Specifications.

(A) Nonrestrictive Specifications.

(i) No specification for bids or statement of work shall be written in such a manner as to contain proprietary, exclusionary or discriminatory requirements, other than those based upon performance, unless such requirements are necessary to test or demonstrate a specific thing or to provide for necessary interchangeability of parts and equipment, or at least two brand names or trade names of comparable quality or utility are listed and are followed by the words "or equal." If brand or trade names are specified, the municipality shall be prepared to identify to the Commissioner, or in any protest action, the salient requirements (relating to the minimum needs of the project) which shall be met by any offeror. The single base bid method of solicitation for equipment and parts for determination of a low, responsive bidder may not be utilized. With regard to materials, if a single material is specified, the municipality shall be prepared to substantiate the basis for the selection of the material.

(ii) Project specifications shall, to the extent practicable, provide for maximum use of structures, machines, products, materials, construction methods, and equipment which are readily available through competitive procurement or through standard or proven production techniques, methods, and processes.

(B) Sole Source Restriction. A specification shall not require the use of structures, materials, equipment, or processes which are known to be available only from a sole source, unless the Commissioner determines, in advance, that the municipality's engineer has adequately justified, in writing, that the proposed use meets the particular project's minimum needs or the Commissioner determines that use of a single source is necessary to promote innovation.

(C) Experience Clause Restriction. The general use of experience clauses requiring equipment manufacturers to have a record of satisfactory operation for a specified period of time or of bonds or deposits to guarantee replacement in the event of failure is restricted to special cases where the municipality's engineer adequately justifies any such requirement in writing. Where such justification has been made, submission of a bond or deposit shall be permitted instead of a specified experience period. The period of time for which the bond

or deposit is required should not exceed the experience period specified.

(13) Force Account Work.

(A) The municipality shall receive the Commissioner's prior written approval for use of the force account method for any planning, design work or construction work, unless the grant agreement stipulates the force account method.

(B) The Commissioner may approve the force account method upon the municipality's demonstration that it possesses the necessary competence required to accomplish such work and that the work can be accomplished more economically by use of the force account method or emergency circumstances dictate its use.

(C) Use of the force account method for construction work shall generally be limited to minor portions of a project.

(14) Code of Conduct.

(A) The municipality shall maintain a written code or standard of conduct which shall govern the performance of its officers, employees, or agents engaged in the award and administration of subagreements supported by state funds. No employee, officer or agent of the municipality shall participate in the selection, award or administration of a subagreement supported by state funds if a conflict of interest, real or apparent, would be involved.

(B) Such a conflict would arise when:

(i) any employee, officer or agent of the municipality, any member of the immediate families, or their partners, have a financial or other interest in the firm selected for award; or

(ii) an organization which may receive or has been awarded a subagreement employs, or is about to employ, any person under subparagraph (B) (i) of this subdivision.

(C) The municipality's officers, employees or agents shall neither solicit nor accept gratuities, favors or anything of monetary value from contractors, potential contractors or other parties to subagreements.

(D) Municipalities may set minimum rules where the financial interest is not substantial or the gift is an unsolicited item of nominal value.

(E) To the extent permitted by state or local law or regulations, the municipality's code of conduct shall provide for penalties, sanctions or other disciplinary actions for violations of the code by the municipality's officers, employees or agents or by contractors or their agents.

(15) Payment to Consultants.

(A) For all state assistance agreements, the state shall limit its participation in the salary rate (excluding overhead) paid to individual consultants retained by a municipality or by a municipality's contractors or subcontractors to the maximum daily rate for a GS-18 federal employee. (Municipality's may, however, pay contractors and subcontractors more than this amount.) This limitation applies to consultation services of designated individuals with specialized skills who are paid at a daily or hourly rate. The rate does not include transportation and subsistence costs for travel performed; municipalities shall pay these costs in accordance with their normal travel reimbursement practices.

(B) Subagreements with firms for services which are awarded using these procurement requirements are not affected by this limitation.

(16) Cost and Price Considerations.

(A) The municipality shall conduct a cost analysis of all negotiated change orders and all negotiated subagreements estimated to exceed \$10,000.

(B) The municipality shall conduct a price analysis of all formally advertised procurements estimated to exceed \$10,000, if there are fewer than three bidders.

(C) For negotiated procurement, contractors and subcontractors shall submit cost or pricing data in support of their proposals to the municipality.

(17) Small Purchases.

(A) Small Purchase Procurement. If the aggregate amount involved in any one procurement transaction does not exceed \$10,000, including estimated handling and freight charges, overhead and profit, the municipality may use small purchase procedures.

(B) Small Purchase Procedures. Small purchase procedures are relatively simple procurement methods that are sound and appropriate for procurement of services, supplies or other property costing in the aggregate not more than \$10,000.

(C) Requirements for Competition.

(i) Municipalities shall not divide a procurement into smaller parts to avoid the dollar limitation for competitive procurement.

(ii) Municipalities shall obtain price or rate quotations from an adequate number of qualified sources.

(18) Negotiation and Award of Subagreements.

(A) Unless the request for proposals states that an award may be based on initial offers alone, the municipality shall conduct meaningful negotiations with the best qualified offerors with acceptable proposals within the competitive range, and permit revisions to obtain best and final offers. The best qualified offerors shall have equal opportunities to negotiate or revise their proposals. During negotiations, the municipality shall not disclose the identity of competing offerors or any information from competing proposals.

(B) The municipality shall award the subagreement to the responsible offeror whose proposal is determined in writing to be the most advantageous to the municipality, taking into consideration price and other evaluation criteria set forth in the request for proposals.

(C) The municipality shall promptly notify unsuccessful offerors that their proposals were rejected.

(D) The municipality shall document its procurement file to indicate how proposals were evaluated, what factors were used to determine the best qualified offerors within the competitive range, and what factors were used to determine the subagreement award.

(19) Optional Selection Procedure for Negotiation and Award of Subagreements for Architectural and Engineering Services.

(A) The municipality may evaluate and select an architect or engineer using the procedures in this subdivision in place of the procedures in "Negotiation and Award of Subagreements" in subdivision (18) of this subsection.

(B) The municipality may use responses from requests for statements of qualifications to determine the most technically qualified architects or engineers.

(C) After selecting and ranking the most qualified architects or engineers, the municipality shall request technical proposals from those architects or engineers and inform them of the evaluation criteria the municipality will use to rank the proposals.

(D) The municipality shall then select and determine, in writing, the best technical proposal.

(E) After selecting the best proposal, the municipality shall attempt to negotiate fair and reasonable compensation with that offeror.

(F) If the municipality and the offeror of the best proposal cannot agree on the amount of compensation, the municipality shall formally terminate negotiations with that offeror. The municipality shall then negotiate with the offeror with the next best proposal. This process shall continue until the municipality reaches agreement on compensation with an offeror with an acceptable proposal. Once the municipality terminates negotiations with an offeror, the municipality cannot go back and renegotiate with that offeror.

(20) Noncompetitive Negotiation Procurement Method. Noncompetitive negotiation may be used only when the award of a subagreement is not feasible under small purchase, formal advertising, or competitive negotiation procedures. The municipality may award a noncompetitively negotiated subagreement only under the following circumstances:

(A) the item is available only from a single source;

(B) a public exigency or emergency exists and the urgency for the requirement will not permit a delay incident to competitive procurement; or

(C) after solicitation from a number of sources, competition is determined to be inadequate.

(21) Use of the Same Architect or Engineer During Construction.

(A) If the municipality is satisfied with the qualifications and performance of the architect or engineer who provided any or all of the planning or design services for the project, it may wish to retain that firm or individual during construction of the project. The municipality may do so without further public notice and evaluation of qualifications provided that it received financial assistance for the planning and/or design services and selected the architect or engineer in accordance with these procurement regulations.

(B) However, if the municipality uses the procedures in subparagraph (A) of this subdivision to retain an architect or engineer, any construction subagreements between the architect or engineer and the municipality shall meet the procurement provisions of subdivision (i) (5) of this section.

(22) Negotiation of Subagreements.

(A) Formal advertising, with adequate purchase descriptions, sealed bids, and public openings shall be the required method of procurement unless negotiation under subparagraph (B) of this subdivision is necessary to accomplish sound procurement.

(B) All negotiated procurement shall be conducted in a manner to provide to the maximum practicable extent open and free competition appropriate to the type of project work to be performed. The municipality is authorized to negotiate subagreements if any of the following conditions exist:

(i) public exigency will not permit the delay incident to formally advertised procurement (e.g. an emergency procurement); or

(ii) the aggregate amount involved does not exceed \$10,000; or

(iii) the material or service to be procured is available from only one person or entity. If the procurement is expected to aggregate more than \$10,000, the municipality shall document its file with a justification of the need for noncompetitive procurement, and

provide such documentation to the Commissioner on request; or

(iv) the procurement is for personal or professional services (including architectural or engineering services) or for any service that a university or other educational institution may render; or

(v) no responsive, responsible bids at acceptable price levels have been received after formal advertising and the Commissioner's prior written approval has been obtained; or

(vi) the procurement is for materials or services where the price is established by law; or

(vii) the procurement is for technical items or equipment requiring standardization and interchangeability of parts with existing equipment; or

(viii) the procurement is for experimental, developmental or research services.

(23) Enforcement. If the Commissioner determines that the municipality has failed to comply with any of the provisions of this subsection, he or she may impose any of the following sanctions:

(A) the grant may be terminated or annulled under subsection (t) of this section; or

(B) project costs directly related to the noncompliance may be disallowed; or

(C) payment otherwise due to the municipality of up to 10 percent may be withheld; or

(D) project work may be suspended under subdivision (g) (6) of this section; or

(E) a noncomplying municipality may be found nonresponsible or ineligible for future state funding assistance or a noncomplying contractor may be found nonresponsible or ineligible for approval for future contract awards under state grants; or

(F) an injunction may be entered or other equitable relief afforded by a court of appropriate jurisdiction; or

(G) such other administrative or judicial action may be instituted if it is legally available and appropriate.

(24) Contract Enforcement and Commissioner Authority. At the request of a municipality, the Commissioner is authorized to provide technical and legal assistance in the administration and enforcement of any contract related to pollution abatement facilities for which a state grant was made and to intervene in any civil action involving the enforcement of such contracts, including contract disputes which are the subject of either arbitration or court action in accordance with the requirements of subdivision (f) (1) of this section.

(i) Architectural/Engineering Procurement Requirements.

(1) Type of Contract (Subagreement).

(A) General. Cost-plus-percentage-of-cost and percentage-of-construction-cost contracts are prohibited. Cost reimbursement, fixed price, or per diem contracts or combinations of these may be negotiated for architectural or engineering services. A fixed price contract is generally used only when the scope and extent of work to be performed is clearly defined. In most other cases, a cost reimbursement type of contract is more appropriate. A per diem contract may be used if no other type of contract is appropriate. An incentive fee may be used if the municipality submits an adequate independent cost estimate and price comparison.

(B) Cost Reimbursement Contract. Each cost reimbursement contract shall clearly establish a cost ceiling which the engineer may not exceed without formally amending the

contract and a fixed dollar profit which may not be increased except in the case of a contract amendment to increase the scope of work.

(C) Fixed Price Contract. An acceptable fixed price contract is one which establishes a guaranteed maximum price which may not be increased unless a contract amendment increases the scope of work.

(D) Compensation Procedures. If, under either a cost reimbursement or fixed price contract, the municipality desires to use a multiplier type of compensation, all of the following must apply:

(i) the multiplier and the portions of the multiplier allocable to overhead and allocable to profit have been specifically negotiated;

(ii) the portion of the multiplier allocable to overhead includes only allowable items of cost under the cost principles;

(iii) the portions of the multiplier allocable to profit and allocable to overhead have been separately identified in the contract; and

(iv) the fixed price contract includes a guaranteed maximum price for completion of the specifically defined scope of work; and the cost reimbursement contract includes a fixed dollar profit which may not be increased except in the case of a contract amendment which increases the scope of work.

(E) Per Diem Contracts. A per diem agreement may be utilized only after a determination that a fixed price or cost reimbursement type contract is not appropriate. Per diem agreements should be used only to a limited extent, e.g., where the first task under the planning agreement involves establishing the scope and cost of succeeding planning tasks or for incidental services such as expert testimony or intermittent professional or testing services. (Resident engineer and resident inspection services should generally be compensated at cost plus fixed fee). Cost and profit included in the per diem rate must be specifically negotiated and displayed separately in the engineer's proposal.

The contract must clearly establish a price ceiling which may not be exceeded without formally amending the contract.

(2) Public Notice. Adequate public notice must be given of the requirement for architectural or engineering services for all subagreements.

(A) Public Announcement. A notice of request for qualifications should be published in professional journals, newspapers, or publications of general circulation over a reasonable area and, in addition, if desired, through posted public notices or written notification directed to interested persons, firms, or professional organizations inviting the submission of statements of qualifications. The announcement must clearly state the deadline and place for submission of qualification statements.

(B) Exceptions. Public notice is not required under the following circumstances:

(i) for design or construction phases of a grant funded project if the municipality is satisfied with the qualifications and performance of any engineer who performed all or any part of the planning or design work and the engineer has the capacity to perform the subsequent steps; and

(ii) the municipality desires the same engineer to provide architectural or engineering services for the subsequent steps or for subsequent segments of design work in one project, if a single pollution abatement facility is segmented into two or more construction projects.

If the design work is accordingly segmented so that the initial contract for preparation of construction drawings and specifications does not cover the entire pollution abatement facility to be built under one grant then the municipality may use the same engineering firm that was selected for the initial segment of design work for subsequent segments.

(3) Evaluation of Qualifications.

(A) The municipality shall review the qualifications of firms which responded to the announcement or were on the prequalified list and shall uniformly evaluate the firms.

(B) Qualifications shall be evaluated through an objective process (e.g., the appointment of a board or committee which, to the extent practicable, should include persons with technical skills).

(C) Criteria which should be considered in the evaluation of candidates for submission of proposals should include:

(i) specialized experience and technical competence of the candidate or firm and its personnel (including a joint venture, association or professional subcontractor) considering the type of services required and the complexity of the project;

(ii) past record of performance on contracts with the municipality, other government agencies or public bodies, and with private industry, including such factors as control of costs, quality of work, and ability to meet schedules;

(iii) the candidate's capacity to perform the work (including any specialized services) within the time limitations, considering the firm's current and planned workload;

(iv) the candidate's familiarity with the types of problems applicable to the project; and

(v) avoidance of personal and organizational conflicts of interest.

(4) Solicitation and Evaluation of Proposals.

(A) Solicitation of Professional Services Proposals.

(i) Requests for professional services proposals shall be sent to no fewer than three candidates who either responded to the public announcement or were selected from the prequalified list, unless, after good faith effort to solicit qualifications, fewer than three qualified candidates respond, in which case all qualified candidates shall be provided requests for proposals.

(ii) Requests for professional services proposals shall be in writing and must contain the information necessary to enable a prospective offeror to prepare a proposal properly. The request for proposals shall include a solicitation statement and shall inform offerors of the evaluation criteria.

(iii) Submission deadline. Requests for proposals shall clearly state the deadline and place for submission.

(B) Evaluation of Proposals.

(i) All proposals submitted in response to the request for professional services proposals shall be uniformly evaluated. The municipality shall also evaluate the candidates' proposed method of accomplishing the work required.

(ii) Proposals shall be evaluated through an objective process (e.g., the appointment of a board or committee) which, to the extent practicable, should include persons with technical skills. Oral (including telephone) or written interviews should be conducted with top rated proposers and information derived therefrom shall be treated on a confidential basis.

(iii) Municipalities shall base their determinations of qualified offerors and acceptable

proposals solely on the evaluation criteria stated in the request for proposals.

(5) Negotiation.

(A) Municipalities are responsible for negotiation of their contracts for architectural or engineering services. Contract procurement, including negotiation, may be performed by the municipality directly or by another person or firm retained for that purpose. Contract negotiations may include the services of technical, legal, audit, or other specialists to the extent appropriate.

(B) Negotiations may be conducted in accordance with state or local requirements, as long as they meet the minimum requirements as set forth in this subdivision.

(C) The object of negotiations with any candidate shall be to reach agreement on the provisions of the proposed contract. The municipality and the candidate shall discuss, at a minimum:

- (i) the scope and extent of work and other essential requirements;
- (ii) identification of the personnel and facilities necessary to accomplish the work within the required time including, where needed, employment of additional personnel, subcontracting, joint venture, etc;
- (iii) provisions of the required technical services in accordance with regulations and criteria established for the project; and
- (iv) a fair and reasonable price for the required work, to be determined in accordance with the cost and profit considerations.

(6) Cost and Price Considerations.

(A) The candidate(s) selected for negotiation shall submit to the municipality for review sufficient cost and pricing data to enable the municipality to ascertain the necessity and reasonableness of costs and amounts proposed and the allowability and eligibility of costs proposed.

(B) The municipality shall submit the following to the Commissioner for review:

- (i) documentation of the public notice of need for architectural or engineering services and selection procedures;
- (ii) the cost and pricing data the selected engineer submitted;
- (iii) a certification of review and acceptance of the selected engineer's cost and price; and
- (iv) a copy of the proposed subagreement.

(C) The Commissioner shall review the complete subagreement procurement procedure and approve the municipality's compliance with appropriate procedures before the municipality awards the subagreement.

(D) Cost Review.

- (i) The municipality shall review proposed subagreement costs.
- (ii) At a minimum, proposed subagreement costs shall be presented on EPA form 5700-41 on which the selected engineer shall certify that the proposed costs reflect complete, current, and accurate cost and pricing data applicable to the date of anticipated subagreement award.
- (iii) In addition to the specific elements of cost, the estimated amount of profit shall be set forth separately in the cost summary for fixed price contracts and a maximum total dollar amount of profit shall be set forth separately in the cost summary for cost reimbursement

contracts.

(iv) The municipality may require more detailed cost data than the form requires in order to substantiate the reasonableness of proposed subagreement costs. The Commissioner may require more detailed documentation only when the selected engineer is unable to certify that the cost and pricing data used are complete, current, and accurate. The Commissioner may, on a selected basis, perform a pre-award cost analysis on any subagreement. A provisional overhead rate should be agreed upon before contract award.

(v) The engineer shall have an accounting system which accounts for costs in accordance with generally accepted accounting principles. This system shall provide for the identification, accumulation, and segregation of allowable and unallowable project costs among projects. Allowable project costs shall be determined by the Commissioner. The engineer shall propose and account for costs in a manner consistent with his normal accounting procedures.

(vi) Subagreements awarded on the basis of a review of a cost element summary and a certification of complete, current, and accurate cost and pricing data shall be subject to downward renegotiation or recoupment of funds where the Commissioner determines that such certification was not based on complete, current, and accurate cost and pricing data or was not based on allowable costs at the time of award.

(7) Profit. The objective of negotiations shall be the exercise of sound judgment and good administrative practice including the determination of a fair and reasonable profit based on the firm's assumption of risk and input to total performance and not merely the application of a predetermined percentage factor. For the purpose of subagreements under state grants, profit is defined as the net proceeds obtained by deducting all allowable costs (direct and indirect) from the price. (This definition of profit may vary from the firm's definition of profit for other purposes.) Profit on a subagreement and each amendment to a subagreement under a grant should be sufficient to attract engineers who possess the talent and skills necessary for the accomplishment of project objectives and to stimulate efficient and expeditious completion of the project. Where cost review is performed, the municipality should review the estimate of profit as it reviews all other elements of price.

(8) Award of Subagreement.

(A) The municipality shall obtain the written approval of the Commissioner prior to the award of any subagreement or amendment.

(B) The municipality shall promptly notify unsuccessful candidates.

(9) Required Solicitation and Subagreement Provisions.

(A) Required solicitation statement. Requests for qualifications or proposals must include the following statement, as well as the proposed terms of the subagreement.

Any contract awarded under this request for qualifications or professional proposals is expected to be funded in part by the State of Connecticut, Department of Environmental Protection. This procurement will be subject to requirements contained in subsections (h), (i) and (o) of this section. The State of Connecticut will not be a party to this request for qualifications or professional proposals or any resulting contract.

(B) Content of subagreement. Each subagreement shall adequately define the scope and extent of project work; the time for performance and completion of the contract work including, where appropriate, dates for completion of significant project tasks; personnel

and facilities necessary to accomplish the work within the required time; the extent of subcontracting and consultant agreements; and payment provisions. If any of these elements cannot be defined adequately for later tasks or steps at the time of contract execution, the contract should not include the subsequent tasks or steps at that time.

(10) Subagreement Payments. The municipality shall make payment to the engineer in accordance with the payment schedule incorporated in the engineering agreement. Any retainage is at the option of the municipality. No payment request made by the engineer under the agreement may exceed the estimated amount and value of the work and services performed.

(11) Subcontracts under Subagreements. Neither award and execution of subcontracts under a prime contract for architectural or engineering services nor the procurement and negotiation procedures used by the engineer in awarding such subcontracts are required to comply with any of the provisions, selection procedures, policies or principles set forth herein.

