



CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Project Manual

**Construction of Ansonia
Riverwalk - Segment 3 and 4
City of Ansonia, Connecticut**

**ConnDOT Project No. 002-128
Federal Aid Project No. CN: PEDS(214)**



Prepared for:



Prepared by:



July 2020

**CONSTRUCTION OF ANSONIA
RIVERWALK – SEGMENTS 3 & 4
ANSONIA, CT**

**STATE PROJECT No. 002-128
Federal Aid Project No. CN: PEDS(214)**

PROJECT MANUAL INDEX

<u>Description</u>	<u>Page Number</u>
SECTION 01 – PROJECT INFORMATION	
Invitation to Bid	1-1
Instructions to Bidders	1-2 to 1-7
General Conditions	1-8 to 1-37
Supplemental Conditions	1-38 to 1-44
SECTION 02 – BID DOCUMENTS	
Bid Form	2-1 to 2-13
Statement of Bidders Qualifications	2-14 to 2-15
Non-Collusion Affidavit of Prime Bidder	2-16
Form of Surety Guarantee and Bid Bond	2-17 to 2-20
Pre-Award DBE Commitment Approval Request	2-21
SECTION 03 – POST AWARD FORMS	
Agreement	3-1 to 3-6
Performance Bond and Labor and Material Bond	3-7 to 3-11
SECTION 04 – SPECIAL PROVISIONS	
Index to Special Provisions	
Specification Summary	
Contract Time and Liquidated Damages	
Notice to Contractor – Procurement of Materials	
Notice to Contractor – Buy American	
Notice to Contractor – Required Contract Provisions Federal-Aid Construction Contracts	
Notice to Contractor – Federal Wage Determinations	
Notice to Contractor – Flood Contingency Operation Plan	
Notice to Contractor – Flood Damage Reduction (FDR) System	
Notice to Contractor – Permits	
Notice to Contractor – Special Soil Preparation Provision	
Notice to Contractor – Environmental Investigations	
Notice to Contractor – Subsurface Exploration	
Notice to Contractor – Best Management Practices	

Notice to Contractor – Contractor Training Requirements for 10-Hour OSHA
 Construction Safety and Health Course
 Notice to Contractor – Vehicle Emissions
 Notice to Contractor – Portland Cement Concrete (PCC) Mix Classifications
 Section 1.06 – Control of the Materials
 Section 1.07 – Legal Relations and Responsibilities
 Section 1.08 - Prosecution and Progress
 Section 4.06 – Bituminous Concrete
 Section M.04 – Bituminous Concrete Materials
 Item #0101000A – Environmental Health and Safety
 Item #0101117A – Controlled Materials Handling
 Item #0101128A – Securing, Construction and Dismantling of a Waste Stockpile
 Area and Treatment Area
 Item #0201013A – Removal of Existing Fence
 Item #0202315A – Disposal of Controlled Materials
 Item #0207000A - Borrow
 Item #0208812A - Compacted Impervious Fill
 Item #0212000A – Subbase
 Item #0219004A – Storm Water Pollution Controls
 Item #0219011A – Sedimentation Control System at Catch Basin
 Item #0601401A – Ornament Molds
 Item #0601445A – Embankment Wall (Site No.1)
 Item #0703029A – Rounded Stone Riprap
 Item #0901005A – Bollard
 Item #0906203A – Split Rail Fence
 Item #0910023A – R-B Terminal Section
 Item #0913041A – 8’ Polyvinyl Chloride Chain Link Fence
 Item #0913506A – 10’ Chain Link Double Gate 8’ High
 Item #0913912A – 12’ Chain Link Double Gate 6’ High
 Item #0913934A – 4’ Chain Link Gate 5’ High
 Item #0914013A – Ornamental Metal Fence
 Item #0915000A – Tree Protection
 Item #0921022A – Stonedust Pathway
 Item #0945005A – Wildflower Establishment
 Item #0947207A – Bicycle Stand
 Item #0950005A – Turf Establishment
 Item #0950035A – Remove and Reset Irrigation System
 Item #0969060A – Construction Field Office, Small
 Item #0971001A – Maintenance and Protection of Traffic
 Item #0980001A – Construction Staking
 Item #0992090A – Bench
 Item #0992091A – Rest Shelter
 Item #0992132A – Ornamental Medallions
 Item #1003596A – Decorative Pole
 Item #1003612A – Ornamental Accessory Banner Arms
 Item #1206023A – Removal and Relocation of Existing Signs
 Item #1507000A – Protection and Support of Existing Utilities

- Attachment A – Project Permits
- Attachment B – Disadvantage Business Enterprises for Federal Funded Projects
- Attachment C – Construction Contracts-Required Contract Provisions (FHWA Funded Contracts)
- Attachment D – Supplemental Specifications to the Standard Specifications for Roads, Bridges
Facilities and Incidental Construction Form 817, July 2019
- Attachment E – Geotechnical Engineering Evaluation Report
- Attachment F – Easement Agreement with Target Company

**CONSTRUCTION OF ANSONIA
RIVERWALK - SEGMENTS 3 & 4
STATE PROJECT NO. 002-128
FEDERAL PROJECT CN: PEDS(214)
CITY OF ANSONIA**

**SECTION 01
PROJECT INFORMATION**

**INVITATION TO BID
CONSTRUCTION OF ANSONIA
RIVERWALK - SEGMENTS 3 & 4
STATE PROJECT NO. 002-128
FEDERAL PROJECT CN: PEDS(214)
CITY OF ANSONIA**

The City of Ansonia, Connecticut is soliciting sealed bids for furnishing all labor, tools, materials and equipment required for the proposed Segments 3 and 4 of the Riverwalk project consisting of a paved walkway on the existing levee embankment that will extend from Division Street to the Target property on the East side of the Naugatuck River. The Riverwalk crest will have a 10-foot wide bituminous concrete surface with a wood and post rail fence on each side to match the existing Riverwalk.

Sealed bids will be received by the Office of the Town & City Clerk, 253 Main Street, Ansonia, CT 06401, until 10:00 A.M. local time, on November 12, 2020. Bids will then be publicly opened and read aloud. No Bidder may withdraw their bid for a period of 120 days after the date of bid opening.

A non-mandatory pre-bid meeting will be held at 1:00 P.M. on October 29, 2020 at the following Zoom link:

<https://us04web.zoom.us/j/72266027861?pwd=YXM3VnlOcnpqdlhNVkVNM1AzY0lMZz09>

Passcode: 1L95Ht

The Contract Documents are available for review only at Ansonia City Hall, City & Town Clerks Office which is open Monday, Tuesday and Wednesday 8:30 A.M. to 4:30 P.M. and Thursday 8:30 A.M. to 5:00 P.M. and Friday 8:30 A.M. to 1:00 P.M. Digital files of the Contract Documents can be found on the State of Connecticut BizNet website at <https://biznet.ct.gov>

A satisfactory Bid Bond or Certified Check, the amount equal to ten percent (10%) of the base bid, shall be submitted with each bid. The Bid Bond or Certified Check shall be made payable to the City of Ansonia and shall be properly executed by the Bidder and acceptable sureties. All bonds must be sureties registered in the State of Connecticut.

Labor and Material Payment Bond and a Performance Bond for one hundred (100%) percent of the contract price, with a corporate surety approved by the City of Ansonia, will be required of the lowest responsible bidder.

The City of Ansonia hereby notifies all bidders that this contract has been assigned a **10% goal for DBE**, as certified by CTDOT. Bidders must indicate with their bid the DBE firm(s) they intend to utilize and submit the Pre-Award DBE Commitment Approval Request Forms with the bid forms.

The City reserves the right to reject any or all bids, in whole or in part, if it is deemed to be in the best interest of the City of Ansonia.

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

Honorable David S. Cassetti

**CONSTRUCTION OF ANSONIA
RIVERWALK - SEGMENTS 3 & 4
ANSONIA, CT**

**STATE PROJECT No. 002-128
Federal Aid Project No. CN: PEDS(214)**

INSTRUCTIONS TO BIDDERS

ARTICLE 1. QUALIFICATIONS OF BIDDERS

1.1 Bidders may be investigated by OWNER to determine if they are qualified to perform the Work. All Bidders shall be prepared to submit within five days of OWNER's or ENGINEER's request, written evidence of such information and data necessary to make this determination.

1.2 The investigation of a Bidder will seek to determine whether the organization is adequate in size, is authorized to do business in the jurisdiction where the project is located, has had previous experience and whether available equipment and financial resources are adequate to assure OWNER that the Work will be completed in accordance with the terms of the Agreement. The amount of other work to which the Bidder is Committed may also be considered.

1.3 Each Bid must be accompanied by the completed Statement of Bidder's Qualifications found in these special provisions.

1.4 In evaluating Bids, OWNER will consider the qualifications of only those Bidders whose Bids are in compliance with the prescribed requirements.

1.5 OWNER reserves the right to reject any Bid if the evidence submitted by, or the investigation of, such Bidder fails to satisfy OWNER that such Bidder is properly qualified to carry out the obligations of the Contract Documents and to complete the Work contemplated therein.

ARTICLE 2. COPIES OF CONTRACT DOCUMENTS

2.1 Complete sets of Contract Documents shall be used in preparing Bids; neither OWNER nor ENGINEER assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Contract Documents.

2.2 OWNER and ENGINEER in making copies of Contract Documents available do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.

ARTICLE 3. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

3.1 Before submitting a Bid, each Bidder must (a) examine the Contract Documents thoroughly, (b) visit the site to familiarize himself with local conditions that may in any manner affect cost, progress or performance of the Work, (c) familiarize himself with Federal, State and local laws, ordinances, rules and regulations that may in any manner affect cost, progress or performance of the Work; and (d) study and carefully correlate Bidder's observations with the requirements of the Contract Documents.

3.2 Before submitting his/her Bid each Bidder may, at his/her own expense, make such additional investigations and tests as the Bidder may deem necessary to determine his/her Bid performance of the Work in accordance with the time, price and other terms and conditions of the Contract Documents.

3.3 On request, OWNER will provide each Bidder access to the site to conduct such investigations and tests as each Bidder deems necessary for submission of his/her Bid.

3.4 The lands upon which the Work is to be performed, rights-of-way for access thereto and other lands designated for use by CONTRACTOR in performing the Work are identified in the Supplementary Conditions, General Requirements or on the Drawings.

3.5 Submission of a Bid will constitute an incontrovertible representation by the Bidder that he/she has complied with every requirement of this Article 3 and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding at all terms and conditions for performance of the Work.

ARTICLE 4. INTERPRETATIONS

4.1 All questions about the meaning or intent of the Contract Documents shall be received in writing by DeCarlo & Doll, Inc., 89 Colony Street, Meriden, CT 06451, Attn: Doron Dagan, at least ten (10) days before the date herein set for the opening of bids.

4.2 Written clarifications or interpretations will be issued by Addenda not later than four days before the bid opening date. Only questions answered by formal written Addenda will be binding. Oral and other clarifications or interpretations will be without legal effect. Addenda will be mailed via certified mail or faxed, with return receipt requested, to all parties recorded as having received the Contract Documents.

4.3 Each Bidder shall be responsible for determining that he/she has received all Addenda issued.

ARTICLE 5. PRE-BID CONFERENCE

5.1 See Invitation to Bid regarding Pre-bid Conference.

ARTICLE 6. BID SECURITY

6.1 Surety Company Bond, on a form furnished by the City of Ansonia, for at least ten percent (10%) of the amount of the total of the Bid, must accompany each proposal. Bid Security shall be sealed with the bid.

6.2 In case a party to whom a Contract is awarded shall fail or neglect to execute the Agreement and furnish the satisfactory bonds within the time specified, OWNER may determine that the Bidder has abandoned the Contract, and thereupon the Bid Forms and acceptance shall be null and void and the Bid Security accompanying the Bid Form shall be forfeited to OWNER as liquidated damages for such failure or neglect and to indemnify said OWNER for any loss which may be sustained by failure of the Bidder to execute the Agreement and furnish the bonds as aforesaid, provided that the amount forfeited to OWNER shall not exceed the difference between the Bid Price of said Bidder and that of the next lowest responsible and eligible bidder and provided further that, in case of death, disability, or other unforeseen circumstances affecting the Bidder, such Bid Security may be returned to him.

After execution of the Agreement and acceptance of the bonds by OWNER, the Bid Security accompanying the Bid Form of the Successful Bidder will be returned.

ARTICLE 7. PERFORMANCE, PAYMENT AND OTHER BONDS

7.1 Performance, Payment and other Bonds shall be provided in accordance with the Invitation to Bid.

7.2 All Bonds required as Contract Security shall be furnished with the executed Agreement.

ARTICLE 8. BID FORMS

8.1 Each Bid shall be submitted on the Bid Form included in the Project Manual. The Bid Form shall be removed and submitted separately. All blank spaces for Bid prices must be filled in with the unit price for the item or the lump sum for which the Bid is made.

8.2 The Bid Form shall be completed in ink or typed. The Bid price of each item on the form shall be stated in words, and figures. If unit prices are required on the Bid Form, discrepancies between unit prices and their respective total amounts will be resolved in favor of the unit prices. Discrepancies between words and figures will be resolved in favor of words. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

8.3 Bids by corporations shall be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

8.4 Bids by partnerships shall be executed in the partnership name and signed by a partner, whose title shall appear under the signature. The official address of the partnership shall be shown below the signature.

8.5 All names shall be typed or printed below the signature.

8.6 The Bid shall contain an acknowledgement of receipt of all Addenda (the numbers of which shall be filled in on the Bid Form).

8.7 The address to which communications regarding the Bid are to be directed shall be shown.

8.8 One (1) original and one (1) copy of the Bid accompanied by the completed Statement of Bidder's Qualifications, the Non-Collusion Affidavit Form, Bid Bond, and the Pre-Award DBE Commitment Approval Request forms shall be submitted in a sealed opaque envelope bearing on the outside the name of the Bidder, his/her address, and the Project Title for which the Bid is submitted. Failure to comply with this paragraph may be deemed to render a proposal non-responsive. (If forwarded by mail, Bid and sealed envelope marked as described above shall be enclosed in another envelope with the notation " BID ENCLOSED" on the face and addressed as indicated in the Invitation to Bid.)

ARTICLE 9. RECEIPT OF BIDS

9.1 Sealed Bids for the work of this Contract will be received at the time and place indicated in the Invitation to Bid.

9.2 OWNER may consider informal any Bid not prepared and submitted in accordance with the provisions hereof.

9.3 Bidders are cautioned that it is the responsibility of each individual bidder to assure that his/her bid is in the possession of the responsible official or his/her designated alternate prior to the stated time and at the place of the Bid Opening. Owner is not responsible for bids delayed by mail and/or delivery services, of any nature.

ARTICLE 10. MODIFICATION AND WITHDRAWAL OF BIDS

10.1 Bids may be modified only by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.

10.2 Bids may be withdrawn prior to the scheduled time (or authorized postponement thereof) for the opening of Bids.

10.3 Any Bid received after the time and date specified shall not be considered. No Bidder may withdraw his/her Bid for a period of 120 days, excluding Saturdays, Sundays and legal holidays after the actual date of the opening of the Bids.

ARTICLE 11. AWARD OF CONTRACT

11.1 The Contract will be awarded to the lowest responsible, responsive, qualified Bidder (Successful Bidder). Such a Bidder shall possess the skill, ability, and integrity necessary for the faithful performance of the work. The term "lowest responsible, responsive, qualified Bidder" as used herein shall mean the Bidder whose Bid is the lowest of those Bidders possessing the skill ability and integrity necessary to the faithful performance of the Work.

11.2 OWNER reserves the right to reject any and all Bids if it is in Owner's best interest to do so, and the right to disregard all nonconforming, non-responsive or conditional Bids.

11.3 A Bid, which includes any item for which the Bid Price is abnormally low or high, may be rejected as unbalanced.

11.4 OWNER also reserves the right to reject the Bid of any Bidder that OWNER considers to be unqualified relative to Article 1 above.

11.5 If the Contract is to be awarded, OWNER will give the Successful Bidder a Notice of Award within 120 days, excluding Saturdays, Sundays, and legal holidays after the actual date of the opening of the Bids. All bids shall remain open for 120 days, excluding Saturdays, Sundays, and legal holidays, after the actual date of the opening of the Bids but OWNER may, in his/her sole discretion, release any Bid and return the Bid Security prior to that date.

ARTICLE 12. EXECUTION OF AGREEMENT

12.1 When OWNER gives a Notice of Award to the Successful Bidder, it may be accompanied by at least six unsigned copies of the Agreement and all other applicable Contract Documents. Within seven days, excluding Saturdays, Sundays, and legal holidays after the date of receipt of such notification, CONTRACTOR shall execute and return all copies of the Agreement and all other

applicable Contract Documents to OWNER. Within thirty days thereafter OWNER will deliver one fully signed copy to CONTRACTOR.

ARTICLE 13. SAFETY AND HEALTH REGULATIONS

13.1 This Project is subject to all of the Safety and Health Regulations (CFR 29, Part 1926 and all subsequent amendments) as promulgated by the U.S. Department of Labor on June 24, 1974 and CFR 29, Part 1910, General Industry Safety and Health Regulations Identified as Applicable to Construction.

13.2 The Successful Bidder shall comply with the Department of Labor Safety and Health Regulations for Construction promulgated under the Occupational Safety and Health Act of 1970 (PL-91-596) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL-91-54).

13.3 The Successful Bidder shall have a competent person or persons, as required under the Occupational Safety and Health Act on the Site to inspect the Work and to supervise the conformance of the Work with the regulations of the Act.

ARTICLE 14. ACCESS TO SITE

14.1 Representatives of the State and any local agencies having a direct interest in the Work shall have access to the Work wherever it is in preparation or progress and the Contractor shall provide proper facilities for such access and inspection.

ARTICLE 15. WAGE RATES

State of Connecticut Labor Department "Prevailing Wage Rates" and Federal Wage Rates apply to this project. It is the responsibility of the contractor, before bid opening, to request if necessary, any additional information on Minimum Wage Rates for those tradespeople who are not covered by the applicable Wage Rates but who may be employed for the proposed work under this contract.

ARTICLE 17. SALES TAX

17.1 The goods and services to be provided under this contract are exempt from the Sales and the Taxes of the State of Connecticut.

ARTICLE 18. UNDERGROUND UTILITIES AND FACILITIES

18.1 All excavations within public or private ways are subject to the requirements of Connecticut Statutes. Contractor is required to make "Call Before You Dig" notifications and arrangements, and to comply with the statutes and regulations cited.

ARTICLE 19. GUARANTEE

19.1 The CONTRACTOR shall guarantee all materials and equipment furnished and WORK performed for a period of one year from the date of SUBSTANTIAL COMPLETION except where a longer guarantee period is required in the Project Manual. The CONTRACTOR

warrants and guarantees for a period of one year, or for the longer guarantee period, from the date of SUBSTANTIAL COMPLETION of the system that the completed system is free from all defects due to faulty materials or workmanship and the CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the system resulting from such defects. The OWNER will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make such repairs, adjustments, or other WORK that may be made necessary by such defects, to the satisfaction of the OWNER within ten days from the date of receipt of such notice, or having commenced fails to prosecute such WORK with diligence, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred. The Performance Bond shall remain in full force and effect through the guarantee period.

ARTICLE 21. ACCEPTANCE OF CHARTER REQUIREMENTS

21.1 The submission of a bid proposal by a Contractor for the whole or any part of these specifications shall constitute an acceptance by such person or persons of the Conditions as set forth in the Charter and Ordinances of the City of Ansonia in relation to the bid proposals, and the award of the Contracts founded on said conditions shall be considered to constitute a part of the specifications which will be incorporated in and form a part of all contracts in these specifications.

END OF SECTION

INDEX TO GENERAL CONDITIONS

	<u>PAGE #</u>
1. DEFINITIONS.....	GC-1
2. GENERAL MATTERS	GC-3
3. CONTRACT DOCUMENTS; INTENT AND REUSE	GC-4
4. AVAILABILITY OF LANDS, PHYSICAL CONDITIONS, REFERENCE POINTS	GC-5
5. INSURANCE.....	GC-5
6. CONTRACTOR'S RESPONSIBILITIES.....	GC-8
7. WORK BY OTHERS	GC-14
8. CITY'S RESPONSIBILITIES	GC-15
9. ENGINEER'S STATUS DURING CONSTRUCTION	GC-15
10. CHANGES IN THE WORK.....	GC-16
11. CHANGE OF CONTRACT PRICE	GC-17
12. CHANGE OF THE CONTRACT TIME.....	GC-20
13. WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS; CORRECTIONS, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK.....	GC-20
14. PAYMENTS TO CONTRACTOR AND COMPLETION	GC-23
15. SUSPENSION OF WORK AND TERMINATION.....	GC-27
16. MISCELLANEOUS	GC-28

GENERAL CONDITIONS

1. DEFINITIONS

Wherever used in these General Conditions or in the other Contract Documents, the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

- Addenda: Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the bidding documents or the Contract Documents.
- Agreement: The written agreement between the City and the Contractor covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.
- Application for Payment: The form accepted by the Engineer which is to be used by the Contractor in requesting progress or final payment and which is to include such supporting documentation as is required.
- Bid: The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
- Bonds: Bid bonds and other instruments of security.
- Change Order: A written order to the Contractor signed by the City Engineer authorizing an addition, deletion, or revision in the Work, or an adjustment in the Contract Price or the Contract Time issued after the effective date of the Agreement.
- Contract Documents: The Agreement, Addenda (which pertain to the Contract Documents), the Contractor's Bid (when attached as an exhibit to the Agreement), the Bonds, these General Conditions, the Supplemental Conditions, the Specifications, the Special Provisions, the Drawings (as the same are more specifically identified in the Agreement), together with all Modifications issued after the execution of the Agreement.
- Contract Price: The moneys payable by the City to the Contractor under the Contract Documents as stated in the Agreement.
- Contract Time: The number of days or the date stated in the Agreement for the completion of the Work.
- Contractor: The person, firm, or corporation with whom the City has entered into the Agreement.
- Drawings: The drawings which show the character and scope of the Work to be performed, and which have been prepared or approved by the Engineer, and are referred to in the Contract Documents.

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.
Engineer:	The City Engineer.
Field Order:	A written order issued by the Engineer which orders minor changes in the Work.
Notice of Award:	The written notice by the City to the apparent successful Bidder stating that upon compliance by the apparent successful Bidder with the conditions precedent enumerated therein, within the time specified, the City will sign and deliver the Agreement.
Notice to Proceed:	A written notice given by the City to the Contractor fixing the date on which the Contract Time will commence to run and on which the Contractor shall start to perform his obligation under the Contract Documents.
Resident Project Representative:	The authorized representative of the Engineer who is assigned to the site, or any part thereof.
Shop Drawings:	All drawings, diagrams, illustrations, schedules, and other data which are specifically prepared by the Contractor, a subcontractor, manufacturer, fabricator, supplier, or distributor to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams, and other information prepared by a manufacturer, fabricator, supplier, or distributor and submitted by the Contractor to illustrate material or equipment for some portion of the Work.
Specifications:	Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.
Subcontractor:	An individual, firm, or corporation having a direct contract with the Contractor or with any other subcontractor for the performance of a part of the Work at the site.
Substantial Completion:	The work (or a specific part thereof) has progressed to the point where, in the opinion of the Engineer, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it was intended.
Work:	The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor, and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.

2. GENERAL MATTERS

Delivery of Bonds:

When the Contractor delivers the executed Agreements to the City, the Contractor shall also deliver to the City such Bonds as the Contractor may be required to furnish.

Copies of Documents:

The City shall furnish the Contractor with sufficient copies of the Contract Documents as are reasonably necessary for the execution of the Work.

Commencement of Contract Time; Notice to Proceed:

The Contract Time will commence to run on the effective date of the Agreement, or, if a Notice to Proceed is given on the day indicated in the Notice to Proceed.

Starting the Project:

The Contractor shall start to perform the Work on the date when the Contract Time commences to run, but no Work shall be done at the site prior to the date on which the Contract Time commences to run.

Before Starting Construction:

Before undertaking each part of the Work, the Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. The Contractor shall promptly report in writing to the Engineer any conflict, error, or discrepancy, which the Contractor may discover.

Within ten days after the effective date of the Agreement, the Contractor shall submit to the Engineer for review and acceptance an estimated progress schedule indicating the starting and completion dates of the various stages of the Work, a preliminary schedule of Shop Drawing submissions, and a preliminary schedule of values of the Work.

Before any Work at the site is started, the Contractor shall deliver to the Engineer certificates of insurance, which the Contractor is required to purchase and maintain and the City shall deliver to the Contractor certificates of insurance requested by the Contractor, which the City is required to purchase and maintain.

Preconstruction Conference:

Before the Contractor starts the Work at the site, a conference may be required by the Engineer for review and acceptance of the schedules, to establish procedures for handling Shop Drawings and other submittals, for processing Applications for Payment, and to establish a working understanding among the parties as to the Work.

3. CONTRACT DOCUMENTS; INTENT AND REUSE

Intent:

The Contract Documents comprise the entire Agreement between the City and the Contractor concerning the Work.

The Contract Documents are complementary; what is called for by one is as binding as if called for by all. If, during the performance of the Work, the Contractor finds a conflict, error, or discrepancy in the Contract Documents, he shall report it to the Engineer in writing at once and before proceeding with the Work affected thereby.

It is the intent of the Specifications and Drawings to describe a complete project to be constructed in accordance with the Contract Documents. Any Work that may reasonably be inferred from the Specifications or Drawings as being required to produce the intended result shall be supplied whether or not it is specifically called for. When words, which have a well-known technical or trade meaning, are used to describe Work, materials, or equipment, such words shall be interpreted in accordance with such meaning. Reference to standard specifications, manuals, or codes of any technical society, organization, or association, or to the code of any governmental authority, whether such reference be specified or by implication, shall mean the latest standard specification, manual, or code in effect at the time of opening of Bids, except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual, or code (whether or not specifically incorporated by reference in the Contract Documents) shall change the duties and responsibilities of the City, the Contractor, or the Engineer, or any of their agents or employees from those set forth in the Contract Documents. Clarifications and interpretations of the Contract Documents shall be issued by the Engineer.

The Agreement shall be governed by the laws of the State of Connecticut.

Reuse of Documents:

Neither the Contractor nor any subcontractor, manufacturer, fabricator, supplier, or distributor shall 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 the Engineer, and they shall not reuse any of them on any other project without written consent of the City and the Engineer and specific written verification by the Engineer.

4. AVAILABILITY OF LANDS, PHYSICAL CONDITIONS, REFERENCE POINTS

Availability of Lands:

The City shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way for access thereto, and such other lands which are designated for the use of the Contractor. The Contractor shall provide for all additional lands and access

thereto that may be required for temporary construction facilities or storage of materials and equipment.

Unforeseen Physical Conditions:

The Contractor shall promptly notify the Engineer in writing of any subsurface or latent physical conditions at the site or in an existing structure differing materially from those indicated or referred to in the Contract Documents. The Engineer will promptly review those conditions and determine if further investigation or tests are necessary. If the Engineer finds that the results of such investigations or tests indicate that there are subsurface or latent physical conditions which differ materially from those intended in the Contract Documents, and which could not reasonably have been anticipated by the Contractor, a Change Order shall be issued incorporating the necessary revisions.

Reference Points:

Control points and a project baseline are provided in the Contract Documents to enable the Contractor to proceed with the Work. The Contractor shall be responsible for establishing any additional reference points necessary for laying out and monitoring the Work by a licensed professional surveyor. The Contractor shall protect and preserve the established reference points, and shall make no changes or relocations without the prior written approval of the City. The Contractor shall report to the Engineer whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for replacement or relocation of such reference points by professionally qualified personnel.

5. INSURANCE

Contractor's Liability Insurance:

The Contractor shall purchase and maintain such comprehensive general liability and other insurance as will provide protection from claims set forth below which may arise out of or result from the Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether such performance is by the Contractor, by any subcontractor, by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

Claims under worker's or workmen's compensation, disability benefits, and other similar employee benefit acts;

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

Claims for damages insured by personal injury liability coverage, which are sustained by any person as a result of an offense directly or indirectly related to the employment of such person by the Contractor, or by any other person for any other reason;

Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom; and

Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle.

The insurance required by this paragraph shall include the specific coverages and be written for not less than the limits of liability and coverages provided in the Supplemental Conditions, as specified in accordance with Section 1.03.07 of the State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction Form 817, Dated 2016, or required by law, whichever is greater. The comprehensive general liability insurance shall include completed operations insurance. All such insurance shall contain a provision that the coverage afforded will not be canceled, materially changed, or renewal refused until at least thirty days' prior written notice has been given to the City and the Engineer. All such insurance shall remain in effect until final payment and at all times thereafter when the Contractor may be correcting, removing, or replacing defective Work.

Contractual Liability Insurance:

The comprehensive general liability insurance required above will include contractual liability insurance applicable to the Contractor's obligations.

City's Liability Insurance:

The City shall be responsible for purchasing and maintaining its own liability insurance and, at its option, may purchase and maintain such insurance as will protect the City against claims which may arise from operations under the Contract Documents.

Property Insurance:

Unless otherwise provided in the Supplemental Conditions, the City shall purchase and maintain property insurance upon the Work at the site to the full insurable value thereof (subject to such deductible amounts as may be provided in the Supplemental Conditions or required by law). This insurance shall include the interests of the City, the Contractor, and subcontractors in the Work, shall insure against the perils of fire and extended coverage and shall include "all risk" insurance for physical loss and damage including theft, vandalism, and malicious mischief, collapse and water damage, and such other perils as may be provided in the Supplemental Conditions, and shall include damages, losses, and expenses arising out of or resulting from any insured loss or incurred in the repair or replacement of any insured property (including fees and charges of engineers, architects, attorneys, and other professionals).

The City shall not be responsible for purchasing and maintaining any property insurance to protect the interests of the Contractor or subcontractors in the Work to the extent of any deductible amounts. If the Contractor wishes property insurance coverage within the limits of such amounts, the Contractor may purchase and maintain it at his own expense.

Waiver of Rights:

The City and the Contractor waive all rights against each other and the subcontractors and their agents and employees and separate contractors (if any) and their subcontractors' agents and employees, for damages caused by fire or other perils to the extent covered by insurance provided or any other property insurance applicable to the Work, except such rights as they may have to the proceeds of such insurance held by the City as trustee. The Contractor shall require written waivers from each subcontractor; each such waiver will be in favor of all other parties enumerated in this paragraph.

Receipt and Application of Proceeds:

Any insured loss under the policies of insurance required shall be adjusted with the City and made payable to the City as trustee for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause. The City shall deposit in a separate account any money so received, and it 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.

The City as trustee shall have power to adjust and settle any loss with the insurers, unless one of the parties in interest shall object in writing within fifteen days after the occurrence of loss to the City's exercise of this power. If such objection be made, the City as trustee shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach.

Acceptance of Insurance:

If the City has any objection to the coverage afforded by or other provisions of the insurance required to be purchased and maintained by the Contractor on the basis of its not complying with the Contract Documents, the City will notify the Contractor in writing thereof within ten days of the date of delivery of such certificates to the City. If the Contractor has any objection to the coverage afforded by or other provisions of the policies of insurance required to be purchased and maintained by the City on the basis of their not complying with the Contract Documents, the Contractor will notify the City in writing thereof within ten days of the date of delivery of such certificates to the Contractor. The City and the Contractor will each provide to the other such additional information in respect to insurance provided by him as the other may reasonably request. Failure by the City or the Contractor to give any such notice of objection within the time provided shall constitute acceptance of such insurance purchased by the other as complying with the Contract Documents.

Partial Utilization - Property Insurance:

If the City finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the work, such use or occupancy may be accomplished; provided that no such use or occupancy shall commence before the insurers providing the property insurance have acknowledged notice thereof and in writing effected the 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 lapse on account of any such partial use or occupancy.

Additional Insured:

The City of Ansonia and the State of Connecticut shall be specified as additional insured on the Contractor's insurance.

6. CONTRACTOR'S RESPONSIBILITIES

Supervision and Superintendence:

The Contractor shall supervise 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. The Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. The Contractor shall be responsible to see that the finished Work complies accurately with the Contract Documents.

The Contractor shall assign to the project a competent field superintendent. The superintendent shall spend sufficient time at the site as necessary to insure that work is proceeding efficiently and in accordance with the Contract Documents.

The superintendent shall not be replaced, except on a temporary basis because of sickness, vacations, etc. without written notice to the Engineer.

The superintendent shall be the Contractor's representative at the site and shall have authority to act on behalf of the Contractor. All communications given to the superintendent shall be as binding as if given to the Contractor.

Labor, Materials, and Equipment:

The Contractor shall provide competent, suitably qualified personnel to survey and layout the Work and perform construction as required by the Contract Documents. The contractor shall at all times maintain good discipline and order at the site. Except in connection with the safety or protection of persons or the Work or property at the site or adjacent thereto, and except as otherwise indicated in the Supplemental Conditions, all Work at the site shall be performed during regular working hours, and the Contractor will not permit overtime work or the performance of work on Saturday, Sunday, or any legal holiday without the Engineer's written consent.

The Contractor shall furnish all materials, equipment, labor, transportation, construction, equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water and sanitary facilities, and all other facilities and incidentals necessary for the execution, testing, initial operation, and completion of the Work.

All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. If required by the Engineer, the Contractor shall furnish satisfactory evidence (including reports or required tests) as to the kind and quality of materials and equipment.

All materials and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the instructions of the applicable manufacturer, fabricator, supplier, or distributor, except as otherwise provided in the Contract Documents.

Equivalent Materials and Equipment:

Whenever materials or equipment are specified or described in the Drawings or Specifications by using the name of a proprietary item or the name of a particular manufacturer, fabricator, supplier, or distributor, the naming of the item is intended to establish the type, function, and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other manufacturers, fabricators, suppliers, or distributors may be accepted by the Engineer if sufficient information is submitted by the Contractor to allow the Engineer to determine that the material or equipment proposed is equivalent to that named. The procedure for review by Engineer will be as follows:

Requests for review of substitute items of material and equipment will not be accepted by the Engineer from anyone other than the Contractor. If the Contractor wishes to furnish or use a substitute item of material or equipment the Contractor shall make written application to the Engineer for acceptance thereof, certifying that the proposed substitute will perform adequately the functions called for by the general design, be similar and of equal substance to that specified, and be suited to the same use and capable of performing the same function as that specified. The application will state whether or not acceptance of the substitute for use in the Work will require a change in the Drawings or Specifications to adapt the design to the substitute. All variations of the proposed substitute from that specified shall be identified in the application and available maintenance, repair, and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which shall be considered by the Engineer in evaluating the proposed substitute. The Engineer may require the Contractor to furnish at the Contractor's expense additional data about the proposed substitute. The Engineer will be the sole judge of acceptability, and no substitute will be ordered or installed without the Engineer's prior written acceptance.

The Engineer will record time required by the Engineer and the Engineer's consultants in evaluating substitutions proposed by the Contractor and in making changes in the Drawings or Specifications occasioned thereby. Whether or not the Engineer accepts a proposed substitute, the Contractor shall reimburse the City for the charges of the Engineer and Engineer's consultants for evaluating any proposed substitute.

Concerning Subcontractors:

The Contractor shall not employ any subcontractor or other person or organization (including those who are to furnish the principal items of materials or equipment), whether initially or as a substitute, against whom the City may have reasonable objection. A subcontractor or other person or organization identified in writing to the City by the Contractor prior to the Notice of Award will be deemed acceptable to the City. Acceptance of any subcontractor, other person, or organization by the City shall not constitute a waiver of any right of the City to reject defective Work. If the City or Engineer after due investigation has reasonable objection to any subcontractor, other person, or organization proposed by the Contractor after the Notice of Award, the Contractor shall submit an acceptable substitute and the Contract Price shall be increased or decreased by the difference in cost occasioned by such substitution, and an appropriate Change Order shall be issued. The Contractor shall not be required to employ any subcontractor, other person, or organization against whom the Contractor has reasonable objection.

The Contractor shall be fully responsible for all acts and omissions of his subcontractors and of persons and organizations directly or indirectly employed by them and of persons and organizations for whose acts any of them may be liable to the same extent that the Contractor is responsible for the acts and omissions of persons directly employed by the Contractor. Nothing in the Contract Documents shall create any obligation on the part of the City to pay or to see to the payment of any moneys due any subcontractor or other person or organization, except as may otherwise be required by law. The City or the Engineer may furnish to any subcontractor or other person or organization, to the extent practicable, evidence of amounts paid to the Contractor on account of specific Work done.

Patent Fees and Royalties:

The 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. The Contractor shall indemnify and hold harmless the City and the Engineer and anyone directly or indirectly employed by either of them from and against all claims, damages, losses, and expenses (including attorneys' fees) arising out of any infringement of patent rights or copyrights incident to the use in the performance of the Work, and shall defend all such claims in connection with any alleged infringement of such rights.

Permits:

Unless otherwise provided in the Supplemental Conditions, the Contractor shall obtain and pay for all construction permits and licenses. The Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work. The Contractor shall pay all charges of utility service companies for connections to the Work.

Laws and Regulations:

The Contractor shall give all notices and comply with all laws, ordinances, rules, and regulations, applicable to the Work. If the Contractor observes that the Specifications or Drawings are at variance therewith, the Contractor shall give the Engineer prompt written

notice thereof, and any necessary changes shall be adjusted by an appropriate Change Order. If the Contractor performs any Work knowing or having reason to know that it is contrary to such laws, ordinances, rules, and regulations, and without such notice to the Engineer, the Contractor shall bear all costs arising therefrom.

Use of Premises:

The Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workmen to areas permitted by law, ordinances, permits, or the requirements of the Contract Documents, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment.

During the progress of the Work, the Contractor shall keep the premises free from accumulation of waste materials, rubbish, and other debris resulting from the Work. At the completion of the Work, the Contractor shall remove all waste materials, rubbish, and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials, and shall leave the site clean and ready for occupancy by the City. The Contractor shall restore to their original condition those portions of the site not designated for alteration by the Contract Documents.

The Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall the Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

Taxes:

No amount shall be included in the bid price for Connecticut State Sales Tax or for Federal Excise and Transportation Taxes.

Record Documents:

The Contractor shall keep one record copy of all Specifications, Drawings, Addenda, Modifications, Shop Drawings, and samples at the site in good order and annotated to show all changes made during the construction process. These shall be available to the Engineer for examination and shall be delivered to the Engineer upon completion of the Work.

Safety Protection:

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

all employees on the Work and other persons, who may be affected thereby,

all the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and

other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

The Contractor shall comply with all applicable laws, ordinances, rules, regulations, and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. The Contractor shall notify the City of adjacent property and utilities when prosecution of the Work may affect them. All damage, injury, or loss to any property caused directly or indirectly, in whole or in part, by the Contractor, any subcontractor, or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, shall be remedied by the Contractor. The Contractor's duties and responsibilities for the safety and protection of the Work shall continue until such time as all the Work is completed.

The Contractor shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated in writing by the Contractor to the Engineer.

Emergencies:

In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the Engineer or the City, is obligated to act to prevent threatened damage, injury, or loss. The Contractor shall give the Engineer prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby.

Shop Drawings and Samples:

After checking and verifying all field measurements, the Contractor shall submit to the Engineer for review and approval, in accordance with the accepted schedule of Shop Drawing submissions, five copies (unless otherwise specified in the General Requirements) of all Shop Drawings, which shall have been checked by and stamped with the approval of the Contractor and identified as the Engineer may require. The data shown on the Shop Drawings will be complete with respect to dimensions, design criteria, materials of construction and like information to enable the Engineer to review the information as required.

The Contractor shall also submit to the Engineer for review and approval with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and stamped with the approval of the Contractor and identified as the Engineer may require. The data shown on the Shop Drawings will be complete with respect to dimensions, design criteria, materials of construction, and like information to enable the Engineer to review the information as required.

The Contractor shall also submit to the Engineer for review and approval with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and stamped with the approval of the Contractor, identified clearly as to material, manufacturer, any pertinent catalog numbers and the use for which intended.

At the time of each submission, the Contractor shall in writing call the Engineer's attention to any deviations that the Shop Drawings or samples may have from the requirements of the Contract Documents.

The Engineer will review and approve with reasonable promptness Shop Drawings and samples, but the Engineer's review and approval shall be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall not extend to measurements, dimensions, means, methods, sequences, techniques, or procedures of construction 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. The Contractor shall make any corrections required by the Engineer and shall return the required number of corrected copies of Shop Drawings and resubmit new samples for review and approval. The Contractor shall direct specific attention in writing to revisions other than the corrections called for by the Engineer on previous submittals. The Contractor's stamp of approval on any Shop Drawing or sample shall constitute a representation to the Engineer that the Contractor has either determined and verified all quantities, dimensions, field construction criteria, materials, catalog number, and

similar data or assumes full responsibility for doing so, and that the Contractor has reviewed or coordinated each Shop Drawing or sample with the requirements of the Work and the Contract Documents.

Where a Shop Drawing or sample is required by the Specifications, no related Work shall be commenced until the submittal has been reviewed and approved by the Engineer.

The Engineer's review and approval of Shop Drawings or samples shall not relieve the Contractor from responsibility for any deviations from the Contract Documents, unless the Contractor has in writing called the Engineer's attention to such deviation at the time of submission and the Engineer has given written concurrence and approval to the specific deviation, nor shall any concurrence or approval by the Engineer relieve the Contractor from responsibility for errors or omissions in the Shop Drawings.

Continuing the Work:

The Contractor shall carry on the Work and maintain the progress schedule during all disputes or disagreements with the City. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as the Contractor and the City may otherwise agree in writing.

Indemnification:

To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the City and the Engineer and their agents and employees from and against all claims, damages, losses, and expenses including but not limited to attorney's fees arising out of the performance of the Work, provided that any such claim, damage, loss or expense (a) 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 and (b) is caused in whole or in part by any negligent act or omission of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

In any and all claims against the City or the Engineer or any of their agents or employees by any employee of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation of the amount of type of damages, compensation, or benefits payable by or for the Contractor or any subcontractor under workers' or workmen's compensation acts, disability benefit acts, or other employee benefit acts.

7. WORK BY OTHERS

The City may perform additional work related to the Project by itself, or have additional work performed by utility service companies, or let other direct contracts therefor which shall contain General Conditions similar to these. The Contractor shall afford the City, utility service companies, and the other contractors who are parties to such direct contract reasonable

opportunity for the introduction and storage of materials and equipment and the execution of work, and shall properly connect and coordinate his Work with theirs.

If any part of the Contractor's Work depends, for proper execution or results, upon the work of any such other Contractor or utility service company, the Contractor shall inspect and promptly report to the Engineer in writing any patent or apparent defects or deficiencies in such work that render it unsuitable for such proper execution and results. The Contractor's failure to so report shall constitute an acceptance of the other work as fit and proper for integration with the Contractor's Work except for latent or non-apparent defects and deficiencies in the other work.

The Contractor shall do all cutting, fitting, and patching of his Work that may be required to make its several parts come together properly and integrate with such other work. The 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 the Engineer and the others whose work will be affected.

If the performance of additional work by other contractors or utility service companies or the City was not noted in the Contract Documents, written notice thereof shall be given the Contractor prior to starting any such additional work.

8. CITY'S RESPONSIBILITIES

The City shall issue all communications to the Contractor through the Engineer.

The City shall furnish the data required of the City under the Contract Documents promptly and shall make payments to the Contractor promptly after they are approved in accordance with the provisions of the Supplemental Conditions.

9. ENGINEER'S STATUS DURING CONSTRUCTION

City Representative:

The Engineer shall be the City's representative during the construction period. The duties and responsibilities and the limitations of authority of the Engineer as the City's representative during construction are set forth in the Contract Documents and shall not be extended without written consent of the City and the Engineer.

Visits to Site:

The Engineer or his representative shall make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents.

Clarifications and Interpretations:

The Engineer shall issue with reasonable promptness such written clarifications or interpretations of the Contract Documents (in the form of Drawings or otherwise) as the Engineer may determine necessary.

Rejecting Defective Work:

The Engineer shall have authority to disapprove or reject Work, which is defective, and shall also have authority to require special inspection or testing of the Work whether or not the Work is fabricated, installed, or completed.

Decisions on Disagreements:

The Engineer shall be the interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes, and other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the execution and progress of the Work shall be referred to the Engineer in writing with a request for a formal decision in accordance with this paragraph, which the Engineer shall render in writing within a reasonable time.

Limitations on the Engineer's Responsibilities:

Neither the Engineer's authority to act under the Contract Documents nor any decision made by the Engineer in good faith either to exercise or not exercise such authority shall give rise to any duty of responsibility of the Engineer to the Contractor, any subcontractor, any manufacturer, fabricator, supplier, or distributor, or any of their agents or employees, or any other person performing any of the Work.

Whenever in the Contract Documents the terms "as ordered," "as directed," "as required," "as allowed," or "reasonable," "suitable," "acceptable," "proper," or "satisfactory" or adjectives of like effect or import are used, to describe requirement, direction, review, or judgment will be solely to evaluate the Work for compliance with the Contract Documents. The use of any such term or adjective never indicates that the Engineer shall have authority to supervise or direct performance of the Work or authority to undertake responsibility contrary to the provisions of the following:

The Engineer will not be responsible for the Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto.

The Engineer will not be responsible for the acts or omissions of the Contractor or of any subcontractors, or of the agents or employees of any Contractor or subcontractor, or of any other persons at the site or otherwise performing any of the Work.