(j) **Construction Contract Procurement Requirements.** (This section applies to construction contracts in excess of \$10,000 awarded by municipalities for any construction projects.)

(1) Type of Contract. Each contract shall be a fixed price (lump sum or unit price or a combination of the two) contract, unless the Commissioner gives advance written approval for the municipality to use some other acceptable type of contract. The cost-plus-percentage-of-cost contract shall not be used in any event.

(2) Formal Advertising. Each contract shall be awarded after formal advertising, unless negotiations are permitted in accordance with subdivision (18) of subsection (h) of this section. Formal advertising shall be in accordance with the following:

(A) Adequate Public Notice. The municipality will cause adequate notice to be given of the solicitation by publication in newspapers or journals of general circulation beyond the municipality's locality (statewide, generally), inviting bids on the project work and stating the method by which bidding documents may be obtained or examined. Where the estimated cost of construction is 10 million dollars or more, the municipality shall publish the notice in trade journals of nationwide distribution. The municipality may solicit bids directly from bidders if it maintains a bidders list.

(B) Adequate Time for Preparing Bids. Adequate time, generally not less than 30 days, shall be allowed between the date when public notice is first published and the date by which bids must be submitted. Bidding documents including specifications and drawings shall be available to prospective bidders from the date when such notice is first published.

(C) Adequate Bidding Documents. The municipality shall prepare a reasonable number of bidding documents, invitations for bids and shall furnish them upon request on a first-come, first-serve basis. The municipality shall maintain a complete set of bidding documents and shall make them available for inspection and copying by any party. The bidding documents shall include:

- (i) a complete statement of the work to be performed, including necessary drawings and specifications, and the required completion schedule;
- (ii) the terms and conditions of the contract to be awarded;
- (iii) a clear explanation of the method of bidding, the method of evaluation of bid prices,

and the basis and method for award of the contract;

- (iv) responsibility requirements or criteria which will be employed in evaluating bidders;
- (v) the following statement:

Any contract or contracts awarded under this invitation for bids are expected to be funded in part by the State of Connecticut, Department of Environmental Protection. Neither the State of Connecticut nor any of its departments, agencies or employees is or will be a party to this invitation for bids or any resulting contract. This procurement will be subject to the requirements contained in subsections (h), (j) and (o) of this section;

- (vi) a copy of subsections (h), (j) and (o) of this section; and
- (vii) the prevailing State Wage Determination, as applicable.

(D) Sealed Bids. The municipality shall provide for bidding by sealed bid and for the safeguarding of bids received until public opening.

(E) Addenda to Bidding Documents. If a municipality desires to amend any part of the bidding documents (including drawings and specifications) during the period when bids are being prepared, the addenda shall be communicated in writing to all firms which have obtained bidding documents at least five (5) working days prior to the bid opening.

(F) Bid Modifications. A firm which has submitted a bid shall be allowed to modify or withdraw its bid before the time of bid opening.

(G) Public Opening of Bids. The municipality shall provide for a public opening of bids at the place, date and time announced in the bidding documents.

(H) Award to the Low, Responsive, Responsible Bidder.

(i) After bids are opened, the municipality shall evaluate them in accordance with the methods and criteria set forth in the bidding documents.

(ii) The municipality may reserve the right to reject all bids. Unless all bids are rejected for good cause, award shall be made to the low, responsive, responsible bidder.

(iii) If the municipality intends to make the award to a firm which did not submit the lowest bid, it shall prepare a written statement before any award, explaining why each lower bidder was deemed nonresponsible or nonresponsive. The municipality shall retain such statement in its files and forward a copy to the Commissioner for review.

(iv) Local laws, ordinances, regulations or procedures which are designed or which operate to give local bidders preference over other bidders shall not be employed in evaluating bids.

(v) If an unresolved procurement review issue or a protest relates only to award of a subcontract or procurement of an item under the prime contract and resolution of that issue or protest is unduly delaying performance of the prime contract, the Commissioner may authorize award and performance of the prime contract before resolution of the issue or protest, if the Commissioner determines that resolution of the protest will not affect the placement of the prime contract bidders and will not materially affect initial performance of the prime contract; and that award of the prime contract is in the state's best interest, will not materially affect the resolution of the protest, and is not barred by state or local law.

(vi) The municipality shall not reject a bid as nonresponsive for failure to list or otherwise indicate the selection of a subcontractor(s) or equipment, unless the municipality has unambiguously stated in the solicitation documents that such failure to list shall render a bid nonresponsive and shall cause rejection of a bid.

(k) Negotiation of Contract Amendments (Change Orders).

(1) The municipality is responsible for the negotiation of construction contract change orders. This function may be performed by the municipality directly or, if authorized, by its engineer. During negotiations with the contractor the municipality shall:

(A) make certain that the contractor has a clear understanding of the scope and extent of work and other essential requirements;

(B) assure that the contractor demonstrates that he will make available or will obtain the necessary personnel, equipment and materials to accomplish the work within the required time; and

(C) assure a fair and reasonable price for the required work.

(2) The contract price or time may be changed only by a change order. When negotiations are required, they shall be conducted in accordance with subdivisions (3) and (4) of this subsection as appropriate. The value of any work covered by a change order, or of any claim for increase or decrease in the contract price, shall be determined by the method set forth in subparagraphs (A) to (C) of this subdivision, whichever is most advantageous to the municipality.

(A) Unit prices.

(i) Original bid items. Unit prices previously approved are acceptable for pricing changes of original bid items. However, when changes in quantities exceed 15 percent of the original bid quantity and the total dollar change of that bid item is significant, the municipality shall review the unit price to determine if a new unit price should be negotiated.

(ii) New items. Unit prices of new items shall be negotiated.

(B) Lump Sums shall be negotiated.

(C) Cost reimbursement. The actual cost for labor, direct overhead, materials, supplies, equipment, and other services necessary to complete the work plus an amount to be agreed upon to cover the cost of general overhead and profit to be negotiated.

(3) For each change order not in excess of \$100,000 the contractor shall submit sufficient cost and pricing data to the municipality to enable the municipality to determine the necessity and reasonableness of costs and amounts proposed, and the allowability and eligibility of costs proposed.

(4) For each change order in excess of \$100,000, the contractor shall submit to the municipality for review sufficient cost and pricing data as described in subparagraphs (A) to (E) of this subdivision to enable the municipality to ascertain the necessity and reasonableness of costs and amounts proposed, and the allowability and eligibility of costs proposed.

(A) The contractor shall certify that proposed costs reflect complete, current, and accurate cost and pricing data applicable to the date of the change order.

(B) In addition to the specific elements of cost, the estimated amount of profit shall be set forth separately in the cost summary for fixed price change orders and a specific total dollar amount of profit will be set forth separately in the cost summary for cost reimbursement change orders.

(C) The municipality may require more detailed cost data in order to substantiate the reasonableness of proposed change order costs. The Commissioner may, on a selected basis, perform a detailed cost analysis on any change order.

(D) For costs under cost reimbursement change orders, the contractor shall have an accounting system which accounts for such costs in accordance with generally accepted accounting principles. This system shall provide for the identification, accumulation and segregation of allowable and unallowable change orders. Allowable change order costs shall be determined in accordance with subsections (a), (b), (c), (d) and (e) of this section. The contractor shall propose and account for such costs in a manner consistent with his normal accounting procedures.

(E) Change orders awarded on the basis of review of a cost element summary and a certification of complete, current, and accurate cost and pricing data shall be subject to downward renegotiation and recoupment of funds where a subsequent audit substantiates that such certification was not based on complete, current and accurate cost and pricing data.

(5) Review by Commissioner. The municipality shall submit, before the execution of any change order in excess of \$100,000, to the Commissioner for review and approval:

- (A) the cost and pricing data the contractor submitted;
- (B) a certification of review and acceptance of the contractor's cost or price; and
- (C) a copy of the proposed change order.

(6) Profit. The objective of negotiations shall be the exercise of sound business judgment and good administrative practice, including the determination of a fair and reasonable profit based on the contractor's assumption of risk and input to total performance, and not merely the application of a predetermined percentage factor. For the purpose of negotiated change orders to construction contracts profit is defined as the net proceeds obtained by deducting all allowable costs (direct and indirect) from the price. The municipality should review the estimate of profit as it reviews all other elements of price.

(7) Related Work. Related work shall not be split into two amendments or change orders merely to keep it under \$100,000 and thereby avoid the requirements of subdivision (4) of this subsection. For change orders which include both additive and deductive items:

(A) if any single item (additive or deductive) exceeds \$100,000 the requirements of subdivision (4) of this subsection shall be applicable;

(B) if no single additive or deductive item has a value of \$100,000 but the total price of the change order is over \$100,000, the requirements of subdivision (4) of this subsection shall be applicable; and

(C) if the total of additive items of work in the change order exceeds \$100,000, or the total of deductive items of work in the change order exceeds \$100,000, and the net price of the change order is less than \$100,000, the requirements of subdivision (4) of this subsection shall be applicable.

(I) Subcontracts under Construction Contracts.

(1) The award or execution of subcontracts by a prime contractor under a construction contract awarded to the prime contractor by the municipality and the procurement and negotiation procedures used by prime contractors in awarding or executing subcontracts are not required to comply with any of the provisions, selection procedures, policies or principles set forth in subsection (h) or (j) of this section, except those specifically stated in this section. In addition, the bid protest procedures in subsection (o) of this section are not available to parties executing subcontracts with prime contractors, except as specifically

provided in subsection (o) of this section.

(2) The award or execution of subcontracts by a prime contractor under a formally advertised, competitively bid, fixed price construction contract awarded to the prime contractor by the municipality, and the procurement and negotiation procedures used by such prime contractors in awarding or executing such subcontracts shall comply with any municipality procurement system, state, small, minority and women's business policy (section 22a-482-4 (h) (9)), negotiation of contract amendments (section 22a-482-4 (k)), and subdivisions (8) and (9) of section 22a-482-4 (g).

(m) Progress Payments to Contractors.

(1) Except as state law otherwise provides, municipalities shall make prompt progress payments to prime contractors and prime contractors should make prompt progress payments to subcontractors and suppliers for eligible construction, material, and equipment costs, including those of undelivered, specifically manufactured equipment, incurred under a contract under this program. The Clean Water Fund shall only be obligated to pay the municipality amounts that the municipality is actually going to pay contractors.

(2) Conditions of Progress Payments. For purposes of this subsection, progress payments are defined as follows:

(A) payments for work in place; or

(B) payments for materials or equipment which have been delivered to the construction site, or which are stockpiled in the vicinity of the construction site, in accordance with the terms of the contract, when conditional or final acceptance is made by or for the municipality. The municipality shall assure that items for which progress payments have been made are adequately insured and are protected through appropriate security measures. Costs of such insurance and security are allowable costs; or

(C) payments for undelivered, specifically manufactured items or equipment (excluding off-the-shelf or catalog items) as work on them progresses. Such payments shall be made if provisions therefor are included in the bid and contract documents. Such provisions may be included at the option of the municipality only when all of the following conditions exist:

(i) the equipment is so designated in the project specifications;

(ii) the equipment to be specifically manufactured for the project could not be readily utilized on, nor diverted to, another job; and

(iii) a fabrication period of more than 6 months is anticipated.

(3) Protection of Progress Payments Made for Specifically Manufactured Equipment. The municipality shall assure protection of the state's interest in progress payments made for items or equipment referred to in subparagraph (2) (C) of this subsection. The protection shall be acceptable to the municipality and shall take the form of:

(A) securities negotiable without recourse, condition or restrictions, a progress payment bond, or an irrevocable letter of credit provided to the municipality through the prime contractor by the subcontractor or supplier; and

(B) for items or equipment in excess of \$200,000 in value which are manufactured in a jurisdiction in which the Uniform Commercial Code is applicable, the creation and perfection of a security interest under the Uniform Commercial Code which is reasonably adequate to protect the interests of the municipality.

(4) Limitations on Progress Payments for Specifically Manufactured Equipment.

(A) Progress payments made for specifically manufactured equipment or items shall be limited to the following:

(i) a first payment upon submission by the prime contractor of shop drawings for the equipment or items in an amount not exceeding 15 percent of the contract or item price plus appropriate and allowable higher tier costs; and

(ii) subsequent to the municipality's release or approval for manufacture, additional payments not more frequently than monthly thereafter up to 75 percent of the contract or item price plus appropriate and allowable higher tier costs. However, payment may also be made in accordance with the contract and grant terms and conditions for ancillary onsite work before delivery of the specifically manufactured equipment or items.

(B) In no case may progress payments for undelivered equipment or items under subparagraphs (A) (i) or (A) (ii) of this subdivision be made in an amount greater than 75 percent of the cumulative incurred costs allocable to contract performance with respect to the equipment or items. Submission of a request for any such progress payments shall be accompanied by a certification furnished by the fabricator of the equipment or item that the amount of progress payment claimed constitutes not more than 75 percent of cumulative incurred costs allocable to contract performance and, in addition, in the case of the first progress payment request, a certification that the amount claimed does not exceed 15 percent of the contract or item price quoted by the fabricator.

(C) As used in this subsection, the term "costs allocable to contract performance" with respect to undelivered equipment or items includes all expenses of contract performance which are reasonable, allocable to the contract, consistent with sound and generally accepted accounting principles and practices consistently applied and which are not excluded by the contract.

(5) Enforcement. A subcontractor or supplier which is determined by the Commissioner to have frustrated the intent of the provisions regarding progress payments for major equipment or specifically manufactured equipment through intentional forfeiture of its bond or failure to deliver the equipment may be determined nonresponsible and ineligible for further work under state funded projects.

(6) Contract Provisions. Where applicable, appropriate provisions regarding progress payments shall be included in each contract and subcontract.

(7) Implementation. The foregoing progress payments policy should be implemented in invitations for bids for projects funded by the Clean Water Fund. If provision for progress payments is made after contract award, it shall be for consideration that the municipality deems adequate.

(n) **Retention from Progress Payments.**

(1) The municipality may retain a portion of the amount otherwise due the contractor. The amount the municipality retains shall be limited to the following:

(A) withholding of not more than 5 percent of the payment claimed until work is 50 percent complete;

(B) when work is 50 percent complete, reduction of the withholding to 2 percent of the dollar value of all work satisfactorily completed to date, provided that the contractor is making satisfactory progress and there is no specific cause for greater withholding;

(C) when the work is substantially complete (operational or beneficial occupancy), the

withheld amount shall be further reduced below 2 percent to only that amount necessary to assure completion;

(D) the municipality may reinstate up to 5 percent withholding if the municipality determines, at its discretion, that the contractor is not making satisfactory progress or there is other specific cause for such withholding; and

(E) the municipality may accept securities, negotiable without recourse, condition or restrictions, a release of retainage bond, or an irrevocable letter of credit provided by the contractor instead of all or part of the cash retainage.

(2) The requirements set out in subdivision (1) of this subsection shall be implemented with respect to all construction projects. Appropriate provision to assure compliance with these requirements shall be included in the bid documents for such projects initially or by addendum before the bid submission date and as a special condition in the funding agreement or in an amendment which is issued by the Commissioner.

(3) A municipality which delays disbursement to contractors of funds will be required to credit to the Clean Water Fund all interest earned on those funds and will be responsible for any and all tax law violations which occur as a result of their actions.

(o) Protests.

(1) General. A protest based upon an alleged violation of the procurement requirements may be filed against a municipality's procurement action by a party with an adversely affected direct financial interest. Any such protest must be received by the municipality within the time period in subparagraph (2) (A) of this subsection. The municipality is responsible for resolution of the protest before taking the protested action, in accordance with subdivision (4) of this subsection, except as otherwise provided by subdivision (9) of this subsection or subparagraph (j) (2) (H) (v).

(2) Time Limitations.

(A) A protest under subdivision (4) of this subsection should be made as early as possible during the procurement process to avoid disruption of, or unnecessary delay to, the procurement process. A protest authorized by subdivision (4) of this subsection shall be received by the municipality within one week after the basis for the protest is known or should have been known, whichever is earlier.

(i) In the case of an alleged violation of the specification requirements of subdivision (h) (12) of this section (e.g., that a product fails to qualify as an "or equal"), a protest need not be filed prior to the opening of bids. The municipality may resolve the issue before receipt of bids or proposals through a written or other formal determination, after notice and opportunity to comment is afforded to any party with a direct financial interest.

(ii) When an alleged violation of the specification requirements of subdivision (h) (12) of this section first arises subsequent to the receipt of bids or proposals, the municipality shall make a determination on the protest, if the protest was received by the municipality within one week of the time that the municipality's written or other formal notice is first received.

(B) A protest authorized under this subsection shall be filed in a court of competent jurisdiction within the locality of the municipality within one week after the complainant has received the municipality's determination.

(C) If a protest is mailed, the complaining party bears the risk of nondelivery within the

required time period. All documents transmitted in accordance with this section shall be mailed (by certified mail return receipt requested) or otherwise delivered in a manner which will objectively establish the date of receipt. Initiation of protest actions under subdivisions (4) or (5) of this subsection may be made by brief telegraphic notice accompanied by prompt mailing or other delivery of a more detailed statement of the basis for the protest. Telephone protests will not be considered.

(3) Other Initial Requirements.

(A) The initial protest document shall briefly state the basis for the protest and should:

(i) refer to the specific portions of sections 22a-482-1 to 22a-482-4 which allegedly prohibit the procurement action;

(ii) specifically request a determination pursuant to this section;

(iii) identify the specific procurement document(s) or portion(s) of them in issue; and

(iv) include the name, telephone number, and address of the person representing the protesting party.

(B) The party filing the protest shall concurrently transmit a copy of the initial protest document and any attached documentation to all other parties with a direct financial interest which may be adversely affected by the determination of the protest (all bidders or proposers who appear to have a substantial and reasonable prospect of receiving an award if the protest is denied or sustained) and to the Commissioner.

(4) Municipality Determination.

(A) The municipality is responsible for the initial resolution of protests based upon alleged violations of the procurement requirements.

(B) When the municipality receives a timely written protest, it must defer the protested procurement action in accordance with subdivision (7) of this subsection; and:

(i) afford the complaining party and interested parties an opportunity to present arguments in support of their views in writing or at a conference or other suitable meeting (such as a city council meeting);

(ii) inform the complainant and other interested parties of the procedures which the municipality will observe for resolution of the protest;

(iii) obtain an appropriate extension of the period for acceptance of the bid and bid bond(s) of each interested party, where applicable (failure to agree to a suitable extension of such bid and bid bond(s) by the party which initiated the protest shall be cause for summary dismissal of the protest by the municipality or the Commissioner); and

(iv) promptly deliver (by certified mail, return receipt requested, or by personal delivery) its written determination of the protest to the complaining party and to each other participating party.

(C) The municipality's determination shall be accompanied by a legal opinion addressing issues arising under state or local law, if any and, when construction is involved, by an engineering report, if appropriate.

(D) The municipality should decide the protest as promptly as possible, generally within 3 weeks after receipt of a protest, unless extenuating circumstances require a longer period of time for proper resolution of the protest.

(5) Procedures.

(A) Where resolution of an issue properly raised with respect to a procurement

requirement necessitates prior or collateral resolution of a legal issue arising under state or local law and such law is not clearly established in published legal decisions of the state or other relevant jurisdiction, the municipality may rely upon:

- (i) an opinion of the municipality's legal counsel adequately addressing the issue; or
- (ii) the established or consistent practice of the municipality, to the extent appropriate;

or

- (iii) the law of other local jurisdictions as established in published legal decisions; or
- (iv) if none of the foregoing adequately resolve the issue, published decisions of the Comptroller General of the United States (U.S. General Accounting Office) or of the federal or state courts addressing federal or state requirements comparable to procurement requirements of this section.

(B) A party who submits a document subsequent to initiation of a protest proceeding shall simultaneously furnish each of the other parties with a copy of such document.

(C) The procedures established herein are not intended to preclude informal resolution or voluntary withdrawal of protests. A complainant may withdraw its appeal at any time and the protest proceedings shall thereupon be terminated.

(D) A protest may be dismissed for failure to comply with procedural requirements set forth in this section.

(6) Burden of Proof.

(A) In protest proceedings, if the municipality proposes to award a formally advertised, competitively bid, fixed price contract to a party who has submitted the apparent lowest price, the party initiating the protest will bear the burden of proof.

(B) In protest proceedings:

- (i) if the municipality proposes to award a formally advertised, competitively bid, fixed price contract to a bidder other than the bidder which submitted the apparent lowest price, the municipality shall bear the burden of proving that its determination concerning responsiveness is in accordance with Section 22a-482-1 to 22a-482-4; and

- (ii) if the basis for the municipality's determination is a finding of nonresponsibility, the municipality shall establish and substantiate the basis for its determination and shall adequately establish that such determination has been made in good faith.

(7) Deferral of Procurement Action. Upon receipt of a protest, the municipality shall defer the protested procurement action (for example, defer the issuance of solicitations, contract award, or issuance of notice to proceed under a contract) until ten days after delivery of its determination to the participating parties. The municipality may receive or open bids at its own risk, if it considers this to be in its best interest. When the Commissioner has received a written protest, he or she shall notify the municipality promptly to defer its protested procurement action until notified of the formal or informal resolution of the protest.

(8) Enforcement. Noncompliance with the procurement provisions by the municipality shall be cause for enforcement action in accordance with one or more of the provisions of subdivision (h) (23) of this section.

(9) Limitation. A protest may not be filed with respect to the following:

- (A) issues not arising under the procurement provisions; or

- (B) issues relating to the selection of a consulting engineer, provided that a protest may

be filed only with respect to the mandatory procedural requirements of subsection (i) of this section; or

(C) issues primarily determined by local law or ordinance and as to which the Commissioner, upon review, determines that there is no contravening state requirement and that the municipality's action has a rational basis; or

(D) provisions of state regulations applicable to direct state contracts unless such provisions are explicitly referred to or incorporated in section 22a-482; or

(E) basic project design determinations; or

(F) award of subcontracts or issuance of purchase orders under formally advertised, competitively bid, lump sum construction contracts. However, protests may be made to alleged violations of the following:

(i) specification requirements of subdivision (h) (12) of this section; or

(ii) provisions applicable to the procurement procedures, negotiation or award of subcontracts or issuance of purchase orders under subsection (1) of this section.

(p) **Funding Assistance Conditions.** Financing for pollution abatement facilities shall be subject to the following conditions:

(1) Municipality Responsibilities.

(A) Review or approval of engineering reports, plans and specifications or other documents by the Commissioner is for administrative purposes only and does not relieve the municipality of its responsibility to properly plan, design, build and effectively operate and maintain the pollution abatement facilities described in the funding assistance agreement as required under law, regulations, permits, and good management practices. The Commissioner is not responsible for increased building costs resulting from defects in the plans, design drawings and specifications or other subagreement documents.

(B) By its acceptance of financing, the municipality agrees to complete the pollution abatement facilities in accordance with the engineering report, plans and specifications and related documents approved by the Commissioner and to maintain and operate the pollution abatement facilities to meet the enforceable requirements of the permit issued pursuant to section 22a-430 of the Connecticut General Statutes for the design life of the pollution abatement facilities. The Commissioner may seek specific enforcement or recovery of funds from the municipality, or take other appropriate action if he or she determines that the municipality has failed to make good faith efforts to meet its obligations under the grant/loan agreement.

(C) The municipality agrees to pay the non-state costs of the pollution abatement facilities construction associated with the project and commits itself to complete the construction of the operable pollution abatement facilities and the complete pollution abatement facilities of which the project is a part.

(2) Nondiscrimination. All contracts are subject to the Governor's Executive Order No. Three and to the guidelines and rules issued by the State Labor Commission to implement Executive Order No. Three.

(3) Wage Rates. Contracts involving construction work are subject to the appropriate state wage rates issued by the State Labor Commissioner and federal wage rates issued by the United States Department of Labor.

(4) Access. The municipality shall insure that the Commissioner and his or her duly

authorized agents shall have access to the project work whenever it is in preparation or progress. The municipality shall provide proper facilities for access and inspection. The municipality shall allow any authorized agent of the state to have access to any books, documents, plans, reports, papers, and other records of the contractor which are pertinent to the project for the purpose of making audit, examination, excerpts, copies and transcriptions. The municipality shall insure that a party to a subagreement shall provide access to the project work, sites, documents, and records.

(5) Project Changes.

(A) Minor changes in the project work that are consistent with the objectives of the project and within the scope of the funding agreement do not require the execution of a formal amendment before the municipality's implementation of the change. However, if such changes increase the costs of the project, the amount of the funding provided by the funding agreement may only be increased by a formal amendment.

(B) The municipality shall receive from the Commissioner a formal amendment before implementing changes which:

- (i) alter the project performance standards; or
- (ii) alter the type of treatment facilities provided by the project; or
- (iii) delay or accelerate the project schedule; or
- (iv) substantially alter the engineering report, design drawings and specifications, or the location, size, capacity, or quality of any major part of the project.

(6) Operation and Maintenance.

(A) The municipality shall make provisions satisfactory to the Commissioner for assuring economical and effective operation and maintenance of the pollution abatement facilities in accordance with a plan of operation approved by the Commissioner.

(B) The Commissioner shall not pay more than 50 percent of the grant share of any project unless the municipality has an approved final plan of operation and shall not pay more than 90 percent of the grant share of any project unless the municipality has an approved operation and maintenance manual.

(7) Adoption of User Charge System and Sewer Use Ordinance.

The municipality shall adopt the sewer use ordinance and implement the user charge system developed under subsections (e) and (f) of 22a-482-3 and approved by the Commissioner before the pollution abatement facilities are placed in operation. Further, the municipality shall implement the user charge system and sewer use ordinance for the useful life of the pollution abatement facilities.

(8) Value Engineering.

The municipality shall comply with the applicable requirements of section 22a-482-3 (d) for value engineering.

(9) Project Initiation and Completion.

(A) The municipality shall expeditiously initiate and complete the project in accordance with the project schedule contained in the funding agreement.

(B) The municipality shall initiate procurement action for building the project promptly after the award of financing. The Commissioner may annul or terminate the funding agreement if the municipality has not awarded the subagreements and issued a notice to proceed, where one is required, for building all significant elements of the project within

twelve (12) months of the closing. Failure to promptly award all subagreement(s) for building the project shall result in a limitation on allowable grant costs.

(10) **Municipality Responsibility for Project Performance.**

(A) The municipality shall select the engineer or engineering firm principally responsible for either supervising construction or providing architectural and engineering services during construction as the prime engineer to provide the following services during the first year following the initiation of operation:

(i) direct the operation of the project and revise the operation and maintenance manual for the project as necessary to accommodate actual operating experience;

(ii) train or provide for training of operating personnel, including the preparation of curricula and training material for operating personnel; and

(iii) advise the municipality whether the project is capable of meeting the project performance standards.

(B) On the date one year after the initiation of operation of the project the municipality shall certify to the Commissioner whether the project is capable of meeting the project performance standards. If the project does not meet the project performance standards, the municipality shall submit the following:

(i) a corrective action report which includes an analysis of the cause of the project's inability to meet the performance standards (including infiltration/inflow reduction) and estimates of the nature, scope and cost of the corrective action necessary to bring the project into compliance. Such corrective action report shall be prepared at other than state expense;

(ii) the schedule for undertaking, in a timely manner, the corrective action necessary to bring the project into compliance; and

(iii) the scheduled date for certifying to the Commissioner that the project is capable of meeting the project performance standards.

(C) Corrective action necessary to bring a project into compliance with the project performance standards shall be undertaken by the municipality at other than state expense.

(D) Nothing in this section shall be construed to prohibit a municipality from requiring more assurances, guarantees, or indemnity or other contractual requirements from any party performing project work.

(11) **Final Inspection.** The municipality shall notify the Commissioner of the completion of project construction and the Commissioner shall cause final inspection to be made within 60 days of receipt of the notice. When final inspection is completed and the Commissioner determines that the treatment works have been satisfactorily constructed, in accordance with the funding assistance agreement, the municipality may make a request for final payment under subdivision (s) (5) of this section.

(q) **Financial Assistance Agreement Amendments.**

(1) Agreements may be amended for project changes in accordance with this subsection. No agreement may be amended to increase the amount of assistance unless the funds are available for obligation. A formal amendment shall be effected only by a written amendment to the agreement.

(2) For financial assistance awarded under Sections 22a-482-1 to 22a-482-4, an amendment to increase the amount may be made for:

(A) change orders, claims and arbitration settlements; or

- (B) revised bid documents; or
- (C) project changes required by the Commissioner; or
- (D) increased costs on architectural/engineering agreements.

(r) **Enforcement.** If the Commissioner determines that the municipality has failed to comply with any provision of these regulations, he or she may impose any of the following:

(1) the grant portion of the financing may be withheld under subdivisions (t) (3) or (t) (4) of this section.

(2) grant project costs directly related to the noncompliance may be disallowed; or

(3) project work may be suspended; or

(4) a noncomplying municipality may be found nonresponsible or ineligible for future state assistance; or

(5) an injunction may be entered or other equitable relief afforded by a court of appropriate jurisdiction; or

(6) such other administrative or judicial action may be instituted as is legally available and appropriate.

(s) **Grant and Loan Payments.** The municipality shall be paid the allowable project costs incurred within the scope of an approved project and which are currently due and payable from the municipality (i.e. not including withheld or deferred amounts), up to the amount set forth in the agreement and any amendments thereto. Payments for engineering services shall be made in accordance with subsection (f) of this section and payments for construction contracts shall be made in accordance with subsections (m) and (n) of this section. All allowable costs incurred before initiation of construction of the project shall be claimed in the application for assistance for that project before the award of the assistance or no subsequent payment shall be made for the costs.

(1) Initial Request for Payment. Upon award of financial assistance, the municipality may request payment for the unpaid share of allowable project costs incurred before the award. Payment for such costs shall be made in accordance with the negotiated payment schedule included in the agreement.

(2) Interim Requests for Payment. The municipality may submit requests for payments for allowable costs in accordance with the negotiated payment schedule included in the agreement. Generally, payments shall be made within 13 days after receipt of a request for payment.

(3) Adjustment. At any time before final payment under the agreement, the Commissioner may cause any request(s) for payment to be reviewed or audited and make appropriate adjustment.

(4) Refunds, Rebates, Credits, etc. The state share of any refunds, rebates, credits or other amounts (including any interest) that accrue to or are received by the municipality for the project, and that are properly allocable to costs which the municipality has received funding assistance shall be credited to the current state allotment. Reasonable expenses incurred by the municipality for the purpose of securing such refunds, rebates, credits, or other amounts shall be allowable when approved by the Commissioner.

(5) Final Payment. After completion of final inspection under subdivision (p) (11) of this section, receipt and approval of the request for payment which the municipality designates as the "final payment request," and the municipality is deemed in compliance

with all applicable requirements of the funding agreement, the Commissioner shall pay to the municipality any balance of the share of allowable project costs which has not already been paid. The municipality must submit the final payment request within six (6) months of the scheduled completion.

(6) **Assignment and Release.** By its acceptance of final payment, the municipality agrees to assign to the state the state share of refunds, rebates, credits or other amounts, including any interest, properly allocable to costs for which the municipality has been paid by the state under the assistance agreement. The municipality thereby also releases and discharges the state, its officers, agents and employees from all liabilities, obligations, and claims arising out of the project work subject only to exceptions previously specified in writing between the Commissioner and the municipality.

(7) **Audit Upon Completion of the Project.** The municipality shall certify to the state that the project has been completed in accordance with the final plans and specifications approved by the Commissioner. The municipality shall within 90 days of such certification, prepare an audit of the project performed by an independent public accountant meeting the requirements of section 7-394a and 7-396a of the Connecticut General Statutes. Such audit shall be performed in accordance with generally accepted accounting principles and shall identify any expenditures made by the municipality not in conformance with the agreement. The municipality further agrees that the auditors of Public Accounts of the state shall have access to all records and accounts of the municipality concerning the project. To provide such access the municipality agrees that it shall preserve all its records and accounts concerning the project for a period of 3 years after the date such audit is delivered to the state.

(t) Administrative Changes.

(1) **Transfer of Agreements; Change of Name Agreements.** Transfer of an agreement and change of name agreements require the prior written approval of the Commissioner. The municipality may not approve any transfer of an agreement without the concurrence of the Commissioner. The Commissioner shall prepare the necessary transfer documents upon receipt of appropriate information and documents submitted by the municipality.

(2) **Suspension of Work (Stop Work Orders).** Work on a project or on a portion or phase of a project for which funding assistance has been awarded may be ordered stopped by the Commissioner.

(A) **Use of Stop-Work Orders.** Work stoppage may be required for good cause such as default by the municipality, failure to comply with the terms and conditions of the funding agreement, realignment of programs, lack of adequate funding, or advancements in the state of the art. Inasmuch as stop-work orders may result in increased costs to the state by reason of standby costs, such orders will be issued only after a review by the Commissioner. Generally, use of a stop-work order shall be limited to those situations where it is advisable to suspend work on the project or a portion or phase of the project for important program or agency considerations and a supplemental agreement providing for such suspension is not feasible. Although a stop-work order may be used pending a decision to terminate by mutual agreement or for other cause, it shall not be used in lieu of the issuance of a termination notice after a decision to terminate has been made.

(B) **Contents of stop-work orders** should be discussed with the municipality and should

be appropriately modified in light of such discussions. Stop-work orders should include a clear description of the work to be suspended, instructions as to the issuance of further orders by the municipality for materials or services, guidance as to action to be taken on subagreements, and other suggestions to the municipality for minimizing costs.

(C) Issuance of Stop-Work Order. After appropriate review of the proposed action has occurred, the Commissioner may, by written order to the municipality, require the municipality to stop all or any part of the project work for a period of not more than forty-five (45) days after the order is delivered to the municipality, and for any further period to which the parties may agree. The Commissioner shall prepare the necessary documents for the stop-work order. Any such order shall be specifically identified as a stop-work order issued pursuant to this subdivision.

(D) Effect of Stop-Work Order.

(i) Upon receipt of a stop-work order, the municipality shall forthwith comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Within the suspension period or within any extension of that period to which the parties shall have agreed, the state shall either cancel the stop-work order, in full or in part, terminate the work covered by such order as provided in subdivision (t) (3) of this section or authorize resumption of work.

(ii) If a stop-work order is cancelled or the period of the order or any extension thereof expires, the municipality shall promptly resume the previously suspended work. An equitable adjustment shall be made in the grant period, the project period, the grant amount, the funding assistance amount, or all of these, and the funding assistance instrument shall be amended accordingly if the stop-work order results in an increase in the time required for, or an increase in the municipality's cost properly allocable to, the performance of any part of the project and the municipality asserts a written claim for such adjustment within sixty (60) days after the end of the period of work stoppage.

(iii) If a stop-work order is not cancelled and the grant-related project work covered by such order is within the scope of a subsequently-issued termination order, the reasonable cost resulting from the stop-work order shall be allowed in arriving at the termination settlement.

(iv) Costs incurred by the municipality, its contractors, subcontractors, or representatives, after a stop-work order is delivered, or within any extension of the stop-work period to which the parties shall have agreed, with respect to the project work suspended by such order or agreement which are not authorized by this section or specifically authorized in writing by the Commissioner, shall not be allowable costs.

(3) Termination of Funding Agreements. A funding agreement may be terminated in whole or in part by the Commissioner in circumstances where good cause can be demonstrated.

(A) Termination Agreement. The parties may enter into an agreement to terminate the funding agreement at any time pursuant to terms which are consistent with these regulations. The agreement shall establish the effective date of termination of the project, the basis for settlement of termination costs, the amount and date of payment of any sums due either party, and the schedule of repayment of all sums borrowed from the Clean Water Fund by the municipality. The Commissioner shall prepare the necessary termination documents.

(B) Project Termination by Municipality. A municipality may not unilaterally terminate the project work except for good cause. The municipality shall promptly give written notice to the Commissioner of any complete or partial termination of the project work by the municipality. If the Commissioner determines that there is good cause for the termination of all or any portion of a project, he or she may enter into a termination agreement or unilaterally terminate, effective with the date of cessation of the project work by the municipality. If the Commissioner determines that a municipality has ceased work on the project without good cause, he or she may unilaterally terminate or annual the agreement.

(C) Termination by Commissioner.

(i) Notice of Intent to Terminate. The Commissioner shall give not less than ten (10) days written notice to the municipality of intent to terminate a funding agreement in whole or in part.

(ii) Termination Action. The municipality shall be afforded an opportunity for consultation prior to any termination. After the Commissioner has been informed of any expressed views of the municipality and concurs in the proposed termination, the Commissioner may, in writing, terminate the agreement in whole or in part.

(iii) Basis for Termination. An agreement may be terminated by the Commissioner for good cause subject to negotiation and payment of appropriate termination settlement costs.

(D) Effect of Termination. Upon termination, the municipality shall refund or credit to the state any funds paid or owed to the municipality and allocable to the terminated project work, except such portion thereof as may be required to meet commitments which had become firm prior to the effective date of termination and are otherwise allowable. The municipality shall not make any new commitment without state approval. The municipality shall reduce the amount of outstanding commitments insofar as possible and report to the Commissioner the uncommitted balance of funds awarded under the funding agreement.

(4) Annulment of Agreement.

The Commissioner may annul the funding agreement if he or she determines that there has been no substantial performance of the project work without good cause, there is convincing evidence the funding assistance was obtained by fraud, or there is convincing evidence of gross abuse or corrupt practices in the administration of the project. In addition to such remedies as may be available to the state under state or local law, all funds previously paid to the municipality shall be returned or credited to the state and no further payments shall be made to the municipality.

(5) Deviations. The Commissioner is authorized to approve deviations from requirements of Sections 22a-482-1 to 22a-482-4, when he or she determines that such deviations are essential to effect necessary actions or where special circumstances make such deviations in the best interest of the state.

(A) Request for Deviation. A request for a deviation shall be submitted in writing to the Commissioner as far in advance as the exigencies of the situation will permit. Each request for a deviation shall contain at a minimum:

(i) the name of the municipality, the project identification number, and the dollar value, if appropriate;

(ii) identification of the section of Sections 22a-482-1 to 22a-482-4 from which a deviation is sought;

Regulations of Connecticut State Agencies

(iii) an adequate description of the deviation and the circumstances in which it shall be used, including all appropriate justification for the deviation request; and

(iv) a statement as to whether the same or a similiar deviation has been requested previously and, if so, circumstances of the previous request.

(B) Approval of Deviation. Deviations may be approved only by the Commissioner. A copy of each such written approval shall be retained in the official state project file.

(Effective March 5, 1992)

TAB K

Plans

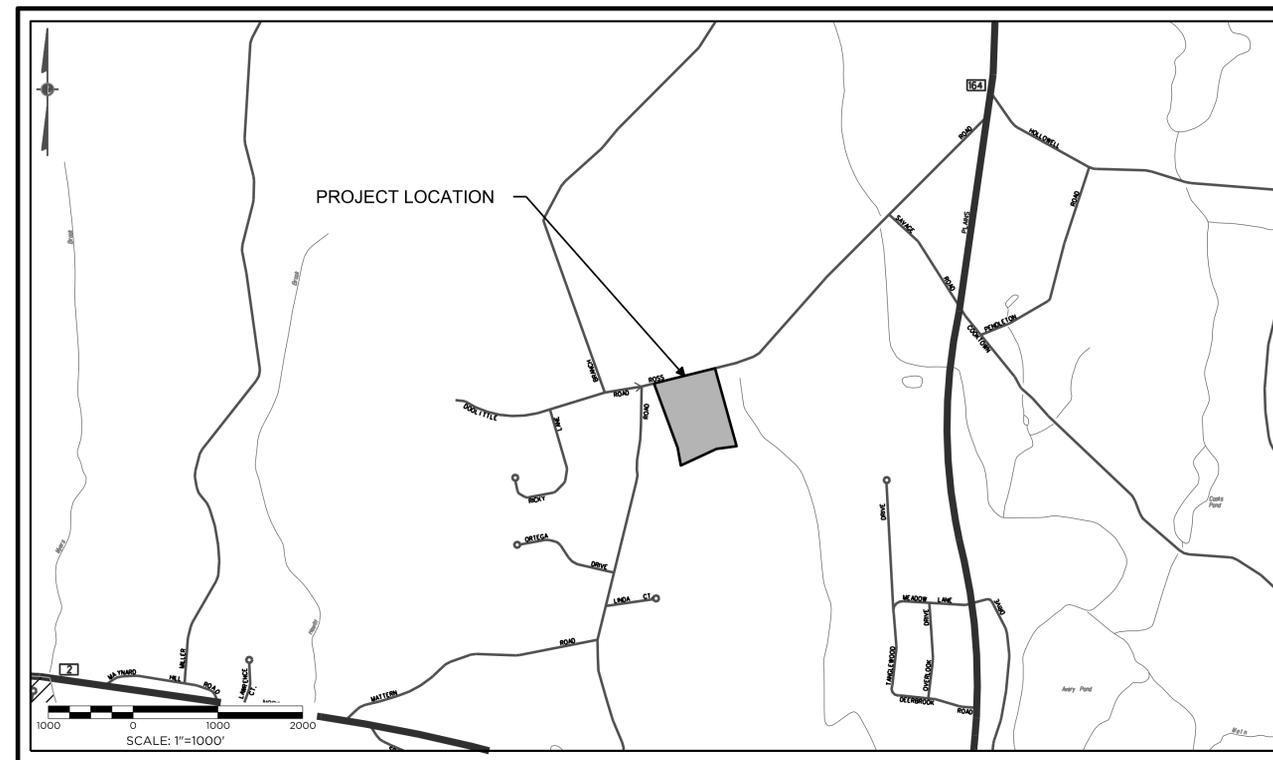
MUNICIPAL TRANSFER STATION IMPROVEMENTS PLANS

FOR THE PRESTON TRANSFER STATION 108 ROSS ROAD, PRESTON, CT

PREPARED FOR

THE TOWN OF PRESTON

389 ROUTE 2
PRESTON, CT 06365



LOCATION MAP
SCALE: 1" = 1000'