10. CHANGES IN THE WORK

Without invalidating the Agreement, the City may at any time or from time to time, order additions, deletions, or revisions in the Work; these will be authorized by Change Orders. Upon receipt of a Change Order, the Contractor shall proceed with the Work involved. All such Work shall be executed under the applicable conditions of the Contract Documents. If any Change Order causes an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, an equitable adjustment will be made.

The Engineer may authorize minor changes in the Work not involving an adjustment in the Contract Price or the Contract Time, which are consistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order and shall be binding on the City and also on the Contractor who shall perform the change promptly. If the Contractor believes that a Field Order justifies an increase in the Contract Price or Contract Time, he shall notify the Engineer promptly in writing.

Additional Work performed without authorization of a Change Order will not entitle the Contractor to an increase in the Contract Price or an extension of the Contract Time, except in the case of an emergency.

If notice of any change affecting the general scope of the Work or change in the Contract Price is required by the provisions of any Bond to be given to the Surety, it will be the Contractor's responsibility to so notify the Surety, and the amount of each applicable Bond shall be adjusted accordingly. The Contractor shall furnish proof of such adjustment to the City.

11. CHANGE OF CONTRACT PRICE

The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to the Contractor for performing the Work. All duties, responsibilities, and obligations assigned to or undertaken by the Contractor shall be at his expense without change in the Contract Price.

The Contract Price may only be changed by a Change Order. Any claim for an increase in the Contract Price shall be based on written notice delivered to the City and the Engineer within fifteen days of the occurrence of the event giving rise to the claim. Notice of the amount of the claim with supporting data shall be delivered within forty-five days of such occurrence unless the Engineer allows an additional period of time to ascertain accurate cost data. All claims for adjustment in the Contract Price shall be reviewed by the Engineer and after reviewing the Engineer's recommendation and any other related information, the City shall determine and approve any appropriate change in the Contract Price. Any change in the Contract Price resulting from any such claim shall be incorporated in a Change Order.

The value of any work covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved.

By mutual acceptance of a lump sum.

On the basis of the Cost of the Work as set forth in Section 1.09.04 of the State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction Form 817, Dated 2016.

Adjustment of Prices:

Whenever the cost of any Work is to be determined pursuant to the above paragraphs, the Contractor will submit in for acceptable to the Engineer an itemized cost breakdown together with supporting data.

Cash Allowances:

It is understood that the Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be done by such subcontractors, manufacturers, fabricators, suppliers, or distributors and for such sums within the limit of the allowances as may be acceptable to the Engineer. Upon final payment, the Contract Price shall be adjusted as required and an appropriate Change Order issued. The Contractor agrees that the original Contract price includes such sums as the Contractor deems proper for costs and profit on account of cash allowances. No demand for additional cost or profit in connection therewith will be valid.

12. CHANGE OF THE CONTRACT TIME

The Contract Time may only be changed by a Change Order. The Contractor may present to the Engineer a request in writing for an extension of Contract time if the time necessary for completion of the Project has been increased due to extra or added work or delays resulting from unforeseeable causes beyond the control and without the fault or negligence of the Contractor, except for weather or seasonal conditions (unless extraordinary and catastrophic). Such causes include, but are not restricted to, natural catastrophes, acts of the City in either its sovereign or contractual capacity, acts of another contractor in the performance of a contract with the City, the presence of utility facilities (including railroads), fires, strikes, floods, or delays by suppliers arising from unforeseeable causes beyond the control and without the fault or negligence of either the Contractor or such suppliers.

The Contractor's plea that insufficient Contract time was allowed under the Contract before commencement of the Project is not a valid reason for extending the Contract time. Request for an extension of time, with adequate substantiation, must be presented within 60 calendar days from the event that is the basis of the request or from the first effect of such an event on the Project. The Contractor will be responsible for providing all the documentation necessary to support the reasonableness of the additional time requested.

Such requests will be considered by the Engineer and granted to the extent that he deems to be fair and reasonable. Requests will not be considered if based on delays caused by conditions existing at the time the bids were received and of which the Contractor might reasonably be expected to have had full knowledge at that time, or upon delays caused by failure on the part of the Contractor to anticipate properly the requirements of the Project as to materials, labor or equipment. For all Project delays or time increases, except as provided below, additional Contract time is the sole remedy that the Contractor may have, and such periods of additional Contractor time shall be deemed "Non-Compensable Delays." For delays caused by the City

in its Contractual capacity, the Contractor may, in addition to a time extension, request additional compensation to reimburse it for damages sustained as a direct result of such delay, and such periods of extended Contract time may be deemed "Compensable Delays."

The period of a compensable delay is limited as follows:

- (1) It may not include time more than 60 days prior to the Engineer's receiving written notice from the Contractor with adequate substantiation, of its intent to claim damages for the delay, and
- (2) It may not include periods of delay for which the City was responsible, but during which the Contractor experienced concurrent delays for which the City was not responsible.

Damages for periods of Project delay for which the City had sole responsibility shall be limited to the increased costs incurred by the Contractor (which shall not include lost profits), which the Contractor substantiates and which the Contractor shows were caused by such delays.

If an approved extension of time extends beyond November 30, the number of days of the approved extension remaining on that date will not begin to run again until the following April 1.

13. WARRANTY AND GUARANTEE; TESTS AND INSPECTION; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

Warranty and Guarantee:

The Contractor warrants and guarantees to the City and the Engineer that all Work will be in accordance with the Contract Documents and will not be defective. Prompt notice of all defects shall be given to the Contractor. All defective Work, whether or not in place, may be rejected, corrected, or accepted.

Access to Work:

The Engineer and the Engineer's representatives, other representatives of the City, testing agencies, and governmental agencies with jurisdictional interests will have access to the Work at reasonable times for their observation, inspection, and testing. The Contractor shall provide proper and safe conditions for such access.

Test and Inspections:

The Contractor shall give the Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals.

If any law, ordinance, rule, regulation, code, or order of any public body having jurisdiction requires any Work (or part thereof) to specifically be inspected, tested, or approved, the Contractor shall assume full responsibility therefore, pay all costs in connection therewith and furnish the Engineer the required certificates of inspection, testing, or approval. The Contractor shall also be responsible for and shall pay all costs in connection with any

inspection or testing required in connection with the City's or the Engineer's acceptance of a manufacturer, fabricator, supplier, or distributor of materials or equipment proposed to be incorporated in the Work, or of materials or equipment submitted for approval prior to the Contractor's purchase thereof for incorporation in the Work.

All inspections, tests, or approvals other than those required by law, ordinance, rule, regulation, code or order of any public body having jurisdiction shall be performed by organizations acceptable to the Engineer and the Contractor.

If any Work that is to be inspected, tested, or approved is covered without written concurrence of the Engineer, it must, if requested by the Engineer, be uncovered for observation. Such uncovering shall be at the Contractor's expense unless the Contractor has given the Engineer timely notice of the Contractor's intention to cover such Work and the Engineer has not acted with reasonable promptness in response to such notice.

Neither observations by the Engineer nor inspections, tests, or approvals by others shall relieve the Contractor from his obligations to perform the Work in accordance with the Contract Documents.

Uncovering Work:

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

If the Engineer considers it necessary or advisable that covered Work be observed by the Engineer or inspected or tested by others, the Contractor, at the Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as the Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment. If it is found that such Work is defective, the Contractor shall bear all the expenses of such uncovering, exposure, observation, inspection, and testing and of satisfactory reconstruction, including compensation for additional professional services.

City May Stop the Work:

If the Work is defective, or the Contractor fails to supply sufficient skilled workmen or suitable materials or equipment, the Engineer may order the Contractor to Stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the City to Stop the Work shall not give rise to any duty on the part of the City to exercise this right for the benefit of the Contractor or any other party.

Correction or Removal of Defective Work:

If required by the Engineer, the Contractor shall promptly, without cost to the City and as specified by the Engineer, either correct any defective Work, whether or not fabricated,

installed or completed, or, if the Work has been rejected by the Engineer, remove it from the site and replace it with nondefective Work.

One-Year Correction Period:

If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by law or 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, the Contractor shall promptly, without cost to the City and in accordance with the City's written instructions, either correct such defective Work, or if it has been rejected by the City, remove it from the site and replace it with non-defective Work. Where it is required for the Contractor to repair, replace, resurface, reseed, replant or to modify, alter, add, or remove hardware, parts, components, or related accessories for the purpose of ensuring proper appearance, performance, or operation, such operations shall be done as required by the Contractor until such time as acceptable performance has been established. Problems which occur shall be corrected in an appropriate fashion under guarantee. The Contractor shall be responsible to attend to and remedy such items within a reasonable amount of time.

Appropriate logs, schedules, and reports shall be maintained to reflect these items and their redress. If the Contractor does not promptly comply with the terms of such instruction, or in an emergency where delay would cause serious risk of loss or damage, the City may have the defective Work corrected or the rejected Work removed and replaced, and all direct and indirect costs of such removal and replacement, including compensation for additional professional services, shall be paid by the Contractor.

Acceptance of Defective Work:

If, instead of requiring correction or removal and replacement of defective Work, the City prefers to accept it, the City may do so. In such case, if acceptance occurs prior to final payment, a Change Order shall be issued incorporating the necessary revisions in the Contract Documents, including appropriate reduction in the Contract Price; if the acceptance occurs after such final payment, an appropriate amount shall be paid by the Contractor to the City.

City May Correct Defective Work:

If the Contractor fails within a reasonable time after written notice of the Engineer to proceed to correct defective Work or to remove and replace rejected Work as required by the Engineer, or if the Contractor fails to perform the Work in accordance with the Contract Documents (including any requirements of the progress schedule), the City may, after seven days' written notice to the Contractor, correct and remedy any such deficiency. In exercising its rights under this paragraph the City shall proceed expeditiously to the extent necessary to complete corrective and remedial action, the City may exclude the Contractor from all or part of the site, take possession of all or part of the Work, and suspend the Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the site or for which the City has paid the Contractor but which are stored elsewhere. The Contractor shall allow the City, the City's representatives, agents and employees such access to the site as may be necessary to enable the City to exercise its rights under this paragraph. All direct and indirect costs of the City in exercising such rights shall be charged against the Contractor in an amount verified by

the Engineer, and a Change Order shall be issued incorporating the necessary revisions in the Contract Documents and a reduction in the Contract Price. Such direct and indirect costs shall include, in particular but without limitation, compensation for additional professional services required and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of the Contractor's defective Work. The Contractor shall not be allowed an extension of the Contract Time because of any delay in performance of the work attributable to the exercise by the City of the City rights hereunder.

14. PAYMENTS TO CONTRACTOR AND COMPLETION

Schedules:

At least ten days prior to submitting the first Application for a progress payment, the Contractor shall submit to the Engineer a progress schedule, a final schedule of Shop Drawing submission, and where applicable, a schedule of values of the Work. These schedules shall be satisfactorily in form and substance to the Engineer. The schedule of values shall include quantities and unit prices aggregating the Contract Price, and shall subdivide the Work into component parts in sufficient detail to serve as the basis for progress payment during construction. Upon acceptance of the schedule of values by the Engineer, it shall be incorporated into a form of Application for Payment acceptable to the Engineer.

Application for Progress Payment:

At least ten days before each progress payment falls due (but not more often than once a month), the Contractor shall submit to the Engineer for review an Application for Payment filled out and signed by the 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 and also as the Engineer may reasonably require. Each subsequent Application for Payment shall include an affidavit of the Contractor stating that all previous progress payment received on account of the Work have been applied to discharge in full all of the Contractor's obligations reflected in prior Applications for Payment. The amount of retainage with respect to progress payments will be as stipulated in the Contract Documents.

Contractor's Warranty of Title:

The 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 the City at the time of payment free and clear of all liens, claims, security interests, and encumbrances.

Review of Applications for Progress Payment:

The Engineer will, within ten (10) days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to the City, or return the Application to the Contractor indicating in writing the Engineer's reasons for refusing the recommend payment. In the latter case, the Contractor may make the necessary corrections and resubmit the Application.

The Engineer may refuse to recommend the whole or any part of any payment if, in his opinion, it would be incorrect to make such representations. He may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended to such extent as may be necessary in the Engineer's opinion to protect the City from loss because:

the Work is defective, or completed Work has been damaged requiring correction or replacement;

written claims have been made against the City in connection with the Work;

the Contract Price has been reduced;

the City has been required to correct defective Work or complete the Work, of the Contractor's unsatisfactory prosecution of the Work in accordance with the Contract Documents; and/or

the Contractor's failure to make payment to subcontractors, or to make payment for labor, materials, or equipment.

Substantial Completion:

When the Contractor considers the entire Work ready for its intended use the Contractor shall, in writing to the Engineer, certify that the entire Work is substantially complete and request that the Engineer issue a certificate of Substantial Completion. Within a reasonable time thereafter, the Contractor and Engineer shall make an inspection of the Work to determine the status of completion. If the Engineer does not consider the Work substantially complete, the Engineer will notify the Contractor in writing giving his reasons therefor. If the Engineer considers the Work substantially complete, the Engineer will prepare certificate of Substantial Completion, which shall fix the date of Substantial Completion. There shall be attached to the certificate a list of items to be completed or corrected before final payment.

The City shall have the right to exclude the Contractor from the Work after the date of Substantial Completion, but the City shall allow the Contractor reasonable access to complete or correct items on the list.

Partial Utilization

Use by the City of completed portions of the Work may be accomplished prior to Substantial Completion of all the Work subject to the following:

The City at any time may request the Contractor in writing to permit the City to use any part of the Work, which the City believes to be substantially complete, and which may be so used without significant interference with construction of the other parts of the Work. If the Contractor agrees, the Contractor will certify to the City and the Engineer that said part

of the Work is substantially complete and request the Engineer to issue a certificate of Substantial Completion for that part for the Work. Within a reasonable time thereafter, the Contractor and Engineer shall make an inspection of that part of the Work to determine its status of completion. If the Engineer does not consider that part of the Work to be substantially complete, the Engineer will notify the Contractor in writing giving his reasons therefor. If the Engineer considers that part of the Work to be substantially complete, the Engineer will execute and deliver to the Contractor a certificate to that effect, fixing the date of Substantial Completion as to that part of the Work, attaching thereto a list of items to be completed or corrected before final payment.

In lieu of the issuance of a certificate of Substantial Completion as to part of the Work, the City may take over operation of a facility constituting part of the Work whether or not it is substantially complete if such facility is functionally and separately useable; provided that prior to any such takeover, the City and Contractor have agreed as to the division of responsibilities between the City and Contractor for security, operation, safety, maintenance, correction period, heat, utilities, and insurance with respect to such facility.

Final Inspection:

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

Final Application for Payment:

After the Contractor has completed all such corrections to the satisfaction of the Engineer and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, marked-up record documents, and other documents - all as required by the Contract Documents, and after the Engineer has indicated that the work is acceptable, the Contractor may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents and such other data and schedules as the Engineer may reasonably require, together with complete and legally effective releases or waivers (satisfactory to the City) of all claims arising out of or filed in connection with the Work. In lieu thereof and as approved by the City, the Contractor may furnish receipts or releases in full; an affidavit of the Contractor that the releases and receipts include all labor, services, material, and equipment for which a claim could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which the City or its property might in any way be responsible, have been paid or otherwise satisfied; and consent of the Surety, if any, to final payment.

Final Payment and Acceptance:

If, on the basis of the Engineer's observation of the Work during construction and final inspection, and the Engineer's review of the final Application for Payment and accompanying documentation - all as required by the Contract Documents, the Engineer is satisfied that the

Work has been completed and the Contractor has fulfilled all of his obligations under the Contract Documents, the Engineer will, within ten days after receipt of the final Application for Payment, process the Application for payment. Otherwise, the Engineer will return the Application to the Contractor, indicating in writing the reasons for refusing to process final payment, in which case the Contractor shall make the necessary corrections and resubmit the Application.

Contractor's Continuing Obligation:

The Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress or final payment by the Engineer, nor the issuance of a certificate of Substantial Completion, nor any payment by the City to the Contractor under the Contract Documents, nor any use or occupancy of the Work or any part thereof by the City, nor any act of acceptance by the City nor any failure to do so, nor the issuance of a notice of acceptability by the Engineer, nor any correction of defective Work by the City shall constitute an acceptance of Work not in accordance with the Contract Documents or a release of the Contractor's obligation to perform the Work in accordance with the Contract Documents.

Waiver of Claims:

The making and acceptance of final payment shall constitute:

A waiver of claims by the City against the Contractor except for claims arising from unsettled debts, from defective Work appearing after final inspection or from failure to comply with the Contract Documents or the terms of any special guarantees specified therein; and it shall not constitute a waiver by the City of any rights in respect of the Contractor's continuing obligations under the Contract Documents, and a waiver of all claims by the Contractor against the City other than those previously made in writing and still unsettled.

15. SUSPENSION OF WORK AND TERMINATION

The City May Terminate:

Upon the occurrence of any one or more of the following events:

if the Contractor is adjudged a bankrupt or insolvent,

if the Contractor makes a general assignment of the benefit of creditors,

if a trustee or receiver is appointed for the Contractor or for any of the Contractor's property,

if the Contractor files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or similar laws,

if the Contractor repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment,

if the Contractor repeatedly fails to make prompt payments to the subcontractors or for labor, materials, or equipment,

if the Contractor disregards laws, ordinances, rules, regulations, or orders of any public body having jurisdiction,

if the Contractor disregards the authority of the Engineer, or

if the Contractor otherwise violates in any substantial way any provisions of the Contract Documents.

The City may after giving the Contractor and his Surety seven days' written notice, terminate the services of the Contractor, exclude the Contractor from the site and take possession of the Work, incorporate in the Work all materials and equipment stored at the site or for which the City has paid the Contractor but which are stored elsewhere, and finish the Work as the City may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct and indirect costs of completing the Work, including compensation for additional professional services, such excess shall be paid to the Contractor. If such costs exceed such unpaid balance, the Contractor shall pay the difference to the City. Such costs incurred by the City shall be incorporated in a Change Order, but in finishing the Work the City shall not be required to obtain the lowest figure for the Work performed.

Where the Contractor's services have been so terminated by the City, the termination shall not affect any rights of the City against the Contractor then existing or which may thereafter accrue. Any retention or payment of monies due the Contractor by the City will not release the Contractor from liability.

Upon seven days' written notice to the Contractor, the City may, without cause and without prejudice to any other right or remedy, elect to abandon the Work and terminate the Agreement. In such case, the Contractor shall be paid for all Work executed and any expense sustained plus reasonable expenses.

Contractor May Stop Work or Terminate:

If, through no act or fault of the Contractor, the Work is suspended for a period of more than ninety days by the City or under an order of court or other public authority, or the Engineer fails to act on an Application for Payment within thirty days after it is submitted, or the City fails for sixty days to pay the Contractor any sum finally determined to be due, then the Contractor may, upon fourteen days' written notice to the City and the Engineer, terminate the Agreement and recover from the City payment for all Work executed and any expense sustained. In addition and in lieu of terminating the Agreement, if the Engineer has failed to act on an Application for Payment or the City has failed to make any payment as aforesaid, the Contractor may upon seven days' notice to the City and the Engineer Stop the Work until

payment of all amounts then due. The provisions of this paragraph shall not relieve the Contractor of his obligations to carry on the Work in accordance with progress schedule and without delay during disputes and disagreements with the City.

16. MISCELLANEOUS

Giving Notice:

Whenever any provision of the Contract Documents requires the giving of written notice it shall be deemed to have been validly given if 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 if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

Computation of Time:

When any period of time is referred to in the Contract Documents by days, it shall 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 shall be omitted from the computation.

General:

Should the City or the Contractor suffer injury or damage to his person or property because of any error, omission, or act of the other part or of any of the other party's employees or agents or others for whose acts the other part is legally liable, claim shall be made in writing to the other part within a reasonable time of the first observance of such injury or damage.

The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees, and obligations imposed upon the Contractor and all of the rights and remedies available to the City and the Engineer thereunder, shall be in addition to, and shall not 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 law or contract, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this paragraph shall 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. All representations, warranties, and guarantees made in the Contract Documents shall survive final payment and termination or completion of this Agreement.

Non-Discrimination:

The Contractor shall agree and warrant that in the performance of the contract, he will not discriminate or permit discrimination against any person or group of persons on the ground of race, color, religious creed, age, marital status, national origin, sex, or physical disability, including, but not limited to, blindness, unless it is shown by the Contractor that such disability prevents performance of the work involved in any manner prohibited by the laws of the United

States or of the State of Connecticut. The Contractor shall further agree to provide the Commission on Human Rights and Opportunities with such information requested by the Commission concerning the employment practices and procedures of the Contractor as they relate to the provisions of Section 4-11a of the Connecticut General Status as amended.

Affirmative Action:

If requested by the City, the Contractor shall submit details of this Affirmative Action Program. Such program shall be modified as and where necessary to meet the requirements of the City and shall remain in force throughout the contract period.

INDEX TO SUPPLEMENTAL CONDITIONS

	<u>PAGE #</u>
1. DEFINITIONS.....	SC-1
2. THE CONTRACTOR'S INSURANCE.....	SC-2
3. CONTRACTUAL LIABILITY INSURANCE.....	SC-2
4. TIME FOR COMPLETION	SC-2
5. PAYMENTS AND RETAINAGE.....	SC-3
6. SCOPE OF WORK.....	SC-3
7. SCHEDULE AND TIME OF COMPLETION.....	SC-3
8. LIQUIDATED DAMAGES.....	SC-4
9. PAYMENT OF WAGES	SC-4
10. FAIR EMPLOYMENT PRACTICES	SC-4
11. SAFETY	SC-5
12. LINES, GRADES, AND MEASUREMENTS	SC-5
13. PUBLIC ACCESS	SC-5
14. UTILITIES.....	SC-5
15. OFF-SITE DISPOSAL.....	SC-5
16. PERFORMANCE OF WORK.....	SC-6
17. HOURS OF OPERATION	SC-6
18. PROJECT AS-BUILT DRAWINGS	SC-6

CITY OF ANSONIA SUPPLEMENTAL CONDITIONS

These Supplemental Conditions amend or supplement the General Conditions of the Construction Contract 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.

1. DEFINITIONS

- A. The Terms used in these Supplemental Conditions, which are defined in the General Conditions of the Construction Contract, have the meanings assigned to them in the General Conditions.
- B. Wherever used in the Contract Documents, the following words have the meanings indicated, which are applied to both the singular and the plural thereof:

"Project Manual" - shall mean the bound volume containing the following Contract Documents:

- Invitation To Bid
- Instruction To Bidders
- Signed copy of the Bid Proposal Forms, with all attachments required for bidding
- Contract Forms
- General Conditions
- Supplemental Conditions
- Special Provisions
- Standard Specifications
- Supplemental Specifications
- Wage Rates
- Contract Drawings
- Certificate of Insurance
- Exhibits not included as part of the documents listed above
- Addenda

The word "Remove," where it applies to existing materials, shall mean remove entirely from the site unless material is approved by the Engineer for re-use. In addition, the word "remove" shall imply the patching of all remaining work affected by removal. All existing materials, which have been removed, shall become the Contractor's property unless otherwise specified.

"As Necessary" or "As Required" - Work referred to as "As Necessary" shall be that work which is required for completed construction, but is not necessarily shown or described in the Contract Documents.

The word "Furnish" or the word "Supply" - shall mean purchase, delivery, and off-loading at the job site including all documentation, storage, and protection.

The word "Install" or the word "Apply" - shall mean set in place complete for normal use or service, all in accordance with the Contract Documents.

The word "Provide" - shall mean furnish (or supply) and install (or apply).

The words "Approved Equal" - shall mean any product, which in the opinion of the Engineer is comparable in quality, durability, appearance, strength, performance, design, physical dimension, and arrangement to the product specified, and will function properly in accordance with the design intent.

The word "Product" - shall mean any item of equipment or material provided under the Contract Documents.

2. THE CONTRACTOR'S INSURANCE

The Contractor shall maintain insurance of the kinds and in at least the amounts specified in Section 1.03 – Award and Execution of Contract included in the Project Manual. The City of Ansonia and the State of Connecticut shall be added to the policies as “Additional Insured”.

All risks associated with construction equipment, machinery, and tools belonging to or used by the insured shall be assumed by the insured.

No insurance required or furnished hereunder shall in any way relieve the Contractor of or diminish any of his responsibilities, obligations, and liabilities under the Contract.

3. CONTRACTUAL LIABILITY INSURANCE

The Contractual Liability required by the General Conditions shall provide coverage for not less than the amounts as set forth below or in accordance with Section 1.03.07 of the State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction Form 817, Dated 2016, whichever limits are greater:

Bodily Injury - each occurrence:	\$3,000,000
Property Damage - each occurrence:	\$3,000,000
Property Damage - annual aggregate:	\$3,000,000

4. TIME FOR COMPLETION

It shall be understood and mutually agreed that the time for Substantial Completion is an essential condition of this Contract and is show on the Bid Form and will be part of the Form of Agreement..

It is expressly understood and agreed by the Contractor and the City that the time for Substantial Completion is reasonable, taking into consideration average climatic range, City restrictions, and other conditions prevailing.

The Contractor agrees that the Work shall be performed diligently and uninterrupted at such rate as will insure Substantial Completion of all Work on or before the date stated in the Contract. If it appears that some of the work cannot be completed by the scheduled date, the Contractor shall increase the work force or increase the hours of work, including evenings and weekends if necessary, at no additional cost to the City.

If the work is complete but the area is not cleaned and debris or equipment is not removed, the City shall have the right to have the area prepared for occupancy with its own or other forces and deduct the costs from the contract amount.

The Construction Schedule is critical to the Project. It is specifically understood that all work is required to be Substantially Complete, and ready for full occupancy and use by the City, on or before the date agreed upon in the Contract and that the time of completion is of the essence and of great importance to the City.

5. PAYMENTS AND RETAINAGE

Monthly applications for payment shall be submitted to the Office of Economic Development for consideration. Payment shall be made within thirty days after approval of the application for payment by the City.

An amount of 95 percent (95%) of the estimated amount due, less any payments previously made and/or any moneys to be held will be paid to the Contractor monthly. The balance will be retained by the City until final completion of the work. Final payment will not be made until final completion and acceptance by the City of all work covered by the Contract. The Contractor agrees that he will indemnify and save the City harmless for all claims growing out of the lawful demands of subcontractors, laborers, suppliers, and assignees.

6. SCOPE OF WORK

The work to be completed under this Contract includes the installation of a 10' wide pedestrian walkway along the top of the existing levee and a pre-fabricated pedestrian bridge with concrete abutments and wingwalls to span the Metro North railroad tracks.

The City reserves the right to decrease the Scope of Work to be done under this Contract, select bid or alternate items in its best interest, or to omit any work in order to bring the cost within available funds. Exercise by the City of the above rights shall not constitute any grounds or basis of claim for damages or for anticipated profits on work omitted.

7. SCHEDULE AND TIME OF COMPLETION

Attention of the Bidder is directed to the time provision for completion of work under the Contract, which requires that all work be completed by within 154 calendar days from the date of receipt of the Notice to Proceed from the City. The calendar days shall be consecutive.

Prior to the start of construction, the Contractor shall prepare and submit a sequence of construction for approval by the Engineer.

8. LIQUIDATED DAMAGES

The Contractor will proceed with the work at such rate of progress to ensure full completion within the time requirements stated above. It is expressly understood and agreed by and between the Contractor and the City that the contract items for the completion of the work described herein shall be reasonable, taking into consideration the climatic and economic conditions and other factors prevailing in the locality of the work.

If the Contractor shall fail to complete the work within the contract times, or extension of time granted by the City, then the Contractor and his sureties shall be liable for and shall pay to the City for each and every calendar day that he shall be in default in completing any given assignment in the time stipulated above, the sum of \$1,100.00. This sum is hereby agreed upon, not as a penalty, but as fixed liquidated damages which the City will suffer by reason of such default, time being of the essence of the Contract and a material consideration thereof.

The City shall have the right to deduct the amount of any such damages from any moneys due the Contractor under this Contract.

9. PAYMENT OF WAGES

A copy of the minimum federal and state wage rate schedule issued by the State of Connecticut Labor Department and federal wage rate schedule (Davis-Bacon) as published by the United States Department of Labor are included in the Project Manual. Said wage rate schedules shall, at all times, be posted at a conspicuous location on the project site.

The Contractor is cautioned that wage rates are continually changing and he shall ensure himself that the enclosed schedules contained herein or otherwise posted are the latest issue, this being his responsibility.

10. FAIR EMPLOYMENT PRACTICES

The successful Contractor shall agree that neither he nor his subcontractors will refuse to hire or employ or to bar or to discharge from employment an individual, or to discriminate against him in compensation or ill terms, conditions, or privileges of employment because of race, color, religious creed, age, sex, national origin, or ancestry, except in the case of a bona fide occupational qualification or need.

The terms stated above are taken from Section 31-126 of the Connecticut General Statutes "Unfair Employment Practices."

11. SAFETY

The Contractor shall perform all work in accordance with the latest governmental safety regulations including, but not limited to, the Department of Labor and Office of Safety and Health Administration regulations and suggested practices.

12. LINES, GRADES, AND MEASUREMENTS

The controlling lines and grades shall be as shown on the Contract Drawings. Additional batter boards, lines, grades and forms shall be furnished and set by the Contractor if he through willfulness or carelessness removes, or permits to be removed, any reference marks establishing said controlling lines and grades, before the performance of the work requires such removal. The replacement of such reference marks shall be at the Contractor's expense.

The Contractor shall make all measurements and check all dimensions necessary for the proper construction of the work as directed or as called for in the Specifications.

During the performance of the work, he shall make all necessary measurements to prevent misfitting in said work and be responsible therefore for the accurate construction of the entire work.

13. PUBLIC ACCESS

Public roads, including driveways, sidewalk and crossings shall remain passable while work is in progress. Maintain safe access for all vehicles and pedestrians throughout the limits and duration of the work. Secure the project site at end of work day.

14. UTILITIES

Utilities may be located within the area and may be adjacent to the construction work.

The Contractor shall make all the necessary arrangements with any utility that must be protected or relocated in order to accomplish the work. The Contractor shall be solely responsible for the protection of the operating condition of all active utilities within the areas of construction and he shall take all necessary precautions to avoid damage to existing utilities. Any cost of temporary relocations for the Contractor's convenience shall be paid for by the Contractor.

The Contractor shall call 811: Connecticut Underground Utility Protection Plan ("Call Before You Dig"), Box 1562, New Haven, Connecticut (Telephone Toll Free: 1-800-922-4455) for notifications to utility companies prior to excavating.

15. OFF-SITE DISPOSAL

The Contractor shall load and haul any surplus or unsuitable material for disposal at a disposal site provided by the Contractor at his cost.

16. PERFORMANCE OF WORK

The Contractor will be responsible for providing all services necessary to perform the work shown on the plans or described in the specifications.

17. HOURS OF OPERATION

The Contractor shall limit his operations to the hours defined in Section 1.08 – Prosecution and Progress and Item No. 0971001A – Maintenance and Protection of Traffic included in the Project Manual.

18. PROJECT AS-BUILT DRAWINGS

The Contractor shall be responsible for the completion of as-built plans, profiles and cross sections of the completed work. The as-built drawings shall be included in Item No. 0980001A – Construction Staking.

**CONSTRUCTION OF ANSONIA
RIVERWALK - SEGMENTS 3 & 4
STATE PROJECT NO. 002-128
FEDERAL PROJECT CN: PEDS(214)
CITY OF ANSONIA**

**SECTION 02
BID DOCUMENTS**

**CONSTRUCTION OF ANSONIA
RIVERWALK - SEGMENTS 3 & 4
ANSONIA, CT**

**STATE PROJECT No. 02-128
Federal Aid Project No. CN: PEDS(214)**

BID FORM

Must Be Submitted in One Original and One Copy.

The undersigned declares that the only persons or parties interested in this Bid as principals are as stated; that the Bid is made without any collusion with other persons, firms, or corporations; that he/she has carefully examined all the Contract Documents as prepared by DeCarlo & Doll, Inc., 89 Colony Street, Meriden, CT 06451, and dated July, 2020 that he/she has informed themselves fully in regard to all conditions pertaining to the Work and the place where it is to be done, and from them the undersigned makes this Bid. These prices shall cover all expenses incurred in performing the Work required under the Contract Documents, of which this Bid Form is a part.

All bids shall remain open for 120 days, excluding Saturdays, Sundays, and legal holidays, after the actual date of the opening of the Bids.

If a Notice of Award accompanied by at least six unsigned copies of the Agreement and all other applicable Contract Documents is delivered to the undersigned within 120 days, excluding Saturdays, Sundays, and legal holidays, after the actual date of the opening of the Bids, the undersigned will within seven days, excluding Saturdays, Sundays, and legal holidays, after the date of receipt of such notification, execute and return all copies of the Agreement and all other applicable Contract Documents to OWNER. The premiums for all Bonds required shall be paid by CONTRACTOR and shall be included in the Contract Price. The undersigned further agrees that the Bid Security accompanying this Bid shall become the property of OWNER if the Bidder fails to execute the Agreement as stated above.

The undersigned hereby agrees the Contract Time shall commence ten (10) days following the effective date of the Agreement, and to fully complete the Work within one hundred fifty four (154) calendar days and in accordance with the terms as stated in the Agreement.

The undersigned further agrees to pay OWNER, as liquidated damages, \$1,100.00 per day for each calendar day beyond the Contract Time Limit or extension thereof that the Work remains incomplete, in accordance with the terms of the Agreement.

If additional work is required change order overhead and profit amounts shall be: in accordance with Section 1.09.04 of the Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, Form 817.

The undersigned acknowledges receipt of addenda numbered:

1 _____ 2 _____ 3 _____

In accordance with the above understanding, the undersigned proposes to perform the Work as described in the Contract Documents, furnish all materials and complete the Work in its entirety in the manner and under the conditions required at the unit prices and lump sums listed as follows:

Bid Submitted by:

NAME OF BIDDER _____

ADDRESS _____

BY: _____

Print or type name

Title

Signature: _____ Date: _____

Telephone: _____ Fax: _____ E-Mail: _____

Offer: The undersigned, having become thoroughly familiar with all conditions affecting the cost of the work, hereby proposes to furnish all labor, materials, equipment and services required for the Construction of Ansonia Riverwalk - Segments 3 and 4, Ansonia, Connecticut, as listed below all in strict accordance with the drawings and specifications dated July 2020.

The Unit Price quantities are estimated and if actual quantities are found to be less than the estimated amounts, there shall be no additional compensation for any loss on the part of the Contractor.

Bids: I will furnish all labor, materials, equipment and services necessary to perform the work required by the work required by the bid documents and will take in full payment therefore the lump sum and unit prices of:

**CONSTRUCTION OF ANSONIA
RIVERWALK - SEGMENTS 3 & 4
CITY OF ANSONIA, CT
PROJECT No. CN: PEDS(214)**

Bidder's Name _____

Item No.	Estimated Quantity	Item Description & Unit Price in Words	Unit Price	Extended Total
0101000	A 1 Lump Sum	Environmental Health and Safety Per Lump Sum, _____ Dollars and _____ Cents	\$ _____	\$ _____
0101117	A 140 Cubic Yard	Controlled Materials Handling Per Cubic Yard, _____ Dollars and _____ Cents	\$ _____	\$ _____
0101128	A 1 Lump Sum	Securing, Constructing and Dismantling of a Waste Stockpile Area Per Lump Sum, _____ Dollars and _____ Cents	\$ _____	\$ _____
0201001	1 Lump Sum	Clearing and Grubbing Per Lump Sum, _____ Dollars and _____ Cents	\$ _____	\$ _____
0201013	A 400 Linear Feet	Removal of Existing Fence Per Linear Foot, _____ Dollars and _____ Cents	\$ _____	\$ _____
0202000	1500 Cubic Yard	Earth Excavation Per Cubic Yard, _____ Dollars and _____ Cents	\$ _____	\$ _____
0202315	A 150 Ton	Disposal of Controlled Materials Per Ton, _____ Dollars and _____ Cents	\$ _____	\$ _____
0202501	30 Linear Feet	Cut Concrete Pavement Per Linear Foot, _____ Dollars and _____ Cents	\$ _____	\$ _____

**CONSTRUCTION OF ANSONIA
RIVERWALK - SEGMENTS 3 & 4
CITY OF ANSONIA, CT
PROJECT No. CN: PEDS(214)**

Bidder's Name _____

Item No.	Estimated Quantity	Item Description & Unit Price in Words	Unit Price	Extended Total
0202529	120 Linear Feet	Cut Bituminous Concrete Pavement Per Linear Foot, _____ Dollars and _____ Cents	\$ _____	\$ _____
0207000 A	2,600 Cubic Yard	Borrow Per Cubic Yard, _____ Dollars and _____ Cents	\$ _____	\$ _____
0208812 A	650 Cubic Yard	Compacted Impervious Fill Per Cubic Yard, _____ Dollars and _____ Cents	\$ _____	\$ _____
0209001	3,300 Square Yard	Formation of Subgrade Per Square Yard, _____ Dollars and _____ Cents	\$ _____	\$ _____
0211000	150 Square Yard	Anti-Tracking Pad Per Square Yard, _____ Dollars and _____ Cents	\$ _____	\$ _____
0212000 A	85 Cubic Yard	Subbase Per Cubic Yard, _____ Dollars and _____ Cents	\$ _____	\$ _____
0214100	40 Cubic Yard	Compacted Granular Fill Per Cubic Yard, _____ Dollars and _____ Cents	\$ _____	\$ _____
0216000	30 Cubic Yard	Pervious Structure Backfill Per Cubic Yard, _____ Dollars and _____ Cents	\$ _____	\$ _____

**CONSTRUCTION OF ANSONIA
RIVERWALK - SEGMENTS 3 & 4
CITY OF ANSONIA, CT
PROJECT No. CN: PEDS(214)**

Bidder's Name _____

Item No.	Estimated Quantity	Item Description & Unit Price in Words	Unit Price	Extended Total
0219001	4,200 Linear Feet	Sedimentation Control System Per Linear Foot, _____ Dollars and _____ Cents	\$ _____	\$ _____
0219004 A	1 Lump Sum	Storm Water Pollution Controls Per Lump Sum, _____ Dollars and _____ Cents	\$ _____	\$ _____
0219011 A	10 Each	Sedimentation Control System at Catch Basin Per Each, _____ Dollars and _____ Cents	\$ _____	\$ _____
0304002	610 Cubic Yard	Processed Aggregate Base Per Cubic Yard, _____ Dollars and _____ Cents	\$ _____	\$ _____
0406170	10 TONS	HMA S1 Per Ton, _____ Dollars and _____ Cents	\$ _____	\$ _____
0406171	5 TONS	HMA S0.5 Per Ton, _____ Dollars and _____ Cents	\$ _____	\$ _____
0406172	480 TONS	HMA S0.375 Per Ton, _____ Dollars and _____ Cents	\$ _____	\$ _____
0406236	280 GALLONS	Material for Tack Coat Per Gallon, _____ Dollars and _____ Cents	\$ _____	\$ _____

**CONSTRUCTION OF ANSONIA
RIVERWALK - SEGMENTS 3 & 4
CITY OF ANSONIA, CT
PROJECT No. CN: PEDS(214)**

Bidder's Name _____

Item No.	Estimated Quantity	Item Description & Unit Price in Words	Unit Price	Extended Total
0601100	40 Cubic Yard	Class "C" Concrete Per Cubic Yard, _____ Dollars and _____ Cents	\$ _____	\$ _____
0601401 A	1 Lump Sum	Ornament Molds Per Lump Sum, _____ Dollars and _____ Cents	\$ _____	\$ _____
0601445 A	1 Lump Sum	Embankment Wall (Site No.1) Per Lump Sum, _____ Dollars and _____ Cents	\$ _____	\$ _____
0602006	2,250 Pounds	Deformed Steel Bars Epoxy Coated Per Pound, _____ Dollars and _____ Cents	\$ _____	\$ _____
0703012	340 Cubic Yard	Modified Riprap Per Cubic Yard, _____ Dollars and _____ Cents	\$ _____	\$ _____
0703029 A	50 Cubic Yard	Rounded Stone Riprap Per Cubic Yard, _____ Dollars and _____ Cents	\$ _____	\$ _____
0755014	400 Square Yard	Geotextile (Separation-High Survivability) Per Square Yard, _____ Dollars and _____ Cents	\$ _____	\$ _____
0811001	105 Linear Feet	Concrete Curbing Per Linear Foot, _____ Dollars and _____ Cents	\$ _____	\$ _____

**CONSTRUCTION OF ANSONIA
RIVERWALK - SEGMENTS 3 & 4
CITY OF ANSONIA, CT
PROJECT No. CN: PEDS(214)**

Bidder's Name _____

Item No.	Estimated Quantity	Item Description & Unit Price in Words	Unit Price	Extended Total
0811101	25 Linear Feet	Concrete Park Curbing Per Linear Foot, _____ Dollars and _____ Cents	\$ _____	\$ _____
0815001	75 Linear Feet	Bituminous Concrete Lip Curbing Per Linear Foot, _____ Dollars and _____ Cents	\$ _____	\$ _____
0901005 A	2 Each	Bollard Per Each, _____ Dollars and _____ Cents	\$ _____	\$ _____
0906203 A	4,400 Linear Feet	Split Rail Fence Per Linear Foot, _____ Dollars and _____ Cents	\$ _____	\$ _____
0910023 A	2 Each	R-B Terminal Section Per Each, _____ Dollars and _____ Cents	\$ _____	\$ _____
0912503	56 Linear Feet	Remove Metal Beam Rail Per Linear Foot, _____ Dollars and _____ Cents	\$ _____	\$ _____
0913043 A	70 Linear Feet	8' Polyvinyl Chain Link Fence Per Linear Foot, _____ Dollars and _____ Cents	\$ _____	\$ _____
0913506 A	1 Each	10' Chain Link Double Gate 8' High Per Each, _____ Dollars and _____ Cents	\$ _____	\$ _____

**CONSTRUCTION OF ANSONIA
RIVERWALK - SEGMENTS 3 & 4
CITY OF ANSONIA, CT
PROJECT No. CN: PEDS(214)**

Bidder's Name _____

Item No.	Estimated Quantity	Item Description & Unit Price in Words	Unit Price	Extended Total
0913912	A 1 Each	12' Chain Link Double Gate 6' High Per Each, _____ Dollars and _____ Cents	\$ _____	\$ _____
0913934	A 1 Each	4' Chain Link Gate 5' High Per Each, _____ Dollars and _____ Cents	\$ _____	\$ _____
0914013	A 40 Linear Feet	Ornamental Metal Fence Per Linear Foot, _____ Dollars and _____ Cents	\$ _____	\$ _____
0915000	A 1 Lump Sum	Tree Protection Per Lump Sum, _____ Dollars and _____ Cents	\$ _____	\$ _____
0921001	350 Square Feet	Concrete Sidewalk Per Square Feet, _____ Dollars and _____ Cents	\$ _____	\$ _____
0921005	65 Square Feet	Concrete Sidewalk Ramp Per Square Feet, _____ Dollars and _____ Cents	\$ _____	\$ _____
0921022	A 9,700 Square Feet	Stonedust Pathway Per Square Foot, _____ Dollars and _____ Cents	\$ _____	\$ _____
0921039	1 Each	Detectable Warning Strip Per Each, _____ Dollars and _____ Cents	\$ _____	\$ _____

**CONSTRUCTION OF ANSONIA
RIVERWALK - SEGMENTS 3 & 4
CITY OF ANSONIA, CT
PROJECT No. CN: PEDS(214)**

Bidder's Name _____

Item No.	Estimated Quantity	Item Description & Unit Price in Words	Unit Price	Extended Total
0939001	10 Hour	Sweeping for Dust Control Per Hour, _____ Dollars and _____ Cents	\$ _____	\$ _____
0943001	195 Mgal	Water For Dust Control Per Mgal, _____ Dollars and _____ Cents	\$ _____	\$ _____
0944000	4,200 Square Yards	Furnishing and Placing Topsoil Per Square Yard, _____ Dollars and _____ Cents	\$ _____	\$ _____
0945005 A	4 Pounds	Wildflower Establishment Per Pound, _____ Dollars and _____ Cents	\$ _____	\$ _____
0946001	1 TONS	Liming Per Ton, _____ Dollars and _____ Cents	\$ _____	\$ _____
0947207 A	2 Each	Bicycle Stand Per Each, _____ Dollars and _____ Cents	\$ _____	\$ _____
0949356	2 Each	Prunus Serrulata Kwanzan Cherry 2.5"-3" Cal. B.B. Per Each, _____ Dollars and _____ Cents	\$ _____	\$ _____
0950005 A	3,800 Square Yards	Turf Establishment Per Square Yard, _____ Dollars and _____ Cents	\$ _____	\$ _____

**CONSTRUCTION OF ANSONIA
RIVERWALK - SEGMENTS 3 & 4
CITY OF ANSONIA, CT
PROJECT No. CN: PEDS(214)**

Bidder's Name _____

Item No.	Estimated Quantity	Item Description & Unit Price in Words	Unit Price	Extended Total
0950013	4,200 Square Yards	Erosion Control Matting Per Square Yard, _____ Dollars and _____ Cents	\$ _____	\$ _____
0950035	A 1 Lump Sum	Remove and Reset Irrigation System Per Lump Sum, _____ Dollars and _____ Cents	\$ _____	\$ _____
0969060	A 5 Months	Construction Field Office, Small Per Month, _____ Dollars and _____ Cents	\$ _____	\$ _____
0970006	1 Estimated	Trafficperson (Municipal Police Officer) Estimated Cost, Seven Thousand Five Hundred _____ Dollars and ___ No _____ Cents	\$ <u>7,500.00</u>	\$ <u>7,500.00</u>
0970007	90 Hours	Trafficperson (Uniformed Flagger) Per Hour, _____ Dollars and _____ Cents	\$ _____	\$ _____
0971001	A 1 Lump Sum	Maintenance and Protection of Traffic Per Lump Sum, _____ Dollars and _____ Cents	\$ _____	\$ _____
0974000	84 Cubic Feet	Removal of Existing Masonry Per Cubic Foot, _____ Dollars and _____ Cents	\$ _____	\$ _____
0975004	1 Lump Sum	Mobilization and Project Closeout Per Lump Sum, _____ Dollars and _____ Cents	\$ _____	\$ _____

**CONSTRUCTION OF ANSONIA
RIVERWALK - SEGMENTS 3 & 4
CITY OF ANSONIA, CT
PROJECT No. CN: PEDS(214)**

Bidder's Name _____

Item No.	Estimated Quantity	Item Description & Unit Price in Words	Unit Price	Extended Total
0976002	80 Days	Barricade Warning Lights - High Intensity Per Day, _____ Dollars and _____ Cents	\$ _____	\$ _____
0977001	35 Each	Traffic Cone Per Each, _____ Dollars and _____ Cents	\$ _____	\$ _____
0978002	16 Each	Traffic Drum Per Each, _____ Dollars and _____ Cents	\$ _____	\$ _____
0979003	6 Each	Construction Barricade Type III Per Each, _____ Dollars and _____ Cents	\$ _____	\$ _____
0980001	A 1 Lump Sum	Construction Staking Per Lump Sum, _____ Dollars and _____ Cents	\$ _____	\$ _____
0992090	A 6 Each	Bench Per Each, _____ Dollars and _____ Cents	\$ _____	\$ _____
0992091	A 2 Each	Rest Shelter Per Each, _____ Dollars and _____ Cents	\$ _____	\$ _____
0992132	A 2 Each	Ornamental Medallions Per Each, _____ Dollars and _____ Cents	\$ _____	\$ _____

**CONSTRUCTION OF ANSONIA
RIVERWALK - SEGMENTS 3 & 4
CITY OF ANSONIA, CT
PROJECT No. CN: PEDS(214)**

Bidder's Name _____

Item No.	Estimated Quantity	Item Description & Unit Price in Words	Unit Price	Extended Total
1003596	A 2 Each	Decorative Pole Per Each, _____ Dollars and _____ Cents	\$ _____	\$ _____
1003612	A 2 Each	Ornamental Accessory Banner Arms Per Each, _____ Dollars and _____ Cents	\$ _____	\$ _____
1206023	A 1 Lump Sum	Removal and Relocation of Existing Signs Per Lump Sum, _____ Dollars and _____ Cents	\$ _____	\$ _____
1208931	31 Square Feet	Sign Face - Sheet Aluminum (Type IX Retroreflective Sheeting) Per Square Foot, _____ Dollars and _____ Cents	\$ _____	\$ _____
1209114	100 Linear Feet	Hot-Applied Painted Pavement Markings 4" Yellow Per Linear Foot, _____ Dollars and _____ Cents	\$ _____	\$ _____
1209129	20 Linear Feet	Hot-Applied Painted Pavement Markings 12" White Per Linear Foot, _____ Dollars and _____ Cents	\$ _____	\$ _____
1220027	160 Square Feet	Construction Signs Per Square Foot, _____ Dollars and _____ Cents	\$ _____	\$ _____
1507000	A 1 Lump Sum	Protection and Support of Existing Utilities Per Lump Sum, _____ Dollars and _____ Cents	\$ _____	\$ _____
TOTAL BID (IN WORDS)				
			_____ Dollars and _____ Cents	\$ _____

Attached hereto is:

**Statement of Bidder's Qualifications
Non-Collusion Affidavit of Prime Bidder
Form of Surety Guarantee and Bid Bond
Pre-Award DBE Commitment Approval Request Forms**

Receipt of Addenda is Acknowledged:

No: _____ **Dated:** _____

No: _____ **Dated:** _____

I, _____ certify that I am the
_____ of the corporation named as Bidder in the Bid Form; that
_____ who signed said Bid Form on
behalf of the Bidder is _____ of the said corporation; that
I know his signature; that his signature thereto is genuine and that said Bid form was duly signed, sealed,
and executed for and in behalf of said corporation by authority of its governing body.