LIST OF SHEETS

DATE: 8/27/25
REVISED:

TOPOGRAPHIC SURVEY	1 OF 1
EXISTING CONDITIONS REMOVAL PLAN	1
SITE LAYOUT PLAN	2
GRADING AND DRAINAGE PLAN	3
RETAINING WALL PLAN	4
CANOPY PLAN	5
UTILITY PLAN	6
SITE IMPROVEMENT DETAILS	7
SITE IMPROVEMENT DETAILS	8

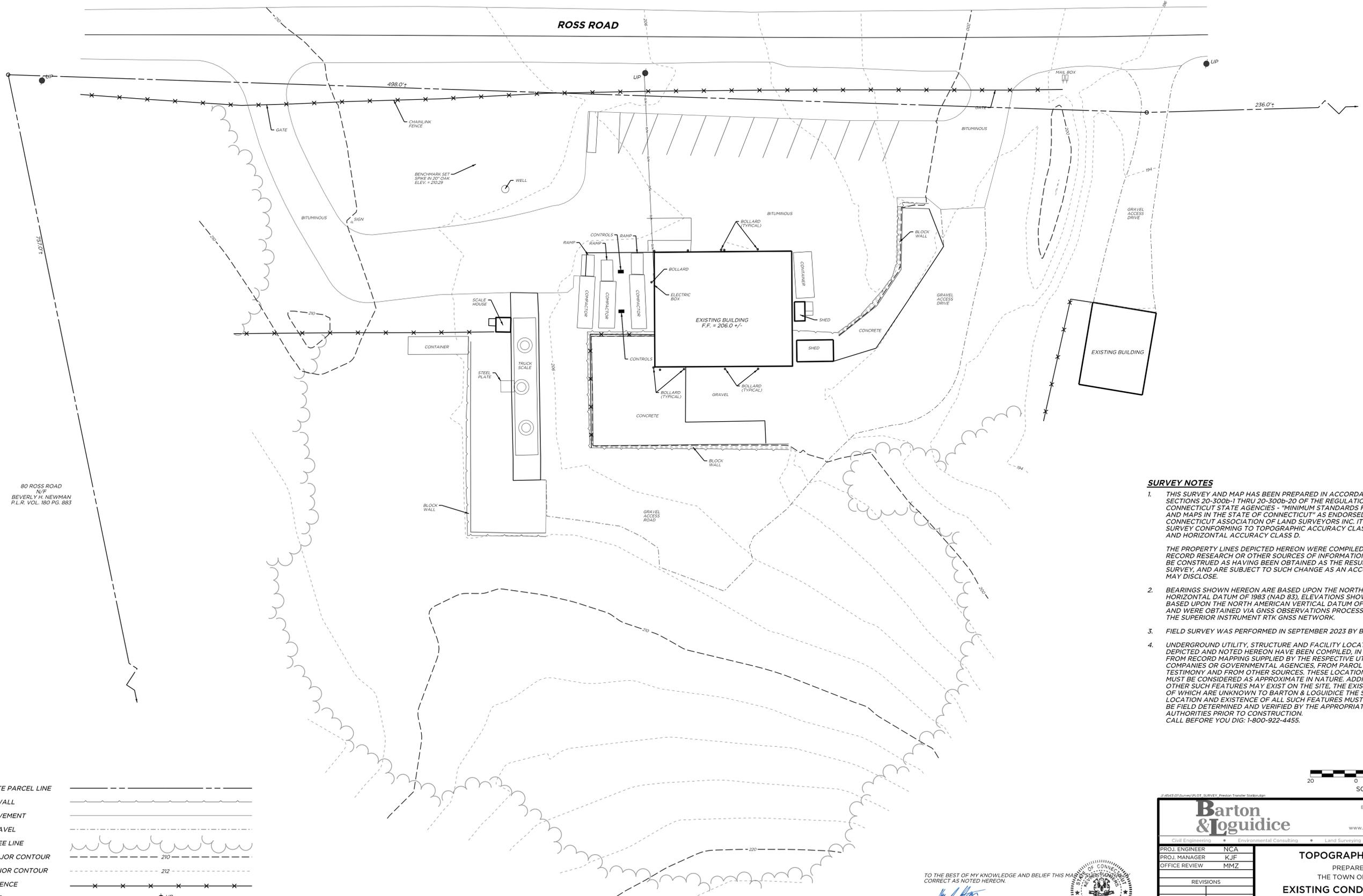
PREPARED BY:

Barton & Loguidice	855 Winding Brook Drive Glastonbury, CT 06033 Phone: (860) 633-8770 Fax: (860) 633-5971 www.bartonandloguidice.com
	Civil Engineering • Environmental Consulting • Land Surveying • Construction Management





ROSS ROAD

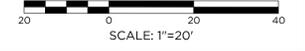


80 ROSS ROAD
N/E
BEVERLY H. NEWMAN
P.L.R. VOL. 180 PG. 885

SURVEY NOTES

- THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20-300b-1 THRU 20-300b-20 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES - "MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ENDORSED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS INC. IT IS A TOPOGRAPHIC SURVEY CONFORMING TO TOPOGRAPHIC ACCURACY CLASS T-2, AND HORIZONTAL ACCURACY CLASS D.

THE PROPERTY LINES DEPICTED HEREON WERE COMPILED FROM OTHER MAPS, RECORD RESEARCH OR OTHER SOURCES OF INFORMATION. THEY ARE NOT TO BE CONSTRUED AS HAVING BEEN OBTAINED AS THE RESULT OF A FIELD SURVEY, AND ARE SUBJECT TO SUCH CHANGE AS AN ACCURATE FIELD SURVEY MAY DISCLOSE.
- BEARINGS SHOWN HEREON ARE BASED UPON THE NORTH AMERICAN HORIZONTAL DATUM OF 1983 (NAD 83). ELEVATIONS SHOWN HEREON ARE BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AND WERE OBTAINED VIA GNSS OBSERVATIONS PROCESSED THROUGH THE SUPERIOR INSTRUMENT RTK GNSS NETWORK.
- FIELD SURVEY WAS PERFORMED IN SEPTEMBER 2023 BY BARTON & LOGUIDICE.
- UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED AND NOTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES OR GOVERNMENTAL AGENCIES, FROM PAROL TESTIMONY AND FROM OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED AS APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO BARTON & LOGUIDICE. THE SIZE, LOCATION AND EXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION. CALL BEFORE YOU DIG. 1-800-922-4455.



LEGEND

- APPROXIMATE PARCEL LINE
- RETAINING WALL
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- EXISTING TREE LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- CHAINLINK FENCE
- UTILITY POLE

TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP IS CORRECT AS NOTED HEREON.

Kevin J. Flowers
KEVIN J. FLOWERS, CT L.S. #70513



ANY ORIGINAL OR DUPLICATE OF THIS MAP IS NOT VALID UNLESS THE EMBOSSED SEAL OF THE SURVEYOR WHOSE REGISTRATION APPEARS ABOVE NO OTHER CERTIFICATION OR WARRANTY IS EXPRESSED OR IMPLIED.

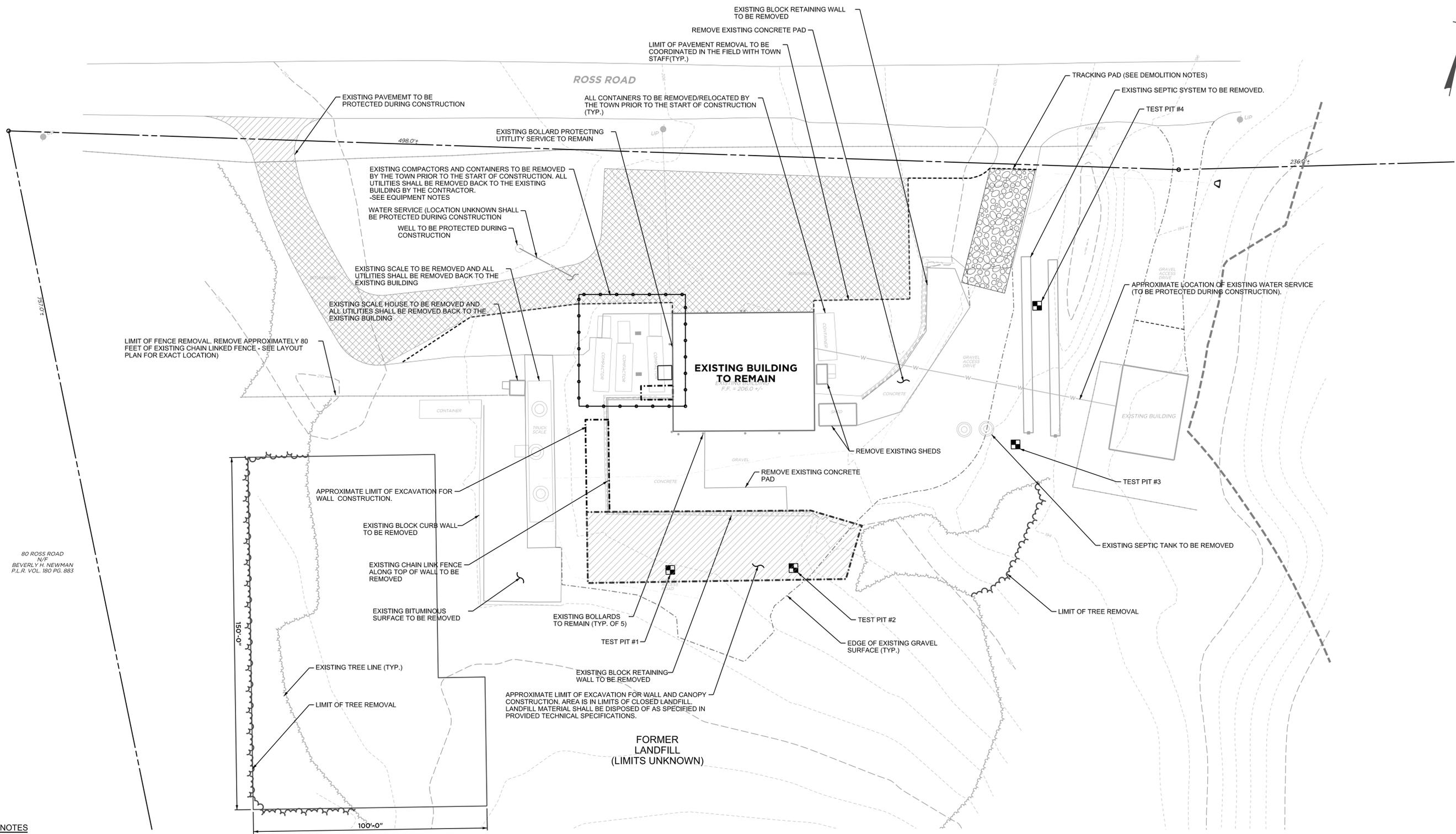
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Fax: (860) 633-5971
www.bartonandloguidice.com

PROJ. ENGINEER	NCA
PROJ. MANAGER	KJF
OFFICE REVIEW	MMZ
REVISIONS	
SCALE:	1"=20'

TOPOGRAPHIC SURVEY
PREPARED FOR
THE TOWN OF PRESTON
EXISTING CONDITIONS PLAN

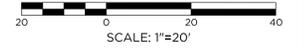
PROJECT	DATE	SHEET NO.	OF
108 ROSS ROAD	7/29/25	1	1



DEMOLITION NOTES

1. UNDERGROUND UTILITIES, STRUCTURE AND FACILITY LOCATIONS DEPICTED AND NOTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES OR GOVERNMENT AGENCIES, FROM PAROL TESTIMONY AND FROM OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO BARTON AND LOGUIDICE, LLC. THE SIZE, LOCATION AND EXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION. CALL BEFORE YOU DIG: 1-800-922-4455.
2. EXISTING SEPTIC SYSTEM TO REMAIN AND BE PROTECTED DURING CONSTRUCTION.
3. REMOVE SCALE HOUSE AND SCALE, SHEDS, CONCRETE PADS, CONCRETE BARRIERS, UTILITY SERVICE CONNECTIONS, BOLLARDS, GRAVEL SURFACE AND BITUMINOUS CONCRETE AS SHOWN ON PLANS.
4. REMOVE ALL EXISTING UTILITY LINES FROM SCALE, SCALE HOUSE AND COMPACTORS.
5. REMOVE TREES AND STUMPS WITHIN LIMITS OF PROPOSED TREELINE. REVIEW LIMITS WITH ENGINEER BEFORE REMOVAL.
6. SCREEN AND STOCKPILE ON-SITE TOPSOIL FOR USE ON SITE.
7. CONTRACTOR SHALL REMOVE ANY EXTRA MATERIAL FROM SITE EXCAVATION OFF SITE INCLUDING MATERIAL FROM FORMER LANDFILL. CONTRACTOR TO REFER TO TECHNICAL SPECIFICATION SECTION 02 61 16 WHEN LANDFILL MATERIAL HAS TO BE REMOVED.
8. A PRE CONSTRUCTION MEETING WITH THE TOWN STAFF SHALL BE REQUIRED PRIOR TO THE START OF ANY SITE ACTIVITIES.
9. ALL REMOVALS AND DEMOLITION ACTIVITIES SHALL BE COORDINATED WITH TOWN STAFF AND ENGINEER PRIOR TO THE START OF WORK AND THROUGHOUT THE CONSTRUCTION PERIOD.
10. THE TOWN OF PRESTON WILL BE RESPONSIBLE FOR ANY REMEDIATION ACTIVITIES ASSOCIATED WITH THE WASTE OIL STORAGE SHED.
11. IT IS ANTICIPATED THAT THE SITE'S EXISTING PAVED ACCESS DRIVES AND PARKING AREAS WILL BE SUITABLE FOR CONTROLLING TRACKED MATERIALS. ANTI-TRACKING PAD SHALL BE INSTALLED AT CONTRACTOR'S EXPENSE IF MATERIAL TRACKING FROM JOB SITE ONTO ROSS ROAD BECOMES A NUISANCE.

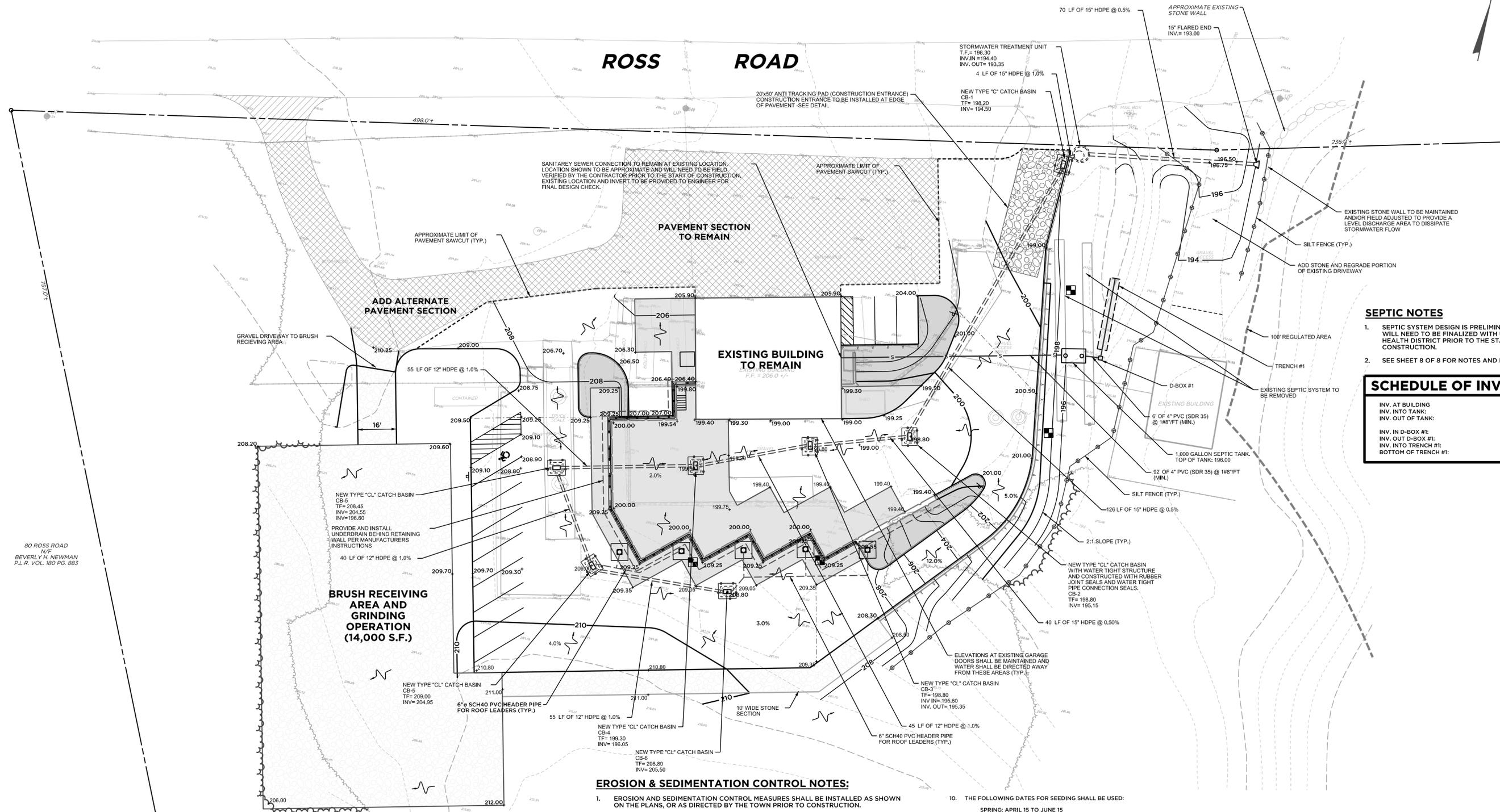
TEST PIT DATA: PROVIDED BY TOWN OF PRESTON	
TEST PIT #1	TOP OF SOIL= 206.03 TOP OF TRASH= 203.93 BOTTOM OF TRASH= 202.03 BOTTOM OF ROCKY FILL (30")= 199.03
TEST PIT #2	TOP OF SOIL= 205.07 TOP OF TRASH= 200.99 BOTTOM OF TRASH= 198.23
TEST PIT #3 & #4	WASTE ENCOUNTERED AT 24"- 36"



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PROJ. ENGINEER MJP PROJ. MANAGER KRG OFFICE REVIEW MMZ	PREPARED FOR THE TOWN OF PRESTON EXISTING CONDITIONS REMOVAL PLAN 108 ROSS ROAD PRESTON, CT		
REVISIONS	PROJECT 4543.001	DATE 8/27/25	SHEET NO. 1 OF 8
SCALE: 1"=20'			



ROSS ROAD



SEPTIC NOTES

- SEPTIC SYSTEM DESIGN IS PRELIMINARY AND WILL NEED TO BE FINALIZED WITH UNCAS HEALTH DISTRICT PRIOR TO THE START OF CONSTRUCTION.
- SEE SHEET 8 OF 8 FOR NOTES AND DETAILS.