Date _____
Secretary-Clerk
Corporate Seal

PLEASE NOTE: All spaces must be filled in with figures or words or your bid may be automatically
rejected.

**CONSTRUCTION OF ANSONIA
RIVERWALK - SEGMENTS 3 & 4
ANSONIA, CONNECTICUT**

**STATE PROJECT No. 002-128
FEDERAL AID PROJECT No. CN: PEDS(214)**

STATEMENT OF BIDDER'S QUALIFICATIONS

All questions must be answered and the date given must be clear and comprehensive. This Statement must be notarized. The Bidder may submit any additional information he desires.

1. Name of Bidder: _____
2. Permanent main office address: _____
3. When organized: _____ President: _____
4. If a corporation, where incorporated: _____ Treasurer: _____
5. How many years have you been engaged in contracting under your present firm or trade name: _____
6. List other Contracts on Hand: _____

7. General Character of work performed by you: _____

8. Have you ever failed to complete any work awarded to you? If so, where and why? _____

9. Have you ever defaulted on a contract? If so, where and why? _____

10. List the more important contracts recently completed by you, stating approximate gross cost for each, and the month and year completed _____

11. List your major equipment available for this Contract: _____

12. Background and experience of the principal members of your organization including the officers: _____

13. Provide the License Numbers for all applicable or required trades:

Contractor License No. _____ Electrician License No. _____

14. Give bank references: _____

15. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the City of Ansonia: _____

16. List company, corporation or firm names under which the principal members conducted business in the past. _____

17. The undersigned hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the City of Ansonia, Connecticut in verification of the recitals comprising this Statement of Bidders Qualifications.

Dated at _____ this _____ day of _____, 20____.

(Name of Bidder)

By: _____

Title: _____

State of _____

County of _____

_____ being duly sworn deposes and says that he is
_____ of _____ and that the answers to the
foregoing questions and all statements therein contained are true and correct.

Subscribed and sworn to before me this _____ day of _____, 20____.

Notary Public

My commission expires _____ 20____.

**CONSTRUCTION OF ANSONIA
RIVERWALK - SEGMENTS 3 & 4
ANSONIA, CT**

**STATE PROJECT No. 002-128
Federal Aid Project No. CN: PEDS(214)**

NON-COLLUSION AFFIDAVIT OF PRIME BIDDER

State of _____

County of _____

_____, being first duly sworn, deposes
and says that:

- (1) He is (owner, partner, officer, representative or agent) of _____ the Bidder that has submitted the attached bid;
- (2) He is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;
- (3) Such Bid is genuine and is not a collusive or sham Bid;
- (4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest,, including this affiant, has in any way colluded, conspired, connived or agreed directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted or to refrain from Bidding in connection with any other Bidder, firm or person to fix the price or prices in the attached Bid or any other Bidder, or to fix any overhead, profit or cost element of the Bid price or the Bid price or any other bidder or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the City of Ansonia or any person interested in the proposed Contract; and
- (5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(Signed) _____

Title

Subscribed and sworn to before me
this _____ day of _____ 20____.

(Notary Public)

My Commission expires _____, 20____ .

END OF SECTION

**CONSTRUCTION OF ANSONIA
RIVERWALK - SEGMENTS 3 & 4
ANSONIA, CT**

**STATE PROJECT No. 002-128
Federal Aid Project No. CN: PEDS(214)**

FORM OF SURETY GUARANTY

(Shall accompany proposal)

KNOW ALL MEN BY THESE PRESENTS, that for and in consideration of the sum of \$1.00, lawful money of the United States, the receipt whereof is hereby acknowledged, paid the under said corporation, and for other valuable consideration the

(Name of Surety Company) .

a corporation organized and existing under the laws of the State of _____

and licensed to do business in the State of _____ certifies and agrees

that if Contract _____

is awarded to - _____
(Name of Bidder)

Corporation will execute the bond or bonds as required by the Contract Documents and will become surety in the full amount of the Contract price for the faithful performance of the Contract and for payment of all persons supplying labor or furnishing or furnishing materials in connection thencewith.

(Surety)

The language of this form shall generally be given on the official form normally provided by the Surety Company complete with the usual proof of Authority of Officers of the Surety Company to execute said official form.

The form is required regardless if the surety provided with the bid is a Bid Bond or a Certified Check.

Should a bid be offered with a check as surety without said official form, such bid shall be rejected.

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned _____
(Name of Principal)
as Principal, and _____ as Surety. are held and

(Name of Surety)

firmly bound unto the CITY OF ANSONIA, CONNECTICUT hereinafter called the "Owner", in

the penal sum of _____ DOLLARS, (\$ _____)

lawful money of the United States, for the payment of which sum well and truly to be made,
we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally,
firmly by these presents:.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT WHEREAS, the Principal has submitted
the Accompanying Alternate Bid dated _____ 20_____
for _____

NOW, THEREFORE, if the Principal shall not withdraw said Bid within the Period specified therein after
the opening of the same, or, if no period be specified, within thirty (30) days after the said opening, and
shall within the period specified therefore, or if no period be specified, within ten (10) days after the
prescribed forms are presented to him for signature, enter into a written Contract with the Owner in
accordance with the Bid, as accepted, and give bond with good and sufficient surety or sureties, as may be
required, for the faithful performance and proper fulfillment of such Contract; or in the event of the
withdrawal of said Bid within the period specified, or the failure to enter into such Contract and give such
bond within the time specified, if the Principal shall pay the Owner the difference between the amount
specified in said Bid and the Amount for which the Owner may procure the required work or supplies or
both, if the latter be in excess of the former, then the above obligation shall be void and of no effect,
otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such
of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be
signed by their proper officers, the day and year first set forth
above.

_____(L.S)
Principal

Surety

SEAL

By: _____

In presence of:

_____ (Seal)
(Individual Principal)

(Business Address)

(Partnership) (Seal)

By _____

(Business Address)

Attest:

(Corporate Principal)

(Business Address)

Affix Corporate Seal

By: _____

Attest:

(Corporate Surety)

(Business Address)

Countersigned

Affix Corporate Seal _____

By: _____

Attorney-in-Fact, State of _____

(Power of Attorney for person signing for surety company must be attached to bond)

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the _____

_____ Secretary of the Corporation named as Principal in the within bond,

that _____ who signed the said bond on

behalf of the Principal was then _____ of said Corporation; that I know his signature thereto is genuine, and that said bond was duly signed, sealed, and attested to for and in behalf of said corporation by authority of its governing body.

(Corporate Seal)

(Title)

(The Surety Company must append statement of its financial condition and a copy of the resolution authorizing the execution of bonds by officers of the company, and the power-of-attorney for the surety company's attorney-in-fact, authorized to act within the State of Connecticut.)

END OF BID BOND

CONNECTICUT DEPARTMENT OF TRANSPORTATION (CTDOT)

PRE-AWARD DBE COMMITMENT APPROVAL REQUEST

TO BE SUBMITTED WITHIN THE TIME FRAME INDICATED IN THE BID DOCUMENTS

Only certified DBE firms and only for work which they have been certified for will be approved by CDOT toward the goal. Department's DBE directory is available on CTDOT's website or by calling 860-594-2171 Sheet of

CDOT Project Number (s):
Town(s) of:
DBE Subcontractor:
NAICS Code (s) associated with this submission:
Address:
Is this DBE firm a 1st or 2nd tier subcontractor? 1st 2nd*

Dollar amount subcontracted to this DBE firm (\$):
Dollar amount requested for CREDIT for this DBE Firm (\$):
** Please be advised that by submitting this form you (the prime) agree that the total Credited amount will be the amount of commitment and will be measured by the Commercially Useful Function the Subcontractor performs.

* The CDOT prefers 1st tier subcontractors; however, credit for 2nd tier DBE firms will be approved provided this page is signed by both the prime and the DBE firm, the 1st tier subcontractor is identified, the extent of the 2nd tier work is clearly identified, and the prime makes the assertion that regardless of its arrangement with the 1st tier subcontractor, this DBE firm will be used and its replacement is subject to the conditions of the DBE specification and contract requirements.

Table with 5 columns: Item Number & Description, Is This item Partial Yes No, Firm Type Code, Unit of Item, Quantity by Prime, Contract Unit Price, Subcontract Unit Price, Total Item price subcontracted, Total item prices credited to the subcontractor

If any of the items above are checked Yes as to Partial, please use the space provided or use an attachment to offer an explanation of the work involved. Also please identify who is responsible for the remainder of the partial items.
*** Firm Type Code: S (subcontractor), M (manufacturer), P (supplier), T (trucking), V (services)
**** In instances where the Prime is paying the Subcontractor a higher unit price than the bid, by submitting this form the Prime agrees to the higher subcontracted price without additional costs to the Department.
***** The credited amount includes adjustments for supply items (60%) or items further subcontracted to NON-DBE firms.

*** Is this DBE Purchasing any Material or Leasing any Equipment from the Prime or any of the Prime's Affiliates?
YES NO
If YES, state the amount and DO NOT include the amount in the amount toward the goal. Amount: \$

Signature of Prime Contractor, Title
Signature of Subcontractor, Title
Date
Date
After this submittal is approved by the Department, any proposed changes to it must be submitted to the Department for approval.

**CONSTRUCTION OF ANSONIA
RIVERWALK - SEGMENTS 3 & 4
STATE PROJECT NO. 002-128
FEDERAL PROJECT CN: PEDS(214)
CITY OF ANSONIA**

**SECTION 03
POST AWARD FORMS**

**CONSTRUCTION OF ANSONIA RIVERWALK, SEGMENTS 3 &4
ANSONIA, CT**

**STATE PROJECT No. 002-128
Federal Aid Project No. CN: PEDS(214)**

AGREEMENT

THIS AGREEMENT, made by and between the City of Ansonia (hereinafter designated as City), a municipal corporation located within the County of New Haven and State of Connecticut and _____ (herein after designated as Contractor), whose principal place of business is located at _____, acting herein by _____, its _____, duly authorized and empowered so to act:

WITNESSETH

1. That said Contractor, for and in consideration of the promises and undertakings of the City as hereinafter set forth, does hereby promise and agree with the said City that the Contractor will furnish and deliver **Construction of Ansonia Riverwalk, Segments 3 &4** in accordance with the specifications prepared for such purpose, which specifications are contained in the **Contract Drawings** dated **June 2020 (Revised July 17, 2020 per CT DEEP)** and **Project Manual** dated **July 2020**, and incorporated into and made a part of this contract. The schedule of performance by Contractor is as follows: See **Bid Form**.
2. The City, in consideration of the faithful performance of the promises, undertakings and agreements by the Contractor, does hereby promise and agree that it will pay Contractor the sum of \$ _____, payment to be made, for work performed on a monthly basis, and after acceptance of the work by **the City of Ansonia**.
3. The service and work contemplated under this contract shall be completed on or before
4. The City may at any time, and for any reason, direct the discontinuance of the services and work of Contractor for a period of time. Such direction shall be in writing and shall specify the period during which the work shall be discontinued. The work shall be resumed on the dates specified in such direction or upon such other date as the City may thereafter specify in writing. The period during which such work shall have

been discontinued shall be deemed added to the time for performance. The issuance of such direction shall not give rise to any claim against the City.

5. The City may at any time and for any reason terminate this contract by written notice specifying the date of termination, which shall be not less than seven (7) days from the date upon which such notice is given. In the event of such termination, services shall be paid for by the City in such amount as shall compensate the Contractor for the portion of the work satisfactorily performed prior to termination. Such amount shall be fixed by the City after consultation with the Contractor. Such termination shall not give rise to any claim against the City in addition to the compensation provided for in this paragraph.

6. It is mutually agreed and understood by the parties hereto that no payment shall be made at any time unless the terms and conditions of said specifications have been fully complied with; but no payment made under this contract shall be construed as evidence of complete compliance with the terms and conditions hereof, including specifications.

7. The Contractor shall not assign this contract nor any right or responsibility hereunder, nor employ any subcontractor for the completion of performance due under this contract or any part thereof without the prior written consent of the City; however, no such consent shall operate to release the Contractor from any obligation or liability hereunder, or modify the obligations or liabilities of the Contractor to the City.

8. If at any time there shall be reasonable grounds to believe that there exists any lien or claim for which, if established, the City may become liable and which is chargeable to the Contractor, the City shall have the right to retain out of any payment then or to come due an amount sufficient completely to satisfy any such lien or claim; and if the City should become aware of any such lien or claim after all payments have been made to Contractor or after there remains due to Contractor an amount insufficient to satisfy such lien or claim, the Contractor shall refund to the City money sufficient to satisfy such lien or claim.

9. The acceptance by the Contractor of any final payment made under or upon termination of this contract shall constitute a full and complete release of the City from any and all claims, demands and causes of action whatsoever which the Contractor, his successor or assigns, have or may have against the City.

10. The Contractor shall protect and save harmless the City from and against any and all claims, demands or causes of action directly or indirectly or arising out of bodily injury, death or damage or

destruction of or loss to property which is claimed to be due in any way to the fault of the Contractor or anyone employed by him.

11. The Contractor shall at its expense, maintain during the life of this contract liability insurance coverage of **\$3,000,000.00 for each, of bodily injury, damage and property damage or in an amount as set in Section 1.03.07 of the State of Connecticut Department of Transportation Standard Specifications for Roads, Bridges and Incidental Construction Form 817, Date 2016, whichever limits are greater;** and shall, before commencing the work, furnish City a certificate of insurance evidencing such coverage, which shall include for notice of cancellation, lapse or amendment to be given to the City at least thirty (30) days prior to the date of its effective action; and the City and the State of Connecticut shall be named in such policy as an additional insured.

12. In the event the Contractor is a non-resident of this State of Connecticut, the Contractor agrees to deposit with the Connecticut Commissioner of Revenue Services a sum equivalent to three percent (3%) of the total amount to be paid under the contract, or to furnish said Commissioner with a guarantee bond satisfactory to said Commissioner in a sum equivalent to three percent (3%) of such total amount, to secure payment of the tax payable with respect to tangible personal property consumed or used pursuant to or in the carrying out of such contract; and shall obtain a certificate from the Commissioner of Revenue Services that these requirements have been met (Sec. 12-430(7)(a) of the Connecticut General Statutes).

13. If this contract is for the construction, remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public works project, the following provision applies: The wages paid on an hourly basis to any mechanic, laborer or workman employed upon the work herein to be contracted to be done and the amount of payment or contribution paid or payable on behalf of each such employee to any employee welfare fund, as defined in Sec. 31-53(h) of the Connecticut General Statutes, shall be a rate equal to the rate customary or prevailing for the same work in the same trade or occupation in the City of Ansonia. Any contractor who is not obligated by agreement to make payment or contribution on behalf of such employees to any such employee welfare fund shall pay to each employee as part of his wages the amount of payment or contribution for his classification on each payday. This provision, however, shall not apply where the total cost of all work to be performed by contractors and subcontractors in connection with new construction is less

than four hundred thousand dollars, or where the total cost of all work to be performed by contractors and subcontractors in connection with any remodeling, refinishing, refurbishing, rehabilitation, alteration or repair is less than one hundred thousand dollars. Sec. 31-53(a) and (g) of the Connecticut General Statutes.

14. For the purposes of paragraph 13 above, the prevailing wage rates are fixed by the Connecticut Labor Commissioner. The Contractor shall abide by the most recent wage schedule as of the date of this contract.

15. If this contract is for an amount exceeding one thousand dollars for the construction, alteration or repair of any public building or public work and a payment bond is required by Sec. 49-41 of the Connecticut General Statutes; the following provisions shall apply:

- (1) The Contractor, within thirty days after payment by the City, shall pay any amounts due any subcontractor whether for labor or materials, when the same have been included in a requisition submitted by the Contractor and paid by the City;
- (2) The Contractor shall include in each of its subcontracts a provision requiring each subcontractor to pay any amounts due any of its subcontractors within thirty days after such subcontractor received a payment from the Contractor which encompasses labor or materials furnished by each subcontractor. Sec. 49-41a(a) of the Connecticut General Statutes.

16. If this contract is for the construction, remodeling, refinishing, refurbishing, rehabilitation, alteration or repairs of any public works project, the Contractor shall furnish, before entering into this contract:

- (1) sufficient evidence of compliance with the worker's compensation insurance and self-insurance requirements of subsection (b) of Sec. 31-284 of the Connecticut General Statutes; and
- (2) a current statement from the Treasurer of the State of Connecticut that, to the best of his knowledge and belief, as of the date of the statement, the Contractor was not liable to the State for any worker's compensation payments made pursuant to Sec. 31-355 of the Connecticut General Statutes.

For the purpose of this section "sufficient evidence" means:

- (a) a certificate of self-insurance issued by a worker's compensation commission pursuant to Sec. 31-284 of the Connecticut General Statutes;
- (b) a certificate of compliance issued by the insurance commissioner pursuant to Sec. 31-286 of the Connecticut General Statutes; and
- (c) a certificate of insurance issued by any stock or mutual insurance company or mutual association authorized to write worker's compensation insurance in the State of Connecticut or its agents.

17. The Contractor shall protect, defend, and save harmless the City and all of its officers, agents, servants, and employees from all suits, actions or claims of any character, name or description brought for or on account of any injuries, damages, or losses sustained by any person or property in consequence of the use of materials incorporated in the work or on account of any act or omission, neglect or misconduct of the Contractor, his agents, officers, servants, employees or subcontractors, in the performance of the contract or on account of any claim for patent, tradework, or copyright infringement; and the certificate of liability insurance shall include this clause in the provision thereof.

18. This contract shall be construed in accordance with the Laws of the State of Connecticut, and the Charter and ordinances of the City of Ansonia.

19. This contract shall be of no force and effect unless the City Controller has certified hereon that funds are available to pay for the work or services contemplate, and that any required bonds have been executed and are on file in the Office of the Controller.

20. This contract shall be of no force and effect unless certified by the City Attorney, or his designee, as approved as to correctness of form.

21. The said parties for themselves, their heirs, executors, administrators, successors and assigns, do hereby agree to the full performance of the covenants herein contained.

IN WITNESS WHEREOF: THE CITY OF ANSONIA, acting herein by its Mayor, and the Contractor, acting herein by _____, its _____, duly authorized, have subscribed their names to this agreement this ___ day of _____, 2020.

THE CONTRACTOR

(Full Business Name)

BY _____
_____, President

Witness: _____

THE CITY OF ANSONIA

BY _____
David S. Cassetti, Mayor

Witness: _____

Funds are available for the services herein contained by

Against

Account No.

Date _____

Controller

This contract is approved as to correctness of form.

Date _____

City Attorney

PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND

The Contractor shall, within seven (7) days from the date of the Notice of Award, furnish the City of Ansonia with a **PERFORMANCE BOND** and a **LABOR AND MATERIAL PAYMENT BOND**, both in the amount of 100% of the amount bid, conditioned upon the performance of the Contractor on all undertaking, covenants, terms, and conditions and agreements of the contract. The bond shall be in the form of the specimen bonds annexed hereto, such bonds shall be executed by the contractor and a corporate bonding company licensed, authorized, and admitted to transact such business in the State of Connecticut and named on the current list of "Surety Companies acceptable on Federal Bonds", as published in the "Treasury Department" listed for an amount equal to the amount of the reinsurance. Written evidence of how any excess suretyship has been placed by the surety signing the bonds shall accompany the bonds. The expense of the bonds shall be borne by the Contractor. If at anytime a surety on any such bond is declared bankrupt or loses its right to do business in the State of Connecticut, or is removed from the list of Surety Companies acceptable on Federal Bonds, or for any other justifiable cause, the Contractor shall, within seven (7) days after notice from the City of Ansonia to do so, substitute an acceptable bond(s) in such form and sum and signed by such other surety or sureties as may be paid by the Contractor. No payments shall be deemed due nor shall be made until the new surety or sureties have furnished an acceptable bond to the City.

If the Contractor is a partnership, the bonds shall be signed by each of the individuals who are partners; if a corporation, the bonds shall be signed in the correct corporation name by a duly authorized office, agent, or attorney-in-fact. There should be executed an appropriate number of counterparts of the bond corresponding to the number of counterparts of the contract. Each executed bond shall be accompanied by 1) appropriate acknowledgements of the respective parties; 2) appropriate duly certified copy of Power of Attorney or other certificate of authority where bond is executed by agent, officer, or other representative of Contractor or surety; 3) a duly certified extract from by-laws or resolutions or surety under which Power of Attorney or other certificates of authority of its agent, officer, or representative was issued.

The Contractor hereby agrees and understands that a Notice of Award is expressly conditional upon the receipt of these bonds and a Certificate of Insurance naming the City of Ansonia (and others as appropriate) as **ADDITIONAL INSURED**. If said documents are not received by the City of Ansonia within seven (7) days from the date of Notice of Award, the City of Ansonia reserves the right to withdraw its conditional acceptance of the bid and cancel the Notice of Award.

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that

(here insert full name and address or legal title of Contractor)

as Principal hereinafter called contractor and

(here insert full name and address or legal title of Surety)

As Surety, hereinafter called Surety, are held and firmly bound unto

(here insert full name and address or legal title of Owner)

As Obligee, hereinafter called Owner, in the amount of

Dollars \$ _____

for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS,

Contractor has by written agreement dated _____ 20____, entered into a contract with Owner for Construction of Ansonia Riverwalk - Segments 3 and 4, Ansonia, Connecticut

(here insert full name, address and description of project)

In accordance with Drawings and Specifications prepared by DeCarlo & Doll, Inc., 89 Colony Street, Meriden, CT 06451.

Which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

PERFORMANCE BOND

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor, shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives, notice of any alteration or extension of time made by the Owner.

Whenever Contractor shall be, and declared by Owner to be in default under the Contract, the Owner having performed Owner's obligations thereunder, the surety may promptly remedy the default, or shall promptly

- 1) Complete the Contract in accordance with its terms and conditions, or
- 2) Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or, if the Owner elects, upon determination by the Owner and the Surety jointly of the lowest responsible bidder, arrange for a contract between such bidder and Owner, and make available as Work progresses (even though there should be a default of a succession of

defaults, under the contract or contracts of completion arranged under this paragraph sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the contract price," as used in this paragraph, shall mean the total amount payable by Owner to Contractor under the Contract and any amendments thereto, less the amount properly paid by Owner to Contractor.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrators or successors of the Owner.

Signed and sealed this

day of

20

(Witness)

(Witness)

(Principal)

(Title)

(Surety)

(Title)

LABOR AND MATERIAL PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, that

(here insert full name and address or legal title of Contractor)

as Principal, hereinafter called Principal, and

(here insert full name and address or legal title of Surety)

As Surety, hereinafter called Surety, are held and firmly bound unto

(here insert full name and address or legal title of Owner)

As Oblige, hereinafter called Owner, for the use and benefit of claimants as hereinbelow defined, in the amount of _____ **Dollars \$**_____

For the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS,

Principal has by written agreement dated _____ 20____, entered into a contract with Owner for Construction of Ansonia Riverwalk - Segments 3 and 4, Ansonia, Connecticut.

In accordance with Drawings and Specifications prepared by DeCarlo & Doll, Inc. which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

LABOR AND MATERIAL PAYMENT BOND

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Principal shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. A claimant is defined as one having a direct contract with the Principal or with a Subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.

2. The above named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of any costs or expenses of any such suit.

3. No suit or action shall be commenced hereunder by any claimant:

a) Unless claimant, other than one having a direct contact with the Principal, shall have given written notice to any two of the following: the Principal, the Owner, or the Surety above named, within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial

accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelop addressed to the Principal Owner or Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer.

b) After the expiration of one (1) year following the date on which Principal ceased Work on said Contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

c) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the Project or any part thereof, is situated, or in the United States District Court for the district in which the Project, or any part thereof is situated, and not elsewhere.

4. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.

Signed and sealed this

day of

20

(Witness)

(Principal)

(Title)

(Surety)

(Witness)

(Title)

**CONSTRUCTION OF ANSONIA
RIVERWALK - SEGMENTS 3 & 4
STATE PROJECT NO. 002-128
FEDERAL PROJECT CN: PEDS(214)
CITY OF ANSONIA**

**SECTION 04
SPECIAL PROVISIONS**

INDEX TO SPECIAL PROVISIONS

Note: This index has been prepared for the convenience of those using this contract with the sole express purpose of locating quickly the information contained herein; and no claims shall arise due to omissions, additions, deletions, etc., as this index shall not be considered part of the contract.

ITEM

SPECIFICATION SUMMARY

CONTRACT TIME AND LIQUIDATED DAMAGES

NOTICE TO CONTRACTOR - PROCUREMENT OF MATERIALS

NOTICE TO CONTRACTOR - BUY AMERICA

NOTICE TO CONTRACTOR - REQUIRED CONTRACT PROVISIONS FEDERAL-AID
CONSTRUCTION CONTRACTS

NOTICE TO CONTRACTOR - FEDERAL WAGE DETERMINATIONS

NOTICE TO CONTRACTOR - FLOOD CONTINGENCY OPERATION PLAN

NOTICE TO CONTRACTOR - FLOOD DAMAGE REDUCTION (FDR) SYSTEM

NOTICE TO CONTRACTOR - PERMITS

NOTICE TO CONTRACTOR - SPECIAL SOIL PREPARATION PROVISION

NOTICE TO CONTRACTOR - ENVIRONMENTAL INVESTIGATIONS

NOTICE TO CONTRACTOR - SUBSURFACE EXPLORATION

NOTICE TO CONTRACTOR - BEST MANAGEMENT PRACTICES

NOTICE TO CONTRACTOR - CONTRACTOR TRAINING REQUIREMENT FOR 10-HOUR
OSHA CONSTRUCTION SAFETY AND HEALTH COURSE

NOTICE TO CONTRACTOR - VEHICLE EMISSIONS

NOTICE TO CONTRACTOR - PORTLAND CEMENT CONCRETE (PCC) MIX CLASSIFICATIONS

SECTION 1.06 - CONTROL OF THE MATERIALS

SECTION 1.07 - LEGAL RELATIONS AND RESPONSIBILITIES

SECTION 1.08 - PROSECUTION AND PROGRESS

SECTION 4.06 - BITUMINOUS CONCRETE

SECTION M.04 - BITUMINOUS CONCRETE MATERIALS

ITEM #0101000A - ENVIRONMENTAL HEALTH AND SAFETY

ITEM #0101117A - CONTROLLED MATERIALS HANDLING

ITEM #0101128A - SECURING, CONSTRUCTION AND DISMANTLING OF A WASTE STOCKPILE AREA
AND TREATMENT AREA

ITEM #0201013A - REMOVAL OF EXISTING FENCE

ITEM #0202315A - DISPOSAL OF CONTROLLED MATERIALS

ITEM #0207000A - BORROW

ITEM #0208812A - COMPACTED IMPERVIOUS FILL

ITEM #0212000A - SUBBASE

ITEM #0219004A - STORM WATER POLLUTION CONTROLS

ITEM #0219011A - SEDIMENTATION CONTROL SYSTEM AT CATCH BASIN

ITEM #0601401A - ORNAMENT MOLDS

ITEM #0601445A - EMBANKMENT WALL (SITE NO.1)

ITEM #0703029A - ROUNDED STONE RIPRAP

ITEM #0901005A - BOLLARD

ITEM #0906203A - SPLIT RAIL FENCE

ITEM #0910023A - R-B TERMINAL SECTION

ITEM #0913041A - 8' POLYVINYL CHLORIDE CHAIN LINK FENCE

ITEM

ITEM #0913506A - 10' CHAIN LINK DOUBLE GATE 8' HIGH
ITEM #0913912A - 12' CHAIN LINK DOUBLE GATE 6' HIGH
ITEM #0913934A - 4' CHAIN LINK GATE 5' HIGH
ITEM #0914013A - ORNAMENTAL METAL FENCE
ITEM #0915000A - TREE PROTECTION
ITEM #0921022A - STONEDUST PATHWAY
ITEM #0945005A - WILDFLOWER ESTABLISHMENT
ITEM #0947207A - BICYCLE STAND
ITEM #0950005A - TURF ESTABLISHMENT
ITEM #0950035A - REMOVE AND RESET IRRIGATION SYSTEM
ITEM #0969060A - CONSTRUCTION FIELD OFFICE, SMALL
ITEM #0971001A - MAINTENANCE AND PROTECTION OF TRAFFIC
ITEM #0980001A - CONSTRUCTION STAKING
ITEM #0992090A - BENCH
ITEM #0992091A - REST SHELTER
ITEM #0992132A - ORNAMENTAL MEDALLIONS
ITEM #1003596A - DECORATIVE POLE
ITEM #1003612A - ORNAMENTAL ACCESSORY, BANNER ARMS
ITEM #1206023A - REMOVAL AND RELOCATION OF EXISTING SIGNS
ITEM #1507000A - PROTECTION AND SUPPORT OF EXISTING UTILITIES

ATTACHMENT A - PROJECT PERMITS

ATTACHMENT B - DISADVANTAGED BUSINESS ENTERPRISES FOR FEDERAL FUNDED PROJECTS

ATTACHMENT C - CONSTRUCTION CONTRACTS-REQUIRED CONTRACT PROVISIONS

(FHWA FUNDED CONTRACTS)

ATTACHMENT D - SUPPLEMENTAL SPECIFICATIONS TO THE STANDARD SPECIFICATIONS FOR
ROADS, BRIDGES, FACILITIES AND INCIDENTAL CONSTRUCTION FORM 817, JULY 2019

ATTACHMENT E - GEOTECHNICAL ENGINEERING EVALUATION REPORT

ATTACHMENT F - EASEMENT AGREEMENT WITH TARGET COMPANY

DECEMBER 2019
FEDERAL AID PROJECT NO. CN: PEDS (214)
STATE PROJECT NO. 002-128

CONSTRUCTION OF ANSONIA PARK
& RIVERWALK, SEGMENT 3 AND 4

Town of Ansonia
Federal Aid Project No. CN: PEDS (214)

The State of Connecticut, Department of Transportation, Standard Specifications for Roads, Bridges and Incidental Construction, Form 817, 2016, as revised by the Supplemental Specifications dated January/July 2019 (otherwise referred to collectively as "ConnDOT Form 817") is hereby made part of this contract, as modified by the Special Provisions contained herein. . The State of Connecticut Department of Transportation's "Construction Contract Bidding and Award Manual" ("Manual"), October 1, 2015 edition or latest issue, is hereby made part of this contract. If the provisions of this Manual conflict with provisions of other Department documents (not including statutes or regulations), the provisions of the Manual will govern. The Manual is available upon request from the Transportation Manager of Contracts. The Special Provisions relate in particular to the Park & Riverwalk, Segment 3 & 4 in the Town(s) of Ansonia .

CONTRACT TIME AND LIQUIDATED DAMAGES

One-Hundred and Fifty-Four (154) calendar days will be allowed for completion of the work on this project and the liquidated damages charge to apply will be One Thousand One Hundred Dollars (\$1,100.00) per calendar day.

NOTICE TO CONTRACTOR - PROCUREMENT OF MATERIALS

Upon award, the Contractor shall proceed with shop drawings, working drawings, procurement of materials, and all other submittals required to complete the work in accordance with the contract documents.

NOTICE TO CONTRACTOR – BUY AMERICA

The Contractor is hereby advised that several items proposed for this project are subject to the Buy America requirements. Please refer to Section 1.06 of the standard specifications and FHWA's regulatory policy regarding Buy America (Title 23 C.F.R. 635.410 and 49 U.S.C. 5323(j)). The Contractor shall also be responsible for compliance by any subcontractor, lower tier subcontractor, or service provider.

NOTICE TO CONTRACTOR – REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

The Contractor is hereby advised that Form FHWA-1273 “Required Contract Provisions Federal-Aid Construction Contracts” (contained herein) has been deemed to be applicable to this project and is incorporated and made a part of this project. The Contractor shall insert this form in each subcontract and further require its inclusion in all lower tier subcontracts. The Contractor shall be responsible for compliance by any subcontractor, lower tier subcontractor, or service provider.

NOTICE TO CONTRACTOR – FEDERAL WAGE DETERMINATIONS

The Contractor is hereby notified that the project is subject to Federal and State of Connecticut Prevailing Wage Rates. Davis-Bacon Wage Determinations and the Connecticut Department of Labor prevailing wage rates are included in Attachment C.

NOTICE TO CONTRACTOR – FLOOD CONTINGENCY OPERATION PLAN

The Contractor shall prepare a Flood Contingency Plan to be approved by the Engineer. The Plan will include:

1. A description of the means by which the Contractor will remove or protect, prior to a major storm event, all material, equipment and personnel from the 100-year floodplain. A major storm event is defined as a storm predicted by the NOAA Weather Service with warnings of flooding, severe thunderstorms or similarly severe weather conditions or effects.
2. Provisions for notifying workers engaged in work on or near the project of an impending storm.
3. Provisions for securing work in progress prior to a major storm event. The Contractor must be aware that flooding can occur quickly and the provisions for securing the project site must be capable of being implemented promptly, 24 hours a day, 7 days a week. At no time shall the Contractor maintain the project site in a condition which cannot be adequately secured in accordance with the Flood Contingency Plan prior to a flood event.
4. Any construction activity that compromises the integrity or operation of the Ansonia Flood Damage Reduction System (AFDRS) shall cease when a major storm event is predicted and any modifications to the AFDRS shall be returned to original condition.

The Plan will also provide assurance that materials stored below the 500-year flood elevation that are buoyant, hazardous, flammable, explosive, soluble, expansive, radioactive, or which could be injurious to human, animal or plant life in the event of a flood can be removed or adequately protected prior to the occurrence of a flood event.

NOTICE TO CONTRACTOR – FLOOD DAMAGE REDUCTION (FDR) SYSTEM

The Contractor shall be aware that much of the work included in the project is on or near the U.S. Army Corps of Engineers (USACE) federally constructed Flood Damage Reduction (FDR) System on the west bank of the Naugatuck River.

The Contractor must comply with the following:

1. All construction shall be in accordance with U.S. Army Corps of Engineers Section 408 Levee Modification Permit requirements.
2. The Contractor shall prepare a Flood Contingency Plan for use during construction. At the end of construction the Contractor shall submit an As-Built Final Location Survey prepared by a CT-licensed Land Surveyor that shows all the constructed improvements and topography. The survey shall be in the form of signed and sealed plans (number to be determined) and AutoCAD files.
3. The Contractor shall assist the City of Ansonia with the preparation of the Emergency Action Plan (EAP) that reflects the Riverwalk alterations. The Contractor shall comply with all provisions of the approved and accepted EAP. The Contractor shall monitor the river levels and take precautionary measures to prevent damage to the levee during construction.
4. Access to the FDR System shall be maintained at all times for the duration of the project. Any damages to the system or its components including but not limited to the levee, drainage system components, closure structure or toe drain system should immediately be repaired to the satisfaction of the USACE and the City of Ansonia so as not to affect the safety of the public due to flooding.

All questions shall be directed to:

Mr. Alex R Garneau
Levee Inspection Team Lead
US Army Corps of Engineers
New England District
978-318-8389

NOTICE TO CONTRACTOR –PERMITS

The Contractor is hereby notified that several permits have been acquired and shall be obtained for the work. The Contractor shall abide by all permit conditions and requirements.

The following permits have been acquired:

City of Ansonia Planning and Zoning Commission - Site Plan Approval, Dated February 25, 2019

City of Ansonia Inland Wetland Commission, Dated March 7, 2019

U.S. Army Corps of Engineers - Section 408 Levee Modification Approval, Dated April 3, 2020

Pending permits include:

Connecticut Department of Energy and Environmental Conservation - Individual Dam Safety Permit

Permits acquired during the design phase of the project are included in Attachment A.

The Contractor is responsible for securing all other permitting, including an Encroachment Permit from CTDOT for work on Route 115 Main Street.

**NOTICE TO CONTRACTOR – SPECIAL SOIL PREPARATION
PROVISION**

The Contractor is hereby notified that there are special soil preparation provisions for the plantings within the project.

The maximum depth of excavation for the plantings shall be 3'. The excavation for the root ball shall be 5'x5' to allow for the compaction of the roots. The Contractor shall scarify the excavation by hand. If the top elevation of the root ball is higher than the proposed elevation the topsoil and mulch shall be mounded around the planting.

NOTICE TO CONTRACTOR – ENVIRONMENTAL INVESTIGATIONS

The Contractor is hereby notified that all or part of the site contains controlled materials. The Contractor is directed to the easement agreement with Target Co. included as Attachment F.

Soils removed from the AOECs **will** be required to be handled as Controlled Materials (see Soil Management below).

Soil Management

Any soil removed from the AOECs shall be managed as Controlled Material. Material removed from the excavations shall be transported to a temporary waste stockpile area (WSA) to be located nearby the Project. The specific location of the WSA shall be coordinated with the Engineer and other Town personnel at the time of construction, prior to any excavation activities. The Controlled Material shall be stored and managed on-site in accordance with Item 0101117A “Controlled Materials Handling.” The Controlled Materials stored in the WSA will require disposal at an approved treatment/recycling/disposal facility in accordance with Item 0202315A, “Disposal of Controlled Materials.”

The Contractor is hereby notified that Controlled Materials will be encountered during various construction activities conducted within the Project limits at the Ansonia Riverwalk Project site. Therefore, the Contractor will be required to implement appropriate health and safety measures for all construction activities to be performed within the areas of excavation within the project limits. These measures shall include, but are not limited to, air monitoring, engineering controls, personal protective equipment and decontamination, equipment decontamination, and personnel training. **WORKER HEALTH AND SAFETY PROTOCOLS WHICH ADDRESS POTENTIAL AND/OR ACTUAL RISK OF EXPOSURE TO SITE-SPECIFIC HAZARDS ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.**

The Sections which shall be reviewed by the Contractor include the following:

- Item No. 0101000A – Environmental Health and Safety
- Item No. 0101117A – Controlled Materials Handling
- Item No. 0101128A - Securing, Construction and Dismantling of a Waste Stockpile and Treatment Area
- Item No. 0202315A – Disposal of Controlled Materials

The Contractor is alerted to the fact that an environmental consultant representing the City of Ansonia will be on site periodically during construction operations to observe site conditions for the Town.

NOTICE TO CONTRACTOR – SUBSURFACE EXPLORATION

The Contractor is hereby advised that a subsurface exploration report, “Geotechnical Engineering Evaluation Report” was prepared by Down to Earth Consulting, LLC and is included in Attachment E.

NOTICE TO CONTRACTOR – BEST MANAGEMENT PRACTICES

In constructing or maintaining the construction activities for this project, the Contractor shall employ Best Management Practices to control storm water discharges and erosion and sedimentation and prevent pollution. Such practices to be implemented by the Contractor at this construction site include, but not necessarily limited to the following:

1. Prohibiting dumping of any quantity of oil, chemicals or other deleterious material on the ground.
2. Immediately informing the DEEP's Oil and Chemical Spill Section at (860) 424-3338 and the Engineer of any adverse impact or hazard to the environment, including any discharges, spillage or loss of oil or petroleum or chemical liquids or solids, which occurs or is likely to occur as the direct or indirect result of the construction activities.
3. Separating staging areas at the site from regulated areas by silt fences or haybales at all times.
4. Prohibiting storage of any fuel and refueling of equipment within 25 feet from any wetland or watercourse.
5. Preventing pollution of wetlands and watercourses in accordance with the document "Connecticut Guidelines for Soil Erosion and Sediment Control" as revised. Said controls shall be inspected by the Contractor with the Engineer for deficiencies at least once per week and immediately after each rainfall and at least daily during prolonged rainfall. The Contractor shall correct any such deficiencies to the Engineer within forty-eight (48) hours of said deficiencies being found.
6. Stabilizing disturbed soils in a timely fashion to minimize erosion. If a grading operation at the construction site will be suspended for a period of thirty (30) or more consecutive days, the Contractor shall, within the first seven (7) days of that suspension period, accomplish seeding and mulching or take such other appropriate measures to stabilize the soil involved in such grading operation. Within seven (7) days after establishing final grade in any grading operation at the construction site the Contractor shall seed and mulch the soil involved in such grading operation or take such other appropriate measures to stabilize such soil until the final seeding and mulching can be accomplished.
7. Prohibiting the storage of any materials at the site which are buoyant, hazardous, flammable, explosive, soluble, expansive, and radioactive or which could in the event of a flood be injurious to human, animal or plant life, below the elevation of the five-hundred (500) year flood. Any other material or equipment stored at the site below said elevation by the Contractor must be firmly anchored, restrained or enclosed to prevent flotation. The quantity of fuel stored below such elevation for equipment used at the construction site

shall not exceed the quantity of fuel that is expected to be used by such equipment in one day.

8. Immediately informing the City and the Engineer of the occurrence of pollution or other environmental damage resulting from construction or maintenance of the authorized activity or any construction associated therewith in violation of the Inland Wetland and Watercourse Permit. The City shall, no later than 48 hours after the Engineer learns of a violation of the Permit, report the same in writing to the City of Ansonia Inland Wetland Commission Chairman. Such report shall contain the information that is outlined in the Permit. The City of Ansonia Inland Wetland Commission Chairman shall inform DEEP's Inland Water Resources Division (IWRD) of the occurrence of pollution or other environmental damage resulting from construction or maintenance of the authorized activity or any construction associated therewith in violation of the Inland Wetland and Watercourse Permit.