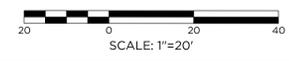
SCHEDULE OF INVERTS

INV. AT BUILDING	T.B.D.
INV. INTO TANK:	194.20
INV. OUT OF TANK:	193.95
INV. IN D-BOX #1:	192.20
INV. OUT D-BOX #1:	192.10
INV. INTO TRENCH #1:	192.00
BOTTOM OF TRENCH #1:	191.50

EROSION & SEDIMENTATION CONTROL NOTES:

- EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE TOWN PRIOR TO CONSTRUCTION.
- ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL", DATED 2024, AS AMENDED AND THE TOWN REGULATIONS.
- ALL EROSION CONTROL DEVICES SHALL BE MAINTAINED OR REPLACED BY THE CONTRACTOR DURING THE CONSTRUCTION PERIOD AS NECESSARY OR AS REQUIRED BY THE ENGINEER OR TOWN.
- ALL ON-SITE EROSION AND SEDIMENT CONTROLS ARE REQUIRED TO BE INSPECTED WITHIN 24-HOURS AFTER A RAIN EVENT OF AT LEAST A HALF-INCH, AND MAINTAINED, REPLACED OR INCREASED AS REQUIRED BY SPECIFIC FIELD CONDITIONS.
- SEDIMENT REMOVED FROM ANY CONTROL STRUCTURES SHALL BE DISPOSED OF IN A MANNER WHICH IS CONSISTENT WITH THE INTENT OF THE PLAN.
- ADDITIONAL EROSION CONTROL MEASURES WILL BE INSTALLED DURING THE CONSTRUCTION PERIOD IF DEEMED NECESSARY OR REQUIRED BY THE ENGINEER OR TOWN.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR IMPLEMENTING ALL EROSION AND SEDIMENTATION CONTROL DEVICES AS SHOWN ON THESE PLANS OR AS ORDERED BY THE ENGINEER.
- ALL DISTURBED AREAS ARE TO BE RAKED, SEEDED AND FERTILIZED PER "TURF ESTABLISHMENT" SPECIFICATION IN CTDOT 819, AT THE COMPLETION OF PROJECT.
- AREAS OUTSIDE OF PAVED AREAS, WALKS, AND BUILDINGS ARE TO RECEIVE A MINIMUM 4" OF TOPSOIL.
- THE FOLLOWING DATES FOR SEEDING SHALL BE USED:
SPRING: APRIL 15 TO JUNE 15
FALL: AUGUST 15 TO SEPTEMBER 15
- THE FOLLOWING GRASS SEED MIXTURES SHALL BE APPLIED AT A RATE NO LESS THAN 100 LBS. PER ACRE:

SPECIES	PROPORTION BY WEIGHT (POUNDS)	MINIMUM PURITY (PERCENT)	MINIMUM GERMINATION (PERCENT)
VELVET BENTGRASS, (AGROSTIS CANINA)	25	96	85
RED FESCUE (FESTUCA RUBRA L. SSP. RUBRA)	35	97	80
PARTRIDGE PEA (CHAMAECRISTA FASCICULATA)	10	95	90
INDIAN GRASS (SORGHASTRUM NUTANS)	15	95	90
CANADA WILDBRYE (ELYMUS CANADENSIS)	5	95	90
KENTUCKY BLUE GRASS (POA PRATENSIS)	10	95	90



STORMWATER TREATMENT NOTE:

THE STORMWATER TREATMENT SYSTEM MUST BE DESIGNED TO REMOVE A MINIMUM OF 80% OF THE TOTAL SUSPENDED SOLIDS FROM THE WATER QUALITY FLOW.
-WATER QUALITY FLOW OF (1.05 CFS) & WITH INTERNAL BYPASS OF THE 10-YEAR DESIGN STORM FLOW OF (4.40 CFS).
THE SYSTEM MUST BE INSPECTED AND CLEANED TO THE SHORTER OF A MINIMUM OF SIX (6) MONTHS OR PER THE MANUFACTURERS' RECOMMENDATION SHOP DRAWINGS OF THE PROPOSED SYSTEM MUST BE REVIEWED AND APPROVED BY THE DESIGN ENGINEER PRIOR TO SUBMITTAL TO THE TOWN FOR REVIEW. SHOP DRAWING SUBMITTALS MUST INCLUDE:

- "TREATED" FLOW FOR THE SPECIFIED SYSTEM AND MODEL, WHICH MUST EQUAL OR EXCEED THE WATER QUALITY FLOW.
- "CONVEYED" FLOW FOR THE SPECIFIED SYSTEM AND MODEL, WHICH MUST EQUAL OR EXCEED THE DESIGN STORM FLOW.
- CALCULATIONS OR DOCUMENTATION VERIFYING THAT 80% (MIN.) OF THE AVERAGE ANNUAL TOTAL SUSPENDED SOLIDS WILL BE REMOVED FROM THE WATER QUALITY FLOW.
- CALCULATIONS OF THE HYDRAULIC GRADE LINE ELEVATIONS FOR THE DESIGN STORM EVENT IN THE FIRST STRUCTURE LOCATED UPSTREAM OF THE SYSTEM AND ANY OTHER CRITICAL LOCATIONS.
- ORIENTATION OF THE SYSTEM IN PLAN VIEW WITH RESPECT TO THE APPROVED SITE PLAN.
- PROPOSED SIZE AND ELEVATION OF CRITICAL WEIR, ORIFICE, PIPE INVERT ELEVATIONS, AND OTHER DESIGN ELEMENTS THAT CORRESPOND TO THE HYDRAULIC CHARACTERISTICS OF THE SYSTEM.

SITE MAINTENANCE NOTES:

- PROPOSED DEVELOPMENTS PAVED AREAS TO BE SWEEPED TWICE A YEAR.
- STORM WATER OUTLET STRUCTURE TO BE INSPECTED SEASONALLY AND CLEANED IF NEEDED.
- CATCH BASIN SUMPS TO BE INSPECTED SEASONALLY AND CLEANED IF NEEDED.
- STORM WATER DETENTION BASIN BOTTOM TO BE MOWED IN THE FALL.

EROSION & SEDIMENTATION CONTROL PLAN:

- ALL EROSION AND CONTROL MEASURES WILL BE INSTALLED AT THE PROJECT SITE PRIOR TO CONSTRUCTION WHEREVER POSSIBLE.
- AN ANTI-TRACKING APRON WILL BE INSTALLED AT THE ENTRANCE TO THE CONSTRUCTION SITE IN ORDER TO PREVENT THE TRANSPORT OF SEDIMENTS OFF THE CONSTRUCTION SITE BY TRUCK AND CONSTRUCTION EQUIPMENT TRAFFIC.
- AN EROSION CONTROL SYSTEM SHALL BE INSTALLED AROUND ALL ON-SITE STOCKPILES OF SOIL.
- SOIL CONTROL MEASURES WILL BE APPLIED DURING THE CONSTRUCTION PERIOD UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED, AS REQUIRED BY FIELD CONDITIONS.
- TEMPORARY SEDIMENT TRAPS WILL BE INSTALLED AS NECESSARY DURING CONSTRUCTION ACTIVITIES. ALL TEMPORARY STORMWATER DISCHARGE WILL BE DIRECTED TO THESE TRAPS.

Barton & Loguidice
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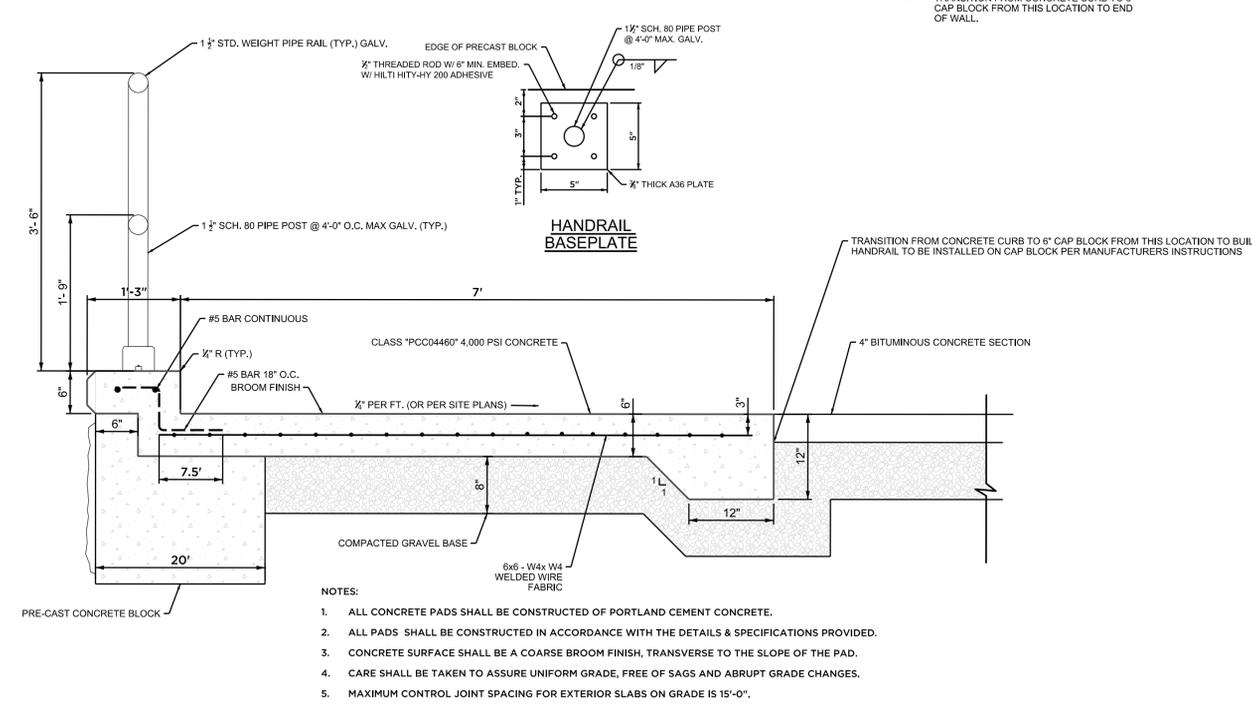
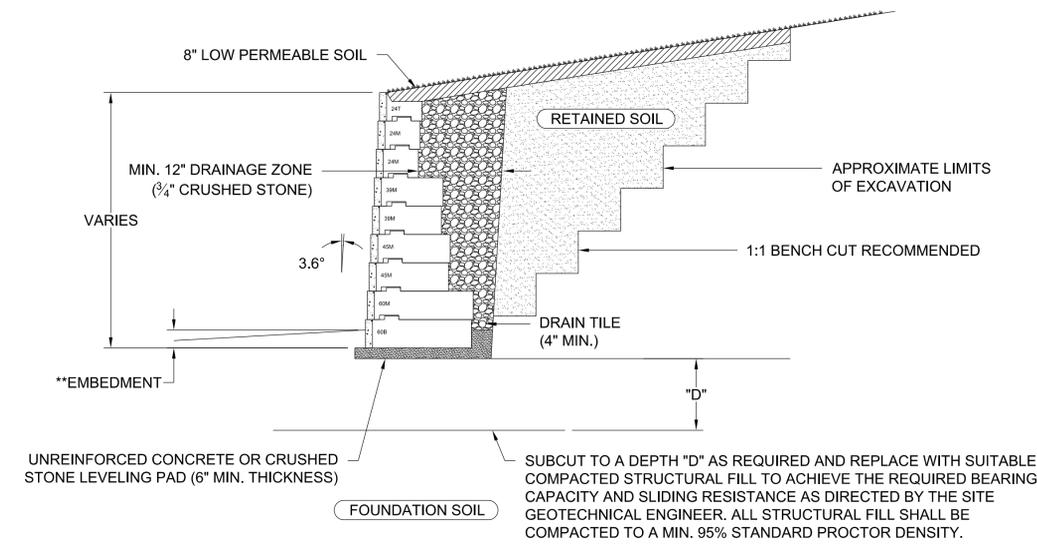
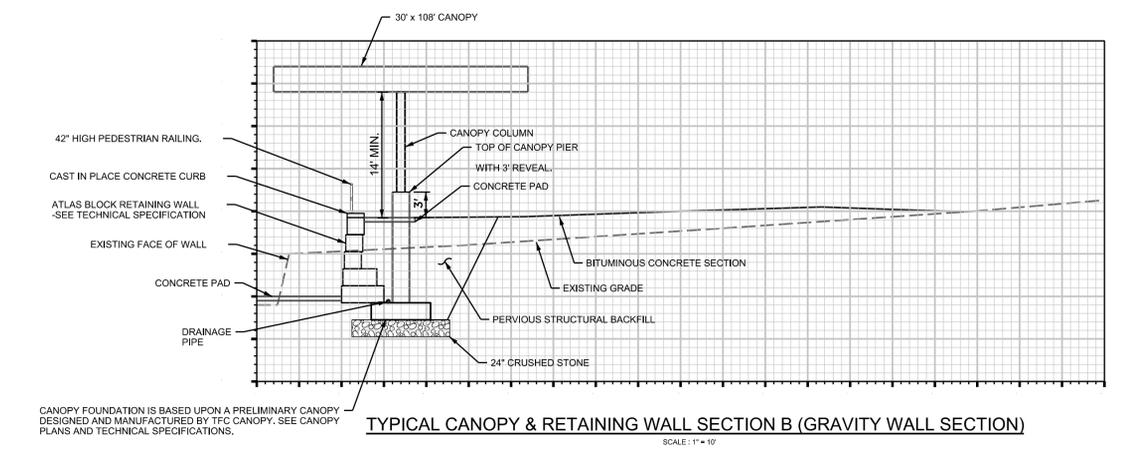
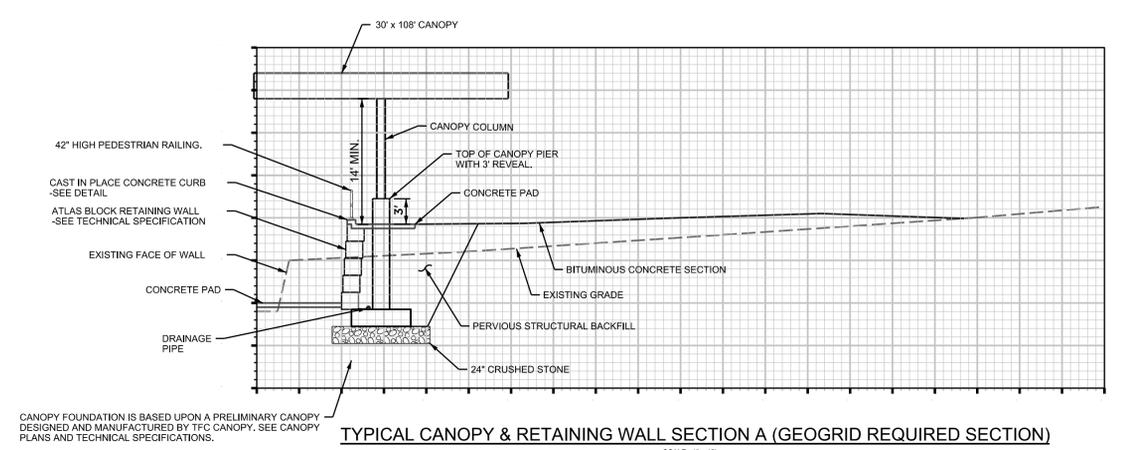
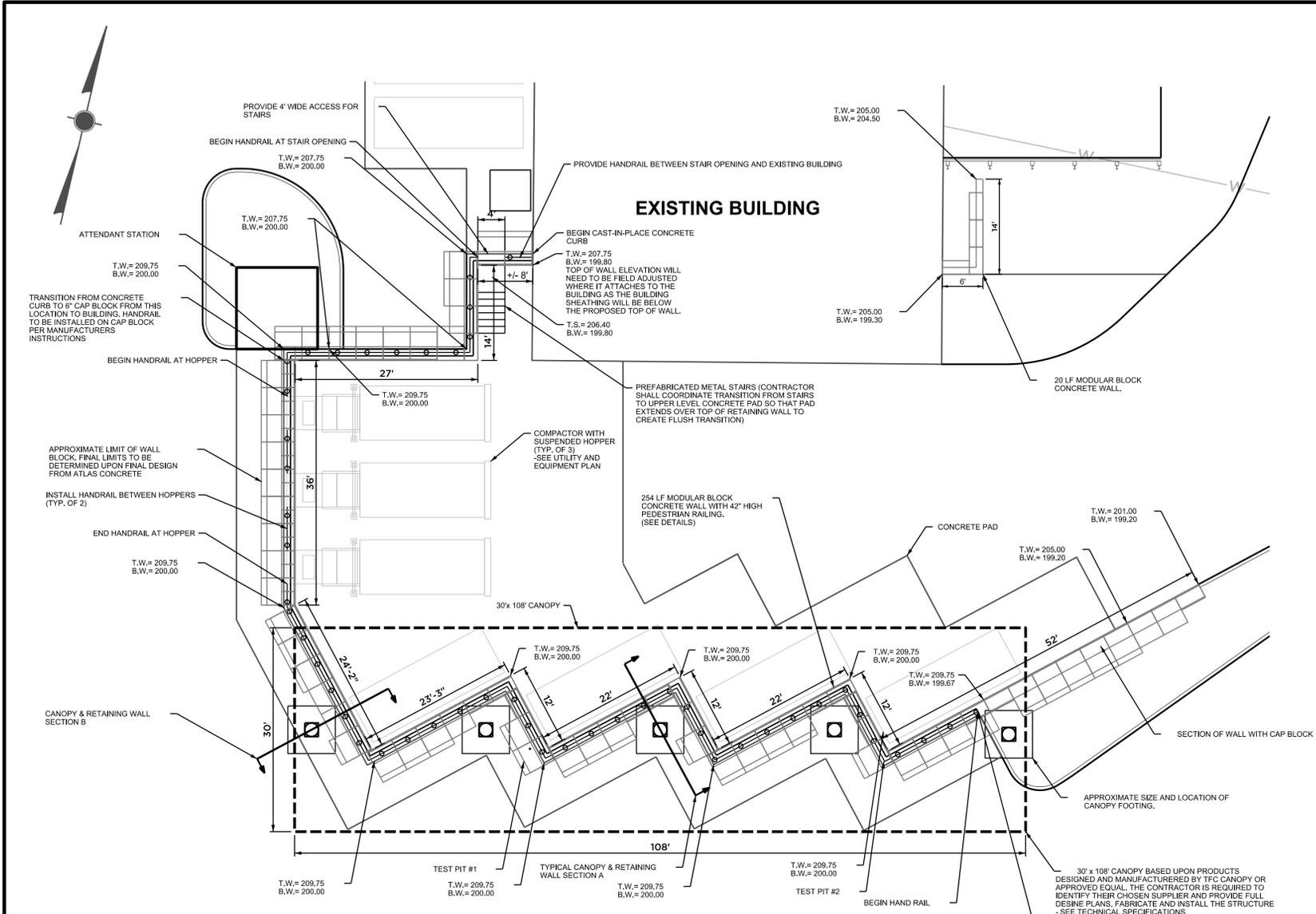
PRESTON TRANSFER STATION
PREPARED FOR
THE TOWN OF PRESTON

GRADING AND DRAINAGE PLAN

108 ROSS ROAD PRESTON, CT

PROJECT 4543.001	DATE 8/27/25	SHEET NO. 3 OF 8
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SCALE: 1"=20'



- NOTES:**
1. ALL CONCRETE PADS SHALL BE CONSTRUCTED OF PORTLAND CEMENT CONCRETE.
 2. ALL PADS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS & SPECIFICATIONS PROVIDED.
 3. CONCRETE SURFACE SHALL BE A COARSE BROOM FINISH, TRANSVERSE TO THE SLOPE OF THE PAD.
 4. CARE SHALL BE TAKEN TO ASSURE UNIFORM GRADE, FREE OF SAGS AND ABRUPT GRADE CHANGES.
 5. MAXIMUM CONTROL JOINT SPACING FOR EXTERIOR SLABS ON GRADE IS 15'-0".