There will be no direct payment for the above conditions but the cost shall be included in the general cost of the contract.

NOTICE TO CONTRACTOR – CONTRACTOR TRAINING REQUIREMENT FOR 10-HOUR OSHA CONSTRUCTION SAFETY AND HEALTH COURSE

In accordance with Connecticut General Statute 31-53b and Public Act No. 08-83, the Contractor is required to furnish proof that any person performing the work of a mechanic, laborer or worker pursuant to the classifications of labor under section 31-53, has completed a course of at least ten hours in duration in construction safety and health approved by the Federal Occupational Safety and Health Administration or, has completed a new miner training program approved by the Federal Mine Safety and Health Administration in accordance with 30 CFR 48 or, in the case of telecommunications employees, has completed at least ten hours of training in accordance with 29 CFR 1910.268.

Proof of compliance with the provisions of the statute shall consist of a student course completion card issued by the federal Occupational Safety and Health Administration, or other such proof as deemed appropriate by the Commissioner of the Connecticut Department of Labor, dated no earlier than five years prior to the commencement of the project. Each employer shall affix a copy of the construction safety course completion card for each applicable employee to the first certified payroll submitted to the Department of Transportation on which the employee's name first appears.

Any employee required to complete a construction safety and health course as required that has not completed the course, shall have a maximum of fourteen (14) days to complete the course. If the employee has not been brought into compliance, they shall be removed from the project until such time as they have completed the required training.

This section does not apply to employees of public service companies, as defined in section 16-1 of the 2008 supplement to the General Statutes, or drivers of commercial motor vehicles driving the vehicle on the public works project and delivering or picking up cargo from public works projects provided they perform no labor relating to the project other than the loading and unloading of their cargo.

The internet website for the federal Occupational Safety and Health Training Institute is <http://www.osha.gov/fso/ote/training/edcenters>.

Additional information regarding this statute can be found at the Connecticut Department of Labor website, <http://www.ctdol.state.ct.us/wgwkstnd/wgemenu.htm>.

Any costs associated with this notice shall be included in the general cost of the contract. In addition, there shall be no time granted to the contractor for compliance with this notice. The contractor's compliance with this notice and any associated regulations shall not be grounds for claims as outlined in Section 1.11 – "Claims".

NOTICE TO CONTRACTOR - VEHICLE EMISSIONS

All motor vehicles and/or construction equipment (both on-highway and non-road) shall comply with all pertinent State and Federal regulations relative to exhaust emission controls and safety.

The Contractor shall establish staging zones for vehicles that are waiting to load or unload at the contract area. Such zones shall be located where the emissions from the vehicles will have minimum impact on abutters and the general public.

Idling of delivery and/or dump trucks, or other equipment shall not be permitted during periods of non-active use, and it should be limited to three minutes in accordance with the Regulations of Connecticut State Agencies Section 22a-174-18(b)(3)(c):

No mobile source engine shall be allowed “to operate for more than three (3) consecutive minutes when the mobile source is not in motion, except as follows:

- (i) When a mobile source is forced to remain motionless because of traffic conditions or mechanical difficulties over which the operator has no control,
- (ii) When it is necessary to operate defrosting, heating or cooling equipment to ensure the safety or health of the driver or passengers,
- (iii) When it is necessary to operate auxiliary equipment that is located in or on the mobile source to accomplish the intended use of the mobile source,
- (iv) To bring the mobile source to the manufacturer’s recommended operating temperature,
- (v) When the outdoor temperature is below twenty degrees Fahrenheit (20 degrees F),
- (vi) When the mobile source is undergoing maintenance that requires such mobile Source be operated for more than three (3) consecutive minutes, or
- (vii) When a mobile source is in queue to be inspected by U.S. military personnel prior to gaining access to a U.S. military installation.”

All work shall be conducted to ensure that no harmful effects are caused to adjacent sensitive receptors. Sensitive receptors include but are not limited to hospitals, schools, daycare facilities, elderly housing and convalescent facilities. Engine exhaust shall be located away from fresh air intakes, air conditioners, and windows.

A Vehicle Emissions Mitigation plan will be required for areas where extensive work will be performed in close proximity (less than 50 feet (15 meters)) to sensitive receptors. No work will proceed until a sequence of construction and a Vehicle Emissions Mitigation plan is submitted in writing to the Engineer for review and all comments are addressed prior to the commencement of any extensive construction work in close proximity (less than 50 feet (15 meters)) to sensitive receptors. The mitigation plan must address the control of vehicle emissions from all vehicles and construction equipment.

If any equipment is found to be in non-compliance with this specification, the contractor will be issued a Notice of Non-Compliance and given a 24 hour period in which to bring the equipment into compliance or remove it from the project. If the contractor then does not comply, the Engineer shall withhold all payments for the work performed on any item(s) on which the non-conforming equipment was utilized for the time period in which the equipment was out of compliance.

Any costs associated with this "Vehicle Emissions" notice shall be included in the general cost of the contract. In addition, there shall be no time granted to the contractor for compliance with this notice.

NOTICE TO CONTRACTOR - PORTLAND CEMENT CONCRETE (PCC) MIX CLASSIFICATIONS

SECTIONS 6.01 and M.03 MIX CLASSIFICATION EQUIVALENCY

Sections 6.01 *Concrete for Structures* and M.03 *Portland Cement Concrete* have been revised to reflect changes to item names and nomenclature for standard Portland cement concrete (PCC) mix classifications. Special Provisions, plan sheets and select pay items in this Contract may not reflect this change. Refer to the Concrete Mix Classification Equivalency Table below to associate the Concrete Mix Classifications with Former Mix Classifications that may be present elsewhere in the Contract.

Concrete Mix Classification Equivalency Table

New Mix Classification (Class PCCXXXYZ ¹)	Former Mix Classification
Class PCC03340	Class "A"
Class PCC03360	Class "C"
Class PCC04460 ²	Class "F"
Class PCC04462 ²	High Performance Concrete
Class PCC04481, PCC05581	Class "S"

Table Notes:

1. See Table M.03.02-1, Standard Portland Cement Concrete Mixes, for the new Mix Classification naming convention.
2. Class PCC04462 (formerly Class "HP1" Concrete; also called low permeability concrete) is to be used for the following cast-in-place bridge components: decks, bridge sidewalks, and bridge parapets.

Where called for in the Contract, **Low Permeability Concrete** shall be used, as specified in Sections 6.01 and M.03. Please pay special attention to the requirements for Class PCC04462, including:

- Submittal of a mix design developed by the Contractor and a concrete supplier **at least 90 days prior to placing the concrete**
- Testing and trial placement of the concrete mix is to be developed and discussed with the Department

The Department will not consider any requests for change to eliminate the use of Low Permeability Concrete on this Project.

SECTION 1.06 - CONTROL OF MATERIALS

Article 1.06.07 - Certified Test Reports and Materials Certificates:

After Article 1.06.07-1 add the following:

1) For the materials in the following items, a Certified Test Report will be required confirming their conformance to the requirements set forth in these plans or specifications or both. Should the consignee noted on a Certified Test Report be other than the Prime Contractor, then Materials Certificates shall be required to identify the shipment.

Bicycle Stand
Bench
Bollard

After Article 1.06.07-2 add the following:

2) For the materials in the following items, a Materials Certificate will be required confirming their conformance to the requirements set forth in these plans or specifications or both.

Decorative Pole
Rest Shelter
Ornamental Metal Fence

SECTION 1.07 - LEGAL RELATIONS AND RESPONSIBILITIES

Article 1.07.13 - Contractor's Responsibility for Adjacent Property, Facilities and Services is supplemented as follows:

The following company and representative shall be contacted by the Contractor to coordinate the protection of their utilities on this project 30 days prior to the start of any work on this project involving their utilities:

Mr. Fred Arnold
Project Management Engineer
United Illuminating Co.
180 Marsh Hill Road
Orange, CT 06477-3629
(203) 499-3922

Mr. James Shea
Lead Engineer Gas Project Engineering
Yankee Gas, dba Eversource
Energy – Gas Distribution
107 Selden Street, Mail Stop NUE2
Berlin, CT 06037
(203) 317-4570

Ms. Lynne DeLucia
Manager – Engineering & Construction
Southern New England Telephone Company
Dba Frontier Communications of CT
1441 North Colony Rd.
Meriden, CT 06450-4101
(203) 238-5000

Mr. Lawrence Marcik Jr., P.E.
Project Engineer
South Central CT Regional Water Authority
90 Sargent Drive
New Haven, CT 06511-5966
(203) 401-6709

Mr. Jim Bitzas
Regional Construction Director
Comcast of Connecticut Inc.
1110 East Mountain Rd
Westfield, MA 01085
(413) 642-8582

Mr. David Vega
Project Manager, OSP Relocations
WilTel Communications LLC aka Century Link
71 Clinton Road
Garden City, NY 11530
(917) 207-4604

Mr. Fred D'Amico
City Engineer –
City of Ansonia
Department of Public Works
North Division St.
Ansonia, CT 06401
(203) 736-5945

SECTION 1.08 - PROSECUTION AND PROGRESS

Article 1.08.04 - Limitation of Operations - Add the following:

In order to provide for traffic operations as outlined in the Special Provision "Maintenance and Protection of Traffic," the Contractor will not be permitted to perform any work which will interfere with the described traffic operations on all project roadways as follows:

Route 115 (Main Street)

On the following State observed Legal Holidays:

New Year's Day
Good Friday, Easter*
Memorial Day
Independence Day
Labor Day
Thanksgiving Day**
Christmas Day

The following restrictions also apply:

On the day before and the day after any of the above Legal Holidays.

On the Friday, Saturday, and Sunday immediately preceding any of the above Holidays celebrated on a Monday.

On the Saturday, Sunday, and Monday immediately following any of the above Holidays celebrated on a Friday.

* From 6:00 a.m. the Thursday before the Holiday to 8:00 p.m. the Monday after the Holiday.

** From 6:00 a.m. the Wednesday before the Holiday to 8:00 p.m. the Monday after the Holiday.

During all other times

The Contractor shall not be allowed to perform any work that will interfere with the existing number of lanes of traffic and shoulders, including turning lanes at intersections, on:

Monday through Friday between 6:00 a.m. and 9:00 a.m. & between 3:00 p.m. and 6:00 p.m.
Saturday and Sunday between 10:00 a.m. and 6:00 p.m.

The Contractor shall be allowed to halt traffic, during the allowable work hours, for a period of time not to exceed 10 minutes for the purpose of delivery and off-loading project materials as approved by the Engineer, between 9:00 a.m. and 3:00 p.m. on all non-Holiday weekdays. If more than one 10-minute period is required, the Contractor shall allow all stored vehicles to proceed through the work area prior to the next stoppage.

All Other Roadways

The Contractor shall not be allowed to perform any work that will interfere with the existing number of lanes of traffic and shoulders, including turning lanes at intersections, on:

Monday through Friday between 6:00 a.m. and 9:00 a.m. & between 3:00 p.m. and 6:00 p.m.
Saturday and Sunday between 10:00 a.m. and 6:00 p.m.

Additional Lane Closure Restrictions

It is anticipated that work on adjacent projects will be ongoing simultaneously with this project. The Contractor shall be aware of those projects and anticipate that coordination will be required to maintain proper traffic flow at all times on all project roadways, in a manner consistent with these specifications and acceptable to the Engineer.

The Contractor will not be allowed to perform any work that will interfere with traffic operations on a roadway when traffic operations are being restricted on that same roadway, unless there is at least a one mile clear area length where the entire roadway is open to traffic or the closures have been coordinated and are acceptable to the Engineer. The one mile clear area length shall be measured from the end of the first work area to the beginning of the signing pattern for the next work area.

SECTION 4.06 - BITUMINOUS CONCRETE

Section 4.06 is being deleted in its entirety and replaced with the following:

4.06.01—Description

4.06.02—Materials

4.06.03—Construction Methods

- 1. Material Documentation**
- 2. Transportation of Mixture**
- 3. Paving Equipment**
- 4. Test Section**
- 5. Transitions for Roadway Surface**
- 6. Spreading and Finishing of Mixture**
- 7. Longitudinal Joint Construction Methods**
- 8. Contractor Quality Control (QC) Requirements**
- 9. Temperature and Seasonal Requirements**
- 10. Field Density**
- 11. Acceptance Sampling and Testing**
- 12. Density Dispute Resolution Process**
- 13. Corrective Work Procedure**
- 14. Protection of the Work**
- 15. Cut Bituminous Concrete Pavement**

4.06.04—Method of Measurement

4.06.05—Basis of Payment

4.06.01—Description: Work under this Section shall include the production, delivery, placement and compaction of a uniform textured, non-segregated, smooth bituminous concrete pavement to the grade and cross section shown on the plans.

The following terms as used in this specification are defined as:

Bituminous Concrete: A composite material consisting of prescribed amounts of asphalt binder and aggregates. Asphalt binder may also contain additives engineered to modify specific properties and/or behavior of the composite material. References to bituminous concrete apply to all of its forms, such as those identified as hot-mix asphalt (HMA) or polymer-modified asphalt (PMA).

Bituminous Concrete Plant (Plant): A structure where aggregates and asphalt binder are combined in a controlled fashion into a bituminous concrete mixture suitable for forming pavements and other paved surfaces.

Course: A continuous layer (a lift or multiple lifts) of the same bituminous concrete mixture placed as part of the pavement structure.

Density Lot: The total tonnage of all bituminous concrete placed in a single lift which are:

PWL density lots = When the project total estimated quantity per mixture is larger than 3,500 tons

Simple Average density lots = When the project total estimated quantity per mixture is 3,500 tons or less

Disintegration: Erosion or fragmentation of the pavement surface which can be described as

polishing, weathering-oxidizing, scaling, spalling, raveling, or formation of potholes.

Dispute Resolution: A procedure used to resolve conflicts between the Engineer and the Contractor's results that may affect payment.

Hot Mix Asphalt (HMA): A bituminous concrete mixture typically produced at 325°F.

Job Mix Formula (JMF): A recommended aggregate gradation and asphalt binder content to achieve the required mixture properties.

Lift: An application of a bituminous concrete mixture placed and compacted to a specified thickness in a single paver pass.

Percent Within Limits (PWL): The percentage of the lot falling between the Upper Specification Limit (USL) and the Lower Specification Limit (LSL).

Polymer Modified Asphalt (PMA): A bituminous concrete mixture containing a polymer-modified asphalt binder and using a qualified warm mix technology.

Production Lot: The total tonnage of a bituminous concrete mixture from a single source that may receive an adjustment.

Production Sub Lot: Portion of the production lot typically represented by a single sample.

Quality Assurance (QA): All those planned and systematic actions necessary to provide CTDOT the confidence that a Contractor will perform the work as specified in the Contract.

Quality Control (QC): The sum total of activities performed by the vendor (Producer, Manufacturer, and Contractor) to ensure that a product meets contract specification requirements.

Superpave: A bituminous concrete mix design used in mixtures designated as "S*" Where "S" indicates Superpave and * indicates the sieve related to the nominal maximum aggregate size of the mix.

Segregation: A non-uniform distribution of a bituminous concrete mixture in terms of gradation, temperature, or volumetric properties.

Warm Mix Asphalt (WMA) Technology: A qualified additive or technology that may be used to produce a bituminous concrete at reduced temperatures and/or increase workability of the mixture.

4.06.02—Materials: All materials shall meet the requirements of Section M.04.

1. Materials Supply: The bituminous concrete mixture must be from one source of supply and originate from one Plant unless authorized by the Engineer.

2. Recycled Materials: Reclaimed Asphalt Pavement (RAP), Crushed Recycled Container Glass (CRCG), Recycled Asphalt Shingles (RAS), or crumb rubber (CR) from recycled tires may be incorporated in bituminous concrete mixtures in accordance with Project Specifications.

4.06.03—Construction Methods

1. Material Documentation: All vendors producing bituminous concrete must have Plants with automated vehicle-weighting scales, storage scales, and material feeds capable of producing a delivery ticket containing the information below.

- a. State of Connecticut printed on ticket.
- b. Name of Producer, identification of Plant, and specific storage silo if used.
- c. Date and time.
- d. Mixture Designation, mix type and level. Curb mixtures for machine-placed curbing must state "curb mix only."

- e. If WMA Technology is used, “-W” must be listed following the mixture designation.
- f. Net weight of mixture loaded into the vehicle. (When RAP and/or RAS is used, the moisture content shall be excluded from mixture net weight.)
- g. Gross weight (equal to the net weight plus the tare weight or the loaded scale weight).
- h. Tare weight of vehicle (daily scale weight of the empty vehicle).
- i. Project number, purchase order number, name of Contractor (if Contractor other than Producer).
- j. Vehicle number - unique means of identification of vehicle.
- k. For Batch Plants: individual aggregate, recycled materials, and virgin asphalt max/target/min weights when silos are not used.
- l. For every mixture designation: the running daily and project total delivered and sequential load number.

The net weight of mixture loaded into the vehicle must be equal to the cumulative measured weights of its components.

The Contractor must notify the Engineer immediately if, during production, there is a malfunction of the weight recording system in the automated Plant. Manually written tickets containing all required information will be allowed for no more than 1 hour.

The State reserves the right to have an Inspector present to monitor batching and/or weighing operations.

2. Transportation of Mixture: The mixture shall be transported in vehicles that are clean of all foreign material, excessive coating or cleaning agents, and that have no gaps through which material might spill. Any material spilled during the loading or transportation process shall be quantified by re-weighing the vehicle. The Contractor shall load vehicles uniformly so that segregation is minimized. Loaded vehicles shall be tightly covered with waterproof covers acceptable to the Engineer. Mesh covers are prohibited. The cover must minimize air infiltration. Vehicles found not to be in conformance shall not be loaded

Vehicles with loads of bituminous concrete being delivered to State projects must not exceed the statutory or permitted load limits referred to as gross vehicle weight (GVW). The Contractor shall furnish a list and allowable weights of all vehicles transporting mixture. The State reserves the right to check the gross and tare weight of any vehicle. If the gross or tare weight varies from that shown on the delivery ticket by more than 0.4%, the Engineer will recalculate the net weight. The Contractor shall correct the discrepancy to the satisfaction of the Engineer.

If a vehicle delivers mixture to the Project and the delivery ticket indicates that the vehicle is overweight, the load may not be rejected but a “Measured Weight Adjustment” will be taken in accordance with Article 4.06.04.

Vehicle body coating and cleaning agents must not have a deleterious effect on the mixture. The use of solvents or fuel oil, in any concentration, is prohibited for the coating of vehicle bodies.

For each delivery, the Engineer shall be provided a clear, legible copy of the delivery ticket.

3. Paving Equipment: The Contractor shall have the necessary paving and compaction equipment at the Project Site to perform the work. All equipment shall be in good working order and any equipment that is worn, defective, or inadequate for performance of the work shall be repaired or replaced by the Contractor to the satisfaction of the Engineer. During the paving operation, the use of solvents or fuel oil, in any concentration, is strictly prohibited as a release agent or cleaner on any paving equipment (i.e., rollers, pavers, transfer devices, etc.).

Refueling or cleaning of equipment is prohibited in any location on the Project where fuel or solvents might come in contact with paved areas or areas to be paved. Solvents used in cleaning mechanical equipment or hand tools shall be stored clear of areas paved or to be paved. Before any such equipment and tools are cleaned, they shall be moved off of areas paved or to be paved.

Pavers: Each paver shall have a receiving hopper with sufficient capacity to provide for a uniform spreading operation and a distribution system that places the mix uniformly, without segregation. The paver shall be equipped with and use a vibratory screed system with heaters or burners. The screed system shall be capable of producing a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture. Pavers with extendible screed units as part of the system shall have auger extensions and tunnel extenders as necessary. Automatic screed controls for grade and slope shall be used at all times unless otherwise authorized by the Engineer. The controls shall automatically adjust the screed to compensate for irregularities in the preceding course or existing base. The controls shall maintain the proper transverse slope and be readily adjustable, and shall operate from a fixed or moving reference such as a grade wire or floating beam (minimum length 20 feet).

Rollers: All rollers shall be self-propelled and designed for compaction of bituminous concrete. Roller types shall include steel wheeled, pneumatic, or a combination thereof. Rollers that operate in a dynamic mode shall have drums that use a vibratory or oscillatory system or combination. Vibratory rollers shall be equipped with indicators for amplitude, frequency, and speed settings/readouts to measure the impacts per foot during the compaction process. Oscillatory rollers shall be equipped with frequency indicators. Rollers can operate in the dynamic mode using the oscillatory system on concrete structures such as bridges and catch basins if at the lowest frequency setting.

Pneumatic tire rollers shall be equipped with wide-tread compaction tires capable of exerting an average contact pressure from 60 to 90 psi uniformly over the surface. The Contractor shall furnish documentation to the Engineer regarding tire size, pressure and loading to confirm that the proper contact pressure is being developed and that the loading and contact pressure are uniform for all wheels.

Lighting: For paving operations which will be performed during hours of darkness the paving equipment shall be equipped with lighting fixtures as described below or with an approved equal. Lighting shall minimize glare to passing traffic. The lighting options and minimum number of fixtures are listed in Tables 4.06-1 and 4.06-2.

TABLE 4.06-1: Minimum Paver lighting

Option	Fixture Configuration	Fixture Quantity	Requirement
1	Type A	3	Mount over screed area
	Type B (narrow) or Type C (spot)	2	Aim to auger and guideline
	Type B (wide) or Type C (flood)	2	Aim 25feet behind paving machine
2	Type D Balloon	2	Mount over screed area

TABLE 4.06-2: Minimum Roller Lighting

Option	Fixture Configuration	Fixture Quantity	Requirement
1	Type B (wide)	2	Aim 50 feet in front of and behind roller
	Type B (narrow)	2	Aim 100 feet in front of and behind roller
2	Type C (flood)	2	Aim 50 feet in front of and behind roller
	Type C (spot)	2	Aim 100 feet in front of and behind roller
3	Type D Balloon	1	Mount above the roller

*All fixtures shall be mounted above the roller.

Type A: Fluorescent fixture shall be heavy duty industrial type. Each fixture shall have a minimum output of 8,000 lumens. The fixtures shall be mounted horizontally and be designed for continuous row installation.

Type B: Each floodlight fixture shall have a minimum output of 18,000 lumens.

Type C: Each fixture shall have a minimum output of 19,000 lumens.

Type D: Balloon light – each balloon light fixture shall have minimum output of 50,000 lumens and emit light equally in all directions.

Material Transfer Vehicle (MTV): A MTV shall be used when placing bituminous concrete surface course (a lift or multiple lifts) as indicated in the Contract except as noted on the plans or as directed by the Engineer. In addition, continuous paving lengths of less than 500 feet may not require the use of a MTV as determined by the Engineer.

The MTV must be a vehicle specifically designed for the purpose of delivering the bituminous concrete mixture from the delivery vehicle to the paver. The MTV must continuously remix the bituminous concrete mixture throughout the placement process.

The use of a MTV will be subject to the requirements stated in Article 1.07.05 Load Restrictions. The Engineer may limit the use of the vehicle if it is determined that the use of the MTV may damage highway components, utilities, or bridges. The Contractor shall submit to the Engineer at time of pre-construction the following information:

1. The make and model of the MTV.
2. The individual axle weights and axle spacing for each piece of paving equipment (haul vehicle, MTV and paver).
3. A working drawing showing the axle spacing in combination with all pieces of equipment that will comprise the paving echelon.

4. Test Section: The Engineer may require the Contractor to place a test section whenever the requirements of this specification or Section M.04 are not met.

The Contractor shall submit the quantity of mixture to be placed and the location of the test section for review and approval by the Engineer. The same equipment used in the construction of a passing test section shall be used throughout production.

If a test section fails to meet specifications, the Contractor shall stop production, make necessary adjustments to the job mix formula, Plant operations, or procedures for placement and compaction. The Contractor shall construct test sections, as allowed by the Engineer, until all the required specifications are met. All test sections shall also be subject to removal as set forth in Article 1.06.04.

5. Transitions for Roadway Surface: Transitions shall be formed at any point on the roadway where the pavement surface deviates, vertically, from the uniform longitudinal profile as specified on the plans. Whether formed by milling or by bituminous concrete mixture, all transition lengths shall meet the criteria below unless otherwise specified.

Permanent Transitions: Defined as any gradual change in pavement elevation that remains as a permanent part of the work.

A transition shall be constructed no closer than 75 feet from either side of a bridge expansion joint or parapet. All permanent transitions, leading and trailing ends shall meet the following length requirements:

Posted Speed Limit	Permanent Transition Length Required
> 35 mph	30 feet per inch of elevation change
35 mph or less	15 feet per inch of elevation change

In areas where it is impractical to use the above-described permanent transition lengths, the use of a shorter permanent transition length may be permitted when approved by the Engineer.

Temporary Transitions: Defined as a transition that does not remain a permanent part of the work.

All temporary transitions shall meet the following length requirements:

Posted Speed Limit	Temporary Transition Length Required
> 50 mph	Leading Transition: 15 feet per inch of vertical change (thickness) Trailing Transition: 6 feet per inch of vertical change (thickness)
40, 45 or 50 mph	Leading and Trailing: 4 feet per inch of vertical change (thickness)
35 mph or less	Leading and Trailing: 3 feet per inch of vertical change (thickness)

Note: Any temporary transition to be in place over the winter shutdown period or during extended periods of inactivity (more than 14 calendar days) shall meet the greater than 50 mph requirements shown above.

6. Spreading and Finishing of Mixture: Prior to the placement of the mixture, the underlying base course shall be brought to the plan grade and cross section within the allowable tolerance.

Immediately before placing a bituminous concrete lift, a uniform coating of tack coat shall be applied to all existing underlying pavement surfaces and on the exposed surface of a wedge joint. Such surfaces shall be clean and dry. Sweeping or other means acceptable to the Engineer shall be used.

The mixture shall not be placed whenever the surface is wet or frozen.

Tack Coat Application: The tack coat shall be applied by a pressurized spray system that results in uniform overlapping coverage at an application rate of 0.03 to 0.05 gal./s.y. for a non-milled surface and an application rate of 0.05 to 0.07 gal./s.y. for a milled surface. For areas

where both milled and un-milled surfaces occur, the tack coat shall be an application rate of 0.03 to 0.05 gal /s.y. The Engineer must approve the equipment and the method of measurement prior to use. The material for tack coat shall be heated to $160^{\circ}\text{F} \pm 10^{\circ}\text{F}$ and shall not be further diluted.

Tack coat shall be allowed sufficient time to break prior to any paving equipment or haul vehicles driving on it.

The Contractor may request to omit the tack coat application between bituminous concrete layers that have not been exposed to traffic and are placed during the same work shift. Requests to omit tack coat application on the upper and lower surfaces of a wedge joint will not be considered.

Placement: The mixture shall be placed and compacted to provide a smooth, dense surface with a uniform texture and no segregation at the specified thickness and dimensions indicated in the plans and specifications.

When unforeseen weather conditions prevent further placement of the mixture, the Engineer is not obligated to accept or place the bituminous concrete mixture that is in transit from the Plant.

In advance of paving, traffic control requirements shall be set up, maintained throughout placement, and shall not be removed until all associated work including density testing is completed.

The mixture temperature will be verified by means of a probe or infrared type of thermometer. The placement temperature range shall be listed in the quality control plan (QCP) for placement and meet the requirements of Table M.04.03-4. Any HMA material that falls outside the specified temperature range as measured by a probe thermometer may be rejected.

The Contractor shall inspect the newly placed pavement for defects in mixture or placement before rolling is started. Any deviation from standard crown or section shall be immediately remedied by placing additional mixture or removing surplus mixture. Such defects shall be corrected to the satisfaction of the Engineer.

Where it is impracticable due to physical limitations to operate the paving equipment, the Engineer may permit the use of other methods or equipment. Where hand spreading is permitted, the mixture shall be placed by means of suitable shovels and other tools, and in a uniformly loose layer at a thickness that will result in a completed pavement meeting the designed grade and elevation.

Placement Tolerances: Each lift of bituminous concrete placed at a specified thickness shall meet the following requirements for thickness and area. Any pavement exceeding these limits shall be subject to an adjustment or removal. Lift tolerances will not relieve the Contractor from meeting the final designed grade. Lifts of specified non-uniform thickness, i.e. wedge or shim course, shall not be subject to thickness and area adjustments.

- a) Thickness: Where the average thickness of the lift exceeds that shown on the plans beyond the tolerances shown in Table 4.06-3, the Engineer will calculate the thickness adjustment in accordance with Article 4.06.04.

TABLE 4.06-3: Thickness Tolerances

Mixture Designation	Lift Tolerance
S1	+/- 3/8 inch
S0.25, S0.375, S0.5	+/- 1/4 inch

Where the thickness of the lift of mixture is less than that shown on the plans beyond the

tolerances shown in Table 4.06-3, the Contractor, with the approval of the Engineer, shall take corrective action in accordance with this Section.

- b) Area: Where the width of the lift exceeds that shown on the plans by more than the specified thickness, the Engineer will calculate the area adjustment in Article 4.06.04.
- c) Delivered Weight of Mixture: When the delivery ticket shows that the truck exceeds the allowable gross weight for the vehicle type, the Engineer will calculate the weight adjustment in accordance with Article 4.06.04.

Transverse Joints: All transverse joints shall be formed by saw-cutting to expose the full thickness of the lift. Tack coat shall be applied to the sawn face immediately prior to additional mixture being placed.

Compaction: The Contractor shall compact the mixture to meet the density requirements as stated in Article 4.06.04 and eliminate all roller marks without displacement, shoving cracking, or aggregate breakage.

When placing a lift with a specified thickness less than 1 1/2 inches, or a wedge course, the Contractor shall provide a minimum rolling pattern as determined by the development of a compaction curve. The procedure to be used shall be documented in the Contractor's QCP for placement and demonstrated on the first day of placement.

The use of the vibratory system on concrete structures is prohibited. When approved by the Engineer, the Contractor may operate a roller using an oscillatory system at the lowest frequency setting.

If the Engineer determines that the use of compaction equipment in the dynamic mode may damage highway components, utilities or adjacent property, the Contractor shall provide alternate compaction equipment.

Rollers operating in the dynamic mode shall be shut off when changing directions.

These allowances will not relieve the Contractor from meeting pavement compaction requirements.

Surface Requirements:

Each lift of the surface course shall not vary more than 1/4 inch from a Contractor-supplied 10 foot straightedge. For all other lifts of bituminous concrete, the tolerance shall be 3/8 inch. Such tolerance will apply to all paved areas.

Any surface that exceeds these tolerances shall be corrected by the Contractor at its own expense.

7. Longitudinal Joint Construction Methods: The Contractor shall use Method I - Notched Wedge Joint (see Figure 4.06-1) when constructing longitudinal joints where lift thicknesses are 1 1/2 inches to 3 inches. S1.0 mixtures shall be excluded from using Method I. Method II - Butt Joint (see Figure 4.06-2) shall be used for lifts less than 1 1/2 inches or greater than 3 inches. Each longitudinal joint shall maintain a consistent offset from the centerline of the roadway along its entire length. The difference in elevation between the two faces of any completed longitudinal joint shall not exceed 1/4 inch at any location.

Method I - Notched Wedge Joint:

A notched wedge joint shall be constructed as shown in Figure 4.06-1 using a device that is attached to the paver screed and is capable of independently adjusting the top and bottom vertical notches. The device shall have an integrated vibratory system. The top vertical notch must be located at the centerline or lane line in the final lift. The requirement for paving full width "curb to curb" as described in Method II may be waived if addressed in the QC plan and approved by

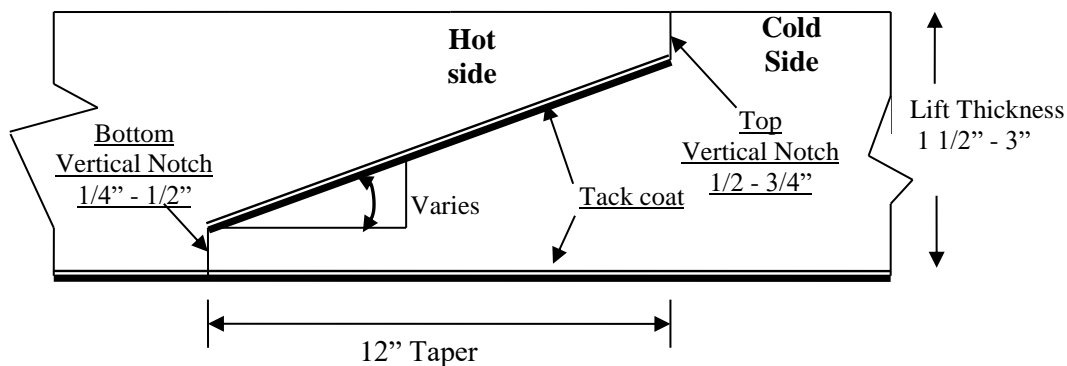
the Engineer.

The taper portion of the wedge joint shall be evenly compacted using equipment other than the paver or notch wedge joint device. The compaction device shall be the same width as the taper and not reduce the angle of the wedge or ravel the top notch of the joint during compaction.

When placed on paved surfaces, the area below the sloped section of the joint shall be treated with tack coat. The top surface of the sloped section of the joint shall be treated with tack coat prior to placing the completing pass.

The taper portion of the wedge joint shall not be exposed to traffic for more than 5 calendar days.

Figure 4.06-1: Notched Wedge Joint (Not to Scale)



Any exposed wedge joint must be located to allow for the free draining of water from the road surface.

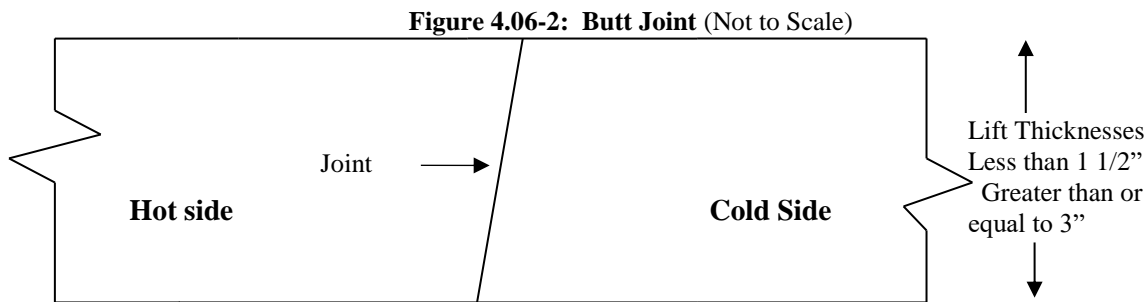
The Engineer reserves the right to define the paving limits when using a wedge joint that will be exposed to traffic.

If Method I cannot be used on those lifts which are 1 ½ inches to 3 inches, Method III may be substituted according to the requirements below for “Method III - Butt Joint with Hot Poured Rubberized Asphalt Treatment.”

Method II - Butt Joint:

When adjoining passes are placed, the Contractor shall use the end gate to create a near vertical edge (refer to Figure 4.06-2). The completing pass (hot side) shall have sufficient mixture so that the compacted thickness is not less than the previous pass (cold side). During placement of multiple lifts, the longitudinal joint shall be constructed in such a manner that it is located at least 6 inch from the joint in the lift immediately below. The joint in the final lift shall be at the centerline or at lane lines. The end gate on the paver should be set so there is an overlap onto the cold side of the joint.

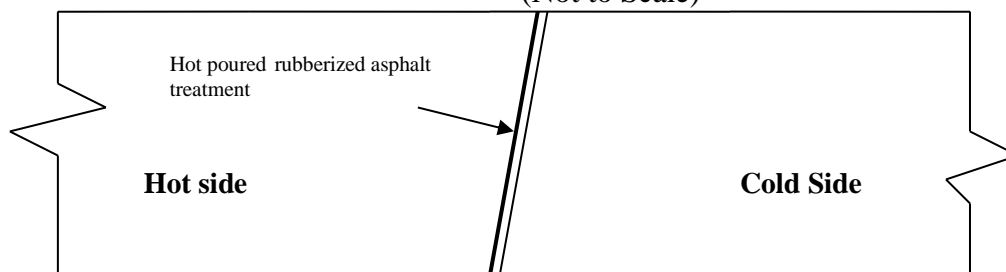
The Contractor shall not allow any butt joint to be incomplete at the end of a work shift unless otherwise allowed by the Engineer. When using this method, the Contractor is not allowed to leave a vertical edge exposed at the end of a work shift and must complete paving of the roadway full width “curb to curb.”



Method III - Butt Joint with Hot Poured Rubberized Asphalt Treatment:

If Method I cannot be used due to physical constraints in certain limited locations, the Contractor may submit a request in writing for approval by the Engineer to use Method III as a substitution in those locations. There shall be no additional measurement or payment made when Method III is substituted for Method I. When required by the Contract or approved by the Engineer, Method III (see Figure 4.06-3) shall be used.

Figure 4.06-3: Butt Joint with Hot Poured Rubberized Asphalt Treatment
(Not to Scale)



All of the requirements of Method II must be met with Method III. In addition, the longitudinal vertical edge must be treated with a rubberized joint seal material meeting the requirements of ASTM D6690, Type 2. The joint sealant shall be placed on the face of the “cold side” of the butt joint as shown above prior to placing the “hot side” of the butt joint. The joint seal material shall be applied in accordance with the manufacturer’s recommendation so as to provide a uniform coverage and avoid excess bleeding onto the newly placed pavement.

8. Contractor Quality Control (QC) Requirements: The Contractor shall be responsible for maintaining adequate quality control procedures throughout the production and placement operations. Therefore, the Contractor must ensure that the materials, mixture, and work provided by Subcontractors, Suppliers, and Producers also meet Contract specification requirements.

This effort must be documented in Quality Control Plans (QCP) and must address the actions, inspection, or sampling and testing necessary to keep the production and placement operations in control, to determine when an operation has gone out of control and to respond to correct the situation in a timely fashion.

The Standard QCP for production shall consist of the quality control program specific to the production facility.

There are 3 components to the QCP for placement: a Standard QCP, a Project Summary Sheet

that details Project-specific information, and, if applicable, a separate Extended Season Paving Plan as required in 4.06.03-9 “Temperature and Seasonal Requirements.”

The Standard QCP for both production and placement shall be submitted to the Department for approval each calendar year and at a minimum of 30 days prior to production or placement.

Production or placement shall not occur until all QCP components have been approved by the Engineer.

Each QCP shall include the name and qualifications of a Quality Control Manager (QCM). The QCM shall be responsible for the administration of the QCP, and any modifications that may become necessary.

The QCM shall have the ability to direct all Contractor personnel on the Project during paving operations.

The QCPs shall also include the name and qualifications of any outside testing laboratory performing any QC functions on behalf of the Contractor. The QC Technician performing in-place density testing shall be NETTCP certified as a paving inspector.

Approval of the QCP does not relieve the Contractor of its responsibility to comply with the Project specifications. The Contractor may modify the QCPs as work progresses and must document the changes in writing prior to resuming operations. These changes include but are not limited to changes in quality control procedures or personnel. The Department reserves the right to deny significant changes to the QCPs.

QCP for Production: Refer to M.04.03-1.

QCP for Placement: The Standard QCP, Project Summary Sheet, and Extended Season Paving Plan shall conform to the format provided by the Engineer. The format is available at http://www.ct.gov/dot/lib/dot/documents/dconstruction/pat/qcp_outline_hma_placement.pdf

The Contractor shall perform all quality control sampling and testing, provide inspection, and exercise management control to ensure that bituminous concrete placement conforms to the requirements as outlined in its QCP during all phases of the work. The Contractor shall document these activities for each day of placement.

The Contractor shall submit complete field density testing and inspection records to the Engineer within 48 hours in a manner acceptable to the Engineer.

The Contractor may obtain 1 mat core and 1 joint core per day for process control, provided this process is detailed in the QCP. The results of these process control cores shall not be used to dispute the Department’s determinations from the acceptance cores. The Contractor shall submit the location of each process control core to the Engineer for approval prior to taking the core. The core holes shall be filled to the same requirements described in Subarticle 4.06.03-10.

9. Temperature and Seasonal Requirements: Paving, including placement of temporary pavements, shall be divided into 2 seasons, “In-Season” and “Extended-Season.” In-Season paving occurs from May 1 to October 14, and Extended Season paving occurs from October 15 to April 30. The following requirements shall apply unless otherwise authorized or directed by the Engineer:

- Mixtures shall not be placed when the air or subbase temperature is less than 40°F regardless of the season.
- Should paving operations be scheduled during the Extended Season, the Contractor must submit an Extended Season Paving Plan for the Project that addresses minimum delivered mix temperature considering WMA, PMA, or other additives; maximum paver speed; enhanced rolling patterns; and the method to balance mixture delivery and placement

operations. Paving during Extended Season shall not commence until the Engineer has approved the plan.

10. Field Density The Contractor shall obtain cores for the determination of mat and longitudinal joint density of bituminous concrete pavements. Within five calendar days of placement, mat and joint cores shall be extracted on each lift with a specified thickness of 1 1/2 inches or more. Joint cores shall not be extracted on HMA S1.0 lifts.

The Contractor shall extract cores from random locations determined by the Engineer in accordance with ASTM D3665. Four (4) or six (6) inch diameter cores shall be extracted for S0.25, S0.375 and S0.5 mixtures; 6 inch diameter cores shall be required for S1.0 mixtures. The Contractor shall coordinate with the Engineer to witness the extraction, labeling of cores, and filling of the core holes.

Each lift will be separated into lots as follows:

- a. **Simple Average Density Lots:** For total estimated quantities below 2,000 tons, the lift will be evaluated in one lot which will include the total paved tonnage of the lift and all longitudinal joints between the curb lines.
For total estimated quantities between 2,000 and 3,500 tons, the lift will be evaluated in two lots in which each lot will include approximately half of the total tonnage placed for the full paving width of a lift including all longitudinal joints between the curb lines.
- b. **PWL Density Lots:** Mat density lots will include each 3,500 tons of mixture placed within 30 calendar days. Joint density lots will include 14,000 linear feet of constructed joints. Bridge density lots will always be analyzed using simple average lot methodology.
- c. **Partial Density Lot (For PWL only):** A mat density lot with less than 3,500 tons or a joint density lot with less than 14,000 linear feet due to:
 - completion of the course; or
 - a lot spanning 30 calendar days.

Prior to paving, the type and number of lot(s) will be determined by the Engineer.

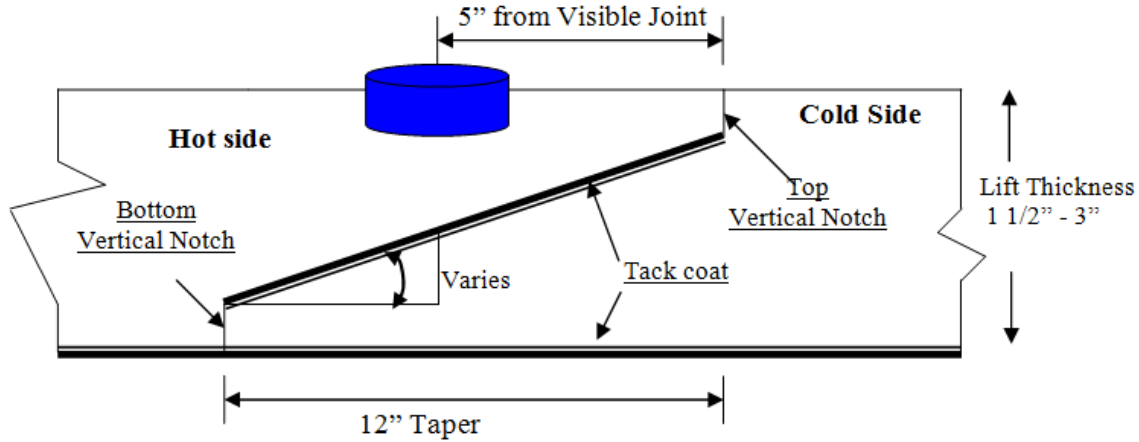
Noncontiguous areas such as highway ramps may be combined to create one lot.

After the lift has been compacted and cooled, the Contractor shall cut cores to a depth equal to or greater than the lift thickness and shall remove them without damaging the lift(s) to be tested. Any core that is damaged or obviously defective while being obtained will be replaced with a new core from a location within 2 feet measured in a longitudinal direction.

A mat core shall not be located any closer than 1 foot from the edge of a paver pass. If a random number locates a core less than 1 foot from any edge, the location will be adjusted by the Engineer so that the outer edge of the core is 1 foot from the edge of the paver pass.

Method I, Notched Wedge Joint cores shall be taken so that the center of the core is 5 inches from the visible joint on the hot mat side (Figure 4.06-4).

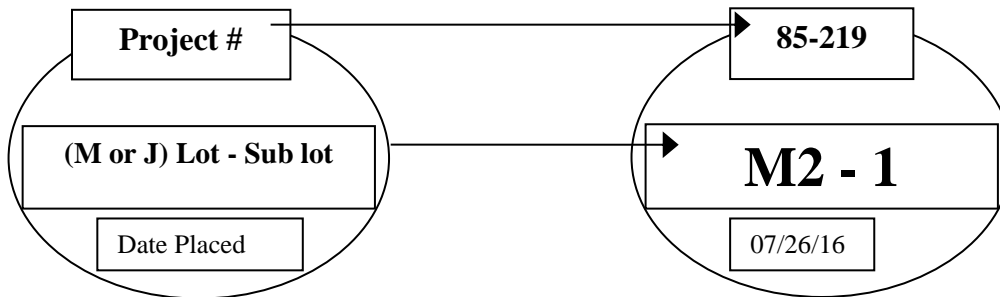
Figure 4.06-4: Notched Wedge Joint Cores (Not to Scale)



When Method II or Method III Butt Joint is used, cores shall be taken from the hot side so the edge of the core is within 1 inch of the longitudinal joint.

The cores shall be labeled by the Contractor with the Project number, date placed, lot number, and sub-lot number. The core’s label shall include “M” for a mat core and “J” for a joint core. For example, a mat core from the first lot and the first sub-lot shall be labeled with “M1 – 1.” A mat core from the second lot and first sub-lot shall be labeled “M2-1” (see Figure 4.06-5). The Engineer shall fill out a MAT-109 to accompany the cores. The Contractor shall deliver the cores and MAT-109 to the Department’s Central Lab. The Contractor shall use a container approved by the Engineer. The container shall have a lid capable of being locked shut and tamper proof. The Contractor shall use foam, bubble wrap, or another suitable material to prevent the cores from being damaged during handling and transportation. Once the cores and MAT-109 are in the container the Engineer will secure the lid using security seals at the removable hinges(s) and at the lid opening(s). The security seals’ identification number must be documented on the MAT-109. All sealed containers shall be delivered to the Department’s Central Lab within two working days from time of extraction. Central Lab personnel will break the security seal and take possession of the cores.

Figure 4.06-5: Labeling of Cores



Each core hole shall be filled within 4 hours upon core extraction. Prior to being filled, the hole shall be prepared by removing any free water and applying tack coat using a brush or other

means to uniformly cover the cut surface. The core hole shall be filled using a bituminous concrete mixture at a minimum temperature of 240°F containing the same or smaller nominal maximum aggregate size and compacted with a hand compactor or other mechanical means to the maximum compaction possible. The bituminous concrete shall be compacted to 1/8 inch above the finished pavement.

Simple Average Density Lots:

A standard simple average density lot is the quantity of material placed within the defined area excluding any bridge decks.

A combo simple average density lot is the quantity of material placed within the defined area including bridge decks less than or equal to 500 feet long.

A bridge simple average density lot is the quantity of material placed on a bridge deck longer than 500 feet.

The number of cores per lot shall be determined in accordance with Table 4.06-4. If a randomly selected mat or joint core location is on a bridge deck, the core is to be obtained on the bridge deck in addition to the core(s) required on the bridge deck.

The number of cores per lot shall be determined in accordance with Table 4.06-5. Multiple bridge decks can be combined into one lot if the paving and underlying conditions are comparable. If multiple bridge decks are combined into a single bridge lot, at least one mat and joint core shall be obtained on each bridge.

The longitudinal locations of mat cores within a standard, combo, or bridge lot containing multiple paving passes will be determined using the combined length of the paving passes within the lot.

TABLE 4.06-4: Number of Cores per Lot (Simple Average)

Lot Type	No. of Mat Cores		No. of Joint Cores	
Standard Lot < 500 Tons	3		3	
Standard Lot ≥ 500 Tons	4		4	
Combo Lot < 500 Tons	2 plus	1 per bridge (≤ 300')	2 plus	1 per bridge (≤ 300')
Combo Lot ≥ 500 Tons ⁽¹⁾	4 plus	2 per bridge (301' – 500')	4 plus	2 per bridge (301' – 500')

TABLE 4.06-5: Number of Core per Bridge Density Lot (Simple Average)

Length of Bridge(s) (Feet)	Minimum No. of Mat Cores	Minimum No. of Joint Cores
< 500	2	2
501 – 1,500	3	3
1,501 – 2,500	4	4
2,501 and greater	5	5

PWL Density Lots:

A PWL mat density lot is 3,500 tons of material placed within the defined area excluding any bridges. One mat core will be obtained per every 500 tons placed.

A PWL joint density lot is 14,000 linear feet of longitudinal joint excluding any joints on bridge decks. One joint core will be obtained per every 2,000 linear feet of joint.

Bridge density lots will always be analyzed as using the simple average lot methodology. The number of cores per lot shall be determined in accordance with Table 4.06-5. Multiple bridge decks can be combined into one lot if the paving and underlying conditions are comparable. If multiple bridge decks are combined into a single bridge lot, at least one mat and joint core shall be obtained on each bridge.

11. Acceptance Sampling and Testing: Sampling shall be performed in accordance with ASTM D3665 or a statistically-based procedure of stratified random sampling approved by the Engineer.

Plant Material Acceptance: The Contractor shall provide the required sampling and testing during all phases of the work in accordance with M.04. The Department will verify the Contractor's acceptance test results. Should any test results exceed the specified tolerances in the Department's current QA Program for Materials, the Contractor's test results for a subject lot or sub lot may be replaced with the Department's results for the purpose of calculating adjustments. The verification procedure is included in the Department's current QA Program for Materials.

Density Acceptance: The Engineer will perform all acceptance testing in accordance with AASHTO T 331. The density of each core will be determined using the daily production's average maximum theoretical specific gravity (Gmm) established during the testing of the parent material at the Plant. When there was no testing of the parent material or any Gmm exceeds the specified tolerances in the Department's current QA Program for Materials, the Engineer will determine the maximum theoretical density value to be used for density calculations.

12. Density Dispute Resolution Process: The Contractor and Engineer will work in partnership to avoid potential conflicts and to resolve any differences that may arise during quality control or acceptance testing for density. Both parties will review their sampling and testing procedures and results and share their findings. If the Contractor disputes the Engineer's test results, the Contractor must submit in writing a request to initiate the Dispute Resolution Process within five calendar days of the notification of the test results. No request for dispute resolution will be allowed unless the Contractor provides quality control results from samples taken prior to and after finish rolling, and within the timeframe described in 4.06.03-8 supporting its position. No request for dispute resolution will be allowed for a density lot in which any core was not taken within the required 5 calendar days of placement. Should the dispute not be resolved through evaluation of existing testing data or procedures, the Engineer may authorize the Contractor to obtain a new core or set of core samples per disputed lot. The core samples must be extracted no later than seven calendar days from the date of the Engineer's authorization. All such core samples shall be extracted and the core hole filled using the procedure outlined in 4.06.03-10.

a) **Simple Average Lots:** The Contractor may only dispute any simple average lot that is adjusted at or below 95 percent payment. The number and location (mat, joint, or structure) of the cores taken for dispute resolution must reflect the number and location of the original cores. The location of each core shall be randomly located within the respective original sub lot. The dispute resolution results shall be combined with the original results and averaged for determining the final in-place density value.

b) **PWL Lots:** The Contractor may dispute any PWL subplot when the PWL falls below 50%

calculated in accordance with section 4.06.04.2.b. An additional random core in the subplot may be taken to validate the accuracy of the core in question. The Department will verify the additional core test result and may average the original test result with the additional core result for purpose of calculating adjustments.

13. Corrective Work Procedure:

If pavement placed by the Contractor does not meet the specifications, and the Engineer requires its replacement or correction, the Contractor shall:

- a) Propose a corrective procedure to the Engineer for review and approval prior to any corrective work commencing. The proposal shall include:
 - Limits of pavement to be replaced or corrected, indicating stationing or other landmarks that are readily distinguishable.
 - Proposed work schedule.
 - Construction method and sequence of operations.
 - Methods of maintenance and protection of traffic.
 - Material sources.
 - Names and telephone numbers of supervising personnel.
- b) Any corrective courses placed as the final wearing surface shall match the specified lift thickness after completion.

14. Protection of the Work: The Contractor shall protect all sections of the newly finished pavement from damage that may occur as a result of the Contractor's operations for the duration of the Project.

15. Cut Bituminous Concrete Pavement: Work under this item shall consist of making a straight-line cut in the bituminous concrete pavement to the lines delineated on the plans or as directed by the Engineer. The cut shall provide a straight, clean, vertical face with no cracking, tearing or breakage along the cut edge.

4.06.04—Method of Measurement:

1. HMA S* or PMA S*: Bituminous concrete will be measured for payment as the amount of material in tons placed as determined by the net weight on the delivered tickets and adjusted by area, thickness and weight as follows:

Quantity Adjustments: Adjustments may be applied to the placed bituminous concrete quantities that will be measured for payment using the following formulas:

Yield Factor for Adjustment Calculation = 0.0575 tons/SY/inch

Actual Area (SY) = [(Measured Length (ft)) x (Avg. of width measurements (ft))] ÷ 9 s.f./SY

Actual Thickness (t) = Total tons delivered / [Actual Area (SY) x 0.0575 tons/SY/inch]

- a) Area: If the average width exceeds the allowable tolerance, an adjustment will be made using the following formula. The tolerance for width is equal to the specified thickness (inch) of the lift being placed.

Quantity Adjusted for Area (T_A) = [(L x W_{adj})/9] x (t) x 0.0575 Tons/SY/inch = (-) tons

Where: L = Length (ft)

(t) = Actual thickness (inches)

W_{adj} = (Designed width (ft) + tolerance /12) - Measured Width)

- b) Thickness: If the actual average thickness is less than the allowable tolerance, the Contractor shall submit a repair procedure to the Engineer for approval. If the actual thickness exceeds the allowable tolerance, an adjustment will be made using the following formula:

$$\text{Quantity Adjusted for Thickness (T}_T\text{)} = A \times t_{\text{adj}} \times 0.0575 = (-) \text{ tons}$$

Where: A = Area = $\{ [L \times (\text{Design width} + \text{tolerance (lift thickness)}) / 12] / 9 \}$

t_{adj} = Adjusted thickness = $[(Dt + \text{tolerance}) - \text{Actual thickness}]$

Dt = Designed thickness (inches)

- c) Weight: If the quantity of bituminous concrete representing the mixture delivered to the Project is in excess of the allowable gross vehicle weight (GVW) for each vehicle, an adjustment will be made using the following formula:

$$\text{Quantity Adjusted for Weight (T}_w\text{)} = \text{GVW} - \text{DGW} = (-) \text{ tons}$$

Where: DGW = Delivered gross weight as shown on the delivery ticket or measured on a certified scale

2. Bituminous Concrete Adjustment Cost:

- a) Production Lot Adjustment: An adjustment may be applied to each production lot as follows:

- i. Non-PWL Production Lot (less than 3,500 tons):

The adjustment values in Tables 4.06-6 and 4.06-7 will be calculated for each sub lot based on the Air Void (AV) and Asphalt Binder Content (PB) test results for that sub lot. The total adjustment for each day's production (lot) will be computed as follows:

$$\text{Tons Adjusted for Superpave Design (T}_{\text{SD}}\text{)} = [(\text{AdjAV}_t + \text{AdjPB}_t) / 100] \times \text{Tons}$$

Where: AdjAV_t: Percent adjustment for air voids

AdjPB_t: Percent adjustment for asphalt binder

Tons: Weight of material (tons) in the lot adjusted by 4.06.4-1

$$\text{Percent Adjustment for Air Voids} = \text{AdjAV}_t = [\text{AdjAV}_1 + \text{AdjAV}_2 + \text{AdjAV}_i + \dots + \text{AdjAV}_n] / n$$

Where: AdjAV_t = Total percent air void adjustment value for the lot

AdjAV_i = Adjustment value from Table 4.06-6 resulting from each sub lot or the average of the adjustment values resulting from multiple tests within a sub lot, as approved by the Engineer.

n = number of sub lots based on Table M.04.03-2

TABLE 4.06-6: Adjustment Values for Air Voids

Adjustment Value (AdjAV _i) (%)	S0.25, S0.375, S0.5, S1 Air Voids (AV)
+2.5	3.8 - 4.2
+3.125*(AV-3)	3.0 - 3.7
-3.125*(AV-5)	4.3 - 5.0
20*(AV-3)	2.3 - 2.9
-20*(AV-5)	5.1 - 5.7
-20.0	≤ 2.2 or ≥ 5.8

Percent Adjustment for Asphalt Binder = AdjPB_t = [(AdjPB₁ + AdjPB₂ + AdjPB_i + ... + AdjPB_n)] / n

Where: AdjPB_t = Total percent liquid binder adjustment value for the lot

AdjPB_i = Adjustment value from Table 4.06-7 resulting from each sub lot

n = number of binder tests in a production lot

TABLE 4.06-7: Adjustment Values for Binder Content

Adjustment Value (AdjAV _i) (%)	<u>S0.25, S0.375, S0.5, S1</u> Pb
0.0	JMF Pb ± 0.3
- 10.0	≤ JMF Pb - 0.4 or ≥ JMF Pb + 0.4

ii. PWL Production Lot (3500 tons or more):

For each lot, the adjustment values will be calculated using PWL methodology based on AV, VMA, and PB test results. The results will be considered as being normally distributed and all applicable equations in AASHTO R 9 and AASHTO R 42 Appendix X4 will apply.

Only one test result will be considered for each sub lot. The specification limits are listed in M.04.

For AV, PB, and voids in mineral aggregate (VMA), the individual material quantity characteristic adjustment (Adj) will be calculated as follows:

For PWL between 50 and 90%: Adj(AV_t or PB_t or VMA_t) = (55 + 0.5 PWL) - 100

For PWL at and above 90%: Adj(AV_t or PB_t or VMA_t) = (77.5 + 0.25 PWL) - 100

Where: AdjAV_t = Total percent AV adjustment value for the lot

AdjPB_t = Total percent PB adjustment value for the lot

AdjVMA_t = Total percent VMA adjustment value for the lot

A lot with PWL less than 50% in any of the 3 individual material quality characteristics will be evaluated under 1.06.04.

The total adjustment for each production lot will be computed using the following formula:

Tons Adjusted for Superpave Design (T_{SD}) = [(0.5AdjAV_t + 0.25AdjPB_t + 0.25 AdjVMA_t) / 100] X Tons

Where Tons: Weight of material (tons) in the lot adjusted by 4.06.4-1

iii. Partial Lots:

Lots with less than 4 sub lots will be combined with the prior lot. If there is no prior lot with equivalent material or if the last test result of the prior lot is over 30 calendar days old, the adjustment will be calculated as indicated in 4.06.04-2.a)i.

Lots with 4 or more sub lots will be calculated as indicated in 4.06.04-2.a)ii.

Production Lot Adjustment: $T_{SD} \times \text{Unit Price} = \text{Est. (Pi)}$

Where: Unit Price = Contract unit price per ton per type of mixture

Est. (Pi) = Pay Unit in dollars representing incentive or disincentive per lot

b) Density Lot Adjustment: An adjustment may be applied to each density lot as follows:

i. Simple Average Density Lot (less than 3500 tons) and Bridge Lots:

The final lot quantity shall be the difference between the total payable tons for the Project and the sum of the previous lots. If either the Mat or Joint adjustment value is “remove and replace,” the density lot shall be removed and replaced (curb to curb).

No positive adjustment will be applied to a density lot in which any core was not taken within the required 5 calendar days of placement.

Tons Adjusted for Density (T_D) = $[(P_{AM} \times 0.50) + (P_{AJ} \times 0.50)] / 100 \times \text{Tons}$

Where: T_D = Total tons adjusted for density for each lot

P_{AM} = Mat density percent adjustment from Table 4.06-8

P_{AJ} = Joint density percent adjustment from Table 4.06-9

Tons: Weight of material (tons) in the lot adjusted by 4.06.4-1

TABLE 4.06-8: Adjustment Values for Pavement Mat density

Average Core Result	Percent Adjustment (Bridge and Non-Bridge) ⁽¹⁾⁽²⁾
Percent Mat Density	
97.1 - 100	-1.667*(ACRPD-98.5)
94.5 – 97.0	+2.5
93.5 – 94.4	+2.5*(ACRPD-93.5)
92.0 – 93.4	0
90.0 – 91.9	-5*(92-ACRPD)
88.0 – 89.9	-10*(91-ACRPD)
87.0 – 87.9	-30
86.9 or less	Remove and Replace (curb to curb)

Notes:

⁽¹⁾ ACRPD = Average Core Result Percent Density

⁽²⁾ All Percent Adjustments to be rounded to the second decimal place; for example round 1.667 to 1.67.

TABLE 4.06-9: Adjustment Values for Pavement Joint Density

Average Core Result	Percent Adjustment (Bridge and Non-Bridge) ⁽¹⁾⁽²⁾
Percent Joint Density	
97.1 – 100	-1.667*(ACRPD-98.5)
93.5 – 97.0	+2.5
92.0 – 93.4	+1.667*(ACRPD-92)
91.0 – 91.9	0
89.0 – 90.9	-7.5*(91-ACRPD)
88.0 – 88.9	-15*(90-ACRPD)
87.0 – 87.9	-30
86.9 or less	Remove and Replace (curb to curb)

Notes:

⁽¹⁾ ACRPD = Average Core Result Percent Density

⁽²⁾ All Percent Adjustments to be rounded to the second decimal place; for example round 1.667 to 1.67

Additionally, any subplot with a density result below 87% will be evaluated under 1.06.04.

ii. PWL Density Lot (3,500 tons or more):

For each lot, the adjustment values will be calculated using PWL methodology based on mat and joint density test results. Only one result will be included for each subplot. The results will be considered as being normally distributed and all applicable equations in AASHTO R 9 and AASHTO R 42 Appendix X4 will apply.

The specification limits for the PWL determination are as follows:

Mat Density: 91.5-98%

Joint Density: 90-98%

For mat and joint density, the individual percent adjustment (PA) will be calculated as follows:

For PWL between 50 and 90%: $PA_{(M \text{ or } J)} = 0.25 * PWL - 22.50$

For PWL at and above 90%: $PA_{(M \text{ or } J)} = 0.125 * PWL - 11.25$

Where: PA_M = Total percent mat density adjustment value for the PWL mat density lot

PA_J = Total percent joint density adjustment value for the PWL joint density lot

No positive adjustment will be applied to a density lot in which any core was not taken within the required 5 calendar days of placement.

A lot with PWL less than 50% will be evaluated under 1.06.04.

The total adjustment for each PWL mat density lot will be computed as follows:

Tons Adjusted for Mat Density (T_{MD}) = $(PA_M / 100) \times \text{Tons}$

Where: Tons= Weight of material (tons) in the lot adjusted by 4.06.4-1.

The total adjustment for each PWL joint density lot will be computed as follows:

Tons Adjusted for Joint Density (T_{JD}) = (PA_J / 100) X J_Tons

Tons Adjusted for Joint Density will be calculated at the end of each project or project phase.

Where: J_Tons = Tons in project or phase adjusted by 4.06.4 – 1 x $\frac{\text{Lot joint length}}{\text{Joint length in project or phase}}$

All bridge density lot adjustments will be evaluated in accordance with 4.06.04-2.b)i.

Additionally, any subplot with a density result below 87% will be evaluated under 1.06.04.

iii. Partial Lots:

Lots with less than 4 sub lots will be combined with the prior lot. If there is no prior lot with equivalent material and placement conditions or if the last test result of the prior lot is over 30 calendar days old, the mat and joint individual adjustments will be calculated in accordance to Tables 4.06-8 and 4.06-9. T_{MD} and T_{JD} will be calculated as indicated in 4.06.04-2.b)i.

Lots with 4 or more sub lots will be calculated as indicated in 4.06.04-2.b)ii.

Density Lot Adjustment (Simple Average Lots): T_D x Unit Price = Est. (Di)

Density Lot Adjustment (PWL Lots): (T_{MD} or T_{JD}) x Unit Price = Est. (DMi or DJi)

Where: Unit Price = Contract unit price per ton per type of mixture

Est. (Di)= Pay Unit in dollars representing incentive or disincentive per simple average density lot

Est. (DMi)= Pay Unit in dollars representing incentive or disincentive per PWL mat lot

Est. (DJi)= Pay Unit in dollars representing incentive or disincentive per PWL joint lot

Additionally, any subplot with a density result below 87% will be evaluated under 1.06.04.

3. Transitions for Roadway Surface: The installation of permanent transitions will be measured under the appropriate item used in the formation of the transition.

The quantity of material used for the installation of temporary transitions will be measured for payment under the appropriate item used in the formation of the transition. The installation and removal of a bond breaker and the removal and disposal of any temporary transition formed by milling or with bituminous concrete pavement is not measured for payment.

4. Cut Bituminous Concrete Pavement: The quantity of bituminous concrete pavement cut will be measured in accordance with 2.02.04.

5. Material for Tack Coat: The quantity of tack coat will be measured for payment by the number of gallons furnished and applied on the Project and approved by the Engineer. No tack coat material shall be included that is placed in excess of the tolerance described in 4.06.03.

- a. Container Method – Material furnished in a container will be measured to the nearest 1/2 gallon. The volume will be determined by either measuring the volume in the original container by a method approved by the Engineer or using a separate graduated container

capable of measuring the volume to the nearest 1/2 gallon. The container in which the material is furnished must include the description of material, including lot number or batch number and manufacturer or product source.

b. Vehicle Method

i. Measured by Weight: The number of gallons furnished will be determined by weighing the material on calibrated scales furnished by the Contractor. To convert weight to gallons, one of the following formulas will be used:

Tack Coat (gallons at 60°F) = Measured Weight (pounds) / Weight per gallon at 60°F

Tack Coat (gallons at 60°F) = 0.996 x Measured Weight (pounds) / Weight per gallon at 77°F

ii. Measured by automated metering system on the delivery vehicle:

Tack Coat (gallons at 60°F) = 0.976 x Measured Volume (gallons).

6. Material Transfer Vehicle (MTV): The furnishing and use of a MTV will be measured separately for payment based on the actual number of surface course tons delivered to a paver using the MTV.

4.06.05—Basis of Payment:

1. HMA S* or PMA S*: The furnishing and placing of bituminous concrete will be paid for at the Contract unit price per ton for " HMA S*" or " PMA S*."

All costs associated with providing illumination of the work area are included in the general cost of the work.

All costs associated with cleaning the surface to be paved, including mechanical sweeping, are included in the general cost of the work. All costs associated with constructing longitudinal joints are included in the general cost of the work.

All costs associated with obtaining cores for acceptance testing and dispute resolution are included in the general cost of the work.

2. Bituminous Concrete Adjustment Costs: This adjustment will be calculated using the formulas shown below if all of the measured adjustments in 4.06.04-2 are not equal to zero. A positive or negative adjustment will be applied to monies due the Contractor.

Production Lot: $\Sigma \text{ Est (Pi)} = \text{Est. (P)}$

Density Lot (Simple Average Lots): $\Sigma \text{ Est (Di)} = \text{Est. (D)}$

Density Lot (PWL): $\Sigma \text{ Est (DMi)} + \Sigma \text{ (DJi)} = \text{Est. (D)}$

Bituminous Concrete Adjustment Cost= Est. (P) + Est. (D)

Where: Est. ()= Pay Unit in dollars representing incentive or disincentive in each production or density lot calculated in 4.06.04-2

The Bituminous Concrete Adjustment Cost item, if included in the bid proposal or estimate, is not to be altered in any manner by the Bidder. If the Bidder should alter the amount shown, the altered figure will be disregarded and the original estimated cost will be used for the Contract.

3. Transitions for Roadway Surface: The installation of permanent transitions will be paid under the appropriate item used in the formation of the transition. The quantity of material used for the installation of temporary transitions will be paid under the appropriate pay item used in the formation of the transition. The installation and removal of a bond breaker, and the removal and disposal of any temporary transition formed by milling or with bituminous concrete

pavement is included in the general cost of the work.

4. The cutting of bituminous concrete pavement will be paid in accordance with 2.02.05.
5. Material for tack coat will be paid for at the Contract unit price per gallon at 60°F for "Material for Tack Coat."
6. The Material Transfer Vehicle (MTV) will be paid at the Contract unit price per ton for "Material Transfer Vehicle."

Pay Item	Pay Unit
HMA S*	ton
PMA S*	ton
Bituminous Concrete Adjustment Cost	est.
Material for Tack Coat	gal.
Material Transfer Vehicle	ton

SECTION M.04 - BITUMINOUS CONCRETE MATERIALS

Section M.04 is being deleted in its entirety and replaced with the following:

M.04.01—Bituminous Concrete Materials and Facilities

M.04.02—Mix Design and Job Mix Formula (JMF)

M.04.03—Production Requirements

M.04.01—Bituminous Concrete Materials and Facilities: Each source of material, Plant, and laboratory used to produce and test bituminous concrete must be qualified on an annual basis by the Engineer. AASHTO or ASTM Standards noted with an (M) have been modified and are detailed in Table M.04.03-5.

Aggregates from multiple sources of supply must not be blended or stored in the same stockpile.

1. Coarse Aggregate: All coarse aggregate shall meet the requirements listed in M.01.

2. Fine Aggregate: All fine aggregate shall meet the requirements listed in M.01.

3. Mineral Filler: Mineral filler shall conform to the requirements of AASHTO M 17.

4. Performance Graded (PG) Asphalt Binder:

(a) General:

- i. PG asphalt binder shall be uniformly mixed and blended and be free of contaminants such as fuel oils and other solvents. Binder shall be properly heated and stored to prevent damage or separation.
- ii. The binder shall meet the requirements of AASHTO M 332 and shall be graded or verified in accordance with AASHTO R 29. The Contractor shall submit a Certified Test Report and bill of lading representing each delivery in accordance with AASHTO R 26(M). The Certified Test Report must also indicate the binder specific gravity at 77°F; rotational viscosity at 275°F and 329°F; and the mixing and compaction viscosity-temperature chart for each shipment.
- iii. The Contractor shall submit the name(s) of personnel responsible for receipt, inspection, and record keeping of PG binder. Contractor Plant personnel shall document specific storage tank(s) where binder will be transferred and stored until used and provide binder samples to the Engineer upon request. The person(s) shall assure that each shipment is accompanied by a statement certifying that the transport vehicle was inspected before loading was found acceptable for the material shipped and that the binder is free of contamination from any residual material, along with 2 copies of the bill of lading.
- iv. The blending or combining of PG binders in 1 storage tank at the Plant from different suppliers, grades, or additive percentages is prohibited.

(b) Basis of Approval: The request for approval of the source of supply shall list the location where the material will be manufactured, and the handling and storage methods, along with necessary certification in accordance with AASHTO R 26(M). Only suppliers/refineries that have an approved “Quality Control Plan for Performance Graded Binders” formatted in accordance with AASHTO R 26(M) may supply PG binders to Department projects.

(c) Standard Performance Grade (PG) Binder:

- i. Standard PG binder shall be defined as “Neat.” Neat PG binders shall be free from modification with: fillers, extenders, reinforcing agents, adhesion promoters,

thermoplastic polymers, acid modification and other additives such as re-refined motor oil, and shall indicate such information on each bill of lading and Certified Test Report.

ii. The standard asphalt binder shall be PG 64S-22.

(d) Modified Performance Grade (PG) Binder: The modified asphalt binder shall be Performance Grade PG 64E-22 asphalt modified solely with a Styrene-Butadiene-Styrene (SBS) polymer. The polymer modifier shall be added at either the refinery or terminal and delivered to the bituminous concrete production facility as homogenous blend. The stability of the modified binder shall be verified in accordance with ASTM D7173 using the Dynamic Shear Rheometer (DSR). The DSR $G^*/\sin(\delta)$ results from the top and bottom sections of the ASTM D7173 test shall not differ by more than 10%. The results of ASTM D7173 shall be included on the Certified Test Report. The binder shall meet the requirements of AASHTO M 332 (including Appendix X1) and AASHTO R 29.

(e) Warm Mix Additive or Technology:

- i. The warm mix additive or technology must be listed on the North East Asphalt User Producer Group (NEAUPG) Qualified Warm Mix Asphalt (WMA) Technologies List at the time of bid, which may be accessed online at <http://www.neaupg.uconn.edu>.
- ii. The warm mix additive shall be blended with the asphalt binder in accordance with the manufacturer's recommendations.
- iii. The blended binder shall meet the requirements of AASHTO M 332 and shall be graded or verified in accordance with AASHTO R 29 for the specified binder grade. The Contractor shall submit a Certified Test Report showing the results of the testing demonstrating the binder grade. In addition, it must include the grade of the virgin binder, the brand name of the warm mix additive, the manufacturer's suggested rate for the WMA additive, the water injection rate (when applicable), and the WMA Technology manufacturer's recommended mixing and compaction temperature ranges.

5. Emulsified Asphalts:

(a) General:

- i. The emulsified asphalt shall meet the requirements of AASHTO M 140(M) or AASHTO M 208 as applicable.
- ii. The emulsified asphalts shall be free of contaminants such as fuel oils and other solvents.
- iii. The blending at mixing Plants of emulsified asphalts from different suppliers is prohibited.

(b) Basis of Approval:

- i. The request for approval of the source of supply shall list the location where the material is manufactured, the handling and storage methods, and certifications in accordance with AASHTO R 77. Only suppliers that have an approved "Quality Control Plan for Emulsified Asphalt" formatted in accordance with AASHTO R 77 and that submit monthly split samples per grade to the Engineer may supply emulsified asphalt to Department projects.
- ii. Each shipment of emulsified asphalt delivered to the Project site shall be accompanied with the corresponding Certified Test Report listing Saybolt viscosity, residue by evaporation, penetration of residue, and weight per gallon at 77°F and Material Certificate.
- iii. Anionic emulsified asphalts shall meet the requirements of AASHTO M-140. Materials

used for tack coat shall not be diluted and meet grade RS-1 or RS-1h. When ambient temperatures are 80°F and rising, grade SS-1 or SS-1h may be substituted if permitted by the Engineer.

- iv. Cationic emulsified asphalt shall meet the requirements of AASHTO M-208. Materials used for tack coat shall not be diluted and meet grade CRS-1. The settlement and demulsibility test will not be performed unless deemed necessary by the Engineer. When ambient temperatures are 80°F and rising, grade CSS-1 or CSS-1h may be substituted if permitted by the Engineer.

6. Reclaimed Asphalt Pavement (RAP):

(a) General: RAP is a material obtained from the cold milling or removal and processing of bituminous concrete pavement. RAP material shall be crushed to 100% passing the 1/2 inch sieve and free from contaminants such as joint compound, wood, plastic, and metals.

(b) Basis of Approval: The RAP material will be accepted on the basis of one of the following criteria:

- i. When the source of all RAP material is from pavements previously constructed on Department projects, the Contractor shall provide a Materials Certificate listing the detailed locations and lengths of those pavements and that the RAP is only from those locations listed.
- ii. When the RAP material source or quality is not known, the Contractor shall request approval from the Engineer at least 30 calendar days prior to the start of the paving operation. The request shall include a Material Certificate and applicable test results stating that the RAP consists of aggregates that meet the specification requirements of M.04.01-1 through M.04.01-3 and that the binder in the RAP is substantially free of solvents, tars and other contaminants. The Contractor is prohibited from using unapproved material on Department projects and shall take necessary action to prevent contamination of approved RAP stockpiles. Stockpiles of unapproved material shall remain separate from all other RAP materials at all times. The request for approval shall include the following:
 - 1. A 50-lb. sample of the RAP to be incorporated into the recycled mixture.
 - 2. A 25-lb. sample of the extracted aggregate from the RAP.

7. Crushed Recycled Container Glass (CRCG):

(a) Requirements: The Contractor may propose to use clean and environmentally-acceptable CRCG in an amount not greater than 5% by weight of total aggregate.

(b) Basis of Approval: The Contractor shall submit to the Engineer a request to use CRCG. The request shall state that the CRCG contains no more than 1% by weight of contaminants such as paper, plastic, and metal and conforms to the following gradation:

CRCG Grading Requirements	
<u>Sieve Size</u>	<u>Percent Passing</u>
3/8 inch	100
No. 4	35-100
No. 200	0.0-10.0

The Contractor shall submit a Material Certificate to the Engineer stating that the CRCG complies with all the applicable requirements in this Section.

8. Joint Seal Material: Joint seal material must meet the requirements of ASTM D6690 - Type 2. The Contractor shall submit a Material Certificate in accordance with 1.06.07 certifying that the joint seal material meets the requirements of this Section.

9. Recycled Asphalt Shingles (RAS): RAS shall consist of processed asphalt roofing shingles from post-consumer asphalt shingles or from manufactured shingle waste. The RAS material under consideration for use in bituminous concrete mixtures must be certified as being asbestos-free and shall be entirely free of whole, intact nails. The RAS material shall meet the requirements of AASHTO MP 23.

The Producer shall test the RAS material to determine the asphalt content and the gradation of the RAS material. The Producer shall take necessary action to prevent contamination of RAS stockpiles.

The Contractor shall submit a Material Certificate to the Engineer stating that the RAS complies with all the applicable requirements in this Section.

10. Plant Requirements:

(a) General: The Plant producing bituminous concrete shall comply with AASHTO M 156.

(b) Storage Silos: The Contractor may use silos for short-term storage with the approval of the Engineer. A storage silo must have heated cones and an unheated silo cylinder if it does not contain a separate internal heating system. When multiple silos are filled, the Contractor shall discharge 1 silo at a time. Simultaneous discharge of multiple silos for the same Project is not permitted.

Type of silo cylinder	Maximum storage time for all classes (hr)	
	<u>HMA</u>	<u>WMA/PMA</u>
Open Surge	4	Mfg Recommendations*
Unheated - Non-insulated	8	Mfg Recommendations*
Unheated - Insulated	18	Mfg Recommendations*
Heated - No inert gas	TBD by the Engineer	TBD by the Engineer

*Not to exceed HMA limits

(c) Documentation System: The mixing Plant documentation system shall include equipment for accurately proportioning the components of the mixture by weight and in the proper order, controlling the cycle sequence, and timing the mixing operations. Recording equipment shall monitor the batching sequence of each component of the mixture and produce a printed record of these operations on each Plant ticket, as specified herein.

If recycled materials are used, the Plant tickets shall include their dry weight, percentage, and daily moisture content.

If a WMA Technology is added at the Plant, the Plant tickets shall include the actual dosage rate.

For drum Plants, the Plant ticket shall be produced at 5 minute intervals and maintained by the vendor for a period of 3 years after the completion of the Project.

For batch Plants, the Plant ticket shall be produced for each bath and maintained by the vendor for a period of 3 years after the completion of the Project. In addition, an asterisk (*)

shall be automatically printed next to any individual batch weight(s) exceeding the following tolerances:

Each Aggregate Component	±1.5% of individual or cumulative target weight for each bin
Mineral Filler	±0.5% of the total batch
Bituminous Material	±0.1% of the total batch
Zero Return (Aggregate)	±0.5% of the total batch
Zero Return (Bituminous Material)	±0.1% of the total batch

The entire batching and mixing interlock cut-off circuits shall interrupt and stop the automatic batching operations when an error exceeding the acceptable tolerance occurs in proportioning.

The scales shall not be manually adjusted during the printing process. In addition, the system shall be interlocked to allow printing only when the scale has come to a complete rest. A unique printed character (m) shall automatically be printed on the truck and batch plant printout when the automatic batching sequence is interrupted or switched to auto-manual or full manual during proportioning.

(d) Aggregates: Aggregate stockpiles shall be managed to prevent segregation and cross contamination. For drum Plants only, the percent moisture content, at a minimum prior to production and half way through production, shall be determined.

(e) Mixture: The dry and wet mix times shall be sufficient to provide a uniform mixture and a minimum particle coating of 95% as determined by AASTO T 195(M).

Bituminous concrete mixtures shall contain no more than 0.5% moisture when tested in accordance with AASHTO T 329.

(f) RAP: RAP moisture content shall be determined a minimum of twice daily (prior to production and halfway through production).

(g) Asphalt Binder: A binder log shall be submitted to the Department's Central Lab on a monthly basis.

(h) Warm mix additive: For mechanically foamed WMA, the water injection rate shall be monitored during production and not exceed 2.0% by total weight of binder. For additive added at the Plant, the dosage rate shall be monitored during production.

(i) Testing Laboratory: The Contractor shall maintain a laboratory to test bituminous concrete mixtures during production. The laboratory shall have a minimum of 300 s.f., have a potable water source and drainage in accordance with the CT Department of Public Health Drinking Water Division, and be equipped with all necessary testing equipment as well as with a PC, printer, and telephone with a dedicated hard-wired phone line. In addition, the PC shall have a high speed internet connection and a functioning web browser with unrestricted access to <https://ctmail.ct.gov>. This equipment shall be maintained in working order at all times and be made available for use by the Engineer.

The laboratory shall be equipped with a heating system capable of maintaining a minimum temperature of 65°F. It shall be clean and free of all materials and equipment not associated with the laboratory. Sufficient light and ventilation must be provided. During summer months

adequate cooling or ventilation must be provided so the indoor air temperature shall not exceed the ambient outdoor temperature.

The laboratory testing apparatus, supplies, and safety equipment shall be capable of performing all the applicable tests in their entirety that are referenced in AASHTO R 35 and AASHTO M 323. The Contractor shall ensure that the Laboratory is adequately supplied at all times during the course of the Project with all necessary testing materials and equipment.

The Contractor shall maintain a list of laboratory equipment used in the acceptance testing processes including, but not limited to, balances, scales, manometer/vacuum gauge, thermometers, and gyratory compactor, clearly showing calibration and/or inspection dates, in accordance with AASHTO R 18. The Contractor shall notify the Engineer if any modifications are made to the equipment within the laboratory. The Contractor shall take immediate action to replace, repair, or recalibrate any piece of equipment that is out of calibration, malfunctioning, or not in operation.

M.04.02—Mix design and Job Mix Formula (JMF)

1. Curb Mix:

(a) Requirements: The Contractor shall use bituminous concrete that meets the requirements of Table M.04.02-1. RAP may be used in 5% increments by weight up to 30%.

(b) Basis of Approval: Annually, an approved JMF based on a mix design for curb mix must be on file with the Engineer prior to use.

The Contractor shall test the mixture for compliance with the submitted JMF and Table M.04.02-1. The maximum theoretical density (Gmm) will be determined by AASHTO T 209. If the mixture does not meet the requirements, the JMF shall be adjusted within the ranges shown in Table M.04.02-1 until an acceptable mixture is produced.

An accepted JMF from the previous operating season may be acceptable to the Engineer provided that there are no changes in the sources of supply for the coarse aggregate, fine aggregate, recycled material (if applicable) and the Plant operation had been consistently producing acceptable mixture.

Any change in component source of supply or consensus properties must be approved by the Engineer. A revised JMF shall be submitted prior to use.

**TABLE M.04.02-1:
Control Points for Curb Mix Mixtures**

Mix	Curb Mix	Production Tolerances from JMF Target
Grade of PG Binder content %	PG 64S-22 6.5 - 9.0	0.4
Sieve Size		
No. 200	3.0 - 8.0 (b)	2.0
No. 50	10 - 30	4
No. 30	20 - 40	5
No. 8	40 - 70	6
No. 4	65 - 87	7
1/4 inch		
3/8 inch	95 - 100	8
1/2 inch	100	8
3/4 inch		8
1 inch		
2 inch		
Additionally, the fraction of material retained between any 2 consecutive sieves shall not be less than 4%.		
Mixture Temperature		
Binder	325°F maximum	
Aggregate	280-350°F	
Mixtures	265-325°F	
Mixture Properties		
Air Voids (VA) %	0 – 4.0 (a)	
Notes: (a) Compaction Parameter 50 gyrations (N_{des}) (b) The percent passing the No. 200 sieve shall not exceed the percentage of bituminous asphalt binder.		

2. Superpave Design Method – S0.25, S0.375, S0.5, and S1:

(a) **Requirements:** All designated mixes shall be designed using the Superpave mix design method in accordance with AASHTO R 35. A JMF based on the mix design shall meet the requirements of Tables M.04.02-2 to M.04.02-5. Each JMF and component samples must be submitted no less than 7 days prior to production and must be approved by the Engineer prior to use. All JMFs expire at the end of the calendar year.

All aggregate component consensus properties and tensile strength ratio (TSR) specimens shall be tested at an AASHTO Materials Reference Laboratory (AMRL) by NETTCP Certified Technicians.

All bituminous concrete mixes shall be tested for stripping susceptibility by performing the TSR test procedure in accordance with AASHTO T 283(M) at a minimum every 36 months. The compacted specimens may be fabricated at the Plant and then tested at an AMRL accredited facility. A minimum of 45000 grams of laboratory or plant blended mixture and the

corresponding complete Form MAT-412s shall be submitted to the Division of Material Testing (DMT) for design TSR testing verification. The mixture submitted shall be representative of the corresponding mix design as determined by the Engineer.

- i. Superpave Mixtures with RAP: RAP may be used with the following conditions:
 - RAP amounts up to 15% may be used with no binder grade modification.
 - RAP amounts up to 20% may be used provided a new JMF is approved by the Engineer. The JMF submittal shall include the grade of virgin binder added. The JMF shall be accompanied by a blending chart and supporting test results in accordance with AASHTO M 323 Appendix X1, or by testing that shows the combined binder (recovered binder from the RAP, virgin binder at the mix design proportions, warm mix asphalt additive and any other modifier if used) meets the requirements of the specified binder grade.
 - Two (2) representative samples of RAP shall be obtained. Each sample shall be split, and 1 split sample shall be tested for binder content in accordance with AASHTO T 164 and the other in accordance with AASHTO T 308.
 - RAP material shall not be used with any other recycling option.
- ii. Superpave Mixtures with RAS: RAS may be used solely in HMA S1 mixtures with the following conditions:
 - RAS amounts up to 3% may be used.
 - RAS total binder replacement up to 15% may be used with no binder grade modification.
 - RAS total binder replacement up to 20% may be used provided a new JMF is approved by the Engineer. The JMF submittal shall include the grade of virgin binder added. The JMF shall be accompanied by a blending chart and supporting test results in accordance with AASHTO M 323 Appendix X1, or by testing that shows the combined binder (recovered binder from the RAP, virgin binder at the mix design proportions, warm mix asphalt additive and any other modifier if used) meets the requirements of the specified binder grade.
 - Superpave Mixtures with RAS shall meet AASHTO PP 78 design considerations.
- iii. Superpave Mixtures with CRCG: CRCG may be used solely in HMA S1 mixtures. One percent (1%) of hydrated lime, or other accepted non-stripping agent, shall be added to all mixtures containing CRCG. CRCG material shall not be used with any other recycling option.
- (b) Basis of Approval: The following information must be included in the JMF submittal:
 - i. Gradation, consensus properties and specific gravities of the aggregate, RAP or RAS.
 - ii. Average asphalt content of the RAP or RAS by AASHTO T 164.
 - iii. Source of RAP or RAS and percentage to be used.
 - iv. Warm mix Technology, manufacturer's recommended additive rate and tolerances, and manufacturer recommended mixing and compaction temperatures.
 - v. TSR test report and anti-strip manufacturer and recommended dosage rate if applicable.
 - vi. Mixing and compaction temperature ranges for the mix with and without the warm-mix technology incorporated.
 - vii. JMF ignition oven correction factor by AASHTO T 308.

With each JMF submittal, the following samples shall be submitted to the Division of Materials Testing:

- 4 - one (1) quart cans of PG binder, with corresponding Safety Data Sheet (SDS)
- 1 - 50 lbs. bag of RAP
- 2 - 50 lbs. bags of Plant-blended virgin aggregate

A JMF may not be approved if any of the properties of the aggregate components or mix do not meet the verification tolerances as described in the Department's current QA Program for Materials, Acceptance and Assurance Testing Policies and Procedures.

Any material based on a JMF, once approved, shall only be acceptable for use when it is produced by the designated Plant, it utilizes the same components, and the production of material continues to meet all criteria as specified in Tables M.04.02-2, M.04.02-3 and M.04.02-4. A new JMF must be submitted to the Engineer for approval whenever a new component source is proposed.

Only 1 mix with 1 JMF will be approved for production at a time. Switching between approved JMF mixes with different component percentages or sources of supply is prohibited.

TABLE M.04.02-2: Superpave Master Range for Bituminous Concrete Mixture Design Criteria

	S0.25		S0.375		S0.5		S1	
Sieve	Control Points		Control Points		Control Points		Control Points	
inches	Min (%)	Max (%)	Min (%)	Max (%)	Min (%)	Max (%)	Min (%)	Max (%)
2.0	-	-	-	-	-	-	-	-
1.5	-	-	-	-	-	-	100	-
1.0	-	-	-	-	-	-	90	100
3/4	-	-	-	-	100	-	-	90
1/2	100	-	100	-	90	100	-	-
3/8	97	100	90	100	-	90	-	-
No. 4	72	90	-	72	-	-	-	-
No. 8	32	67	32	67	28	58	19	45
No. 16	-	-	-	-	-	-	-	-
No. 30	-	-	-	-	-	-	-	-
No. 50	-	-	-	-	-	-	-	-
No. 100	-	-	-	-	-	-	-	-
No. 200	2.0	10.0	2.0	10.0	2.0	10.0	1.0	7.0
VMA (%)	16.5 ± 1		16.0 ± 1		15.0 ± 1		13.0 ± 1	
VA (%)	4.0 ± 1		4.0 ± 1		4.0 ± 1		4.0 ± 1	
Gse	JMF value		JMF value		JMF value		JMF value	
Gmm	JMF ± 0.030		JMF ± 0.030		JMF ± 0.030		JMF ± 0.030	
Dust / effective binder	0.6 - 1.2		0.6 - 1.2		0.6 - 1.2		0.6 - 1.2	
TSR	≥ 80%		≥ 80%		≥ 80%		≥ 80%	
T-283 Stripping	Minimal as determined by the Engineer							

(c) Mix Status: Each facility will have each type of bituminous concrete mixture rated based on the results of the previous year of production. Mix status will be provided to each bituminous concrete Producer prior to the beginning of the paving season.