GENERAL NOTES:

1. CONTRACTOR SHALL SUPPLY RETAINING WALL AND CANOPY PLANS FROM PROVIDED MANUFACTURERS OR APPROVED EQUAL.

SCALE: 1"=10'

Barton & Loguidice

855 Winding Brook Drive
Glastonbury, CT 06033
Phone: (860) 633-9370
Fax: (860) 633-5971
www.bartonandloguidice.com

Civil Engineering • Environmental Consulting • Land Surveying • Construction Management

PROJ. ENGINEER: MJP
PROJ. MANAGER: KRK
OFFICE REVIEW: MMZ

PRESTON TRANSFER STATION
PREPARED FOR
THE TOWN OF PRESTON
RETAINING WALL PLAN

108 ROSS ROAD PRESTON, CT

PROJECT: 4543.001 DATE: 8/27/25 SHEET NO. 4 OF 8

SCALE: 1"=10'

QUOTATION

Customer:
Barton & Loguidice

30'x108' Pre-Engineered Canopy
PRESTON TRANSFER STATION
Freight to Preston, CT listed below

Phone: 860-633-8770
Fax:

SHELTERS DIRECT

8580 LAURELDALE DRIVE
LAUREL, MD, 20724
PH. 1-800-865-5555
FAX 301-317-8265

SHeltersDirect
REV: 302 4/16
DATE: 11/15/2024

GENERAL NOTES:
1. THE STRUCTURAL STEEL IS DESIGNED IN ACCORDANCE WITH THE AISC STEEL CONSTRUCTION MANUAL, WHICH CORRESPONDS TO THE AISC SPECIFICATION (ANS/AISC 360)
2. ALL CONTRACTOR'S WORK SHALL BE PERFORMED IN A MANNER TO FOLLOW ALL STATE AND LOCAL CODES AND REGULATIONS.
3. ALL STRUCTURAL STEEL SHALL BE AS FOLLOWS: W SHAPES: ASTM A992 - 50 ksi
STRUCTURAL TUBING: ASTM A500 GRADE BAC - 45 ksi
1 1/2" ROUND A500 GRADE BAC - 42 ksi
ALL CAP PLATES AND ANGLE PLATES: A36 GRADE 50, MISCELLANEOUS PLATE & ANGLE MATERIAL: A36 (E-WEB STIFFENERS, GUSSET, WAGS, LATERALS, ETC.)
4. DECK PANELS TO MEET ASTM A792 GRADE 50 WITH A MINIMUM FIELD STRENGTH OF 50 ksi.
5. ALL WASHERS AND NUTS TO MEET ASTM F436 AND ASTM A325 RESPECTIVELY.
6. ALL WELDING, UNLESS NOTED OTHERWISE, SHALL BE PERFORMED IN THE SHOP PRIOR TO SHIPMENT. ALL FIELD WELDS MUST BE WELDED BY CERTIFIED WELDERS. ALL WELDING TO COMPLY WITH AWS D11.1 "STRUCTURAL WELDING CODE-STEEL" WITH E70XX ELECTRODES.
7. ALL STRUCTURAL STEEL CONNECTORS AND SPLICES ARE TO BE PRIMED AFTER ERECTION.
BOLT NOTES:
8.1 SLAG-TIGHTENED JOINTS
* THE SLAG-TIGHTENED CONDITION IS THE TIGHTNESS THAT IS ATTAINED WITH 1/8" MOMENTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER USING AN ORDINARY SPUD WRENCH TO SINK THE CONNECTED PILES INTO FIRM CONTACT. INSPECTION REQUIREMENTS FOR SLAG-TIGHTENED JOINTS ARE LISTED IN SECTION 9.1 OF THE RISC SPECIFICATION.
9.1 SLAG-TIGHTENED JOINTS
* AFTER THE CONNECTIONS HAVE BEEN ASSEMBLED, IT SHALL BE VISUALLY ENSURED THAT THE PILES OF THE CONNECTED ELEMENTS HAVE BEEN BROUGHT INTO FIRM CONTACT AND THAT WASHERS HAVE BEEN USED. NO FURTHER EVIDENCE OF CONTACT IS REQUIRED FOR SLAG-TIGHTENED JOINTS. IF THE MAGNITUDE OF THE CLAMPING FORCE THAT EXISTS IN A SLAG-TIGHTENED JOINT IS NOT A CONSIDERATION.
FOOTER NOTES:
1. MAINTAIN TOPS OF ALL FOOTERS AT THE SAME ELEVATION +/- 1/4" UNLESS OTHERWISE NOTED.
2. CONCRETE FOOTINGS, BY GENERAL CONTRACTOR, SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS. THE CONCRETE MIX SHALL HAVE A MINIMUM SLUMP OF 3" AND A MAXIMUM SLUMP OF 6".
3. COLUMNS AND BEAMS TO BE LOCATED IN THE CENTER OF THE FOUNDATION WITH THE COLUMNS CENTER TO CENTER SPACING CONFORMING TO A TRANSIT ANCHOR BOLT SPACING ARE TO BE VERIFIED BEFORE CONCRETE PLACEMENT.
4. STEEL REINFORCEMENT TO MEET ASTM A618 GRADE 40 FOR #4 REBAR & GRADE 60 FOR #5 REBAR OR GREATER.
5. THE FOUNDATION DESIGN INCORPORATES A SOIL BEARING CAPACITY OF 2,000 PSF AND A PASSIVE SOIL PRESSURE OF 200 PSF/FT. THE FOOTING IS RECOMMENDED TO BE BACKFILLED USING ENGINEERED FILL IN 6" LAYERS TO BE COMPACTED. CONSULT YOUR LOCAL SOIL ENGINEER FOR SITE-SPECIFIC CONDITIONS AND BUREAU OF OTHER STRUCTURES MAY BE LOCATED SUCH THAT THEY HINDER THE PROPER FUNCTION AND INTEGRITY OF THE FOOTER. IF THE SITE CONTAINS QUESTIONABLE SOIL CONDITIONS, SOIL BORINGS MUST BE PERFORMED WITH A COPY OF THE FINAL REPORT FORWARDED TO THE ENGINEER OF RECORD FOR FINAL DESIGN OF FOUNDATIONS PRIOR TO CONSTRUCTION.
6. A NON-SHRINK HIGH STRENGTH GROUT IN ACCORDANCE WITH ASTM C1107 SHALL BE USED BETWEEN THE BASE PLATE AND FOOTING WITH A THICKNESS RANGE OF 1" TO 2" GROUT TO BE INSTALLED BY FOUNDATION CONTRACTOR. USE TAMM'S GROUT SUPREME OR APPROVED EQUAL.
ERECTION NOTES:
1. ELEVATION OF LEVELING MUST BE SET WITH A TRANSIT LEVEL DURING CONSTRUCTION.
2. ALL STEEL (IE, COLUMNS, PURLINS, MAIN BEAMS) MUST BE CHECKED CLOSELY TO VERIFY THAT IT IS PLUMB, SQUARE AND LEVEL AFTER IT HAS BEEN ERECTED AND BEFORE FINAL ADJUSTMENT.
3. ALL ASTM A325 BOLTS SHALL BE INSTALLED PER THE 2009 RISC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS.
4. ALL BRACING (GUSSET, LATERALS, ETC.) MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE DECK PANELS.

Quote Number	Quote Date
OCT098771	Sep 18, 2024

QTY	ITEM NUMBER	DESCRIPTION	UNIT PRICE	TOTAL
1	30x35-CAN-PA-9859-1-09	FURNISH 30 FT x 108 FT PRE-ENGINEERED CANOPY - PRESTON TRANSFER STATION - PRESTON, CT		

Summary:
COLUMNS: This canopy to have five (5) square steel columns. Columns to be located as follows: (Edge - Centers - Edge)
Width Spacing: 15'0"-15'0"
Length Spacing: 3'-25'6"-25'6"-25'6"-3'

CANOPY CLEARANCE: Canopy will have a 14" clearance from bottom of fascia to highest finished grade.

ROOF: Standard "bottom deck" style roof system.

FASCIA: This canopy will have a 38" tall ACM fascia with along all four (4) sides, fascia color to be chosen from our color chart.

DECK: The canopy deck will be made of 20 gauge steel. Deck material will be white and will have a smooth finish.

DRAINAGE: This canopy will have external drains with collector.

CONDUITS: Three (3) full length 1" conduits included in column only.

FINISH: All columns and structural steel to be red oxide primer finish. Any other finish painting to be done on site by others.

CONDITIONS: Per National Local Code:

WARRANTY: Canopy to be free of defects in materials, leaks, and workmanship for a period of 1 year from date of shipment. Fascia finish will carry a 10 year limited warranty against peeling, flaking, and chipping when properly maintained.

CANOPY NOTES & EXCLUSIONS:
1) Certified engineer will determine final load requirements per national codes for jobsite location. All canopies come standard with a set of Professional Engineer (PE) stamped and sealed drawings. Concrete Footer Size and Bolt pattern shall be calculated by a certified engineer and shall be

8580 LAURELDALE DRIVE, LAUREL, MD 20724
Phone: 301-317-6000 • 800-865-5555 • Fax: 301-317-8265

PERSON LOAD CRITERIA
CODE: 2012 IBC
1603.1.1 FLOOR LIVE LOAD: N/A
1603.1.2 ROOF LIVE LOAD: 20 PSF
1603.1.3 ROOF SNOW LOAD:
Pg=20 PSF
P=1.0
C=1.0
I=1.0
Ct=1.2
1603.1.4 WIND LOAD:
V3 (SEC. GUST) = 115 MPH
H=1.0
EXPOSURE-C
1603.1.5 EARTHQUAKE DESIGN DATA:
Ssd=0.09
Sd1=0.337
SITE CLASS-D
SEISMIC FORCE-RESISTING SYSTEM=
INVERTED PENDULUM
ANALYSIS PROCEDURE=
EQUIVALENT LATERAL FORCE
CONSTRUCTION TYPE: TYPE IIB
USE GROUP: MERCANTILE GROUP IIB
BASE SHEAR: V=1.00 KIP/COLUMN

9/18/24
www.sheltersdirect.com

1 of 2

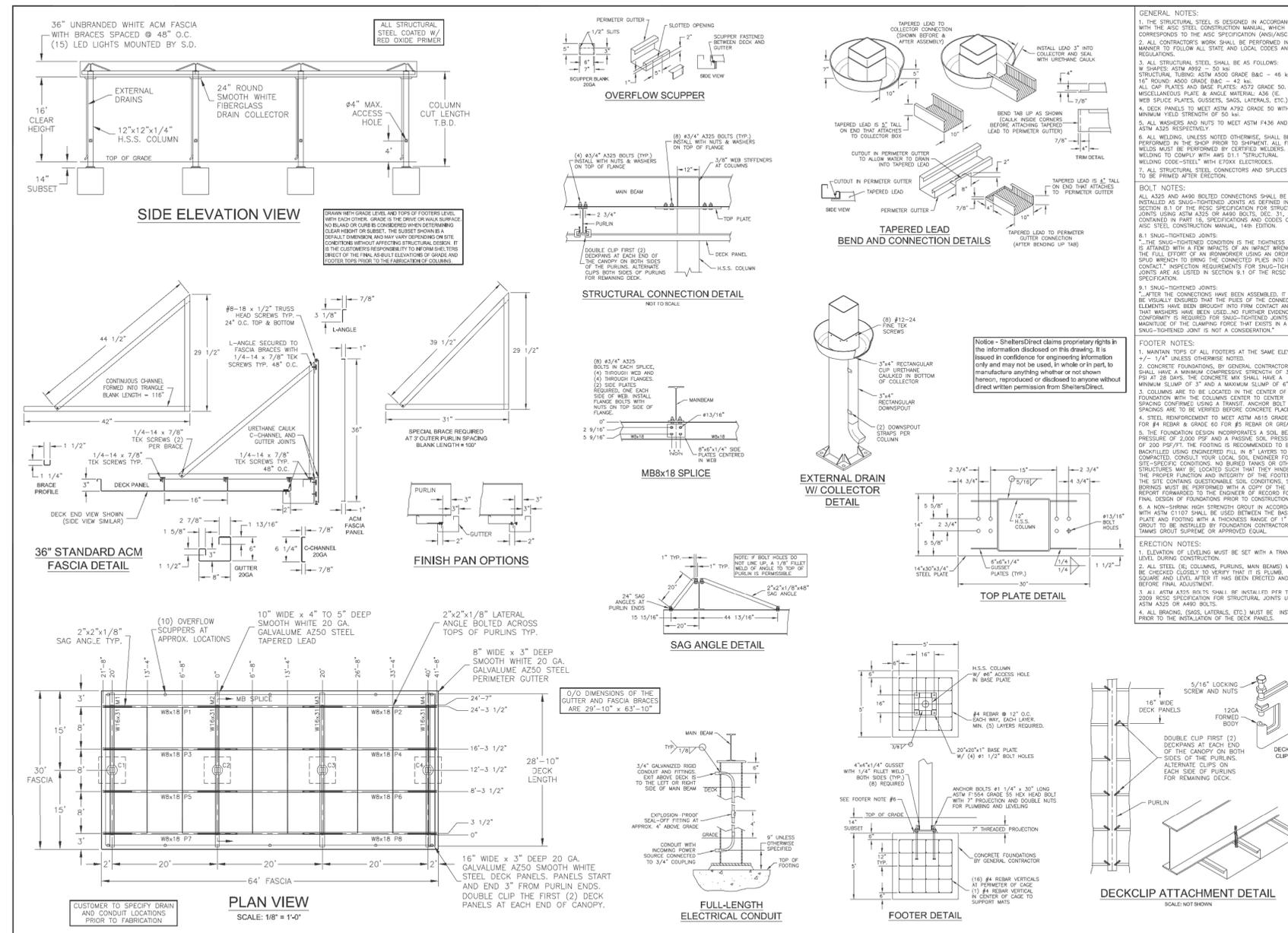
QTY	ITEM NUMBER	DESCRIPTION	UNIT PRICE	TOTAL
1	INST-30x35-CAN-PA-98591	INSTALL 30 FT x 108 FT PRE-ENGINEERED CANOPY - PRESTON TRANSFER STATION - PRESTON, CT		

provided after canopy order has been placed.
2) Anchor bolts included and shipped to site ahead of time.
3) Price does not include 3D drawings and calculations if required.
4) Canopy is based on Shelters Direct standard design, fabrication techniques, and installation methods.
5) Footer size: Footer design and anchor bolts are to be done by others.

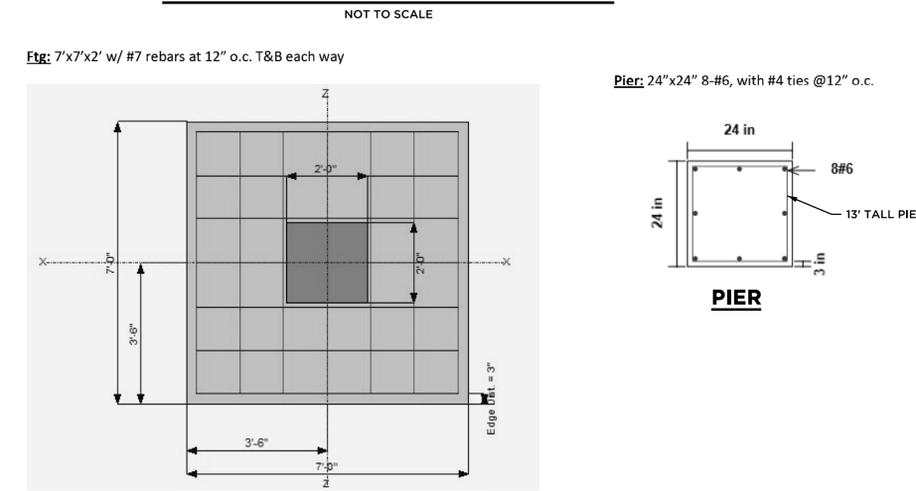
Summary:
1) Price includes offloading, installation and hanging of twenty (20) lights a job site (Price includes prevailing wage labor).
2) Electrical connection of lights and any other wiring shall be performed by others.
3) Excludes: Form/pour of footers/foundations, site prep, bollards, permits, finish painting of structural steel, supply or installation of sign or graphics, electrical wiring, which are at owner's expense if required.
4) No Site work (Concrete/Asphalt/Excavation) shall be included. Materials and labor to install concrete footers shall be provided by others.
5) Note: Price based on a single trip to deliver and build the canopy. Extra trip to set columns or steel will have an additional fee.
6) Site MUST have a hard packed and level surface for installation equipment to operate.
7) All testing and inspections are to be by others.

CANOPY NOTES

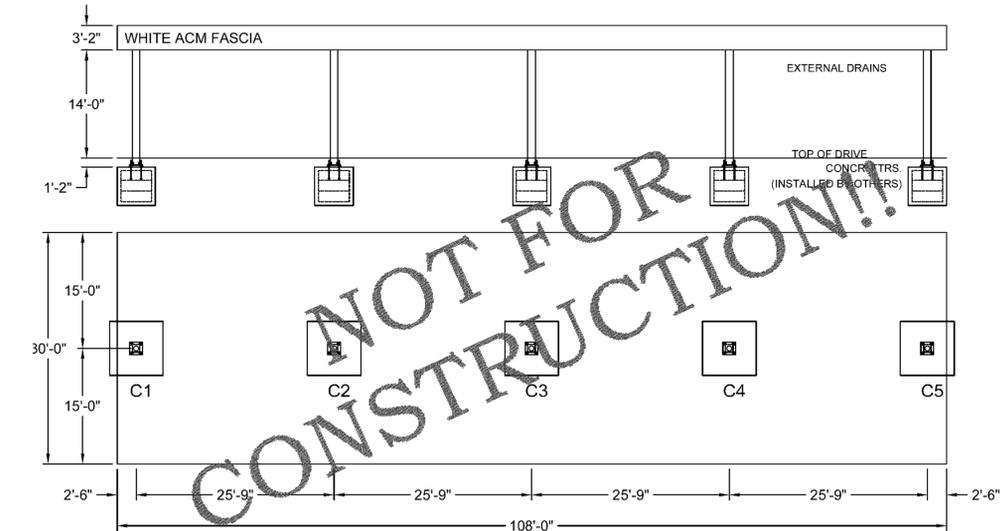
- THE STEEL CANOPY SHALL BE A FULLY ENGINEERED 30' X 108' PRE-ENGINEERED STEEL CANOPY SYSTEM SUPPLIED BY SHELTERS DIRECT, TFC CANOPY OF AN APPROVED EQUAL SUPPLIER OF STEEL CANOPIES.
- THE PLANS DEPICTED ON THIS SHEET ARE FOR REFERENCE PURPOSES ONLY AND SHALL NOT BE INTERPRETED AS ENGINEERED DESIGN PLANS FOR THE PRESTON TRANSFER STATION PROJECT.
- BIDDERS SHALL USE THE PROVIDED PRELIMINARY CANOPY FOOTING AND PIER DESIGN LOCATED ON THIS SHEET AS A BASIS FOR THEIR STEEL CANOPY AND CONCRETE FOUNDATION BID - THESE SHALL BE INTERPRETED AS PRELIMINARY AND WILL NEED TO BE CONFIRMED AND POTENTIALLY UPDATED BY THE PROJECT ENGINEER WHEN THE CONTRACTOR SELECTS THE CANOPY MANUFACTURER.
- BIDDERS SHALL USE THE SHELTER DIRECT ITEMIZED QUOTATION AS A BASIS FOR THEIR STEEL CANOPY BID.
- BIDDERS SHALL REFER TO THE TFC CANOPY QUOTE DRAWING FOR A DEPICTION OF CANOPY SIZE, COLUMN QUANTITY AND COLUMN SPACING.



EXAMPLE CANOPY DRAWINGS



PRELIMINARY CANOPY FOOTING & PIER



NOT FOR CONSTRUCTION!

DATE: Nov-15-2024
JOB: Preston, CT 30x108
JOB REF: N/A
CUST: 0
JOB LO: Preston, CT

TFC
TFC CANOPY
1107 NORTH TAYLOR RD.
GARRETT, IN 46738
FAX - (260) 357-6533
PHONE - (260) 357-6665

Quote Drawing
NOT TO BE USED FOR CONSTRUCTION
"SUBJECT TO CHANGE"

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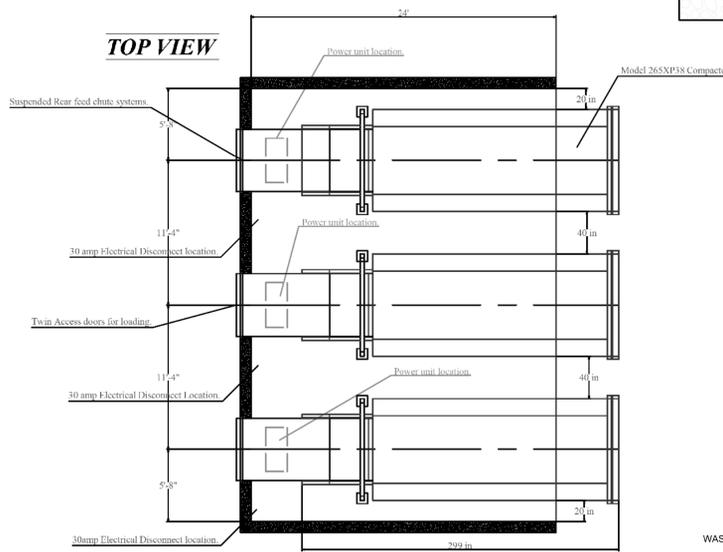
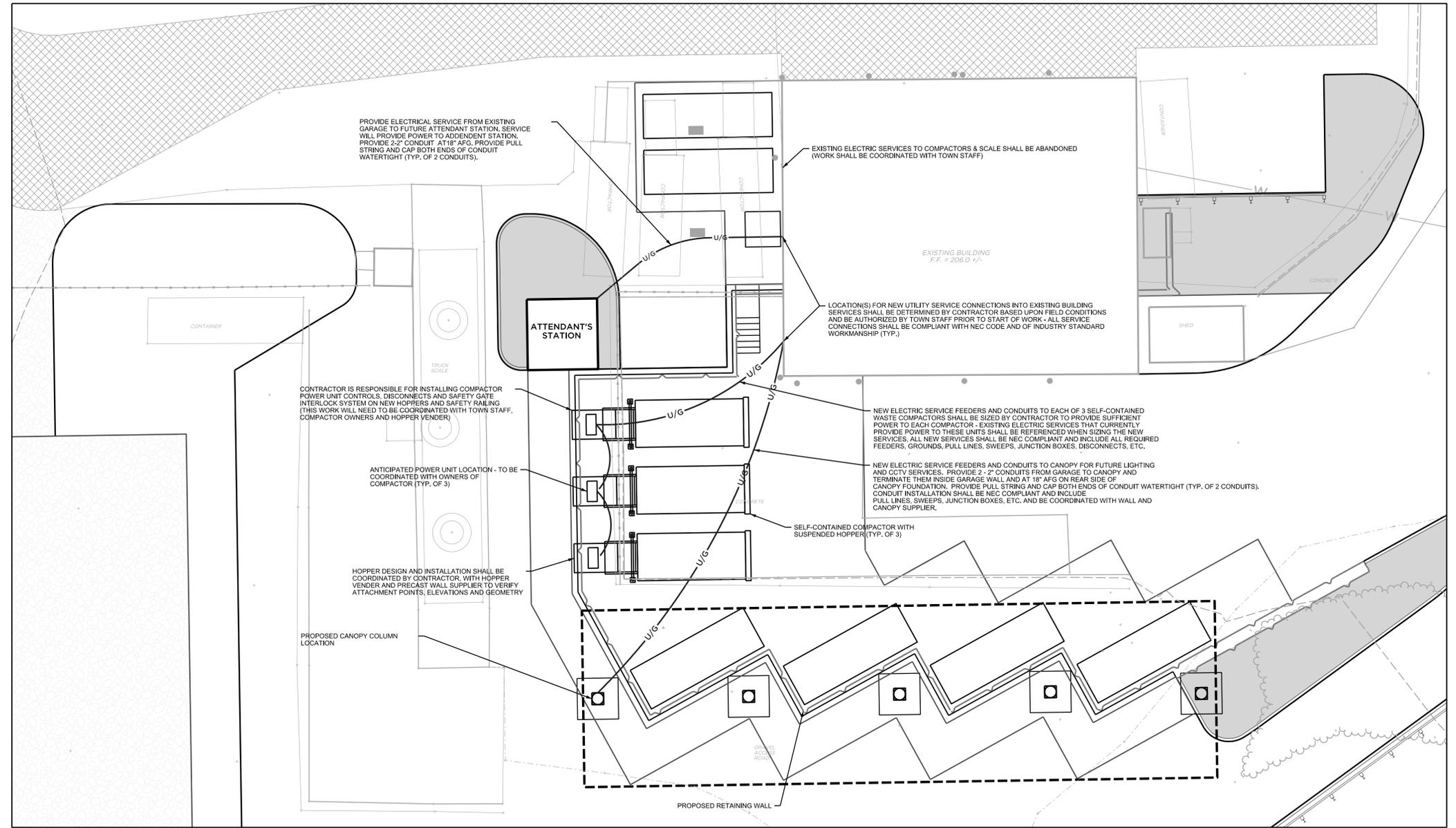
PROJ. ENGINEER: MJP
PROJ. MANAGER: KRK
OFFICE REVIEW: MMZ