The rating criteria are based on compliance with Air Voids and Voids in Mineral Aggregate (VMA) as indicated in Table M.04.03-4 and are calculated as follows:

Criteria A: Percentage of acceptance test results with compliant air voids.

Criteria B: The average of the percentage of acceptance results with compliant VMA and the percentage of acceptance results with compliant air voids.

The final rating assigned will be the lower of the rating obtained with Criteria A or Criteria B.

Mix status is defined as:

“A” – Approved: Assigned to each mixture type from a production facility with a current rating of 70% or greater, or to each mixture type completing a successful PPT.

“PPT” – Pre-Production Trial: Temporarily assigned to each mixture type from a production facility when:

1. there are no compliant acceptance production test results submitted to the Department from the previous year;
2. there is a source change in one or more aggregate components;
3. there is a component percentage change of more than 5% by weight;
4. there is a change in RAP percentage;
5. the mixture has a rating of less than 70% from the previous season;
6. it is a new JMF not previously submitted; or
7. the average of 10 consecutive acceptance results for VFA, Density to N_{ini} or dust to effective binder ratio does not meet the criteria in tables M.04.02-2 and M.04.02-4.

Bituminous concrete mixtures rated with a “PPT” status cannot be used on Department projects. Testing shall be performed by the Producer with NETTCP certified personnel on material under this status. Test results must confirm that specification requirements in Tables M.04.02-2 through M.04.02-4 are met and the binder content (Pb) meets the requirements in Table M.04.03-2 before material can be used. One of the following methods must be used to verify the test results:

Option A: Schedule a day when a Department Inspector can be at the facility to witness testing

Option B: When the Contractor or their representative performs testing without being witnessed by an Inspector, the Contractor shall submit the test results and a split sample including 2 gyratory molds, 5,000 grams of boxed bituminous concrete, and 5,000 grams of cooled loose bituminous concrete for verification testing and approval

Option C: When the Contractor or their representative performs testing without being witnessed by a Department Inspector, the Engineer may verify the mix in the Contractor’s laboratory

Witnessing or verifying by the Department of compliant test results will change the mix’s status to “A”

The differences between the Department’s test results and the Contractor’s must be within the “C” tolerances included in the [Department’s QA Program for Materials, Acceptance and Assurance Testing Policies and Procedures](#) in order to be verified.

“U” – Not Approved: Status assigned to a type of mixture that does not have an approved JMF. Bituminous concrete mixtures with a “U” status cannot be used on Department projects.

**TABLE M.04.02-3:
Superpave Consensus Properties Requirements for Combined Aggregate**

Traffic Level	Design ESALs (80kN) Millions	Coarse Aggregate Angularity ⁽¹⁾	Fine Aggregate Angularity AASHTO T 304, Method A Minimum %	Flat and Elongated Particles ⁽²⁾ ASTM D4791, Maximum %	Sand Equivalent AASHTO T 176, Minimum %
		ASTM D5821, Minimum %			
1	< 0.3	55/- -	40	10	40
2	0.3 to < 3.0	75/- -	40	10	40
3	≥ 3.0	95/90	45	10	45

Notes:
⁽¹⁾ 95/90 denotes that a minimum of 95% of the coarse aggregate, by mass, shall have one fractured face and that a minimum of 90% shall have two fractured faces.
⁽²⁾ Criteria presented as maximum Percent by mass of flat and elongated particles of materials retained on the No. 4 sieve, determined at 5:1 ratio.

TABLE M.04.02-4: Superpave Traffic Levels and Design Volumetric Properties

Traffic Level	Design ESALs (million)	Number of Gyration by Superpave Gyratory Compactor			Percent Density of Gmm from HMA/ WMA Specimen			Voids Filled with Asphalt (VFA) Based on Nominal Mix Size - Inch			
		N _{ini}	N _{des}	N _{max}	N _{ini}	N _{des}	N _{max}	0.25	0.375	0.5	1
1	<0.3	6	50	75	≤91.5	96.0	≤98.0	70-80	70-80	70-80	67-80
2	0.3 to <3.0	7	75	115	≤90.5	96.0	≤98.0	65-78	65-78	65-78	65-78
3	≥3.0	7	75	115	≤90.0	96.0	≤98.0	65-77	65-76	65-75	65-75

**TABLE M.04.02-5:
Superpave Minimum Binder Content by Mix Type and Level**

Mix Type	Level	Binder Content Minimum
S0.25	1	5.80
S0.25	2	5.70
S0.25	3	5.70
S0.375	1	5.70
S0.375	2	5.60
S0.375	3	5.60
S0.5	1	5.10
S0.5	2	5.00
S0.5	3	5.00
S1	1	4.60
S1	2	4.50
S1	3	4.50

M.04.03—Production Requirements:

1. Standard Quality Control Plan (QCP) for Production: The QCP for production shall describe the organization and procedures, which the Contractor shall use to administer quality control. The QCP shall include the procedures used to control the production process, to determine when immediate changes to the processes are needed, and to implement the required changes. The QCP must detail the inspection, sampling and testing protocols to be used, and the frequency for each.

Control Chart(s) shall be developed and maintained for critical aspect(s) of the production process as determined by the Contractor. The control chart(s) shall identify the material property, applicable upper and lower control limits, and be updated with current test data. As a minimum, the following quality characteristics shall be included in the control charts:

- percent passing No. 4 sieve
- percent passing No. 200 sieve
- binder content
- air voids
- Gmm
- Gse
- VMA

The control chart(s) shall be used as part of the quality control system to document variability of the bituminous concrete production process. The control chart(s) shall be submitted to the Engineer the first day of each month.

The QCP shall also include the name and qualifications of a Quality Control Manager. The Quality Control Manager shall be responsible for the administration of the QCP, including compliance with the plan and any plan modifications.

The Contractor shall submit complete production testing records to the Engineer within 24 hours in a manner acceptable to the Engineer.

The QCP shall also include the name and qualifications of any outside testing laboratory performing any QC functions on behalf of the Contractor. The QCP must also include a list of sampling and testing methods and frequencies used during production, and the names of all Quality Control personnel and their duties.

Approval of the QCP does not imply any warranty by the Engineer that adherence to the plan will result in production of bituminous concrete that complies with these specifications. The Contractor shall submit any changes to the QCP as work progresses.

2. Acceptance Requirements:

(a) General:

For those mixes with a total estimated project tonnage over 500 tons, a NETTCP HMA Paving Inspector certified Contractor representative shall obtain a field sample of the material placed at the project site in accordance with AASHTO T 168 using the procedure indicated in Section 5.2.3 or an alternate procedure approved by the Engineer. Sampling from the truck at the Plant in accordance with AASHTO T 168 using the procedure indicated in Section 5.2.2 will be allowed for those mixes with a total estimated project tonnage equal to or less than 500 tons. Regardless of sampling location, the sample shall be quartered by the Contractor in accordance with AASHTO R 47 and placed in an approved container. The container shall be sealed with a security tape provided by the Department and labelled to include the project number, date of paving, mix type, lot and subplot numbers and daily tonnage. The minimum weight of each quartered sample shall be 14000 grams. The Contractor shall transport one of the containers to the Departments Central Laboratory in Rocky Hill, retain one of the sealed containers for potential use in dispute resolution and test the remaining samples for acceptance in accordance with past practice.

The Contractor shall submit all acceptance tests results to the Engineer within 24 hours or prior to the next day's production. All acceptance test specimens and supporting documentation must be retained by the Contractor and may be disposed of with the approval of the Engineer. All quality control specimens shall be clearly labeled and separated from the acceptance specimens.

Contractor personnel performing QC and acceptance testing must be present at the facility prior to, during, and until completion of production, and be certified as a NETTCP HMA Plant Technician or Interim HMA Plant Technician and be in good standing. Production of material for use on State projects must be suspended by the Contractor if such personnel are not present. Technicians found by the Engineer to be non-compliant with NETTCP policies and procedures or Department policies may be removed by the Engineer from participating in the acceptance testing process for Department projects until their actions can be reviewed.

Verification and dispute resolution testing will be performed by the Engineer in accordance with the Department's QA Program for Materials.

Should the Department be unable to validate the Contractor's acceptance test result(s) for a lot of material, the Engineer will use results from verification testing and re-calculate the pay adjustment for that lot. The Contractor may request to initiate the dispute resolution process in writing within 24 hours of receiving the adjustment and must include supporting documentation or test results to justify the request.

(b) Curb Mix Acceptance Sampling and Testing Procedures: Curb Mixes shall be tested by the Contractor at a frequency of 1 test per every 250 tons of cumulative production, regardless of the day of production.

When these mix designs are specified, the following acceptance procedures and AASHTO test methods shall be used:

TABLE M.04.03-1: Curb Mix Acceptance Test Procedures

Protocol	Reference	Description
1	AASHTO T 30(M)	Mechanical Analysis of Extracted Aggregate
2	AASHTO T 168	Sampling of Bituminous Concrete
3	AASHTO T 308	Binder Content by Ignition Oven Method (adjusted for aggregate correction factor)
4	AASHTO T 209(M)⁽²⁾	Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
5	AASHTO T 312⁽²⁾	⁽¹⁾ Superpave Gyrotory Molds Compacted to N _{des}
6	AASHTO T 329	Moisture Content of Hot-Mix Asphalt (HMA) by Oven Method

Notes: ⁽¹⁾ One (1) set equals 2 each of 6-inch molds. Molds to be compacted to 50 gyrations.
⁽²⁾ Once per year or when requested by the Engineer.

- i. Determination of Off-Test Status:
 1. Curb Mix is considered “off test” when the test results indicate that any single value for bitumen content or gradation are not within the tolerances shown in Table M.04.02-1 for that mixture. If the mix is “off test,” the Contractor must take immediate actions to correct the deficiency and a new acceptance sample shall be tested on the same day or the following day of production.
 2. When multiple silos are located at 1 site, mixture supplied to 1 project is considered as coming from 1 source for the purpose of applying the “off test” status.
 3. The Engineer may cease supply from the Plant when test results from 3 consecutive samples are not within the JMF tolerances or the test results from 2 consecutive samples not within the control points indicated in Table M.04.02-1 regardless of production date.
 - ii. JMF Revisions
 1. If a test indicates that the bitumen content or gradation are outside the tolerances, the Contractor may make a single JMF revision as allowed by the Engineer prior to any additional testing. Consecutive test results outside the requirements of Table M.04.02-1 JMF tolerances may result in rejection of the mixture.
 2. Any modification to the JMF shall not exceed 50% of the JMF tolerances indicated in Table M.04.02-1 for any given component of the mixture without approval of the Engineer. When such an adjustment is made to the bitumen, the corresponding production percentage of bitumen shall be revised accordingly.
- (c) Superpave Mix Acceptance:
- i. Sampling and Testing Procedures

Production Lot: The lot will be defined as one of the following types:

 - Non-PWL Production Lot for total estimated Project quantities per mixture less than 3500 tons: All mixture placed during a single continuous paving operation.
 - PWL Production Lot for total estimated Project quantities per mixture of 3500 tons or more: Each 3500 tons of mixture produced within 30 calendar days.

Production Sub Lot:

 - For Non-PWL: As defined in Table M.04.03-2
 - For PWL: 500 tons (The last sub lot may be less than 500 tons.)

Partial Production Lots (For PWL only): A Lot with less than 3500 tons due to:

- completion of the course;
- a Job Mix Formula revision due to changes in:
 - o cold feed percentages over 5%,
 - o target combined gradation over 5%,
 - o target binder over 0.15%,
 - o any component specific gravity; or
- a lot spanning 30 calendar days.

The acceptance sample(s) location(s) shall be selected using stratified - random sampling in accordance with ASTM D3665 based on:

- the total daily estimated tons of production for non-PWL lots, or
- the total size for PWL lots.

One (1) acceptance sample shall be obtained and tested per sub lot with quantities over 125 tons. The Engineer may direct that additional acceptance samples be obtained. For non-PWL lots, one (1) acceptance test shall always be performed in the last sub lot based on actual tons of material produced.

For non-PWL lots, quantities of the same mixture per Plant may be combined daily for multiple State projects to determine the number of sub lots.

The payment adjustment will be calculated as described in 4.06.

**TABLE M.04.03-2:
Superpave Acceptance Testing Frequency per Type/Level/Plant for Non-PWL Lots**

Daily Quantity Produced in Tons (Lot)	Number of Sub Lots/Tests
0 to 125	0, Unless requested by the Engineer
126 to 500	1
501 to 1,000	2
1,001 to 1,500	3
1,500 or greater	1 per 500 tons or portions thereof

The following test procedures shall be used for acceptance:

TABLE M.04.03-3: Superpave Acceptance Testing Procedures

Protocol	Procedure	Description
1	AASHTO T 168	Sampling of bituminous concrete
2	AASHTO R 47	Reducing samples to testing size
3	AASHTO T 308	Binder content by ignition oven method (adjusted for aggregate correction factor)
4	AASHTO T 30(M)	Gradation of extracted aggregate for bituminous concrete mixture
5	AASHTO T 312	⁽¹⁾ Superpave gyratory molds compacted to N_{des}
6	AASHTO T 166	⁽²⁾ Bulk specific gravity of bituminous concrete
7	AASHTO R 35	⁽²⁾ Air voids, VMA
8	AASHTO T 209(M)	Maximum specific gravity of bituminous concrete (average of 2 tests)
9	AASHTO T 329	Moisture content of bituminous concrete

Notes: ⁽¹⁾ One (1) set equals 2 each of 6-inch molds. Molds to be compacted to N_{max} for PPTs and to N_{des} for production testing. The first sub lot of the year shall be compacted to N_{max} .

⁽²⁾ Average value of 1 set of 6-inch molds.

If the average ignition oven corrected binder content differs by 0.3% or more from the average of the Plant ticket binder content in 5 consecutive tests regardless of the production date (moving average), the Contractor shall immediately investigate, determine an assignable cause, and correct the issue. When 2 consecutive moving average differences are 0.3% or more and no assignable cause has been established, the Engineer may require a new ignition oven aggregate correction factor to be performed or to adjust the current factor by the average of the differences between the corrected binder content and production Plant ticket for the last 5 acceptance results.

The Contractor shall perform TSR testing within 30 days after the start of production for all design levels of HMA- and PMA- S0.5 Plant-produced mixtures, in accordance with AASHTO T 283(M). The TSR test shall be performed at an AMRL certified laboratory by NETTCP certified technicians. The compacted specimens may be fabricated at the Plant and then tested at an AMRL accredited facility. A minimum of 45000 grams of plant blended mixture and the corresponding complete Form MAT-412s shall be submitted to the DMT for production TSR testing verification. The mixture submitted shall be representative of the corresponding mix design as determined by the Engineer. Additionally, the TSR test report and tested specimens shall be submitted to the Engineer for review. Superpave mixtures that require anti-strip additives (either liquid or mineral) shall continue to meet all requirements specified herein for binder and bituminous concrete. The Contractor shall submit the name, manufacturer, percent used, technical datasheet and SDS for the anti-strip additive (if applicable) to the Engineer.

i. Determination of Off-Test Status:

1. Superpave mixes shall be considered “*off test*” when any control point sieve, binder content, VA, VMA, and Gmm value is outside of the limits specified in Table M.04.03-4 or the target binder content at the Plant is below the minimum binder

content stated in Table M.04.02-5. Note that further testing of samples or portions of samples not initially tested for this purpose cannot be used to change the status.

2. Any time the bituminous concrete mixture is considered off-test:
 - A. The Contractor shall notify the Engineer when the Plant is “*off test*” for any mix design that is delivered to the Project in any production day. When multiple silos are located at 1 site, mixture supplied to 1 project is considered as coming from 1 source for the purpose of applying the “*off test*” determination.
 - B. The Contractor must take immediate actions to correct the deficiency, minimize “*off test*” production to the Project, and obtain an additional Process Control (PC) test after any corrective action to verify production is in conformance with the specifications. A PC test will not be used for acceptance and is solely for the use of the Contractor in its quality control process.

ii. Cessation of Supply for Superpave Mixtures in Non-PWL Lots:

A mixture **shall not be used** on Department projects when it is “off test” for:

1. four (4) consecutive tests in any combination of VA, VMA or Gmm, regardless of date of production, or
2. two (2) consecutive tests in the control point sieves in 1 production shift.

As a result of cessation of supply, the mix status will be changed to PPT

iii. JMF revisions:

JMF revisions are only permitted prior to or after a production shift. A JMF revision is effective from the time it was submitted and is not retroactive to the previous test(s).

JMF revisions shall be justified by a documented trend of test results.

Revisions to aggregate or RAP specific gravities are only permitted when testing is performed at an AMRL certified laboratory by NETTCP certified technicians.

A JMF revision is required when the Plant target RAP or bin percentage deviates by more than 5% or the Plant target binder content deviates by more than 0.15% from the active JMF.

TABLE M.04.03-4: Superpave Mixture Production Requirements

	S0.25		S0.375		S0.5		S1		Tolerances
Sieve	Control Points		Control Points		Control Points		Control Points		From JMF Targets ⁽²⁾
inches	Min (%)	Max (%)	Min (%)	Max (%)	Min (%)	Max (%)	Min (%)	Max (%)	+/- Tolerance
1.5	-	-	-	-	-	-	100	-	
1.0	-	-	-	-	-	-	90	100	
3/4	-	-	-	-	100	-	-	90	
1/2	100	-	100	-	90	100	-	-	
3/8	97	100	90	100	-	90	-	-	
No. 4	72	90	-	72	-	-	-	-	
No. 8	32	67	32	67	28	58	19	45	
No. 16	-	-	-	-	-	-	-	-	
No. 200	2.0	10.0	2.0	10.0	2.0	10.0	1.0	7.0	
Pb	JMF value		JMF value		JMF value		JMF value		0.3 ⁽³⁾
VMA (%)	16.5		16.0		15.0		13.0		1.0 ⁽⁴⁾
VA (%)	4.0		4.0		4.0		4.0		1.0 ⁽⁵⁾
Gmm	JMF value		JMF value		JMF value		JMF value		0.030
Mix Temp. – HMA ⁽⁶⁾	265-325°F ⁽¹⁾		265-325°F ⁽¹⁾		265-325°F ⁽¹⁾		265-325°F ⁽¹⁾		
Mix Temp. – PMA ⁽⁶⁾	285-335°F ⁽¹⁾		285-335°F ⁽¹⁾		285-335°F ⁽¹⁾		285-335°F ⁽¹⁾		
Prod. TSR	N/A		N/A		≥80%		N/A		
T-283 Stripping	N/A		N/A		Minimal TBD by the Engineer		N/A		

Notes: ⁽¹⁾ 300°F minimum after October 15.

⁽²⁾ JMF tolerances shall be defined as the limits for production compliance.

⁽³⁾ 0.4 for PWL lots

⁽⁴⁾ 1.3 for all PWL lots except S/P 0.25 mixes. 1.1 for S/P 0.25 Non-PWL lots. 1.4 for S/P 0.25 PWL lots

⁽⁵⁾ 1.2 for PWL lots

⁽⁶⁾ Also applies to placement

**Table M.04.03-5:
Modifications to Standard AASHTO and ASTM Test Specifications and Procedures**

AASHTO Standard Method of Test	
Reference	Modification
T 30	Section 7.2 through 7.4 Samples are not routinely washed for production testing
T 209	Section 7.2 The average of 2 bowls is used proportionally in order to satisfy minimum mass requirements. 8.3 Omit Pycnometer method.
T 283	When foaming technology is used, the material used for the fabrication of the specimens shall be cooled to room temperature, and then reheated to the manufacturer's recommended compaction temperature prior to fabrication of the specimens.
AASHTO Standard Recommended Practices	
Reference	Modification
R 26	<p>All laboratory technician(s) responsible for testing PG binders shall be certified or Interim Qualified by NETTCP as a PG Asphalt Binder Lab Technician.</p> <p>All laboratories testing binders for the Department are required to be accredited by the AMRL.</p> <p>Sources interested in being approved to supply PG binders to the Department by use of an "in-line blending system" must record properties of blended material and additives used.</p> <p>Each source of supply of PG binder must indicate that the binders contain no additives used to modify or enhance their performance properties. Binders that are manufactured using additives, modifiers, extenders, etc., shall disclose the type of additive, percentage and any handling specifications or limitations required.</p> <p>All AASHTO M 320 references shall be replaced with AASHTO M 332.</p> <p>Once a month, 1 split sample and test results for each asphalt binder grade and each lot shall be submitted by the PG binder supplier to the Department's Central Lab. Material remaining in a certified lot shall be re-certified no later than 30 days after initial certification. Each April and September, the PG binder supplier shall submit test results for 2 BBR tests at 2 different temperatures in accordance with AASHTO R 29.</p>

ITEM #0101000A - ENVIRONMENTAL HEALTH AND SAFETY

Description

Under this item, the Contractor shall establish protocols and provide procedures to protect the health and safety of its employees and subcontractors as related to the proposed construction activities performed within the Project Area. Work under this Item consists of the development and implementation of a written Health and Safety Plan (HASP) that addresses the relative risk of exposure to potential hazards that may be encountered as part of this Project. The HASP shall establish health and safety protocols that address the relative risk of exposure to regulated substances in accordance with 29 CFR 1910.120 and 29 CFR 1926.65. Such protocols shall only address those potential concerns directly related to site conditions.

Note: The Engineer will prepare a site-specific HASP, which is compatible with the Contractor's HASP and will be responsible for the health and safety of all Project Inspectors, Town/Department employees and consulting engineers.

Materials

The Contractor must provide chemical protective clothing (CPC) and personal protective equipment (PPE) as stipulated in the Contractor's HASP during the performance of work in areas identified as potentially posing a risk to worker health and safety for workers employed by the Contractor and all subcontractors.

Construction Methods

A. Existing Information

The Contractor shall utilize all available information and existing records and data pertaining to chemical and physical hazards associated with any of the regulated substances identified in the environmental site investigation to develop the HASP. The document containing this data is referenced in "Notice to Contractor – Environmental Investigations." Note that one Area of Environmental Concern (AOEC) has been identified within the limits of the Ansonia Riverwalk – Segments 3 & 4 Project.

B. General

The requirements set forth herein pertain to the provision of workers' health and safety as it relates to proposed Project activities when performed in the presence of hazardous or regulated materials or otherwise environmentally sensitive conditions. THE PROVISION OF WORKER HEALTH AND SAFETY PROTOCOLS, WHICH ADDRESS POTENTIAL AND/OR ACTUAL RISK OF EXPOSURE TO SITE-SPECIFIC HAZARDS POSED TO CONTRACTOR EMPLOYEES, IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

The Contractor shall be responsible for the development, implementation and oversight of the HASP throughout the performance of work within the limits of the AOECs, as identified in the Contract Documents, and in other areas identified by the Engineer or by the HASP where site conditions may pose a risk to worker health and safety and/or the environment. **No physical aspects of the work within the AOECs shall begin until the HASP is reviewed by the Engineer and is determined to meet the requirements of the specifications. However, the Contract time, in accordance with Article 1.03.08, will begin on the date stipulated in the Notice to Proceed.**

C. Regulatory Requirements

All construction-related activities performed by the Contractor within the limits of the AOECs or in other areas where site conditions may pose a risk to worker health and safety and/or the environment shall be performed in conformance with 29 CFR 1926, Safety and Health Regulations for Construction and 29 CFR 1910, Safety and Health Regulations for General Industry. Conformance to 29 CFR 1910.120, Hazardous Waste Site Operations and Emergency Response (HAZWOPER) may also be required, where appropriate.

D. Submittals

Three copies of the HASP shall be submitted to the Engineer within four (4) weeks after the Award of Contract or four (4) weeks prior to the start of any work in the AOEC, whichever is first, but not before the Award of the Contract.

The HASP shall be developed by a qualified person designated by the Contractor. This qualified person shall be a Certified Industrial Hygienist (CIH), Certified Hazardous Material Manager (CHMM), or a Certified Safety Professional (CSP). He/she shall have review and approval authority over the HASP and be identified as the Health and Safety Manager (HSM). The HASP shall bear the signature of said HSM indicating that the HASP meets the minimum requirements of 29 CFR 1910.120 and 29 CFR 1926.65.

The Engineer will review the HASP within four (4) weeks of submittal and provide written comments as to deficiencies in and/or exceptions to the plan, if any, to assure consistency with the specifications, applicable standards, policies and practices and appropriateness given potential or known site conditions. Items identified in the HASP which do not conform to the specifications will be brought to the attention of the Contractor, and the Contractor shall revise the HASP to correct the deficiencies and resubmit it to the Engineer for determination of compliance with this item. The Contractor shall not be allowed to commence work activities in the AOECs, as shown on the Plans, or where site conditions exist which may pose a risk to worker health and safety and/or the environment, until the HASP has been reviewed and determined to conform to the requirements of this specification by the Engineer. **No claim for delay in the progress of work will be considered for the Contractor's failure to submit a HASP that conforms to the requirements of the Contract.**

E. HASP Provisions

1. General Requirements

The Contractor shall prepare a HASP covering all Project site work regulated by 29 CFR 1910.120(b)/1926.65(b) to be performed by the Contractor and all subcontractors under this Contract. The HASP shall establish in detail, the protocols necessary for the recognition, evaluation, and control of all hazards associated with each task performed under this Contract. The HASP shall address site-specific safety and health hazards of each phase of site operation and include the requirements and procedures for employee protection. The level of detail provided in the HASP shall be tailored to the type of work, complexity of operations to be performed, and hazards anticipated. Details about some activities may not be available when the initial HASP is prepared and submitted. Therefore, the HASP shall address, in as much detail as possible, all anticipated tasks, their related hazards and anticipated control measures.

The HASP shall interface with the Contractor's Safety and Health Program. Any portions of the Safety and Health Program that are referenced in the HASP shall be included as appendices to the HASP. All topics regulated by the 29 CFR 1910.120(b) (4) and those listed below shall be addressed in the HASP. **Where the use of a specific topic is not applicable to the Project, the HASP shall include a statement to justify its omission and establish that adequate consideration was given to that topic.**

2. Elements

a. Site Description and Contamination Characterization

The Contractor shall provide a site description and contaminant characterization in the HASP that meets the requirements of 29 CFR 1910.120/1926.65.

b. Safety and Health Risk Analysis/Activity Hazard Analysis

The HASP shall address the safety and health hazards on this site for every operation to be performed. The Contractor shall review existing records and data to identify potential chemical and physical hazards associated with the site and shall evaluate their impact on field operations. Sources, concentrations (if known), potential exposure pathways, and other factors as noted in CFR 1910.120/126.65, paragraph (c)(7) employed to assess risk shall be described. The Contractor shall develop and justify action levels for implementation of engineering controls and personal protective equipment upgrades and downgrades for controlling worker exposure to the identified hazards. If there is no permissible exposure limit (PEL) or published exposure level for an identified hazard, available information from other published studies may be used as guidance. Any modification of an established PEL must be fully documented.

The HASP shall include a comprehensive section that discusses the tasks and objectives of the site operations and logistics and resources required to complete each task. The hazards associated with each task shall be identified. Hazard prevention techniques, procedures and/or equipment shall be identified to mitigate each of the hazards identified.

c. Staff Organization, Qualifications and Responsibilities

The HASP shall include a list of personnel expected to be engaged in site activities and certify that said personnel have completed the educational requirements stipulated in 29 CFR 1910.120 and 29 CFR 1926.65, are currently monitored under a medical surveillance program in compliance with those regulations, and that they are fit for work under “Level C” conditions.

The Contractor shall assign responsibilities for safety activities and procedures. An outline or flow chart of the safety chain of command shall be provided in the HASP. Qualifications, including education, experience, certifications, and training in safety and health for all personnel engaged in safety and health functions shall be documented in the HASP. Specific duties of each on-site team member should be identified.

The HASP shall also include the name and qualifications of the individual proposed to serve as Health and Safety Officer (HSO). The HSO shall have full authority to carry out and ensure compliance with the HASP. The Contractor shall provide a competent HSO on-site who is capable of identifying existing and potential hazards in the surroundings or working conditions which are unsanitary, hazardous or dangerous to employees and who has authorization to take prompt corrective measures to eliminate or control them. The qualifications of the HSO shall include completion of OSHA 40-hour HAZWOPER training, including current 8-hour refresher training, and 8-hour HAZWOPER supervisory training; a minimum of one year of working experience with the regulated compounds that have been documented to exist within Project limits; a working knowledge of federal and state safety regulations; specialized training or documented experience (one year minimum) in personal and respiratory protective equipment program implementation; the proper use of air monitoring instruments, air sampling methods and procedures; and certification training in first aid and CPR by a recognized, approved organization such as the American Red Cross.

The primary duties of the HSO shall be those associated with worker health and safety. The Contractor’s HSO responsibilities shall be detailed in the written HASP and shall include, but not be limited to the following:

i. Directing and implementing the HASP;

- ii. Ensuring that all Project personnel have been adequately trained in the recognition and avoidance of unsafe conditions and the regulations applicable to the work environment to control or eliminate any hazards or other exposure to illness or injury (29 CFR 1926.21). All personnel shall be adequately trained in procedures outlined in the Contractor's written HASP;
 - iii. Authorizing Stop Work Orders, which shall be executed upon the determination of an imminent health and safety concern;
 - iv. Contacting the Contractor's HSM and the Engineer immediately upon the issuance of a Stop Work order when the HSO has made the determination of an imminent health and safety concern;
 - v. Authorizing work to resume, upon approval from the Contractor's HSM;
 - vi. Directing activities, as defined in the Contractor's written HASP, during emergency situations; and
 - vii. Providing personal monitoring where applicable, and as identified in the HASP.
- d. Employee Training Assignments

The Contractor shall develop a training program to inform employees, supplier's representatives, and official visitors of the special hazards and procedures (including PPE, its uses and inspections) to control these hazards during field operations. Official visitors include but are not limited to Federal Agency Representatives, State Agency Representatives, Municipal Agency Representatives, Contractors, subcontractors, etc. This program shall be consistent with the requirements of 29 CFR 1910.120 and 29 CFR 1926.65.

- e. Personal Protective Equipment

The plan shall include the requirements and procedures for employee protection and should include a detailed section on respiratory protection. The Contractor shall describe in detail and provide appropriate PPE to insure that workers are not exposed to levels greater than the action level for identified hazards for each operation stated for each work zone. The level of protection shall be specific for each operation and shall be in compliance with all requirements of 29 CFR 1910 and 29 CFR 1926. The Contractor shall provide, maintain, and properly dispose of all PPE.

- f. Medical Surveillance Program

All on-site Contractor personnel engaged in 29 CFR 1910.120/1926.65 operations shall have medical examinations meeting the requirements of 29 CFR 1910.120(f) prior to commencement of work.

The HASP shall include certification of medical evaluation and clearance by the physician for each employee engaged in 29 CFR 1910.120/1926.65 operations at the site.

g. Exposure Monitoring/Air Sampling Program

The Contractor shall submit an Air Monitoring Plan as part of the HASP, which is consistent with 29 CFR 1910.120, paragraphs (b)(4)(ii)(E), (c)(6), and (h). The Contractor shall identify specific air sampling equipment, locations, and frequencies in the air-monitoring plan. Air and exposure monitoring requirements shall be specified in the Contractor's HASP. The Contractor's CIH shall specify exposure monitoring/air sampling requirements after a careful review of the contaminants of concern and planned site activities.

h. Site Layout and Control

The HASP shall include: a map, work zone delineation (support, contamination, reduction and exclusion), on/off-site communications, site access controls, and security (physical and procedural).

i. Communications

Written procedures for routine and emergency communications procedures shall be included in the Contractor's HASP.

j. Personal Hygiene, Personal Decontamination and Equipment Decontamination

Decontamination facilities and procedures for PPE, sampling equipment, and heavy equipment shall be discussed in detail in the HASP.

k. Emergency Equipment and First Aid Requirements

The Contractor shall provide appropriate emergency first aid kits and equipment suitable to treat exposure to the hazards identified, including chemical agents. The Contractor will provide personnel that have certified first aid/CPR training on-site at all times during site operations.

l. Emergency Response Plan and Spill Containment Program

The Contractor shall establish procedures in order to take emergency action in the event of immediate hazards (i.e., a chemical agent leak or spill, fire or personal injury). Personnel and facilities supplying support in emergency procedures will be identified. The emergency equipment to be present on-site and the Emergency Response Plan procedures, as required 29 CFR 1910.120, paragraph (1)(1)(ii) shall be

specified in the Emergency Response Plan. The Emergency Response Plan shall be included as part of the HASP. This Emergency Response Plan shall include written directions to the closest hospital as well as a map showing the route to the hospital.

m. Logs, Reports and Record Keeping

The Contractor shall maintain safety inspections, logs, and reports, accident/incident reports, medical certifications, training logs, monitoring results, etc. All exposure and medical monitoring records are to be maintained according to 29 CFR 1910 and 29 CFR 1926. The format of these logs and reports shall be developed by the Contractor to include training logs, daily logs, weekly reports, safety meetings, medical surveillance records, and a phase-out report. These logs, records, and reports shall be maintained by the Contractor and be made available to the Engineer.

The Contractor shall immediately notify the Engineer of any accident/incident. Within two working days of any reportable accident, the Contractor shall complete and submit an accident report to the Engineer.

n. Confined Space Entry Procedures

Confined space entry procedures, both permit-required and non permit-required, shall be discussed in detail.

o. Pre-Entry Briefings

The HASP shall provide for pre-entry briefings to be held prior to initiating any site activity and at such other times as necessary to ensure that employees are apprised of the HASP and that this plan is being followed.

p. Inspections/Audits

The HSM or HSO shall conduct inspections or audits to determine the effectiveness of the HASP. The Contractor shall correct any deficiencies in the effectiveness of the HASP.

F. HASP Implementation

The Contractor shall implement and maintain the HASP throughout the performance of work. In areas identified as having a potential risk to worker health and safety, and in any other areas deemed appropriate by the HSO, the Contractor shall be prepared to immediately implement the appropriate health and safety measures, including but not limited to the use of PPE, and engineering and administrative controls.

If the Engineer observes deficiencies in the Contractor's operations with respect to the HASP, they shall be assembled in a written field directive and given to the Contractor. The Contractor shall immediately correct the deficiencies and respond, in writing, as to how each was corrected. Failure to bring the work area(s) and implementation procedures into compliance will result in a Stop Work Order and a written directive to discuss an appropriate resolution(s) to the matter. When the Contractor demonstrates compliance, the Engineer shall remove the Stop Work Order. If a Stop Work Order has been issued for cause, no delay claims on the part of the Contractor will be honored.

Disposable CPC/PPE (i.e., disposable coveralls, gloves, etc.) that come in direct contact with hazardous or potentially hazardous material shall be placed into 55 gallon USDOT 17-H drums and disposed of in accordance with federal, state, and local regulations. The drums shall be temporarily staged and secured within a secure area of the Project, to be approved by the Engineer, for management by others.

G. HASP Revisions

The HASP shall be maintained on-site by the Contractor and shall be kept current with construction activities and site conditions under this Contract. The HASP shall be recognized as a flexible document which shall be subject to revisions and amendments, as required, in response to actual site conditions, changes in work methods and/or alterations in the relative risk present. All changes and modifications shall be signed by the Contractor's HSM and shall require the review and acceptance by the Engineer prior to the implementation of such changes.

Should any unforeseen hazard become evident during the performance of the work, the HSO shall bring such hazard to the attention of the Contractor and the Engineer as soon as possible. In the interim, the Contractor shall take action, including Stop Work Orders and/or upgrading PPE as necessary, to re-establish and maintain safe working conditions and to safeguard on-site personnel, visitors, the public and the environment. The HASP shall then be revised/amended to reflect the changed condition.

Method of Measurement

- A. Within thirty (30) calendar days of the award of the Contract, the Contractor shall submit to the Engineer for acceptance a breakdown of its lump sum bid price for this Item detailing:
 1. The development costs associated with preparing the HASP in accordance with these Specifications.
 2. The cost per month for the duration of the Project to implement the HASP and provide the services of the HSM and the HSO.
- B. If the lump sum bid price breakdown is unacceptable to the Engineer, substantiation showing that the submitted costs are reasonable shall be required.

- C. Upon acceptance of the payment schedule by the Engineer, payments for work performed will be made as follows:
1. The lump sum development cost will be certified for payment.
 2. The Contractor shall demonstrate to the Engineer monthly that the HASP has been kept current and is being implemented and the monthly cost will be certified for payment.
 3. Any month where the HASP is found not to be current or is not being implemented, the monthly payment for the Environmental Health and Safety Item shall be deferred to the next monthly payment estimate. If the HASP is not current or being implemented for more than thirty calendar days, there will be no monthly payment.
 4. Failure of the Contractor to implement the HASP in accordance with this Specification, shall result in the withholding of all Contract payments.

Basis of Payment

This work shall be paid for at the Contract lump sum price for “ENVIRONMENTAL HEALTH AND SAFETY,” which shall include all materials, tools, equipment and labor incidental to the completion of this item for the duration of the Project to maintain, revise, monitor and implement the HASP. Such costs include providing the services of the HSM and HSO, Contractor employee training, CPC, PPE, disposal of PPE and CPC, medical surveillance, decontamination facilities, engineering controls, monitoring and all other HASP protocols and procedures established to protect the Health and Safety for all on-site workers.

Pay Item

Environmental Health and Safety

Pay Unit

Lump Sum

ITEM #0101117A - CONTROLLED MATERIALS HANDLING

Description:

Work under this Item is intended to provide specific procedural requirements to be followed by the Contractor during the excavation of Controlled Materials from within any AOEC, as shown on the Project Plans. This supplements Specification Sections 2.02, 2.03, 2.06, and 2.86, and Contract Special Provisions for excavation wherever contaminated materials are encountered. Work under this item shall include transporting and stockpiling materials at the WSA; and covering, securing, and maintaining the stockpiled materials throughout the duration of the Project. All materials, excluding the existing pavement structure (asphalt and subbase), rock, ledge, and concrete, excavated within AOEC(s) are to be considered Controlled Materials.

Controlled Materials consisting of non-hazardous levels of regulated substances have been documented to exist within the Project. Such contamination is documented in the reports listed in the “Notice to Contractor – Environmental Investigations.” Where contaminated soils are excavated, such soil will not be reusable as backfill, unless authorized by the Engineer in writing, and will require special handling, disposal and documentation procedures.

Materials:

The required materials are detailed on the Project Plans. All materials shall conform to the requirements of the Contract.

Plastic Sheet: Polyethylene plastic sheeting for underlayment shall be at least 30 mil thick. Polyethylene plastic sheeting for covering excavated material shall be a thickness of 10 mil. Both shall be at least 10 feet wide.

Covers for roll-off/storage containers shall be made of polyethylene plastic, or similar water-tight material, that is of sufficient size to completely cover top opening and can be securely fastened to the container.

Sand Bags: Sandbags used to secure polyethylene covers shall be at least 30 pounds.

Sorbent Boom: Shall be 8 inches in diameter and 10 feet long and possess petrophilic and hydrophobic properties. Sorbent booms shall also have devices (i.e. clips, clasps, etc.) for connection to additional lengths of boom.

Construction Methods:

A. General

When Controlled Materials are encountered during the course of the work, health and safety provisions shall conform to the appropriate sections of the Contract. Provisions may include

implementation of engineering controls, air and personal monitoring, the use of chemical protective clothing (CPC), personal protective equipment (PPE), implementation of engineering controls, air and personal monitoring, and decontamination procedures.

Unless otherwise directed by the Engineer, materials removed from any excavation within an AOEC shall be transported directly from their point of origin on the Project to the WSA. The stockpiles of excavated Controlled Materials shall be maintained as shown on the Project Plans. The Contractor shall plan excavation activities within AOEC(s) in consideration of the capacity of WSA, and the material testing and disposal requirements of the applicable Contract item. **No claims for delay shall be considered based on the Contractor's failure to coordinate excavation activities as specified herein.**

The Engineer will sample the stockpiled Controlled Materials at a frequency and for the constituents to meet the acceptance criteria of the treatment/recycling/disposal facilities submitted by the Contractor. The Contractor is hereby notified that laboratory turnaround time is expected to be fifteen (15) working days. Turnaround time is the period of time beginning when the Contractor notifies the Engineer which facility it intends to use and that the stockpile is ready for sampling and ending with the Contractor's receipt of the laboratory analytical results. Any change of intended treatment/recycling/disposal facility may prompt the need to resample and will therefore restart the time required for laboratory turnaround. The laboratory will furnish such results to the Engineer. Upon receipt, the Engineer will make available to the Contractor the results of the final waste characterization determinations. **No delay claim will be considered based upon the Contractor's failure to accommodate the laboratory turnaround time as identified above.**

B. Transportation and Stockpiling

In addition to following all pertinent Federal, State and local laws or regulatory agency policies, the Contractor shall adhere to the following precautions during transport of non-hazardous materials:

- Transported Controlled Materials are to be covered prior to leaving the point of generation and are to remain covered until the arrival at the WSA;
- All vehicles departing the site are properly logged to show the vehicle identification, driver's name, time of departure, destination, and approximate volume and content of materials carried;
- All vehicles shall have secure, watertight containers free of defects for material transportation;
- No material shall leave the site until there is adequate lay down area prepared in the WSA; and,

- Documentation must be maintained indicating that all applicable laws have been satisfied and that the materials have been successfully transported and received at the WSA.

Construction of the WSA shall be completed prior to the initiation of construction activities generating Controlled Materials. Plastic polyethylene sheeting shall underlay all excavated Controlled Materials. Measures shall be implemented to divert rainfall away from the WSA.

Placement of sorbent boom along the perimeter of the WSA shall be conducted when soil is saturated with petroleum product.

Excavated materials shall be staged as shown on the Project Plans or as directed by the Engineer.

C. WSA Maintenance

The Contractor shall provide all necessary materials, equipment, tools and labor for anticipated activities within the WSA. Such activities include, but are not limited to, handling and management of stockpiles and drummed CPC/PPE; uncovering and recovering stockpiles; maintenance of WSA; replacement of damaged components (i.e. sand bags, plastic polyethylene sheeting, etc.); and waste inventory record management. The Contractor shall manage all materials in the WSA in such a way as to minimize tracking of potential contaminated materials across the site and off-site, and minimize dust generation.

Each stockpile shall be securely covered when not in active use with a cover of sufficient size to prevent generation of dust and infiltration of precipitation. The cover shall be to prevent wind erosion.

The staged stockpiles shall be inspected at least daily by the Contractor to ensure that the cover and containment have not been damaged and that there is no apparent leakage from the pile. If the cover has been damaged, or there is evidence of leakage from the piles, the Contractor shall immediately replace the cover or containment as needed to prevent the release of materials to the environment from the piles.

An inventory of stockpiled materials and drummed CPC/PPE shall be conducted on a daily basis. Inventory records shall indicate the approximate volume of material/drums stockpiled per day; the approximate volume of material/drums stockpiled to date; material/drums loaded and transported off-site for disposal; any materials loaded and transported for on-site reuse; and identification of stockpiles relative to their points of generation.

Following the removal of all stockpiled Controlled Materials, residuals shall be removed from surfaces of the WSA as directed by the Engineer. This operation shall be accomplished using dry methods such as shovels, brooms, mechanical sweepers or a combination thereof. Residuals shall be disposed of as Controlled Materials.

D. Dewatering

Dewatering activities shall conform to Items in pertinent articles of the Contract.

E. Decontamination

All equipment shall be provided to the work site free of 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.

The Contractor shall furnish labor, materials, tools and equipment for decontamination of all equipment and supplies that are used to handle Controlled Materials. Decontamination shall be conducted at an area designated by the Engineer and may be required prior to equipment and supplies leaving the Project, between stages of the work, or between work in different AOEC's.

Dry decontamination procedures are recommended. Residuals from dry decontamination activities shall be collected and managed as Controlled Materials. If dry methods are unsatisfactory as determined by the Engineer, the Contractor shall modify decontamination procedures as required subject to the Engineer's approval.

F. Dust Control

The Contractor shall implement a fugitive dust suppression program in accordance with the Contract to prevent the off-site migration of particulate matter and/or dust resulting from excavation, loading and operations associated with Controlled Materials. It shall be the Contractor's responsibility to supervise fugitive dust control measures and to monitor airborne particulate matter. The Contractor shall:

1. Employ reasonable fugitive dust suppression techniques.
2. Visually observe the amounts of particulate and/or fugitive dust generated during the handling of Controlled Materials. If the apparent amount of fugitive dust and/or particulate matter is not acceptable to the Engineer, the Engineer may direct the Contractor to implement corrective measures at his discretion, including, but not limited to, the following:
 - (a) apply water to pavement surfaces
 - (b) apply water to equipment and excavation faces; and
 - (c) apply water during excavation, loading and dumping.