PRESTON TRANSFER STATION
PREPARED FOR
THE TOWN OF PRESTON
CANOPY PLAN

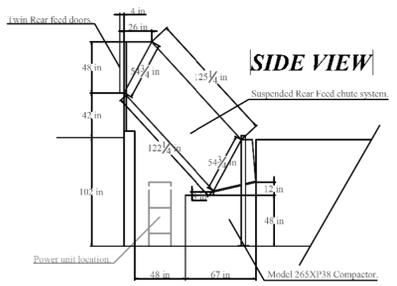
108 ROSS ROAD PRESTON, CT

PROJECT: 4543.001 DATE: 8/27/25 SHEET NO. 5 OF 8

SCALE: NTS

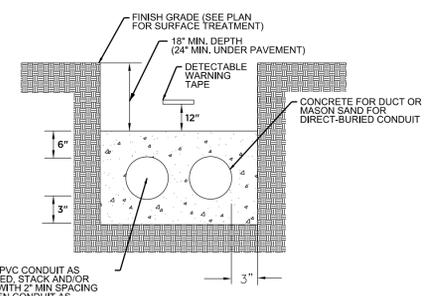


WASTE HOPPER PLAN & SECTION
NOT TO SCALE

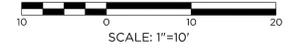


Barton & Loguidice
Town of Preston, CT
Transfer Station
Proposed Layout Drawing
DWG000163-A

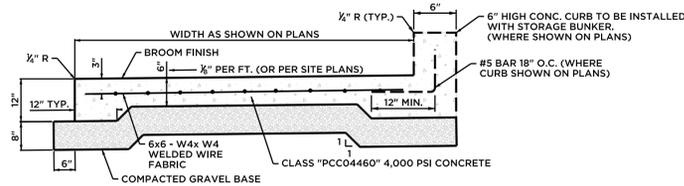
- WASTE HOPPER NOTES
1. THE HOPPER SYSTEM WILL BE FABRICATED FROM 7 GAUGE SHEET STEEL, WRAPPED WITH 3" X 4.1 CHANNELS FOR SUPPORT, 3" X 4" X 3/16" STRUCTURAL TUBE FOR SUPPORT LEGS LADGED TO THE CONCRETE PAD, 12 GAUGE STEEL WINDSCREENS, 48" HIGH INSTALLED ON THREE (3) SIDES OF THE HOPPER, ADDITIONAL TRANSITION PLATES FOR THE COMPACTOR TO CLOSE IN AROUND THE HOPPER SYSTEM AND A SAFETY GATE SYSTEM INSTALLED WITH A 24-VOL.T MAGNETIC INTERLOCK SWITCH INSTALLED. THE HOPPER SYSTEM WILL BE PAINTED TO MATCH THE COMPACTORS, OR AS DIRECTED BY THE TOWN.
 2. THE WASTE HOPPERS SHALL BE SUPPLIED AND INSTALLED BY ATLANTIC RECYCLING EQUIPMENT, ROLLINSFIELD NEW HAMPSHIRE, (603) 749-2414 OR APPROVED EQUAL.



TYPICAL UG CONDUIT OR DUCT BANK
NOT TO SCALE

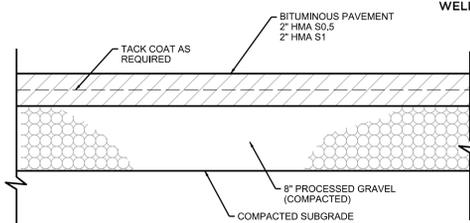


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PROJ. ENGINEER MJP PROJ. MANAGER KRG OFFICE REVIEW MMZ	PRESTON TRANSFER STATION PREPARED FOR THE TOWN OF PRESTON UTILITY AND EQUIPMENT PLAN		
REVISIONS		PROJECT 4543.001	DATE 8/27/25
SCALE: 1"=10'		SHEET NO. 6 OF 8	PRESTON, CT

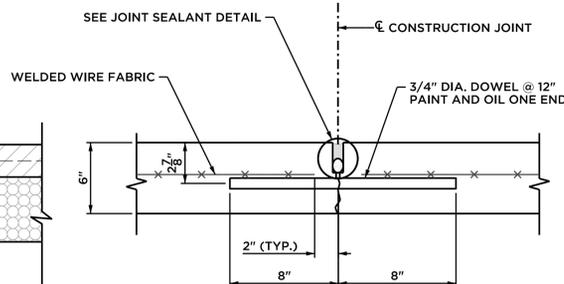


- NOTES:
1. ALL CONCRETE PADS SHALL BE CONSTRUCTED OF PORTLAND CEMENT CONCRETE.
 2. ALL PADS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS & SPECIFICATIONS PROVIDED.
 3. CONCRETE SURFACE SHALL BE A COARSE BROOM FINISH, TRANSVERSE TO THE SLOPE OF THE PAD.
 4. CARE SHALL BE TAKEN TO ASSURE UNIFORM GRADE, FREE OF SAGS AND ABRUPT GRADE CHANGES.
 5. MAXIMUM CONTROL JOINT SPACING FOR EXTERIOR SLABS ON GRADE IS 15'-0".

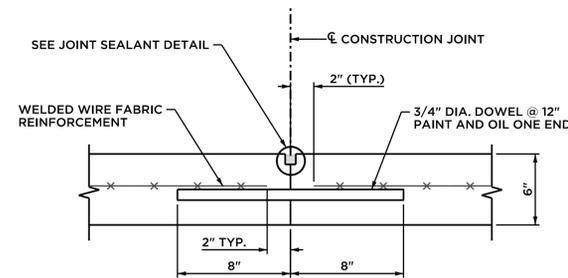
CONCRETE PAD DETAIL
NOT TO SCALE



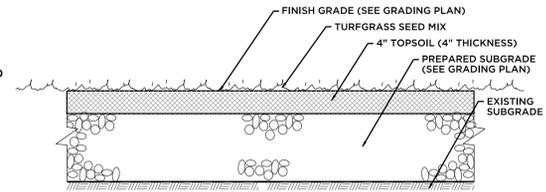
BITUMINOUS PAVEMENT SECTION
NOT TO SCALE



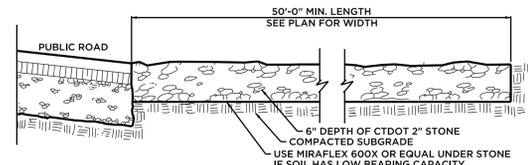
SLAB CONTRACTION JOINT DETAIL
NOT TO SCALE



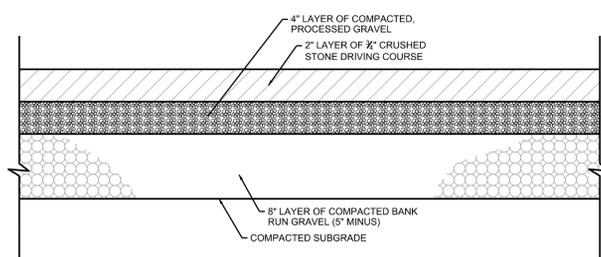
SLAB CONSTRUCTION JOINT DETAIL
NOT TO SCALE



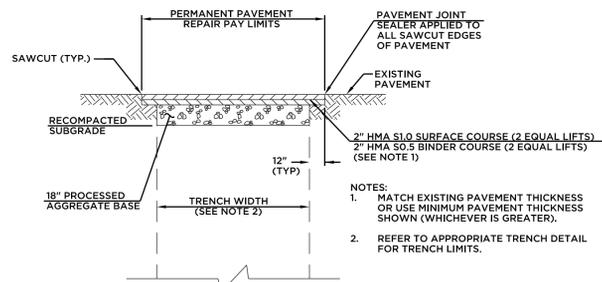
TURF ESTABLISHMENT
NOT TO SCALE



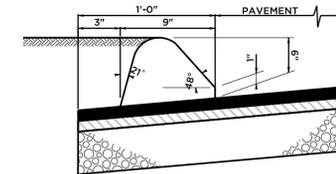
ANTI-TRACKING PAD DETAIL
NOT TO SCALE



GRAVEL DRIVEWAY/APRON DETAIL
NOT TO SCALE



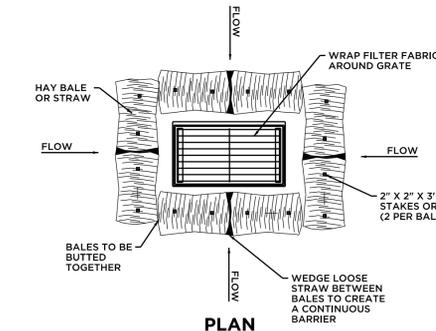
PAVEMENT REPAIR
NOT TO SCALE



SECTION

- CURB NOTES:
1. SURFACE ON WHICH CURBING IS PLACED SHALL BE CLEAN AND AN APPROVED TACK COAT SHALL BE APPLIED JUST PRIOR TO PLACING CURB.
 2. CURBING SHALL BE MACHINE EXTRUDED.

BITUMINOUS CONCRETE CURB (BCLC)
NOT TO SCALE



HAY BALES AROUND CATCH BASIN
NOT TO SCALE



BACKGROUND - SILVER
LEGEND - SILVER
SIGN FACE - RED

AREA SQ. FT.	SIZE (INCHES)	CONN. D.O.T. #	POSTS	ALUM. THK.
6.25	30	31-1119	1	.080

(R5-1) DO NOT ENTER SIGN
NOT TO SCALE



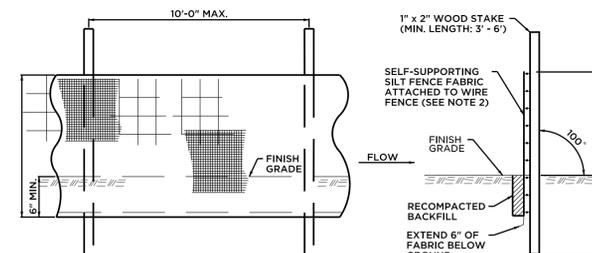
R5-11
31-1790
WIDTH: 30"
HEIGHT: 24"
SHEETING TYPE: IX
BACKGROUND: WHITE
LEGEND: BLACK
SEE CONNDOT SPECIFICATIONS

(R5-11) AUTHORIZED VEHICLES ONLY SIGN



HANDICAP SIGN
NOT TO SCALE

BACKGROUND: BLUE, REFLECTORIZED
LEGEND: SILVER, REFLECTORIZED

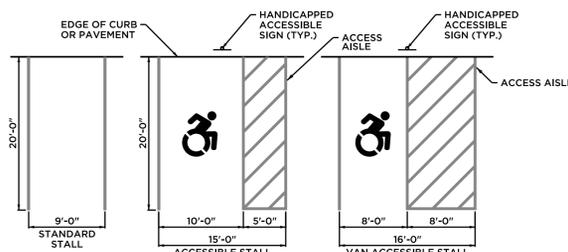


ELEVATION

SECTION

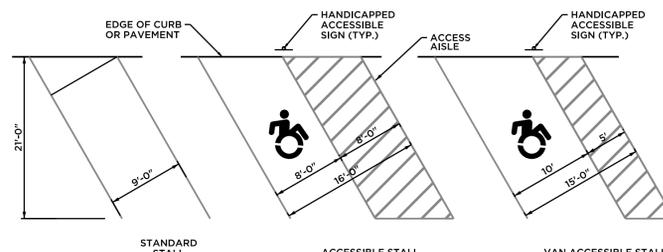
- NOTES:
1. INSTALL SILT FENCE & WOOD STAKES AS RECOMMENDED BY MANUFACTURER.
 2. SILT FENCE SUBJECT TO HEAVY LOADS SHALL BE REINFORCED WITH FARM FENCING & STEEL POSTS (0.5 # STEEL/L.F.). THE MINIMUM POST LENGTH SHALL BE 5'-0".
 3. SILT FENCE FABRIC SHALL BE A PERVIOUS SHEET OF WOVEN PROPYLENE, NYLON, POLYESTER OR POLYETHYLENE FILAMENTS AND SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER.

SILT FENCE
NOT TO SCALE



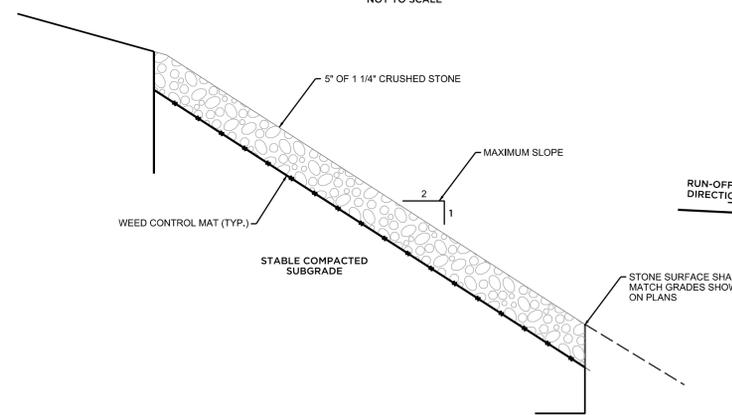
PARKING STALL DETAILS
NOT TO SCALE

- GENERAL NOTES:
1. ACCESS AISLES SHALL ADJOIN AN ACCESSIBLE ROUTE.
 2. ACCESS AISLES (CROSS HATCH) SERVING CAR PARKING SPACES SHALL BE 60 INCHES (1525 mm) MINIMUM IN WIDTH. ACCESS AISLES SERVING VAN PARKING SPACES SHALL BE 96 INCHES (2440 mm) MINIMUM IN WIDTH. TWO PARKING SPACES SHALL BE PERMITTED TO SHARE A COMMON ACCESS AISLE. IF A CAR AND A VAN SPACE SHARE A COMMON ACCESS AISLE, THAT AISLE SHALL BE 96 INCHES MINIMUM IN WIDTH.
 3. PARKING SPACES MAY HAVE ACCESS AISLES PLACED ON EITHER SIDE OF THE CAR OR VAN PARKING SPACE. VAN PARKING SPACES THAT ARE ANGLED SHALL HAVE ACCESS AISLES LOCATED ON THE PASSENGER SIDE OF THE PARKING SPACE.
 4. ACCESSIBLE PARKING SPACES SHALL BE IDENTIFIED BY ABOVE GRADE SIGNS IN ACCORDANCE WITH DETAILS.

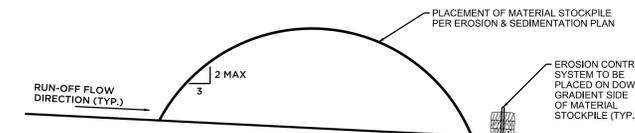


PARKING STALL DETAILS
NOT TO SCALE

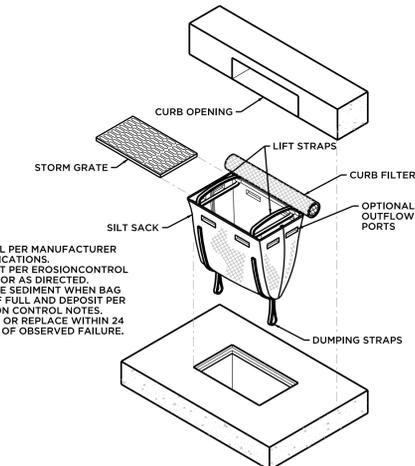
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 4. ACCESSIBLE PARKING SPACES SHALL BE IDENTIFIED BY ABOVE GRADE SIGNS IN ACCORDANCE WITH DETAILS.



STONE SURFACE SECTION
NOT TO SCALE



SOIL STOCKPILE DETAIL
NOT TO SCALE



INLET SEDIMENT CONTROL DEVICE
NOT TO SCALE

- NOTES:
1. INSTALL PER MANUFACTURER SPECIFICATIONS.
 2. INSPECT PER EROSION CONTROL NOTES OR AS DIRECTED.
 3. REMOVE SEDIMENT WHEN BAG IS HALF FULL AND DEPOSIT PER EROSION CONTROL NOTES.
 4. REPAIR OR REPLACE WITHIN 24 HOURS OF OBSERVED FAILURE.

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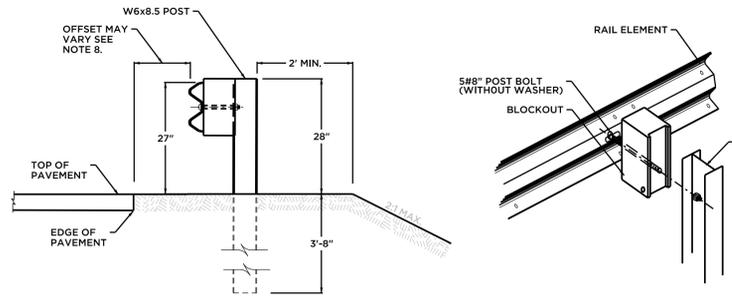
PROJ. ENGINEER: MJP
PROJ. MANAGER: KRK
OFFICE REVIEW: MMZ

PRESTON TRANSFER STATION
PREPARED FOR
THE TOWN OF PRESTON
SITE IMPROVEMENT DETAILS

108 ROSS ROAD PRESTON, CT

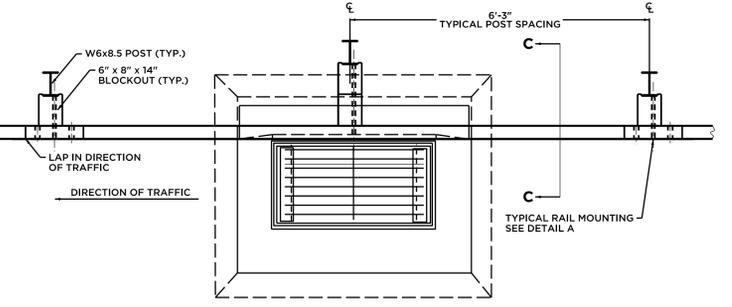
PROJECT: 4543.001 DATE: 8/27/25 SHEET NO. 7 OF 8

SCALE: 1"=20'



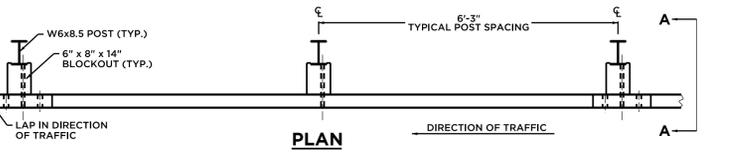
**SECTION A-A
WITHOUT CURBING**

**DETAIL A
RAIL MOUNTING**

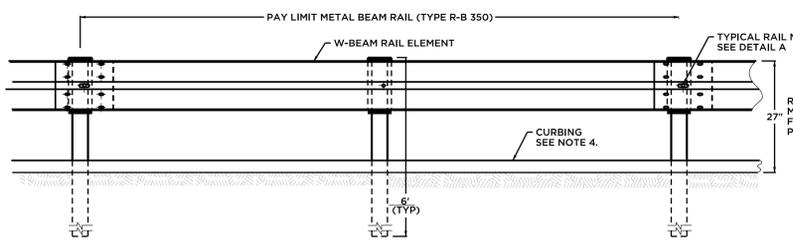


PLAN

METAL BEAM RAIL WITH MULTIPLE BLOCKOUTS TO AVOID UNDERGROUND OR LOW PROFILE OBSTRUCTION



PLAN

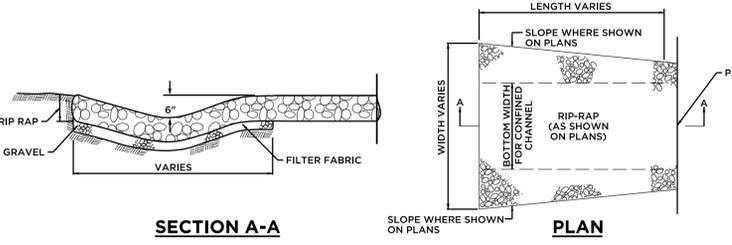


ELEVATION

GENERAL NOTES:

- SEE MISCELLANEOUS CONNECTICUT DETAIL FOR METAL BEAM RAIL HARDWARE ELEMENTS.
- MAXIMUM DESIGN DEFLECTION FOR R-B 350 AND MD-B 350 GUIDERAIL AT THE STANDARD POST SPACING OF 6'-3" IS 4'-3". DEFLECTION REQUIREMENT IS MEASURED FROM THE BACK OF POST TO THE FACE OF OBSTRUCTION.
- FOR CURVES WITH RADI OF 150' OR LESS, ALL RAIL MEMBERS SHALL BE SHOP FABRICATED TO THE PROPER RADIUS AND GALVANIZED AFTER FABRICATION.
- RAIL HEIGHT WITH CURBING SHALL BE MEASURED FROM THE TOP OF PAVEMENT. FACE OF RAIL ELEMENT SHALL BE PLACED FLUSH WITH THE FACE OF CURBING. ON HIGH SPEED ROADWAYS (> 50mph), 4" CURBING SHALL BE USED IN CONJUNCTION WITH GUIDERAIL. ON LOW SPEED ROADWAYS (< 50mph), 6" CURBING MAY BE USED IN CONJUNCTION WITH GUIDERAIL.
- THREE BLOCKOUTS MAY BE USED WITH DESIGN APPROVAL FOR ONE POST ONLY. TWO BLOCKOUTS MAY BE USED FOR A SERIES OF POSTS.
- COST OF ADDITIONAL BLOCKOUTS AND LONGER BOLT SHALL BE INCLUDED IN THE BID PRICE PER FOOT OF GUIDERAIL.
- WEATHERING STEEL POST WHEN SPECIFIED SHALL BE GALVANIZED A MINIMUM OF 4" TO ALLOW FOR 1" EXPOSED GALVANIZED COATING ABOVE THE GROUND.
- GUIDERAIL MAY BE PLACED 1 FOOT OR MORE FROM THE EDGE OF PAVEMENT ONLY ON SLOPES 10:1 OR FLATTER WITHOUT CURBING. IF THE RAIL IS INSTALLED WITHIN 2' OF THE EDGE OF PAVEMENT, THE RAIL HEIGHT IS MEASURED FROM THE SHOULDER SLOPE EXTENDED TO THE RAIL. IF THE RAIL IS INSTALLED BEYOND 2' FROM THE EDGE OF PAVEMENT, THE RAIL HEIGHT IS MEASURED FROM THE GROUND DIRECTLY BELOW THE RAIL.