G. Permit Compliance

The Contractor shall comply with the terms and conditions of the CTDEEP "General Permit for Contaminated Soil and/or Sediment Management (Staging and Transfer)," including the General Operating Conditions and the Specific Operating Conditions, except that the Engineer will

conduct all soil/sediment characterization and perform all record keeping. In particular, the Contractor shall:

1. Operate, maintain and repair the WSA in conformance with the requirements of the General Permit.
2. Maintain a communications system capable of summoning fire, police, and/or other emergency service personnel.
3. Prevent unauthorized entry onto the stockpiles by the use of fences, gates, or other natural or artificial barriers.
4. Separate incidental excavation waste to the satisfaction of the receiving facility or to an extent that renders the contaminated soil and/or sediment suitable for its intended reuse.
5. Isolate and temporarily store incidental waste in a safe manner prior to off-site transport to a facility lawfully authorized to accept such waste.
6. Not store more than 100 cubic yards of incidental waste at any one time.
7. Sort, separate and isolate all hazardous waste from contaminated soil and/or sediment.
8. Prevent or minimize the transfer or infiltration of contaminants from the stockpiles to the ground as detailed in "B. Transportation and Stockpiling" above.
9. Securely cover each stockpile of soil as detailed in "C. WSA Maintenance" above.
10. Minimize wind erosion and dust transport as detailed in "F. Dust Control" above.
11. Use anti-tracking measures at the WSA to ensure the vehicles do not track soil from the WSA onto a public roadway at any time.
12. Instruct the transporters of contaminated soil and/or sediment of best management practices for the transportation of such soil (properly covered loads, removing loose material from dump body, etc.).
13. Control all traffic related to the operation of the facility in such a way as to mitigate the queuing of vehicles off-site and excessive or unsafe traffic impact in the area where the facility is located.
14. Ensure that except as allowed in section 22a-174-18(b)(3)(C) of the Regulations of Connecticut State Agencies, trucks are not left idling for more than three (3) consecutive minutes.

Method of Measurement:

The work of Controlled Material Handling will be measured for payment by the number of cubic yards of controlled material excavated within the AOEC(s) and taken to the WSA. This measurement shall be in accordance with and in addition to the quantity measured for payment of the applicable excavation item in Specification Sections 2.02, 2.03, 2.06, and 2.86, or the Contract Special Provisions, as applicable. Excess excavations made by the Contractor beyond the payment limits specified in the Contract will not be measured for payment and the Contractor assumes all costs associated with the appropriate handling, management and disposal of this material.

Equipment decontamination, the collection of residuals, and the collection and disposal of liquids generated during equipment decontamination activities will not be measured separately for payment.

Basis of Payment:

This work shall be paid for at the Contract unit price, which shall include all transportation from the excavation site to the final WSA, including any intermediate handling steps; stockpiling Controlled Materials at the WSA; covering, securing, and maintaining the individual stockpiles within the WSA throughout the duration of the Project; and all tools, equipment, material and labor incidental to this work.

This price shall also include equipment decontamination; the collection of residuals generated during decontamination and placement of such material in the WSA; and the collection and disposal of liquids generated during equipment decontamination activities.

All materials, labor and equipment associated with compliance with the General Permit for Contaminated Soil and/or Sediment Management (Staging and Transfer) will not be measured separately, but will be considered incidental to the item "Controlled Materials Handling."

Securing, construction and dismantling of the WSA shall be paid for under Item 101128A. Handling and disposal of contaminated groundwater will be paid for under Item 0204210A. Payment for dust control activities shall be made under the appropriate Contract items.

Pay Item

Pay Unit

Controlled Materials Handling

CY

**ITEM #0101128A - SECURING, CONSTRUCTION AND DISMANTLING
OF A WASTE STOCKPILE AND TREATMENT AREA**

Description:

Work under this Item shall consist of the securing, construction and dismantling of a temporary Waste Stockpile Area (WSA) at the location designated on the Project Plans and in accordance with the Contract. All Controlled Materials excavated during construction activities shall be stockpiled in the WSA located at the Project site. The WSA shown on the Plans is to be used exclusively for temporary stockpiling of excavated materials from within Project Areas of Environmental Concern (AOECs) for determination of disposal classification.

Materials:

The required materials are detailed on the Project Plans. All materials shall conform to the State of Connecticut DOT Standard Specifications for Roads, Bridges, and Incidental Construction Form 817, as supplemented, and to the requirements of the Contract.

Construction blocks shall be solid precast rectangular concrete 6 feet in length, 3 in width, and 2 feet in height.

Polyethylene plastic sheeting for underlayment shall be a thickness of 30 mils and minimum width of 10 feet.

Sand bags used to secure polyethylene sheeting soil covers shall have a minimum weight of 30 pounds.

Bedding sand shall conform to Section 6.51.02 of the Specifications.

Processed Aggregate Base shall conform to Section 3.04.02 of the Specifications.

Hay bales shall conform to the requirements of Section 2.18.02 of the Specifications.

Bituminous Concrete shall conform to Section 4.06.02 of the Specifications.

Roll-off/Storage Containers shall be of watertight, steel-body construction, of the size specified and able to handle the storage and subsequent transportation of material to the disposal facility.

Precast Concrete Barrier Curb shall conform to Section 8.22 of the Specifications.

Construction Methods:

The WSA shall be constructed in accordance with the Contract at the location shown on the Project Plans. Should the Contractor request to modify the WSA layout at its own expense and the Engineer approves the change, the Contractor will in no way be relieved of its responsibility to plan excavation activities within the AOECs in consideration of the capacity of the WSA, the material testing and disposal requirements of the applicable Contract item, permit requirements, and any other requirements related to the WSA's capacity.

Construction of the WSA shall be completed prior to the initiation of construction activities generating Controlled Materials at the site. The Contractor is responsible for the maintenance and protection of all utilities potentially affected during WSA construction. The Contractor shall locate and mark all existing utilities potentially affected prior to initiating WSA construction.

The proposed location of the WSA shall be cleared of any debris and vegetation as directed by the Engineer. Any objectionable materials, which may result in damage to the polyethylene sheeting underlayment, shall be removed prior to stockpiling excavated Controlled Materials.

The Contractor shall comply with the terms and conditions of the Connecticut Department of Energy and Environmental Protection (CTDEEP) *General Permit for Contaminated Soil and/or Sediment Management (Staging and Transfer)*, including the General Operating Conditions and the Specific Operating Conditions, except that the Engineer will conduct all soil/sediment characterization and perform all record keeping.

Registration for a CTDEEP *General Permit for Contaminated Soil and/or Sediment Management (Staging and Transfer)* **is not required** (i.e., for a volume of soil less than 1,000 cubic yards), however management of the Controlled Materials must comply with terms and conditions within Sections 5(a) and 5(b) of the permit. In particular, the Contractor shall:

1. Construct and repair the WSA as directed by the Engineer.
2. Prevent unauthorized entry onto the stockpiles by the use of temporary fences, gates, or other natural or artificial barriers.
3. Install anti-tracking measures at the WSA to ensure the vehicles do not track soil from the WSA onto a public roadway at any time.
4. If for any reason the WSA capacity is increased to 1,000 cubic yards (CY) or greater, the Engineer will submit a registration to the CTDEEP for coverage under the General Permit for the specified site. The Contractor shall post and maintain a sign that is visible from a distance of at least 25' at the WSA identifying the name of the permittee (City of Ansonia), the field office phone number, the hours of operation for the WSA, and the phrase, "Temporary Soil Staging Area". Lettering shall be at least one inch (1") high with a minimum overall sign dimension of four (4) feet wide by two (2) feet high.

Following the removal of all stockpiled material, the Contractor shall use dry decontamination procedures for all surfaces of the WSA as directed by the Engineer. Residual materials shall be

disposed of as Controlled Materials. If the results from dry methods are unsatisfactory to the Engineer, the Contractor shall modify decontamination procedures as required.

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.

Upon completion of the Project and following removal of all residual Controlled Materials, the Contractor shall dismantle the WSA and return the area to original condition. During dismantling, the Contractor shall remove all materials such as polyethylene sheeting and sand bags. Materials shall be disposed of by the Contractor as solid waste in accordance with the Contract and all Federal, State and local regulations.

Operation and maintenance of the WSA shall be included under Item 101117A “Controlled Material Handling.”

Method of Measurement:

This work will be measured for payment at the Lump Sum cost for securing, construction, and dismantling of a WSA.

Basis of Payment:

This work will be paid for at the Contract Lump Sum, which shall include all materials, tools, labor, equipment, permits, and work needed to secure (temporary fence and gate), construct, decontaminate and dismantle the WSA, including all clearing, grubbing, grading, clean-up, site restoration and seeding.

All materials, labor and equipment associated with compliance with the *General Permit for Contaminated Soil and/or Sediment Management (Staging and Transfer)* will not be measured separately, but will be considered incidental to the item “Securing, Construction and Dismantling of a Waste Stockpile and Treatment Area.”

<u>Pay Item</u>	<u>Pay Unit</u>
Securing, Construction and Dismantling of a Waste Stockpile and Treatment Area	Lump Sum

ITEM #0201013A – REMOVAL OF EXISTING FENCE

Description: This item shall consist of removal and disposal of the existing wood fence, as shown on the plans, or as directed by the Engineer.

Construction Methods: The rails, panels, posts and foundations shall be removed to the limits shown on the plans or as directed by the Engineer. The Contractor shall dispose of all fence components in a satisfactory manner.

All excavations made below subgrade surface by the removal of post foundations shall be filled with suitable material, which shall be compacted thoroughly in accordance with the provisions

Method of Measurement: This work will be measured for payment by the number of linear feet (meters) of existing fence removed and disposed of, measured along the top of the rail or panel.

Basis of Payment: This work will be paid for at the contract unit price per linear foot (meter) for "Removal of Existing Fence," completed, which price shall include all materials, equipment, tools and labor incidental thereto.

Pay Item	Pay Unit
Removal of Existing Fence	l.f. (m)

ITEM #0202315A - DISPOSAL OF CONTROLLED MATERIALS

Description:

Work under this item shall consist of the loading, transportation and final off-site disposal/recycling/treatment of controlled materials (excluding dewatering fluids) that have been generated from various excavations within the AOEC(s), brought to the WSA and determined to be contaminated with regulated substances at non-hazardous levels. This contamination is documented in the reports listed in the “Notice to Contractor – Environmental Investigations.” The results contained in the environmental investigation reports listed in the “Notice to Contractor – Environmental Investigations” show levels of various contaminants that the Contractor may encounter during construction. Actual levels found during construction may vary and such variations will not be considered a change in condition provided the material can still be disposed as non-hazardous at one or more of the disposal facilities listed herein. The controlled materials, after proper characterization by the Engineer, shall be taken from the WSA, loaded, transported to and treated/recycled/disposed of at a permitted treatment/recycle/disposal facility listed herein.

The Contractor must use one or more of the following Department-approved treatment/recycle/disposal facilities for the disposal of non-hazardous materials:

Phoenix Soil, LLC 58 North Washington Street Plainville, CT 06062 (860) 747-8888: Sandra Zac	ESMI of New Hampshire 67 International Drive Loudon, NH 03307 (603) 783-0228: Steve Bennitt
ESMI of New York 304 Towpath Road Fort Edward, New York 12828 (800) 511-3764: Peter Hanson	Allied Waste Niagara Fall Landfill, LLC 5600 Niagra Falls Blvd. Niagara, NY 14304 (716) 285-3344: David Hanson
Ted Ondrick Company, LLC 58 Industrial Road Chicopee, MA 01020 (413) 592-2566: David Costanzo	Clean Earth of Carteret 24 Middlesex Avenue Carteret, NJ 07008 (732) 541-8909: Cheryl Coffee
Clean Earth of Philadelphia 3201 S. 61 Street Philadelphia, PA 19153 (215) 724-5520: Mike Kelly	Cumberland County Landfill 135 Vaughn Road Shippensburg, PA 17257 (717) 729-2060: Don Demkovitz

The Southbridge Recycling and Disposal Park 165 Barefoot Road Southbridge, MA 01550 (603) 235-3597: Scott Sampson	Hazelton Creek Properties, LLC * 280 South Church Street Hazelton, PA 18201 (570) 501-5050: Allen Swantek
Colonie Landfill 1319 Loudon Road Cohoes, NY 12047 (518) 951-0794: Eric Morales	

* Note: each bin will require an additional 10 days (or more) for PADEP to review analytical data and approve material for disposal prior to facility acceptance of material. This is in addition to all other restrictions and wait periods defined below.

The above list contains treatment/recycle/disposal facilities which can accept the waste stream generated by the project in quantities that may be limited by their permits and their operations restrictions. It is the responsibility of the contractor to verify that a facility will be available and capable of handling the volume as well as the chemical and physical characteristics of material generated by the project.

Construction Methods:

A. Material Disposal

The Engineer will sample materials stored at the WSAs at a frequency established by the selected treatment/recycling/disposal facilities. The Contractor shall designate to the Engineer which facility it intends to use, as well as the facility acceptance criteria and sampling frequency, prior to samples being taken. The Contractor is hereby notified that laboratory turnaround time is expected to be fifteen (15) working days. Turnaround time is the period of time beginning when the Contractor notifies the Engineer which facility it intends to use and that the bin within the WSA is full and ready for sampling and ending with the Contractor's receipt of the laboratory analytical results. Any change of intended treatment/recycling/disposal facility may prompt the need to resample and will therefore restart the time required for laboratory turnaround. The laboratory will furnish such results to the Engineer. Upon receipt, the Engineer will make available to the Contractor the results of the final waste characterization determinations. **No delay claim will be considered based upon the Contractor's failure to accommodate the laboratory turnaround time as identified above.**

The Contractor shall obtain and complete all paperwork necessary to arrange for material disposal (such as disposal facility waste profile sheets). It is solely the Contractor's responsibility to co-ordinate the disposal of controlled materials with its selected treatment/recycling/disposal facility(s). Upon receipt of the final approval from the facility, the Contractor shall arrange for the loading, transport and treatment/recycling/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 selected 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.

Any material processing (including but not limited to the removal of woody debris, scrap metal, pressure-treated and untreated wood timber, large stone, concrete, polyethylene sheeting or similar material) required by the Contractor's selected facility will be completed by the Contractor prior to the material leaving the site. It is solely the Contractor's responsibility to meet any such requirements of its facility. Any materials removed shall be disposed of or recycled in a manner acceptable to the Engineer at no additional cost. If creosote treated timbers are removed, they will be disposed of under the item "Disposal of Contaminated Timber Piles", "Disposal of Contaminated Railroad Ties" or in accordance with Article 1.04.05 in the absence of such items.

All manifests or bills of lading utilized to accompany the transportation of the material shall be prepared by the Contractor and signed by an authorized City representative, as Generator, for each truck load of material that leaves the site. The Contractor shall forward the appropriate original copies of all manifests or bills of lading to the Engineer the same day the material leaves the Project.

A load-specific certificate of treatment/recycling/disposal, signed by the authorized agent representing the disposal facility, shall be obtained by the Contractor and promptly delivered to the Engineer for each load.

B. Material Transportation

In addition to all pertinent Federal, State and local laws or regulatory agency polices, the Contractor shall adhere to the following precautions during the transport of controlled materials off-site:

- Transported controlled materials are to be covered sufficiently to preclude the loss of material during transport prior to leaving the site and are to remain covered until the arrival at the selected treatment/recycling/disposal facility.
- 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 materials carried.
- No materials shall leave the site unless a treatment/recycling/disposal facility willing to accept all of the material being transported has agreed to accept the type and quantity of waste.

C. Equipment Decontamination

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.

The Contractor shall furnish labor, materials, tools and equipment for decontamination of all equipment and supplies that are used to handle Controlled 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, and between work in different AOEC's.

The Contractor shall use dry decontamination procedures. Residuals from dry decontamination activities shall be collected and managed as Controlled Materials. If the results from dry methods are unsatisfactory to the Engineer, the Contractor shall modify decontamination procedures as required.

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.

Method of Measurement:

The work of "DISPOSAL OF CONTROLLED MATERIALS" will be measured for payment as the actual net weight in tons of material delivered to the treatment/recycling/disposal facility. Such determinations shall be made by measuring each hauling vehicle on the certified permanent scales at the treatment/recycling/disposal facility. Total weight will be the summation of weight bills issued by the facility specific to this Project. Excess excavations made by the Contractor beyond the payment limits specified in Specification Sections 2.02, 2.03, 2.06, and 2.86, or the Contract Special Provisions (as appropriate) will not be measured for payment and the Contractor assumes responsibility for all costs associated with the appropriate handling, management and disposal of this material.

The disposal of excavated materials, originally anticipated to be controlled materials, but determined by characterization sampling not to contain concentrations of regulated chemicals (non-polluted or "clean" materials) will not be measured for payment under this item but will be considered as surplus excavated materials and will be paid in accordance with Article 1.04.05.

Any materials stored in the WSAs, and which are reused within Project limits, will not be measured for payment under this item. This material will be paid for under Item 0202318A – Management of Reusable Controlled Material or in accordance with Article 1.04.05 in the item's absence.

Equipment decontamination, the collection of residuals, and the collection and disposal of liquids generated during equipment decontamination activities will not be measured separately for payment.

Any material processing required by the Contractor-selected disposal facility, including the proper disposal of all removed materials other than creosote treated wood, will not be measured for payment.

Basis of Payment:

This work will be paid for at the Contract unit price, which shall include the loading and transportation of controlled materials from the WSAs to the treatment/recycling/disposal facility; the fees paid to the facility for treatment/recycling/disposal; the preparation of all related paperwork; and all equipment, materials, tools, and labor incidental to this work. **This unit price will be applicable to all of the listed disposal facilities and will not change for the duration of the Project.**

This price shall also include equipment decontamination; the collection of residuals generated during decontamination and placement of such material in the WSA; and the collection and disposal of liquids generated during equipment decontamination activities.

Pay Item

Pay Unit

Disposal of Controlled Materials

Ton

ITEM # 0207000A – BORROW

Section 2.07 “Borrow” is amended as follows:

Article 2.07.02 – Materials:

Borrow material for use on the project shall also conform to the following material properties:

Phoe angle = 34 degrees
Unit weight = 130 lbs/ft³

ITEM #0208812A – COMPACTED IMPERVIOUS FILL**Description:**

Work under this item shall consist of furnishing and placing compacted impervious fill in accordance with these specifications and as indicated on the plans, special provisions, or as directed by the Engineer for stabilization of the existing levee.

Materials:

All materials for this work shall meet the requirements of Articles M.02.02 and M.02.06, modified as follows:

M.02.06**1. Gradation:**

	Grading
	A
Square Mesh Sieves	Percent passing by weight
Pass 5 inch	
Pass 3 ½ inch	100
Pass 1 ½ inch	55-100
Pass ¾ inch	
Pass ¼ inch	35-60
Pass No. 10	30-50
Pass No. 40	25-40
Pass No. 100	20-30
Pass No. 200	15-25

The grading percentages specified in the above table shall apply to the material after it has been delivered to the construction site as well as when tested at the pit or other source of supply.

When the fraction of the dry sample passing the No. 100 mesh sieve is greater than 8% by weight, the sample will be washed as indicated. The amount obtained from washing shall be added to that obtained by dry sieving; and the total amount passing each sieve shall meet the above gradation.

Construction Methods:

The areas where the Riverwalk is being placed over the existing levee the topsoil shall be stripped and stockpiled for elevations above the pervious core of the levee. In areas of fill at elevations above the pervious core shall be compacted impervious fill.

The compacted impervious fill shall be placed uniformly in courses not to exceed 6” thick after final compaction. Courses shall be compacted using equipment specifically manufactured for that purpose. Compaction shall be continued until the entire course is uniformly compacted to the required minimum density. The dry density after compaction shall not be less than 95% of the maximum dry density for the material when tested in accordance with AASHTO T180, Method D.

Method of Measurement:

Compacted Impervious Fill will be measured horizontally in place after final grading and compaction. The total thickness shall be as indicated on the plans, or as ordered by the Engineer, within the tolerance of -3/4 in to +1/2 in. The work will be measured for payment by the number of cubic yards of “Compacted Impervious Fill” completed, calculated and accepted in place by the Engineer.

Basis of Payment:

The work shall be paid for at the contract unit price per cubic yard of “Compacted Impervious Fill”, completed and accepted in place, which price shall include all materials, equipment, tools, geotextile, labor, and work incidental thereto.

Pay Item

Compacted Impervious Fill

Pay Unit

C.Y.

ITEM # 0212000A –SUBBASE**Description:**

Subbase will act as a filter material along the top of the dike and shall include the furnishing, placement and compaction of a layer of filter backfill material between existing riprap slope and the granular fill to prevent the migration of fines from the fill to the riprap.

Materials:

The filter backfill shall be crushed gravel and shall consist of sound, tough, durable particles of crushed gravel, free from soft, thin, elongated or laminated pieces and vegetable or other deleterious substances. It shall be hard and durable enough to resist weathering, traffic abrasion and crushing. The gravel shall be graded within the following limits:

Sieve Size	Percent finer by weight
5 inch (125 mm)	100
3-1/2 inch (90 mm)	90-100
1-1/2 inch (37.5 mm)	55-95
1/4 inch (6.3 mm)	25-60
#10 (2.0 mm)	15-45
#40 (.425 mm)	5-25
#100 (.15 mm)	0-10
#200 (.075 mm)	0-5

The grading percentages specified in the above table shall apply to the materials after it has been delivered to the construction site as well as when tested at the pit or other source of supply.

When the fraction of the dry sample passing the No. 100 mesh sieve is greater than 8% by weight, the sample will be washed as indicated. The amount obtained from washing shall be added to that obtained by dry sieving; and the total amount passing each sieve shall meet the above gradation.

Plasticity:

- a) When the fraction of the dry sample passing the No. 100 mesh sieve is 4% or less by weight, no plastic limit test will be made.
- b) When the fraction of the dry sample passing the No.100 mesh sieve is greater than 4% and not greater than 8% by weight, that fraction shall not have sufficient plasticity to permit the performing of the plastic limit test using AASHTO Method T 90.
- c) When the fraction of the dry sample passing the No. 100 mesh sieve is greater than 8% by weight, the sample will be washed; and the additional material passing the No.100 mesh sieve shall be determined by AASHTO Method T 146, except that the No. 100 mesh sieve will be substituted for the No. 40 mesh sieve where the latter is specified in AASHTO Method T 146. The combined materials that passed the No.100 mesh sieve

shall not have sufficient plasticity to permit the performing of the plastic limit test using AASHTO Method T 90.

Test for Resistance to Abrasion: Gravel materials shall show a loss on abrasion of not more than 50% using AASHTO Method T 96.

Soundness: When tested with magnesium sulfate solution for soundness using AASHTO Method T 104, coarse aggregate shall not have a loss of more than 15% at the end of 5 cycles.

Construction Methods:

Material Documentation: All vendors producing subbase must have Plants with automated vehicle-weighing scales, storage scales, and material feeds capable of producing a delivery ticket containing the information below.

- a. State of Connecticut printed on ticket.
- b. Name of Producer, identification of Plant, and specific storage silo if used.
- c. Date and time.
- d. Material description
- e. Net weight of mixture loaded into the vehicle.
- f. Gross weight (equal to the net weight plus the tare weight or the loaded scale weight).
- g. Tare weight of vehicle (daily scale weight of the empty vehicle).
- h. Project number, purchase order number, name of Contractor (if Contractor other than Producer).
- i. Vehicle number - unique means of identification of vehicle.

The State reserves the right to have an Inspector present to monitor batching and/or weighing operations.

The filter backfill shall be placed to the lines and grades shown on the plans or as directed by the Engineer. The filter backfill shall be deposited in horizontal layers not exceeding 12" in depth. Each layer shall be levelled and compacted by use of vibratory compaction equipment approved by the Engineer.

The fill adjacent to the filter material shall be placed simultaneously with the filter material, and at no time shall there be a difference of more than 2 feet in elevation of the two classes of material.

Method of Measurement:

The quantity of subbase measured for payment will be determined by the documented volume in cubic yards delivered, placed, compacted and accepted by the Engineer.

Basis of Payment:

The work shall be paid for at the contract unit price per cubic yard of “Subbase”, completed and accepted in place, which price shall include all materials, equipment, tools, labor, and work incidental thereto.

Pay Item
Subbase

Pay Unit
C.Y.

ITEM #0219004A – STORM WATER POLLUTION CONTROLS

Description: This work shall consist of furnishing, placing, maintaining and removing storm water pollution controls, including concrete washout areas, temporary sediment traps and silt fence as shown on the plans or as directed by the Engineer. Maintaining shall include the clean out and disposal of accumulated sediment, repair and restoration upon removal.

Materials: Storm water pollution controls for this work shall meet the following requirements:

Hay bales shall be made of hay with 40lbs minimum weight and 120 lbs maximum weight, and shall be held together with twine or wire.

Geotextile shall meet the requirements of Section 7.55 and M.08.

Gravel shall conform to the gradation requirements for Size No. 6 under Article M.01.01.

Construction Methods: All of the construction operations shall be in compliance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control and the Best Management Practices as published by CTDEEP. The Contractor shall take all necessary steps to ensure that nearby water sources are not polluted or impacted by construction sediment. These measures include, but are not limited to those shown on the plans, described in the permit conditions or those directed by the Engineer.

Controls shall be maintained and repaired so to remain effective throughout the duration of the construction, no controls will be removed without the approval of the Engineer. Sediments shall be removed and disposed of in a lawful manner. The Contractor is responsible for the maintenance of the controls for as long as they are deemed necessary.

Method of Measurement: This work will be measured for payment as a Contract lump sum item. Sedimentation control system and sedimentation control system at catch basin shall be measured under a separate item. Silt fence shall be measured under a separate item.

Basis of Payment: This work will be paid for at the contract lump sum price for "Storm Water Pollution Controls", which price shall include all work, equipment, materials, tools and labor incidental thereto. All costs incidental to the removal and disposal of sediment will be included in the lump sum price of "Storm Water Pollution Controls".

Pay Item
Storm Water Pollution Controls

Pay Unit
LS

ITEM #0219011A – SEDIMENTATION CONTROL SYSTEM AT CATCH BASIN

Description: This work shall consist of furnishing, installing, maintaining and removing sedimentation control systems at catch basins shown on the plans, or as directed by the Engineer.

Materials: The sedimentation control system should be manufactured from a woven polypropylene geotextile, double stitched with nylon thread. The sedimentation control system shall fit snugly to the frame or grate of the structure and allow water to flow through at a minimum rate of 40 gal/min/sq.ft.

Construction Methods: The sedimentation control system shall be installed in accordance with the manufacturer's recommended steps. The system shall consist of a catch basin insert, where the catch basin is a Type C, the curb opening shall be protected by a filter media to prevent sediment from entering the storm system.

The sedimentation control system at catch basins shall be maintained for the duration of construction. When the sedimentation control system at catch basins become full of silt, they shall be removed and emptied. The geotextile shall be rinsed using water and the sedimentation control system shall be returned to the catch basin.

Method of Measurement: Sedimentation Control System at Catch Basin will be measured as units, in place and acceptable to the Engineer.

Basis of Payment: This work will be paid for at the contract unit price each for "Sedimentation Control System at Catch Basin," complete in place, which price shall include all materials, equipment, tools and labor incidental thereto.

Pay Item	Pay Unit
Sedimentation Control System at Catch Basin	EA.

ITEM #0601401A – ORNAMENT MOLDS

Description: This work shall consist of placing ornament molds in concrete at locations shown on the plans or as directed by the Engineer.

Materials: Ornament molds shall be flexible urethane forms. Pattern – Compass Rose Narrow.

Construction Methods: Ornament molds shall be installed in concrete sidewalk at locations shown or as directed by the Engineer and in accordance with the manufacturer’s recommendations.

Method of Measurement: This work will be measured for payment as a Contract lump sum item.

Basis of Payment: This work will be paid for at the contract lump sum price for "Ornament Molds", which price shall include all work, equipment, materials, tools and labor incidental thereto.

Pay Item
Ornament Molds

Pay Unit
LS

ITEM #0601445A - EMBANKMENT WALL (SITE NO. 1)

Description: This item will consist of designing, furnishing and constructing an embankment retaining wall in the location, grades, and to the dimensions and details shown on the contract drawings, and in accordance with these specifications.

Retaining Wall Selection: The Contractor shall select the proprietary embankment retaining wall from the Department's current approved list shown below. The Engineer will reject any proposed retaining wall that is not listed below.

The following is a list of the proprietary embankment retaining walls for this project:

- | | |
|---|--|
| 1. <u>VERSA-LOK Harmony Retaining Wall</u>
VERSA-LOK of New England
P.O. Box 6002
Nashua, NH 03063
(603) 883-3042 | 3. <u>KeySystem I Retaining Wall</u>
Keystone Retaining Wall Systems
13453 County Road 1
Fairhope, AL 36532
(251) 990-5761 |
| 2. <u>MESA Retaining Wall System</u>
TENSAR Earth Technology, Inc.
227 Ritter Road
Sewickley, PA 15143
(412) 749-9190 | 4. <u>Pyramid Modular Blockwall</u>
The Reinforced Earth Company
133 Park Street
North Reading, MA 01864
(978) 664-2830 |
| 5. <u>Redi-Rock Retaining Wall-Cobblestone Face Mold</u>
Redi-Rock Walls-CT Division
68A South Canal Street
Plainville, CT 06062
(860) 793-6805 | |

No other proprietary retaining walls will be allowed for this project.

This listing does not warrant that the individual walls can be designed to meet either the dimensional, structural, or geotechnical constraints at each site.

Design:

1 - Design Computations: It is the Contractor's responsibility for the design, detailing and additional construction specifications required to construct the wall. The actual designer of the retaining wall shall be a qualified Professional Engineer licensed in the State of Connecticut.

2 - Designer's Liability Insurance: The Designer shall secure and maintain at no direct cost to the State, a Professional Liability Insurance Policy for errors and omissions in the minimum amount of Five Hundred Thousand Dollars (\$500,000). The designer may, at his election, obtain a policy containing a maximum One Hundred Twenty Five Thousand Dollars (\$125,000) deductible clause, but if he should obtain a policy containing such a clause, the designer shall be liable to the extent of the deductible amount. The Designer shall obtain the appropriate and proper endorsement to its Professional Liability Policy to cover the indemnification clause in this contract as the same relates to negligent acts, errors or omissions in the work performed by the Designer. The Designer shall continue this liability insurance coverage for a period of three years from the date of the acceptance of the work by the agency head as evidenced by a certificate of acceptance issued to the contractor or for three years after the termination of the contract, whichever is earlier, subject to the continued commercial availability of such insurance.

The designer shall supply the certificate of this insurance to the Engineer prior to the start of construction of the wall. The designer's insurance company shall be licensed in the State of Connecticut.

3 - Preliminary Submissions: Prior to the start of fabrication or construction, the Contractor shall submit to the Engineer a design package, which shall include, but not be limited to the following:

a. Detailed Plans:

- Plan sheets shall be approximately 24" x 36"
- Stamped by a licensed Professional Engineer (Connecticut).
- Full plan view of the wall drawn to scale. The plan view must reflect the horizontal alignment and offset from the horizontal control line to the face of the wall. Beginning and ending stations, all utilities, signs, lights, etc. that affect the construction along with all property lines and easement lines adjacent to the wall shall be shown.
- Full elevation view of the wall drawn to scale. Elevation views should indicate the elevation at the top and bottom of walls, horizontal and vertical break points, and the location of finished grade.
- Typical cross sections drawn to scale including all appurtenances. Detailed cross section should be provided at significant reinforcement transitions such as wall ends.

- Details of all wall components and their connections such as the length, size and type of soil reinforcement and where any changes occur; facing details; connections; etc.
- Certified test reports indicating the connection strength versus normal load relationship for the block-soil reinforcement connection to be used.
- Drainage details for embankment backfill including attachment to outlets shown on contract drawings.
- Details of any roadway drainage pipe projecting through the wall, or any attachments to the wall. Details of the treatment of drainage swales or ditches shown on the contract drawings.
- Design parameters used along with AASHTO references.
- Material designations for all materials to be used.
- Wall to be similar appearance to similar to Versa-Lok “Harmony” modular block with geogrid, “Allegheny Blend” color. Submit sample for review and approval by City of Ansonia during preliminary design.
- An ornamental fence will be installed behind the retaining wall. Sono-tubes for fence foundations will be set as backfill and geogrid are being placed. Retaining wall design shall include details for wrapping geogrid around sono-tubes and providing additional reinforcement, where necessary. Details shall be specific to this installation and match the ornamental fence submitted for this project, not generic details.
- Detailed construction methods including a quality control plan. Construction quality control plans should include monitoring and testing frequencies (e.g, for setting batter and maintaining horizontal and vertical control). Construction restraints should also be listed in the details. Specific requirements for construction around obstructions should be included.
- Details of installation of protective fencing where required.
- Details of Architectural Treatment where required.
- Details of Temporary Earth Retaining System(s) where required.

- Details of wall treatment where the wall abuts other structures.
 - Treatment at underground utilities where required.
- b. Design Computations:
- Stamped by a licensed Professional Engineer (Connecticut).
 - Computations shall clearly refer to the applicable AASHTO provisions as stated in the Notes on the Contract Drawings.
 - Documentation of computer programs including all design parameters.
 - Design shall be in accordance with Geotechnical Engineering Evaluation Report, Ansonia Riverwalk, Segments 3 and 4, Ansonia, Connecticut, State Project No. 002-128 prepared by Down To Earth Consulting, LLC, 122 Church Street, Naugatuck, Connecticut 06770 dated November 8, 2019. Wall designer shall confirm consistency with Global Stability Analysis section of report.
 - Design shall be in accordance with all permit conditions and requirements, including USACE and CT DEEP dam permits.
- c. Construction Specifications:
- Construction methods specific to the proprietary retaining wall chosen. These specifications should include construction limitations including vertical clearance, right-of-way limits, etc. Submittal requirements for materials such as certification, quality, and acceptance/rejection criteria should be included. Details on connection of modular units and connection of reinforcements such that assurance of uniform stress transfer should be included.
 - Any requirements not stated herein.

The submissions for proprietary retaining walls shall be treated as working drawings according to Section 1.05 amended as follows:

- a. Six sets of each submission shall be supplied to the State, plus electronic copies of all documents for submission to the CT DOT, USACE, and CT DEEP. One electronic copy of the detailed plans, computations and specifications of the embankment wall design shall also be submitted to USACE and CT DEEP for review and approval prior to the start of construction. Submission will be concurrent with preliminary CT DOT submission.

b. The Contractor shall allow 21 days for the review of each submission. If subsequent submissions are required as a result of the review process, 21 days shall be allowed for review of these submissions. No extensions in contract time will be allowed for the review of these submissions.

4 - Final Submissions: Once a proprietary retaining wall design has been reviewed and accepted by the Department, the Contractor shall submit the final plans. The final submission shall include one set of full size (approximately 24" x 36") mylar sheets and five sets of full size blue line copies. **Submit electronic copies of final design plans and calculations in conjunction with hard copies.**

The final submission shall be made within 14 days of acceptance by the State. No work shall be performed on the retaining wall until the final submission has been received by the Department, **and approved by the USACE and CT DEEP.**

Acceptance of the final design shall not relieve the Contractor of his responsibility under the contract for the successful completion of the work.

The actual designer of the proprietary retaining wall is responsible for the review of any shop drawings prepared for the fabrication of the wall. One set of full size blue line copies of all approved shop drawings shall be submitted to the Department's permanent records.

5 - General Design Requirements:

a. All designs for proprietary walls and temporary earth retaining systems shall conform to the latest edition of the American Association of State Highway and Transportation Officials (AASHTO) Standard Specifications for Highway Bridges and later interims published except as noted otherwise herein:

b. The wall design shall follow the general dimensions of the wall envelope shown in the contract plans.

c. The top of the concrete leveling pad shall be located at or below the theoretical leveling pad elevation. The minimum wall embedment shall be two feet as measured to the top of the leveling pad or as shown on the plans.

d. An even-elevation leveling pad is shown on the plans. If footing steps are required, they shall be kept below the minimum embedment depth. Footing steps in addition to those shown on the plans will be permitted at no additional cost to the State.

e. The wall shall be designed to be within all property lines and easement lines shown on the contract drawings. If additional work areas are necessary for the construction of the proprietary retaining wall, the Contractor shall be responsible for obtaining the rights from the affected property owners. Copies of these rights shall be forwarded to the Department.

f. The top of the wall shall be at or above the top of the wall elevations shown on the plans. The top of the wall may be level or sloped to meet the top of the wall line noted.

g. Cast-in-place concrete will not be an acceptable replacement for areas noted by the wall envelope, except for minor grouting of pipe penetrations.

h. The mechanical wall height for the purposes of design calculations shall be from the top of the leveling pad to the top of the potential failure surface where the failure surface intercepts the ground surface.

i. The minimum length of internal soil reinforcement shall be as specified in AASHTO 5.8.1, except for the minimum eight (8.0') foot length requirement. Two four (4.0') foot levels of geogrid are shown on the plans.

i. If there are specific surcharges acting on the wall, they shall also be accounted for. The minimum equivalent fluid pressure used to design the wall shall be 33 lbs./ft² per linear foot of wall.

j. The maximum allowable bearing capacity of the soil shall be assumed to be 4 ksf unless otherwise shown on the plans. If additional soils information is required by the designer, it must be obtained by the Contractor and will not be reimbursed by the State.

k. For limit state allowable stress computations of extensible reinforcements, the combined factor of safety for construction damage and environmental/aging effects shall not be less than 1.75.

Materials: Materials shall conform to the following requirements and those not listed below shall be as prescribed within the Standard Specifications for Roads, Bridges and Incidental Construction, including supplemental specifications and applicable special provisions.

1 – **Facing Block:** The facing block can be precast or drycast concrete and shall be the color specified on the plans, or as approved by engineer. The block shall meet the following requirements:

a. Drycast Concrete:

i. The minimum compressive strength of the block shall be 4000 psi measured at 28 days.

ii. The maximum water absorption shall be less than five percent.

The Contractor shall submit to the Engineer a certified test report confirming the compressive strength and water absorption conform to the requirements of ASTM C-140.

b. Precast Concrete: Shall conform to the requirements of Section M.03 and as follows:

- i. The minimum compressive strength of the block shall be 4000 psi measured at 28 days.
- ii. All precast concrete components shall be air-entrained composed of portland cement, fine and coarse aggregates, admixtures and water. The air-entraining feature may be obtained by the use of either air-entraining portland cement or an approved air-entraining admixture. The entrained-air content shall be not less than four percent or more than seven percent.

2 - Geosynthetic Soil Reinforcement: The minimum strength of the geosynthetic soil reinforcement shall be based on experimental data. The Contractor shall submit to the Engineer a certified test report confirming the strength of the material when tested according to the methods specified in ASTM D5262 and extrapolated according to ASTM D2837 as outlined in AASHTO Article 5.8.7.2.

3 - Metallic Soil Reinforcement: All soil reinforcement and structural connectors shall be hot dipped galvanized according to the requirements of ASTM A123 (AASHTO M-111). The minimum thickness of the galvanizing shall be based on the service life requirements in the AASHTO Specifications.

Steel strip reinforcement shall be hot rolled to the required shape and dimensions. The steel shall conform to AASHTO M223 (ASTM A572) Grade 65 unless otherwise specified.

Welded wire fabric reinforcement shall be shop fabricated from cold-drawn wire of the sizes and spacings shown on the plans. The wire shall conform to the requirements of ASTM A82, fabricated fabric shall conform to the requirements of ASTM A185.

4 - Metal Connectors: All metal hardware shall be hot dipped galvanized according to the requirements of ASTM A123 (AASHTO M-111). The minimum thickness of the galvanizing shall be based on the service life requirements in the AASHTO Specifications.

5 - Backfill Material: The material for backfill shall be Pervious Structure Backfill conforming to the requirements of Articles M.02.05 and M.02.06.

6 - Facing Sealer: The face of all exposed drycast block shall be coated with clear Penetrating Sealer Protective Compound conforming to the requirements of Article M.03.01-11.

Construction Methods: All construction methods for items not listed below shall be in accordance with the detailed requirements prescribed for the construction of the several contract items entering into the completed structure as specified in the Standard Specifications for Roads, Bridges, and Incidental Construction.

1 - Installation: The foundation for the structure shall be graded level for a width equal to or exceeding the length of the soil reinforcements, or as shown on the plans. If rock is encountered in the excavation, it shall be removed to provide a level area equal to or exceeding the length of the soil reinforcements, but not greater than the pay limits shown on the plans.

Avoid over-excavation of flood control levee. All construction to be in accordance with the U.S. Army Corps of Engineers Section 408 Levee Modification Permit requirements.

Strip existing topsoil from flood control levee slope under **Riverwalk Overlook Pavilion** and retaining wall area prior to placing compacted structural fill. **Backfill stripped topsoil in fill areas with Compacted Impervious Fill to top of existing levee as shown on plans.**

Prior to wall construction, the foundation, if not in rock, shall be compacted as directed by the Engineer. Any foundation soils found to be unsuitable shall be removed and replaced.

At each foundation level, an unreinforced concrete leveling pad shall be provided as shown on the plans. The leveling pad shall have nominal dimensions of 6 inch thickness and 24 inch width, and shall be cast using minimum 2,000 psi 28-day compressive strength concrete. The leveling pad shall be cast to the design elevations as shown on the plans. Allowable elevation tolerances are +0.01 foot (1/8 inch), and -0.02 foot (1/4 inch), from the design elevation.

The materials for the wall shall be handled carefully and installed in accordance with manufacturer's recommendations and specifications. Special care shall be taken in setting the bottom course of blocks to true line and grade.

All blocks above the first course shall interlock with the lower courses by means of connecting pins. Vertical joints shall be staggered with each successive course as shown on the working drawings. Vertical tolerances and horizontal alignment tolerances measured from the face line shown on the plans shall not exceed 1/2 inch when measured along a 8-foot straightedge. The overall tolerance of the wall from top to bottom shall not exceed 1/2 inch per eight feet of wall height or one inch total, whichever is the lesser, measured from the face line shown on the plans. A bond breaker shall be placed between the blocks and any adjacent cast-in-place concrete.

2 - Backfilling: Backfill placement shall closely follow erection of each course of panels. Backfill shall be placed in such a manner as to avoid any damage or disturbance to the wall materials or misalignment of the facing panels. Any wall materials which become damaged or disturbed during backfill placement shall be either removed and replaced at the Contractor's expense or corrected, as directed by the Engineer. Any backfill material placed within the reinforced soil mass which does not meet the requirements of this specification shall be corrected or removed and replaced at the Contractor's expense.

Backfill shall be compacted to 95 percent of the maximum density as determined by AASHTO T-99, Method C or D (with oversize correction, as outlined in Note 7).

The moisture content of the backfill material prior to and during compaction shall be uniform throughout each layer. Backfill material shall have a placement moisture content less than or equal to the optimum moisture content. Backfill material with a placement moisture content in excess of the optimum moisture content shall be removed and reworked until the moisture content is uniform and acceptable throughout the entire lift. The optimum moisture content shall be determined in accordance with AASHTO T-99, Method C or D (with oversize correction, as outlined in Note 7).

If 30 percent or more of the backfill material is greater than 19 mm in size, AASHTO T-99 is not applicable. For such a material, the acceptance criterion for control of compaction shall be either a minimum of 70 percent of the relative density of the material as determined by a method specification provided by the wall supplier, based on a test compaction section, which defines the type of equipment, lift thickness, number of passes of the specified equipment, and placement moisture content.

The maximum lift thickness after compaction shall not exceed 10 inches, regardless of the vertical spacing between layers of soil reinforcements. The Contractor shall decrease this lift thickness, if necessary, to obtain the specified density. Prior to placement of the soil reinforcements, the backfill elevation at the face shall be level with the connection after compaction. From a point approximately three feet behind the back face of the panels to the free end of the soil reinforcements the backfill shall be two inches above the attachment device elevation unless otherwise shown on the plans.

Compaction within three feet of the back face of the panels shall be achieved by at least three passes of a lightweight mechanical tamper, roller or vibratory system. The specified lift thickness shall be adjusted as warranted by the type of compaction equipment actually used. Care shall be exercised in the compaction process to avoid misalignment of the panels or damage to the attachment devices. Heavy compaction equipment shall not be used to compact backfill within three feet of the wall face.

At the end of each day's operation, the Contractor shall slope the last level of backfill away from the wall facing to direct runoff of rainwater away from the wall face. The Contractor shall control and divert runoff at the ends of the wall such that erosion or washout of the wall section does not occur. In addition, the Contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.

Install sono-tubes behind wall for ornamental fence foundations as backfill and geogrid are being placed. Retaining wall design shall include details for wrapping geogrid around sono-tubes and providing additional reinforcement. Details shall be specific to this installation and match the ornamental fence submitted for this project.

3 - Face Sealer: After the wall has been erected, the entire exposed face of the wall shall be coated with Penetrating Sealer Protective Compound. The application of the sealer shall conform to the requirements Article 8.18.03.

Several samples of the dry cast block shall be sealed prior to sealing the actual wall to ensure that the sealer will not discolor the block. If the sealer does discolor the block, the Contractor shall change to another approved supplier of sealer.

Method of Measurement: This work will be paid for on a lump sum basis and will not be measured for payment.

Basis of Payment: This work will be paid for at the contract lump sum for "EMBANKMENT WALL (SITE NO. 1)", complete in place, which price shall include all work shown within the pay limits shown on the plans for the retaining wall including but not limited to the following:

1. Design, detailing, and specifications for the wall.
2. Excavation for the wall
3. Design and Construction of temporary earth retaining systems for the support of the slope during construction.
4. Construction of the Embankment Wall, including the unreinforced concrete leveling pad.
5. The furnishing, placing and compacting of pervious structure backfill within the maximum payment lines.
6. The furnishing and placing of backfill drainage systems for the wall.
7. Any other work and materials shown on the plans for the construction of the wall.