METAL BEAM RAIL DETAIL (TYPE R-B 350)

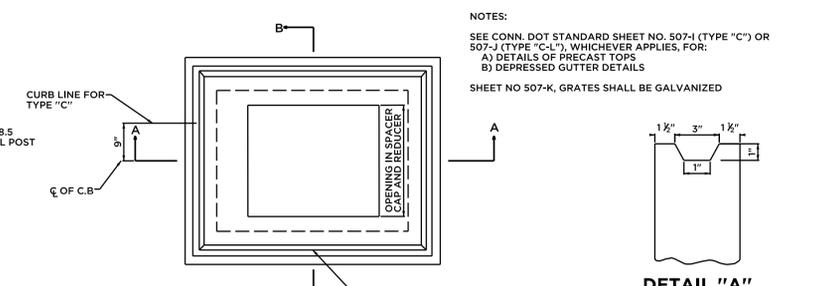


SECTION A-A

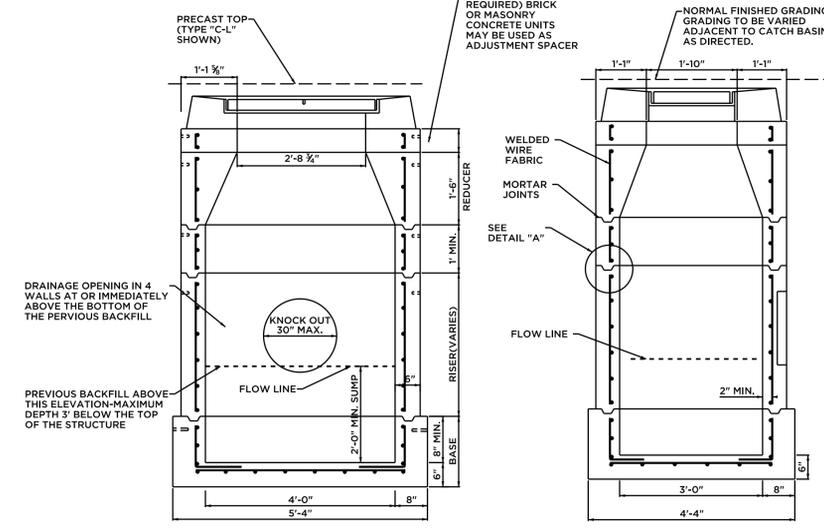
PLAN

RIPRAP SPLASH PAD

NOT TO SCALE



PLAN

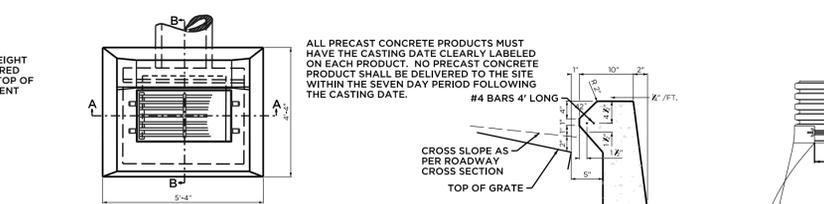


SECTION A-A

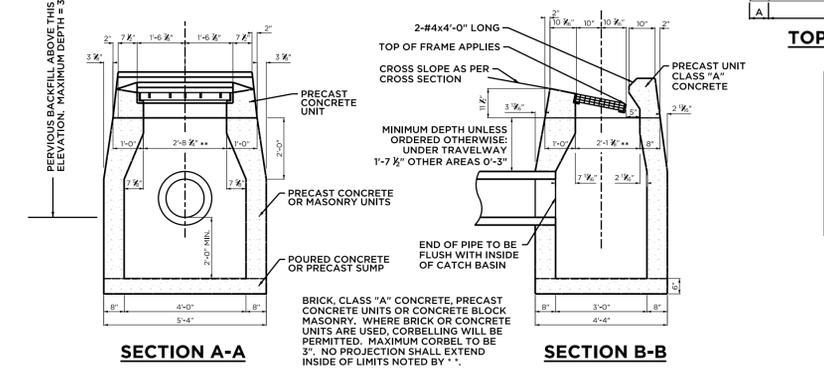
SECTION B-B

TYPE "C-L" CATCH BASIN (PRIVATE)

NOT TO SCALE



DETAIL OF CURB INLET



SECTION A-A

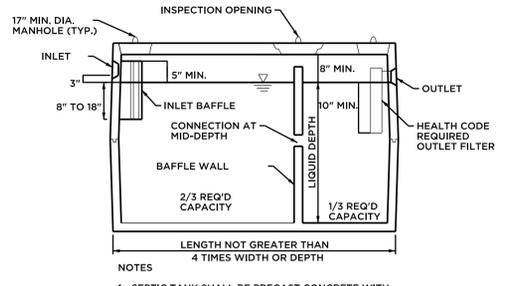
SECTION B-B

TYPE "C" CATCH BASIN (PRIVATE)

NOT TO SCALE

NOTES:

- WHERE TYPE "C" CATCH BASIN IS CONSTRUCTED IN PAVEMENT AREA, THE NORMAL CROSS SLOPE OF THE GUTTER SHALL BE VARIED TO MATCH CROSS SLOPE OF GRATE.
- WALLS OF ALL CATCH BASINS OVER 10 FEET DEEP TO BE INCREASED TO 12" THICK. INSIDE DIMENSIONS TO REMAIN THE SAME.
- THE CATCH BASINS SHOWN ARE TO BE INSTALLED ON PRIVATE PROPERTY ONLY AND NOT WITHIN THE TOWN RIGHT-OF-WAY.

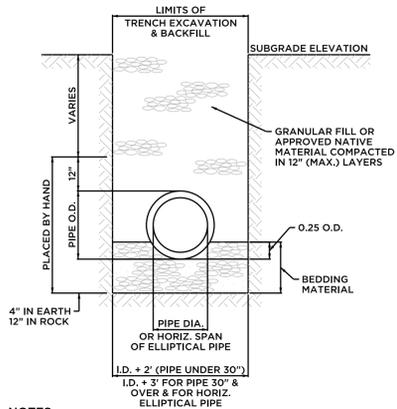


SEPTIC TANK CROSS SECTION

NOT TO SCALE

SEPTIC TANK CROSS SECTION

NOT TO SCALE

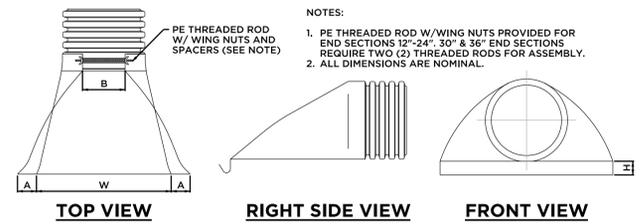


NOTES:

- ALL PIPE TO BE HDPE UNLESS OTHERWISE SPECIFIED.
- USE WATERTIGHT RUBBER GASKETS IN ALL PIPE JOINTS.

TRENCHING & BACKFILLING

NOT TO SCALE



TOP VIEW

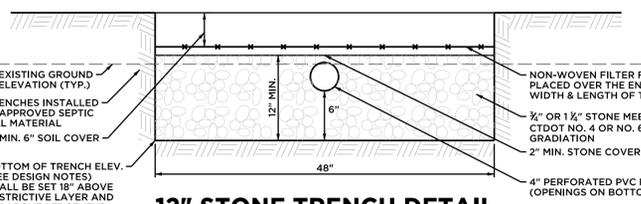
RIGHT SIDE VIEW

FRONT VIEW

PART #	PIPE SIZE	A	B (MAX.)	H	L	W
1210NP	12" (300 mm)	6.5" (165 mm)	10.00" (254 mm)	6.5" (165 mm)	25.00" (635 mm)	29.00" (737 mm)
1510NP	15" (375 mm)	6.5" (165 mm)	10.00" (254 mm)	6.5" (165 mm)	25.00" (635 mm)	29.00" (737 mm)
1810NP	18" (450 mm)	7.5" (191 mm)	15.00" (381 mm)	6.5" (165 mm)	32.00" (813 mm)	35.00" (889 mm)
2410NP	24" (600 mm)	7.5" (191 mm)	18.00" (450 mm)	6.5" (165 mm)	36.00" (914 mm)	45.00" (1143 mm)
3015NP	30" (750 mm)	7.5" (191 mm)	12.00" (305 mm)	8.6" (218 mm)	58.00" (1473 mm)	63.00" (1600 mm)
3615NP	36" (900 mm)	7.5" (191 mm)	25.00" (635 mm)	8.6" (218 mm)	58.00" (1473 mm)	63.00" (1600 mm)

HDPE-FLARED END DETAIL

NOT TO SCALE



12" STONE TRENCH DETAIL

NOT TO SCALE

SEPTIC SYSTEM NOTES

- GENERAL PROVISIONS/NOTES:
 - INSTALLATION OF AND MATERIALS USED FOR THE CONSTRUCTION OF THE SUBSURFACE DISPOSAL SYSTEM AND ITS COMPONENTS SHALL COMPLY WITH THE LATEST REVISION OF THE STATE OF CONNECTICUT PUBLIC HEALTH CODE. A LICENSED SEPTIC CONTRACTOR MUST APPLY FOR A PERMIT.
 - PRIOR TO THE START OF CONSTRUCTION, THE SEPTIC SYSTEM IS TO BE STAKED BY A LICENSED LAND SURVEYOR AND A BENCHMARK MUST BE SET WITHIN 40 FEET OF THE SEPTIC SYSTEM LEACHING AREA.
 - A ONE HUNDRED PERCENT (100%) SEPTIC RESERVE AREA HAS BEEN PROVIDED, AS SHOWN.
 - IF THE CONTRACTOR FINDS CONDITIONS DIFFERENT THAN THOSE NOTED ON THE PLANS OR IF CONDITIONS ARE ADVERSE TO CONSTRUCTION, THEN THE CONTRACTOR MUST STOP WORK IMMEDIATELY AND NOTIFY THE DESIGN ENGINEER.
 - THE SEPTIC SYSTEM SHOULD NOT BE CONSTRUCTED DURING WET WEATHER CONDITIONS OR IF THE SUBSOIL IS SATURATED. CARE MUST BE TAKEN TO PROTECT LEACHING SYSTEM FROM ANY ACTIVITY THAT MAY RESULT IN SEDIMENTATION OR COMPACTION OF THE SOILS.
 - DURING THE STRIP INSPECTION, TEST PITS WILL BE CONDUCTED IN THE PRIMARY LEACHING AREA. PER CT PUBLIC HEALTH CODE TWO TEST PITS ARE REQUIRED WITHIN THE PRIMARY AREA. SYSTEM MAY NEED TO BE REDESIGNED IF NOTTING IS FOUND OR OTHER RESTRICTIVE LAYERS ARE PRESENT.
- SEWER PIPE:

THE SEWER PIPE FROM THE HOUSE TO THE SEPTIC TANK SHALL BE 4" DIAMETER PVC SCHEDULE 40 ASTM D 1785 PRESSURE WATER PIPE OR APPROVED EQUAL. THE MINIMUM SLOPE SHALL BE 1/4 INCH PER FOOT. PIPING AFTER THE SEPTIC TANK TO THE DISTRIBUTION BOX SHALL BE 4" DIAMETER PVC SDR-35 ASTM 3034 PIPE OR APPROVED EQUAL. ALL CHANGES OF PIPE DIRECTION SHALL BE MADE WITH PROPER LEADING INTO AND OUT OF THE SEPTIC TANK AND DISTRIBUTION BOX(ES) SHALL BE PROPERLY SECURED INTO PLACE AFTER THE PIPE INSTALLATION IS COMPLETE. INSTALLED PIPING SHALL BE PROTECTED DURING CONSTRUCTION AND FINAL GRADING TO AVOID CRUSHING OR DISPLACING.
- SEPTIC TANK AND DISTRIBUTION BOXES:
 - THE SEPTIC TANK AND DISTRIBUTION BOXES SHALL BE PRECAST CONCRETE OR APPROVED EQUAL AND SHALL BE STANDARD PRODUCTS OF A SUPPLIER REGULARLY ENGAGED IN THE MANUFACTURE OF SUCH UNITS.
 - THE SEPTIC TANK SHALL BE SET LEVEL ON A FIRM BED OF NATIVE SOIL OR SAND FILL AND DISTRIBUTION BOXES SHALL BE SET LEVEL IN A FULLY EXCAVATED TRENCH AFTER BACKFILLING WITH STONE.
 - SEPTIC TANK ACCESS PORTS LOCATED MORE THAN 12 INCHES (12") BELOW GRADE SHALL REQUIRE RISERS ON ALL ACCESS PORTS.
- LEACHING SYSTEM INSTALLATION:

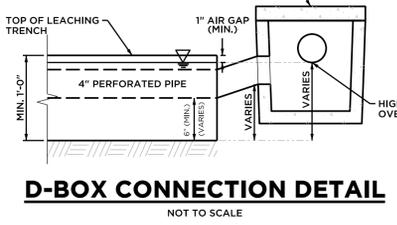
THE AREA WHERE THE PROPOSED LEACHING SYSTEM IS TO BE INSTALLED SHALL BE PROPERLY PREPARED PRIOR TO PERFORMING ANY ACTUAL INSTALLATION OF THE SUBSURFACE DISPOSAL SYSTEM. THE AREA FOR THE PROPOSED LEACHING SYSTEM SHALL MEAN THE ENTIRE AREA WITHIN THE PERIMETER 15 FEET OUTSIDE THE ENDS AND SIDES OF THE PRIMARY LEACHING SYSTEM SHOWN.
- SELECT FILL (IF APPLICABLE):
 - WHERE THE PLAN INDICATES THAT FILLING SHALL OCCUR, ALL VEGETATION SHALL BE REMOVED AND TOPSOIL CAREFULLY STRIPPED AND STOCKPILED FOR LATER REPLACEMENT OVER THE FILLED AREA.
 - THE AREA TO BE FILLED SHALL BE ROUGHENED BY HAND OR MACHINE, IN A DIRECTION PARALLEL TO THE PROPOSED LEACHING TRENCHES TO ALLOW PROPER UNIFORMITY WITH THE PROPOSED FILL. AFTER PREPARATION, THIS AREA SHALL BE PROTECTED FROM TRAFFIC.
 - THE FILL MATERIAL SHALL CONFORM TO THE FILL SPECIFICATIONS OUTLINED IN SECTION VIII.A OF THE LATEST REVISION TO THE CONNECTICUT PUBLIC HEALTH CODE REGULATIONS AND TECHNICAL STANDARDS FOR SUBSURFACE SEWAGE DISPOSAL SYSTEMS. ALL FILL SHALL BE ACCEPTABLE TO THE HEALTH DISTRICT.

SIEVE SIZE	PERCENT PASSING	
	(WET SIEVE)	(DRY SIEVE)
#4	100	100
#10	70 - 100	70 - 100
#40	10 - 50*	10 - 75
#100	0 - 20	0 - 5
#200	0 - 5	0 - 2.5

*PERCENT PASSING THE #40 SIEVE CAN BE INCREASED TO NO GREATER THAN 75% IF THE PERCENT PASSING THE #100 SIEVE DOES NOT EXCEED 10% AND THE #200 SIEVE DOES NOT EXCEED 5%

- THE FILL MATERIAL SHALL BE DUMPED ON THE UPHILL SIDE OF THE PROPOSED LEACHING AREA AND SPREAD TOWARD THE DOWNHILL SIDE WITH A BULLDOZER, TAKING CARE THAT MACHINERY RIDES ONLY ON NEW FILL.
 - THE FILL SHALL BE SPREAD OVER THE ENTIRE AREA IN 12 INCH (12") LIFTS AND COMPACTED BY HEAVY MACHINERY, TO A POINT WHERE IT IS FIRM, UPON COMPLETION OF SPREADING AND COMPACTING, THE ENTIRE FILLED AREA SHALL BE BACKBLADED AND SPECIAL CARE SHALL BE TAKEN TO ENSURE THAT THE ENTIRE FILL AREA, AND THE TOE OF THE SLOPE, IS EVENLY AND ADEQUATELY COMPACTED.
 - AFTER THE AREA FOR THE PROPOSED LEACHING SYSTEM HAS BEEN PROPERLY FILLED, THE LEACHING SYSTEM SHALL BE INSTALLED PER MANUFACTURERS SPECIFICATIONS.
- SPECIAL RECOMMENDATIONS:
 - LOW FLOW SANITARY FIXTURES AND FLOW RESTRICTIVE SHOWER HEADS ARE RECOMMENDED FOR INSTALLATION IN PROPOSED HOUSE.
 - GARBAGE GRINDERS ARE NOT RECOMMENDED FOR USE WITH SUBSURFACE DISPOSAL SYSTEMS. IF A GARBAGE DISPOSAL IS TO BE INSTALLED, THEN THE SIZE OF THE SEPTIC TANK SHALL BE INCREASED BY A MINIMUM OF 250 GALLONS.
 - IF A LARGE CAPACITY (100 GALLON OR GREATER) TUB IS INSTALLED THEN THE SIZE OF THE SEPTIC TANK SHALL BE INCREASED BY A MINIMUM OF 250 TO GALLONS. SEE THE CONNECTICUT PUBLIC HEALTH CODE FOR CAPACITY INCREASE REQUIREMENTS.
 - INSPECTION/AS-BUILT:
 - AFTER CONSTRUCTION AND PRIOR TO COVERING, THE SEPTIC SYSTEM INSTALLER SHALL NOTIFY THE HEALTH DISTRICT THAT THE SITE IS READY FOR INSPECTION. THE HEALTH DISTRICT SHALL INSPECT ALL COMPONENTS OF THE SEPTIC SYSTEM FOR COMPLIANCE WITH THE STATE OF CONNECTICUT PUBLIC HEALTH CODE AND APPROVED PLANS PRIOR TO COVERING.
 - A RECORD PLAN (AS-BUILT) OF THE SEWAGE DISPOSAL SYSTEM AND ITS COMPONENTS SHALL BE PREPARED BY THE INSTALLER AND BE SUBMITTED TO THE HEALTH DISTRICT.

D-BOX CONNECTION DETAIL



D-BOX CONNECTION DETAIL

NOT TO SCALE

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PRESTON TRANSFER STATION
 PREPARED FOR
 THE TOWN OF PRESTON
SITE IMPROVEMENT DETAILS

108 ROSS ROAD PRESTON, CT

PROJECT: 4543.001 DATE: 8/27/25 SHEET NO. 8 OF 8

SCALE: 1"=20'