The price shall also include all materials, equipment, tools and labor incidental thereto.

If bedrock or large boulders (greater than one cubic yard) are encountered in the excavation, the payment for it's removal will be made under the item "Structure Excavation - Rock".

ITEM #0703029A - ROUNDED STONE RIPRAP

Work under this item shall meet the requirements of Section 7.03, amended as follows:

7.03.01–Description: *Add the following:*

This item shall consist of furnishing and placing rounded stone riprap to extend the hydraulic relief layer on the land side of the levee.

7.03.02–Materials: *Add the following:*

3. Rounded Stone Riprap: The stone for this work shall meet the requirements of Article M.12.02 except that they shall be rounded and not angular.

Rounded stone riprap material the Contractor proposes to supply from an off-site source must be inspected and approved by the Engineer at the source prior to the excavation or hauling of the material to the Site. The Contractor shall give the Engineer a minimum of 2 weeks' notice to allow scheduling of on-Site inspection and approval of the material.

7.03.03–Construction Methods: *Add the following:*

Before placing any rounded stone riprap material, the Contractor shall give the Engineer a minimum of 10 days' notice to allow scheduling of on-Site inspection.

The Contractor shall place the rounded stone riprap in the locations as shown on the plans or as directed by the Engineer, or by the Engineer's authorized representative.

ITEM #0901005A – BOLLARD

Description:

Work under this item shall include the furnishing and installation of removable steel security bollards, which shall include all labor and materials necessary for the construction of the bollards at the locations shown on the Contract Plans.

Materials:

6” diameter steel bollards (for exterior use) shall consist of a the bollard pipe including a matching cap, receiving sleeve with flange for the ground, to which pipe bollard can be secured or removed via an internal manufactured locking system. Concrete footing shall be Class C concrete. 6” removable bollard with internal locking system as manufactured by Traffic Guard, or “premium removable bollard R-7561” by Reliance Foundry, or approved equal.

Twist & lock 6” removal system shall be included. The sleeve and flange shall be of a design flush to the ground when the bollard is removed. Include plastic cover cap and removal bar as per manufacturer.

Color shall be powder-coated yellow, or/ as approved by Owner. Submit sample color.

All steel components shall be “Buy America” compliant

Construction Methods:

All work shall be in accordance with bollard system manufacturer requirements, located as shown on the contract plans.

Method of Measurement:

This work will be measured for payment by the number of each “Bollard” installed and accepted.

Excavation and pouring of concrete foundations will not be measured for payment but the cost thereof shall be included in the price bid for the bollard.

Basis of Payment:

This work will be paid for at the contract unit price per each for “Bollard”, complete in place, which price shall include all materials, tools, equipment, excavation, concrete foundations and work incidental thereto.

<u>Pay Item</u>	<u>Pay Unit</u>
Bollard	EA.

ITEM #0906203A – SPLIT RAIL FENCE

Description:

Work under this item shall consist of furnishing all equipment, tools, labor, and materials to perform all work necessary to install post and rail fencing to the location shown on the plan, as detailed or as directed by the Engineer.

Materials:

4' Height, 3 rail cedar fence, similar to model "Duxbury", as manufactured by Walpole Woodworkers, or by Orange Fence or approved equal. Posts and rails shall be rounded and finished to provide sound attachment at the posts; the top of posts shall receive a minimum 1/2" chamfer at the top circumference. Posts to be pressure-treated for ground contact. Furnish shop drawings for review and approval prior to delivery and installation.

Stone Dust for setting fence posts shall meet the requirements of Article M.01 for dust.

Construction Methods:

Install post and rail fencing as detailed and where indicated on the drawings. Set posts plumb and of set uniform heights along the profile of the trail. Firmly set posts into the subgrade, inclusive of existing riprap areas, and tamp as necessary with excavated Impervious Fill material, impervious processed aggregate (stone dust) material. Replace and reset existing Gravel Bedding and Stone Protection in rip rap areas by hand placement.

Avoid over-excavation of flood control levee. All construction to be in accordance with U.S. Army Corps of Engineers Section 408 Levee Modification Permit requirements.

Method of Measurement:

This work will be measured for payment by the number of linear feet (LF), measured to nearest linear foot along centerline of post to centerline of post, completed and accepted by the Engineer.

Stone dust will not be measured for payment but the cost thereof shall be included in the bid price of the split rail fence.

Basis of Payment:

The work shall be paid for at the contract unit price per linear foot for "Split Rail Fence", completed and accepted in place, which price shall be complete and include all materials, equipment, tools, labor, excavation, backfill, disposal of surplus and unusable material and work incidental thereto.

Pay Item
SPLIT RAIL FENCE

Pay Unit
LF.

ITEM #0910023A – R-B TERMINAL SECTION

Description: Work under this item shall consist of furnishing, installing metal beam rail R-B terminal sections shown on the plans, or as directed by the Engineer.

Materials: The material for metal beam rail shall meet the requirements of M.10.02 and the following:

1. Metal beam rail delineators shall meet the requirements of M.18.09 and MM.18.13.
2. All other elements shall meet the requirements shown on the plans.

Construction Methods: The R-B terminal section shall be installed in accordance with Article 9.10.03 and the project plans and the following:

The rail elements shall be lapped in the direction of traffic.

Before final erection, all galvanized elements which have been cut or worked so as to damage the zinc coating and cause base metal to be exposed shall have the exposed base metal thoroughly cleaned and brush coated with zinc-rich touch-up material in accordance with M.10.02-8.

Method of Measurement: The number of terminal sections measured for payment shall be the actual number of R-B terminal sections installed and accepted in accordance with the “Pay Limit R-B Terminal Section” shown on the plans.

Basis of Payment: R-B terminal sections will be paid for at the contract unit price each for "R-B Terminal Section," complete in place, which price shall include all materials, excavation, backfilling, drilling and grouting, removal and disposal of surplus material, equipment, tools and labor incidental to complete the installation.

Pay Item	Pay Unit
R-B Terminal Section	EA.

ITEM #0913043A – 8’ POLYVINYL CHLORIDE CHAIN LINK FENCE

ITEM #0913506A – 10’ CHAIN LINK DOUBLE GATE 8’ HIGH

ITEM #0913912A – 12’ CHAIN LINK DOUBLE GATE 6’ HIGH

ITEM #0913934A – 4’ CHAIN LINK GATE 5’ HIGH

This work shall conform to Section 9.13 supplemented as follows:

Article 9.13.01 – Description:

Amend as follows:

Work under this item shall consist of furnishing and installing 8’ Polyvinyl Chloride Chain Link Fence, 10’ chain link double gate 8’ high, a 12’ chain link double gate 6’ high and 4’ chain link gate 5’ high where indicated on the plans or as ordered and in conformity with these specifications and the recommendations and specifications of the manufacturer. Steel chain link fabric is to be polyvinyl-chloride coated, as well as posts and hardware. Color shall be black. The item also includes providing and installation of black PVC privacy slats for fence and gate.

Article 9.13.03 – Materials:

Steel chain link fabric, posts and hardware are to be PVC coated. Color shall be black.

PRIVACY SLATS FOR FENCE AND GATE: Type B9 ga. 96" PDS Slats Fence Inserts as manufactured by Master Halco, Pexco, or equal as approved by the Engineer (Color shall be Black).

All steel components to be “Buy America” compliant.

Article 9.13.03 – Construction Methods:

Add the following prior to the first paragraph:

The dimensions and location of the new fence and gate shall be according to the Plans and Details.

All installation shall be in accordance with the manufacturer’s specifications.

Article 9.13.04 – Method of Measurement:

Amend as follows:

This work will be measured for payment by the number of Linear Feet (LF) of “8’ Polyvinyl Chloride Chain Link Fence,” by the number of each “10’ Chain Link Double Gate 8’ High,” by the

number of each “12’ Chain Link Double Gate 6’ High,” and by the number of each “4’ Chain Link Gate 5’ High,” completed and accepted in place.

Article 9.13.05 – Basis of Payment:

Amend as follows:

This work will be paid for under the contract unit price per linear foot (LF) of “8’ Polyvinyl Chloride Chain Link Fence,” per contract unit price for each “10’ Chain Link Double Gate 8’ High,” per contract unit price for each “12’ Chain Link Double Gate 6’ High,” and per contract unit price for each “4’ Chain Link Gate 5’ High”, complete and accepted in place, which price shall include, but not be limited to materials, coatings, hardware, excavation, backfill, disposal of surplus material, and all equipment and labor incidental thereto.

Pay Item

8’ Polyvinyl Chloride Chain Link Fence
10’ Chain Link Double Gate 8’ High
12’ Chain Link Double Gate 6’ High
4’ Chain Link Gate 5’ High

Pay Unit

LF
Each
Each
Each

ITEM #0914013A – ORNAMENTAL METAL FENCE

Description: This item shall consist of furnishing and installing a Welded and Seamless Steel pipe railing on the proposed concrete slab at the overlook circle, as shown on the plans, or as directed by the Engineer.

Materials: All pipe for railings, posts and spindles shall be schedule 40 Welded and Seamless Steel pipe conforming to the requirements of Subarticle M.06.02-8.

Supplier shall be P&C Fence Company 60 Radel St Bridgeport, CT or Atlas Outdoor 30 Northeast Industrial Rd Branford, CT or as approved by the City.

Construction Methods: The rail elements shall be erected to produce a smooth, continuous rail as shown on the plans.

Install concrete fence foundations in sono-tubes in conjunction with Retaining Wall No. 1 construction and geogrid installation.

Place sleeves above fence foundations prior to construction of concrete observation plaza.

Use sleeves, or core drill pavement and set posts with epoxy grout in accordance with manufacturer specifications to prevent water from entering around post hole.

The top rail shall consist of a single, continuous pipe and shall be welded to posts.

The mid and bottom rails shall be welded to the posts.

Spindles shall be welded to mid and bottom rails.

All welds to be ground smooth. No rough or sharp projections will be permitted.

The entire fabrication shall be hot dipped galvanized.

Method of Measurement: This work will be measured for payment by the number of linear feet (meters) of railing measured along the top of the rail from end to end of the rail.

Excavation and pouring of concrete footings for posts will not be measured for payment but the cost thereof shall be included in the bid price of the ornamental metal fence.

Basis of Payment: This work will be paid for at the contract unit price per linear foot (meter) for "Ornamental Metal Fence," complete in place, which price shall include all materials, including sleeves and fastening devices in which the posts are set, and all equipment, tools and labor incidental thereto.

Pay Item

Pay Unit

Ornamental Metal Fence

l.f. (m)

ITEM #0915000A – TREE PROTECTION

Description: This work shall consist of furnishing, placing, maintaining and removing protection for existing trees, including trunk armoring, and temporary mesh construction fence as shown on the plans and details or as directed by the Engineer. Maintaining shall include repair as needed and restoration upon removal.

Materials: Tree Protection for this work shall meet the following requirements:

Construction fence shall be plastic mesh, in a high visibility color, with a minimum height of 48". Posts shall be heavy gauge steel.

Trunk armoring shall be steel banded wood slats of a minimum 36" length appropriate to protect bark from damage by equipment and materials and shall incorporate 4 layers of burlap.

Construction Methods: All of the construction operations shall be in compliance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control and the Best Management Practices as published by CTDEEP. The Contractor shall take all necessary steps to ensure that tree limbs, trunks, and roots within the Critical Root Zone are not damaged by construction activity. These measures include, but are not limited to those shown on the plans, described in the permit conditions or those directed by the Engineer.

Controls shall be maintained and repaired so to remain effective throughout the duration of the construction, no controls will be removed without the approval of the Engineer. The Contractor is responsible for the maintenance of the controls for as long as they are deemed necessary.

Method of Measurement: This work will be measured for payment as a Contract lump sum item.

Basis of Payment: This work will be paid for at the contract lump sum price for "Protection of Existing Trees", which price shall include all work, equipment, materials, tools and labor incidental thereto.

Pay Item
Tree Protection

Pay Unit
LS

ITEM #0921022A – STONEDUST PATHWAY

Description:

Work under this item shall consist of furnishing all equipment, tools, labor, and materials to perform all work necessary to install Screenings as shown on the typical sections (labeled as stone dust) as detailed or as directed by the Engineer.

Materials:

According to Section M.01.01 Gradation Table for dust.

Geotextile shall conform to the requirements of M.08.01-26. Materials incidental to and necessary for the installation of the geotextile, such as, but not limited to thread, staples, pins, etc., shall conform to the requirements of the manufacturer of the geotextile.

Construction Methods:

The area on which the stone dust is to be placed shall be shaped and compacted to an even surface and to the designated grade prior to placing stone dust. The stone dust shall be spread by a suitable means which will not crush the stone dust and shall be shaped to a smooth uniform finished grade.

Geotextile for material separation shall be installed along the subgrade surface.

Compaction shall occur after the placement of each course. Material shall be wetted as compaction is performed and shall continue until the course is thoroughly compacted to a firm and uniform surface satisfactory to the Engineer.

Method of Measurement:

This work will be measured for payment by the number of square feet of “Stone Dust Pathway” completed and accepted in place by the Engineer.

Geotextile will not be measured for payment but the cost thereof shall be included in the price bid for the stonedust pathway.

Basis of Payment:

The work shall be paid for at the contract unit price per square foot of “Stone Dust Pathway”, completed and accepted in place, which price shall include all materials, equipment, tools, geotextile, labor, and work incidental thereto.

Pay Item

STONE DUST PATHWAY

Pay Unit

S.F.

ITEM #0945005A - WILDFLOWER ESTABLISHMENT

Description: The work included in this item shall consist of providing an accepted uniform stand of established wildflowers by furnishing and placing seed and mulch on all areas to be treated as shown on the plans, permits or as directed by the Engineer.

The work will also include the installation of bio-degradable erosion control matting, as shown on plans, permits or as directed by the Engineer, consisting of mulch and netting woven together as a unit.

Materials: All wildflower seed mixture sources shall be locally obtained within the Northeast USA including New England, New York, Pennsylvania, New Jersey, Delaware, or Maryland in order to preserve and enhance the diversity of native wildflower species.

Mulch shall meet the requirements of Article M.13.05.

Bio-degradable erosion control matting, if required, shall be from the Department's Qualified Products List and shall meet the requirements of Article M.13.09.

All seed mixture sources, mulch and erosion control matting shall be approved by Engineer prior to application.

Three approved seed mixtures are detailed below.

1. **New England Wildflower Seed Mix: (NEWP) New England WetMix**, New England Wetland Plants, Inc. 800 Main Street Amherst, MA 01002, or equal. Rate shall be 1 pound PLS per 1900 sq.ft.
2. **XERCES Northeastern Pollinator Mix:** Ernst Conservation Seeds Inc. 8884 Mercer Pike, Meadville, PA, 16335, or equal. Rate shall be 8 pound PLS per 1 acre.
3. **Wildflower & Grass Mix**, Vermont Wetland Plant Supply, LLC, P.O. Box 153, Orwell, VT, 05760, or equal. Rate shall be 1 pound PLS per 1600 sq.ft.

All seed mixtures must be approved by the Environmental Scientist from the Office of Environmental Planning in advance of purchase. The materials certification for any proposed mixture shall be submitted a minimum of thirty (30) days prior to delivery on site by the Contractor. All seed material certifications must have seed mixtures that shall not include any invasive species pursuant to Connecticut General Statute Sec. 22a-381d or any State Threatened or State Endangered species known pursuant to Connecticut General Statute Sec. 26-303 which would be a violation of the Connecticut Endangered Species Act. The seed tags from the bags are to be removed by the Engineer upon delivery and attached to the Material Certification. A copy of the seed tag is to be provided to the Environmental Scientist. No seeding shall occur if the requirements are not met.

All approved seed mixtures shall be obtained in sufficient quantities to meet the pure live seed (PLS) application rates as determined by the seed analysis of the mixture.

Construction Methods: Construction methods shall be those established as agronomically acceptable and feasible and approved by the Engineer.

Preparation of Seedbed Areas:

- a. Level areas, median areas, interchanges and lawns: These areas shall be made friable and receptive for seeding by discing or by other approved methods to the satisfaction of the Engineer. The final prepared surface which has been seeded shall meet the lines and grades for such surface areas as shown on the plans, or as directed by the Engineer.
- b. Slope and embankment areas: These 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.

All areas to be seeded shall be reasonably free from weeds taller than 3 inches. Removal of weed growth for the slope areas shall be those methods which do not rut or scar the slope surface or cause excessive disruption of the slope line or grade as approved by the Engineer. Seeding on level areas shall not be permitted until substantial weed growth is removed and approved by the Engineer.

Seeding Season: The calendar dates for seeding shall be:

Spring – March 1 to June 15

Fall – September 15 to November 15

Seeding Methods: The wildflower seed mixture shall be applied by an agronomically acceptable procedure approved by Environmental Scientist. The rate of application shall be as shown on the plans or directed by the Engineer.

$(\text{Germination Percentage} \times \text{Purity Percentage}) / 100 = \text{Percentage PLS}$

The Engineer shall verify that the seed is applied at a rate which will allow for 100 percent PLS.

Method of Measurement: The work will be measured for payment by the number of pounds of each size and kind of wildflower seed counted, planted and accepted.

Basis of Payment: This work will be paid at the contract unit price per pound for “Wildflower Establishment,” which price shall include all materials, maintenance, equipment tools, labor, transportation, operations, and all work incidental thereto. Partial payment of up to 50% may be made for work completed, but not accepted. Full payment shall not be made until the area has been accepted by the Engineer.

06/12/2017

Pay Item

Wildflower Establishment

Pay Unit

lb.

ITEM #0947207A – BICYCLE STAND

Description:

Work under this item shall consist of furnishing all equipment, tools, labor, and materials to perform all work necessary to furnish and install bicycle stands to the location shown on the plan and as detailed.

Materials:

Loop Rack : Direct bury, 103971-00 Part # 2.375” OD RS 40 (.130” -.140” galvanized steel tubing. Size: 64” 1 X 34” mounted ht. Finish: powdercoat, custom color: black, weight 72 lbs. by Landscape Structures Delano, Minnesota 1-888-574-4678.

Alternate: Wave Bike Rack BWA2-05-SM with Weatherbeater Mastercoat 10-year powder coat finish in black, or approved equal.

The contractor shall submit shop drawings for proposed materials, to be approved by the City.

Concrete shall be Class “C”

All steel components to be Buy America compliant.

Construction Methods:

Install bike racks where shown on contract drawings. Bicycle Stands to be securely embedded in concrete foundation, as detailed. Each stand is to be set level and plumb.

Method of Measurement:

This work will be measured for payment by the number of “Bicycle Stands” completed and accepted by the Engineer.

Excavation and pouring of concrete pads will not be measured for payment but the cost thereof shall be included in the bid price of the bicycle stand.

Basis of Payment:

The work shall be paid for at the contract unit price per each bid for “Bicycle Stand”, completed and accepted in place, which price shall be complete and include all materials, equipment, tools, labor, excavation, concrete foundation, backfill, disposal of surplus and unusable material and work incidental thereto.

Pay Item
BICYCLE STAND

Pay Unit
EA.

ITEM #0950005A - TURF ESTABLISHMENT

Section 9.50 of the Standard Specification is hereby deleted and replaced with the following:

Description:

Work under this item shall consist of furnishing all equipment, tools, labor, and materials to perform all work necessary to provide an accepted uniform stand of established perennial turf grasses by furnishing and placing fertilizer, seed, and mulch on all areas to be treated as shown on the plans or where designated by the Engineer.

Submittals:

- Submit complete description of all materials proposed to be used, giving source and details of each including environmental limitations and safeguards to be used for each product provided.
- Submit product tags for each type of seed, fertilizer, and lime.
- Submit topsoil test report including chemical, mechanical, pH value analysis of both on-site and off-site topsoil sources.

Performance and Acceptance of Work:

Finish lawn to be smooth, lush green, free of weeds, insects, and disease at the time of substantial completion. Re-seed all areas which do not meet this criterion until lawn is established and approved. Failure on the part of the Landscape Architect to disapprove work in the course of operations or during inspection of the work will not be interpreted as acceptance of work not in conformance with the specifications. Improper work and /or materials are to be corrected whenever discovered.

Contract Limits

The Contract Limits for seeding include the full area within the site disturbance line as shown on the Contract Drawings, excluding pavement and building areas.

Permitted Seeding Period:

Permanent seeding is to be accomplished during the periods of April 1 - May 31 or September 1 - October 15, unless authorized by the Landscape Architect.

Environmental Safeguards:

Due to proximity to water resources, the use of pesticides, fertilizers, herbicides or other chemicals related to this contract are not to be used without prior written approval of the Landscape Architect.

Materials:**Seed Mixes:**

Permanent grass seed to be delivered in sealed bags marked with the name of the project and seed analysis.

'Tri-plex General', as supplied by Loft Seed Company (617) 648-7550, Lesco, Pennington or approved equal.

60% Nassau Kentucky Bluegrass

20% Jamestown Chewing Fescue

20% Palmer Perennial Ryegrass

Fertilizer:

Commercial fertilizer with a composition by weight of 12% nitrogen, 15% phosphoric acid and 12% potash. (12-15-12) lawn starter fertilizer as manufactured by Lebanon, Lesco, Vigoro, Osmocote or approved equal.

Wood Fiber Hydromulch:

Wood cellulose fiber mulch as manufactured by Weyerhaeuser, Conweb or approved equal.

Topsoil:

Topsoil is that portion of the soil profile technically defined as the 'A' horizon by Soil Science of America that has been stripped and stockpiled.

Topsoil shall meet the requirements of Section 9.44 and Article M.13.

Construction Methods:**General:**

No seeding is permitted until the site preparation and grading has been reviewed and approved by the Landscape Architect.

Soil Preparation:

- Rough grade to be reviewed and approved by Landscape Architect prior to beginning soil preparation.
- Spread and rake topsoil to provide 6" minimum depth, smooth draining grades as indicated. Remove stones roots, rubbish etc. 1" in size and over. Finish surface to be a smooth, friable, uniform texture.
- Furnish and spread ground limestone at the rates as recommended by the soil testing laboratory, thoroughly incorporate into the top 3" of topsoil.
- Furnish and spread fertilizer at rate as recommended by the fertilizer manufacturer and work lightly into the top layer of topsoil.

Hydroseeding Procedure:

- Sow seed during the permitted seeding season, when the weather is favorable and the wind velocity is less than 5 miles per hour.
- Hydroseeding to be performed by an experienced applicator using approved hydroseeding equipment.
- Apply seed at rates as recommended by the seed supplier.
- Incorporate mulch tackifier with seed at the rates as recommended by the mulch supplier.

Hand Seeding:

- Sow seed during the permitted seeding season, when the weather is favorable and the wind velocity is less than 15 miles per hour.
- Sow seed at rate as recommended by the seed supplier.
- Mulch seeded areas with salt hay or hydromulch immediately after seeding.

Maintenance:

Maintain seeded areas until finish lawn is established and accepted. Maintenance includes watering, seeding, weeding, rolling, trimming, mowing, and repairs to washouts and gullies.

Method of Measurement:

This work will be measured for payment by the number of square yards of surface area of accepted established perennial turf grass as specified or by the number of square.

Basis of Payment:

This work will be paid for at the contract unit price per square yard for "Turf Establishment" which price shall include all materials, mowing, maintenance, equipment, tools, labor, and work incidental thereto. Partial payment of up to 60% may be made for work completed, but not accepted.

Pay Item	Pay Unit
Turf Establishment	SY

ITEM #0950035A – REMOVE AND RESET IRRIGATION SYSTEM

Description: This work shall consist of removing and resetting the irrigation system where it is in conflict with the proposed work. The irrigation system shall be relocated as shown on the plans or as directed by the Engineer.

Construction Methods: The Contractor shall protect the existing irrigation system at all times. Where the irrigation system is in conflict with the proposed work the sprinkler heads shall be removed and reset to locations where they are not in conflict and can operate effectively. Any portions of the irrigation system damaged during construction shall be repaired or replaced in kind in a timely manner.

Method of Measurement: This work will be measured for payment as a Contract lump sum item. There will be no measurement for portions of the irrigation system that are repaired or replaced.

Basis of Payment: This work will be paid for at the contract lump sum price for "Remove and Reset Irrigation System", which price shall include all work, equipment, materials, tools and labor incidental thereto.

Pay Item
Remove and Reset Irrigation System

Pay Unit
LS

ITEM #0969060A - CONSTRUCTION FIELD OFFICE, SMALL

Description: Under the item included in the bid document, adequate weatherproof office quarters with related furnishings, materials, equipment and other services, shall be provided by the Contractor for the duration of the work, and if necessary, for a close-out period determined by the Engineer. The office, furnishings, materials, equipment, and services are for the exclusive use of City forces and others who may be engaged to augment City forces with relation to the Contract. The office quarters shall be located convenient to the work site and installed in accordance with Article 1.08.02. This office shall be separated from any office occupied by the Contractor. Ownership and liability of the office quarters shall remain with the Contractor.

Furnishings/Materials/Supplies/Equipment: All furnishings, materials, equipment and supplies shall be in like new condition for the purpose intended and require approval of the Engineer.

Office Requirements: The Contractor shall furnish the office quarters and equipment as described below:

Description \ Office Size	Small	Med.	Large	Extra Large
Minimum Sq. Ft. of floor space with a minimum ceiling height of 7 ft.	400	400	1000	2000
Minimum number of exterior entrances.	2	2	2	2
Minimum number of parking spaces.	7	7	10	15

Office Layout: The office shall have a minimum square footage as indicated in the table above, and shall be partitioned as shown on the building floor plan as provided by the Engineer.

Tie-downs and Skirting: Modular offices shall be tied-down and fully skirted to ground level.

Lavatory Facilities: For field offices sizes Small and Medium the Contractor shall furnish a toilet facility at a location convenient to the field office for use by City personnel and such assistants as they may engage; and for field offices sizes Large and Extra Large the Contractor shall furnish two (2) separate lavatories with toilet (men and women), in separately enclosed rooms that are properly ventilated and comply with applicable sanitary codes. Each lavatory shall have hot and cold running water and flush-type toilets. For all facilities the Contractor shall supply lavatory and sanitary supplies as required.

Windows and Entrances: The windows shall be of a type that will open and close conveniently, shall be sufficient in number and size to provide adequate light and ventilation, and shall be fitted with locking devices, blinds and screens. The entrances shall be secure, screened, and fitted with a lock for which four keys shall be furnished. All keys to the construction field office shall be furnished to the City and will be kept in their possession while City personnel are using the office. Any access to the entrance ways shall meet applicable building codes, with appropriate handrails. Stairways shall be ADA/ABA compliant and have non-skid tread surfaces. An ADA/ABA compliant ramp with non-skid surface shall be provided with the Extra-Large field office.

Lighting: The Contractor shall equip the office interior with electric lighting that provides a minimum illumination level of 100 foot-candles at desk level height, and electric outlets for each desk and drafting table. The Contractor shall also provide exterior lighting that provides a minimum illumination level of 2 foot-candles throughout the parking area and for a minimum distance of 10 ft. on each side of the field office.

Parking Facility: The Contractor shall provide a parking area, adjacent to the field office, of sufficient size to accommodate the number of vehicles indicated in the table above. If a paved parking area is not readily available, the Contractor shall construct a parking area and driveway consisting of a minimum of 6 inches of processed aggregate base graded to drain. The base material will be extended to the office entrance.

Field Office Security: Physical Barrier Devices - This shall consist of physical means to prevent entry, such as: 1) All windows shall be barred or security screens installed; 2) All field office doors shall be equipped with dead bolt locks and regular day operated door locks; and 3) Other devices as directed by the Engineer to suit existing conditions.

Electric Service: The field office shall be equipped with an electric service panel, wiring, outlets, etc., to serve the electrical requirements of the field office, including: lighting, general outlets, computer outlets, calculators etc., and meet the following minimum specifications:

- A. 120/240 volt, 1 phase, 3 wire
- B. Ampacity necessary to serve all equipment. Service shall be a minimum 100 amp dedicated to the construction field office.
- C. The electrical panel shall include a main circuit breaker and branch circuit breakers of the size and quantity required.
- D. Additional 120 volt, single phase, 20 amp, isolated ground dedicated power circuit with dual NEMA 5-20 receptacles will be installed at each desk and personal computer table (workstation) location.
- E. Additional 120 volt, single phase, 20 amp, isolated ground dedicated power circuit with dual NEMA 5-20 receptacles will be installed, for use by the Telephone Company.
- F. Additional 120-volt circuits and duplex outlets as required meeting National Electric Code requirements.
- G. One exterior (outside) wall mounted GFI receptacle, duplex, isolated ground, 120 volt, straight blade.
- H. After work is complete and prior to energizing, the City may require an electrical inspection.
- I. Prior to field office removal, the City must be notified to remove City-owned equipment.

Heating, Ventilation and Air Conditioning (HVAC): The field office shall be equipped with sufficient heating, air conditioning and ventilation equipment to maintain a temperature range of 68°-80° Fahrenheit within the field office.

Telephone Service: The Contractor shall provide telephone service with unlimited nation-wide calling plan. For a Small, Medium and Large field office this shall consist of the installation of two (2) telephone lines: one (1) line for phone/voice service and one (1) line dedicated for the facsimile

machine. For an Extra-Large field office this shall consist of four (4) telephone lines: three (3) lines for phone/voice service and one (1) line dedicated for facsimile machine. The Contractor shall pay all charges.

Additional Equipment, Facilities and Services: The Contractor shall provide at the field Office at least the following to the satisfaction of the Engineer:

Furnishing Description	Office Size			
	Small	Med.	Large	Extra Large
	Quantity			
Office desk (2.5 ft. x 5 ft.) with drawers, locks, and matching desk chair that have pneumatic seat height adjustment and dual wheel casters on the base.	1	3	5	8
Standard secretarial type desk and matching desk chair that has pneumatic seat height adjustment and dual wheel casters on the base.	-	-	-	1
Personal computer tables (4 ft. x 2.5 ft.).	2	3	5	8
Drafting type tables (3 ft. x 6 ft.) and supported by wall brackets and legs; and matching drafters stool that have pneumatic seat height adjustment, seat back and dual wheel casters on the base.	1	1	1	2
Conference table, 3 ft. x 12 ft.	-	-	-	1
Table – 3 ft. x 6 ft.	-	-	-	1
Office Chairs.	2	4	8	20
Mail slot bin – legal size.	-	-	1	1
Non-fire resistant cabinet.	-	-	2	4
Fire resistant cabinet (legal size/4 drawer), locking.	1	1	2	3
Storage racks to hold 3 ft. x 5 ft. display charts.	-	-	1	2
Vertical plan racks for 2 sets of 2 ft. x 3 ft. plans for each rack.	1	1	2	2
Double door supply cabinet with 4 shelves and a lock – 6 ft. x 4 ft.	-	-	1	2
Case of cardboard banker boxes (Min 10 boxes/case)	1	1	2	3
Open bookcase – 3 shelves – 3 ft. long.	-	-	2	2
White Dry-Erase Board, 36" x 48" min. with markers and eraser.	1	1	1	1
Interior partitions – 6 ft. x 6 ft., soundproof type, portable and freestanding.	-	-	6	6
Coat rack with 20 coat capacity.	-	-	-	1
Wastebaskets - 30 gal., including plastic waste bags.	1	1	1	2
Wastebaskets - 5 gal., including plastic waste bags.	1	3	6	10
Electric wall clock.	-	-	-	2
Telephone.	1	1	1	-
Full size stapler 20 (sheet capacity, with staples)	1	2	5	8
Desktop tape dispensers (with Tape)	1	2	5	8
8 Outlet Power Strip with Surge Protection	3	4	6	9
Rain Gauge	1	1	1	1

Business telephone system for three lines with ten handsets, intercom capability, and one speaker phone for conference table.	-	-	-	1
Mini refrigerator - 3.2 c.f. min.	1	1	1	1
Hot and cold water dispensing unit. Disposable cups and bottled water shall be supplied by the Contractor for the duration of the project.	1	1	1	1
Microwave, 1.2 c.f. , 1000W min.	1	1	1	1
Fire extinguishers - provide and install type and *number to meet applicable State and local codes for size of office indicated, including a fire extinguisher suitable for use on a computer terminal fire.	*	*	*	*
Electric pencil sharpeners.	1	2	2	2
Electronic office type printing calculators capable of addition, subtraction, multiplication and division with memory and a supply of printing paper.	1	1	2	4
Small Multi-Function Laser Printer/Copier/Scanner/Fax combination unit, network capable, as specified below under <u>Computer Related Hardware and Software</u> .	1	1		
Large Multi-Function Laser Printer/Copier/Scanner/Fax combination unit, network capable, as specified below under <u>Computer Related Hardware and Software</u> .			1	1
Field Office Wi-Fi Connection as specified below under <u>Computer Related Hardware and Software</u>	1	1	1	1
Wi-Fi Printer as specified below under <u>Computer Related Hardware and Software</u> .	1	1	1	1
Digital Camera as specified below under <u>Computer Related Hardware and Software</u> .	1	1	3	3
Video Projector as specified below under <u>Computer Related Hardware and Software</u> .	-	-	-	1
Smart Board as specified below under <u>Computer Related Hardware and Software</u> .	-	-	-	1
Infrared Thermometer, including annual third party certified calibration, case, and cleaning wipes.	1	1	1	2
Concrete Curing Box as specified below under Concrete Testing Equipment.	1	1	1	1
Concrete Air Meter and accessories as specified below under Concrete Testing Equipment as specified below. Contractor shall provide third party calibration on a quarterly basis.	1	1	1	1
Concrete Slump Cone and accessories as specified below under Concrete Testing Equipment.	1	1	1	1
First Aid Kit	1	1	1	1

The furnishings and equipment required herein shall remain the property of the Contractor. Any supplies required to maintain or operate the above listed equipment or furnishings shall be provided by the Contractor for the duration of the project.

Computer Related Hardware and Software: The city and its consultants will supply by their own means the actual Personal Computers for their respective representatives. The Contractor shall supply the Field Office Wi-Fi Connection, Wi-Fi Printer, Digital Camera(s), Multifunction Laser Printer/Copier/Scanner/Fax, Video Projectors, and Smart Board(s) as well as associated hardware and software, must meet the requirements of this specification as well as the latest minimum specifications posted, as of the project advertising date, at CTDOTs web site <http://www.ct.gov/dot/cwp/view.asp?a=1410&q=563904> In addition to these specifications, the supplied internet connection must support a minimum upload speed of 10 Mb/s.

Within 10 calendar days after the signing of the Contract but before ordering/purchasing the Wi-Fi Printer (separate from the Multifunction Laser Printer/Copier/Scanner/Fax), Field Office Wi-Fi, Digital Camera(s), Flip Phones, Smart Phones, Multifunction Laser Printer/Copier/Scanner/Fax, Video Projector(s) and Smart Board(s) as well as associated hardware, the Contractor must submit a copy of their proposed order(s) with catalog cuts and specifications to the Administering CTDOT District for review and approval. The Wi-Fi Printer, Wi-Fi Router, digital cameras, Projector(s) and Smart Board(s) will be reviewed by the Engineer. The Multifunction Laser Printer/Copier/Scanner/Fax will be reviewed by the Engineer. The Contractor shall not purchase the hardware, software, or services until the Engineer informs them that the proposed equipment, software, and services are approved. The Contractor will be solely responsible for the costs of any hardware, software, or services purchased without approval.

The Contractor and/or their internet service provider shall be responsible for the installation and setup of the field office Wi-Fi, Wi-Fi printer, and the configuration of the wireless router as directed by the Engineer.

The Contractor shall provide all supplies, paper, maintenance, service and repairs (including labor and parts) for the Wi-Fi printers, copiers, field office Wi-Fi, fax machines and other equipment and facilities required by this specification for the duration of the Contract. All repairs must be performed with-in 48 hours. If the repairs require more than a 48 hours then an equal or better replacement must be provided.

Once the Contract has been completed, the hardware and software will remain the property of the Contractor.

First Aid Kit: The Contractor shall supply a first aid kit adequate for the number of personnel expected based on the size of the field office specified and shall keep the first aid kit stocked for the duration that the field office is in service.

Rain Gauge: The Contractor shall supply install and maintain a rain gauge for the duration of the project, meeting these minimum requirements. The rain gauge shall be installed on the top of a post such that the opening of the rain gauge is above the top of the post an adequate distance to avoid splashing of rain water from the top of the post into the rain gauge. The Location of the rain

gauge and post shall be approved by the Engineer. The rain gauge shall be made of a durable material and have graduations of 0.1 inches or less with a minimum total column height of 5 inches. If the rain gauge is damaged the Contractor shall replace it prior to the next forecasted storm event at no additional cost.

Concrete Testing Equipment: If the Contract includes items that require compressive strength cylinders for concrete, in accordance with the Schedule of Minimum Testing Requirements for Sampling Materials for Test, the Contractor shall provide the following equipment.

- A) Concrete Cylinder Curing Box – meeting the requirements of Section 6.12 of the Standard Specifications.
- B) Air Meter – The air meter provided shall be in good working order and meet the requirements of AASHTO T 152.
- C) Slump Cone Mold – Slump cone, base plate, and tamping rod shall be provided in like-new condition and meet the requirements of AASHTO T119, Standard Test Method for Slump of Hydraulic-Cement Concrete.

All testing equipment will remain the property of the Contractor at the completion of the project.

Insurance Policy: The Contractor shall provide a separate insurance policy, with no deductible, in the minimum amount of five thousand dollars (\$5,000) in order to insure all State-owned data equipment and supplies used in the office against all losses. The Contractor shall be named insured on that policy, and the City shall be an additional named insured on the policy. These losses shall include, but not be limited to: theft, fire, and physical damage. The City will be responsible for all maintenance costs of City owned computer hardware. In the event of loss, the Contractor shall provide replacement equipment in accordance with current equipment specifications, within seven days of notice of the loss. If the Contractor is unable to provide the required replacement equipment within seven days, the City may provide replacement equipment and deduct the cost of the equipment from monies due or which may become due the Contractor under the Contract or under any other contract. The Contractor's financial liability under this paragraph shall be limited to the amount of the insurance coverage required by this paragraph. If the cost of equipment replacement required by this paragraph should exceed the required amount of the insurance coverage, the City will reimburse the Contractor for replacement costs exceeding the amount of the required coverage.

Maintenance: During the occupancy by the City, the Contractor shall maintain all facilities and furnishings provided under the above requirements, and shall maintain and keep the office quarters clean through the use of weekly professional cleaning to include, but not limited to, washing & waxing floors, cleaning restrooms, removal of trash, etc. Exterior areas shall be mowed and clean of debris. A trash receptacle (dumpster) with weekly pickup (trash removal) shall be provided. Snow removal, sanding and salting of all parking, walkway, and entrance ways areas shall be accomplished during a storm if on a workday during work hours, immediately after a storm and prior to the start of a workday. If snow removal, salting and sanding are not completed by the specified time, the City will provide the service and all costs incurred will be deducted from the next payment estimate.

Method of Measurement: The furnishing and maintenance of the construction field office will be measured for payment by the number of calendar months that the office is in place and in operation, rounded up to the nearest month.

There will not be any price adjustment due to any change in the minimum computer related hardware and software requirements.

Basis of Payment: The furnishing and maintenance of the Construction Field Office will be paid for at the Contract unit price per month for “Construction Field Office, (Type),” which price shall include all material, equipment, labor, service contracts, licenses, software, repair or replacement of hardware and software, related supplies, utility services, parking area, external illumination, trash removal, snow and ice removal, and work incidental thereto, as well as any other costs to provide requirements of this specified this specification.

<u>Pay Item</u>	<u>Pay Unit</u>
Construction Field Office, (Type)	Month

ITEM NO. 0971001A – MAINTENANCE AND PROTECTION OF TRAFFIC

Article 9.71.01 – Description *is supplemented by the following:*

The Contractor shall maintain and protect traffic as described by the following and as limited in the special provision for Section 1.08 - Prosecution and Progress:

Route 115 (Main Street)

The Contractor shall maintain and protect a minimum of 1 lane of traffic in each direction with each lane on a paved travel path not less than 11 feet in width, with the following exceptions:

1. During the allowable periods and when the Contractor is actively working, the Contractor will be permitted to maintain and protect at least an alternating one-way traffic operation on a paved travel path not less than 11 feet in width and no more than 300 feet in length, unless specified elsewhere in the Contract. There shall be no more than one alternating one-way traffic operation within the Project limits without prior approval of the Engineer.

All Other Roadways

The Contractor shall maintain and protect a minimum of 1 lane of traffic in each direction with each lane on a paved travel path not less than 11 feet in width, with the following exceptions:

1. During the allowable periods and when the Contractor is actively working, the Contractor will be permitted to maintain and protect at least an alternating one-way traffic operation on a paved travel path not less than 11 feet in width and no more than 300 feet in length, unless specified elsewhere in the Contract. There shall be no more than one alternating one-way traffic operation within the Project limits without prior approval of the Engineer.

Commercial and Residential Driveways

The Contractor shall maintain access to and egress from all commercial and residential driveways throughout the Project limits. The Contractor will be permitted to temporarily close affected driveways while actively working with coordination and permission from the owner or proprietor.

Intermediate Term Sidewalk Closures

The Contractor shall maintain and protect existing pedestrian accommodations, or a minimum of 4 feet in width, on all existing sidewalks, sidewalk ramps, and access to pedestrian pushbuttons, with the following exception:

- During the allowable periods and when the Contractor is actively constructing pedestrian amenities or installing signal equipment, the Contractor will be allowed to close pedestrian sidewalks and sidewalk ramps and restrict access to pedestrian pushbuttons for no more than a continuous 48 hour period of time.

No more than two corners of an intersection may be closed for an intermediate term sidewalk closure at any time. Where all four corners of an intersection have sidewalks and sidewalk ramps, diagonal corners shall not be closed at the same time.

During the intermediate term sidewalk closure, all approaches to the sidewalk shall be blocked by Construction Barricade Detectable with Sidewalk Closed signs.

The Contractor shall ensure that traffic control signals with pedestrian phases where access to the pushbuttons cannot be provided are revised at the start of the closure to automatically activate the pedestrian phase every signal cycle.

Intermediate term sidewalk closures may be extended to 72 hours with prior approval of the Engineer.

Article 9.71.03 - Construction Methods *is supplemented as follows:*

General

Unpaved travel paths will only be permitted for areas requiring full depth and full width reconstruction. The unpaved section shall be the full width of the road and shall be perpendicular to the travel lanes. The Contractor will be allowed to maintain traffic on processed aggregate for a duration not to exceed 10 calendar days and opposing traffic lane dividers shall be used as a centerline.

The Contractor is required to delineate any raised structures within the travel lanes, so that the structures are visible day and night, unless there are specific Contract plans and provisions to temporarily lower these structures prior to the completion of work.

The Contractor shall schedule operations so that pavement removal and roadway resurfacing shall be completed full width across a roadway or bridge section by the end of a work shift, or as directed by the Engineer.

When the installation of all intermediate courses of bituminous concrete pavement is completed for the entire roadway, the Contractor shall then install the final course of bituminous concrete pavement.

When the Contractor is excavating adjacent to the roadway, the Contractor shall provide a 3 foot shoulder between the work area and travel lanes, with traffic drums spaced every 50 feet. At the end of the work shift if the vertical drop-off exceeds 3 inches, the Contractor shall provide a temporary bituminous concrete traversable slope of 4:1 or flatter that is acceptable to the Engineer.

The Contractor, during the course of any active overhead construction work, shall close the lanes directly below the work area for the entire length of time overhead work is being undertaken.

At no time shall an overhead sign be left partially removed or installed.

When an existing sign is to be relocated or replaced, the work shall be completed during the same work shift.

The field installation of a signing pattern shall constitute interference with existing traffic operations and shall not be allowed, except during the allowable periods.

On limited-access highways, construction vehicles entering travel lanes shall not be allowed without a lane closure. The lane closure shall be of sufficient length to allow vehicles to enter or exit the work area at the posted speed limit, in order to merge with existing traffic.

Existing Signage

The Contractor shall maintain all existing overhead and side-mounted signs within the Project limits throughout the duration of the Project. The Contractor shall temporarily relocate signs and sign supports as many times as deemed necessary, and shall install temporary sign supports if necessary and as directed by the Engineer.

Requirements for Winter

The Contractor shall schedule a meeting with representatives of the Department, including the offices of Maintenance and Traffic, and the Town/City to determine any interim traffic control measures the Contractor shall accomplish prior to winter to provide safety to motorists and permit adequate snow removal procedures. This meeting shall be held prior to October 31 of each year and will include, but not be limited to, discussion of the status and schedule of the following items: lane and shoulder widths, pavement restoration, traffic signal work, pavement markings, and signing.

Signing Patterns

The Contractor shall erect and maintain all signing patterns in accordance with the traffic control plans contained herein. Proper distances between advance warning signs and proper taper lengths are mandatory.

Pavement Markings - Non-Limited Access Roadways

During construction, the Contractor shall maintain all pavement markings on paved surfaces on all roadways throughout the limits of the Project.

Temporary pavement markings shall be installed on each intermediate course of bituminous concrete pavement and on any milled surface by the end of the work shift.

Permanent Epoxy Resin Pavement Markings shall be installed on the final course of bituminous concrete pavement within 10 calendar days of the final pavement installation if no Pavement Marking Grooves are proposed.

Temporary Pavement Markings

Temporary pavement markings that will be in place for less than 72 continuous hours may consist of temporary plastic pavement marking tape at the Contractor's expense. Additionally;

1. These temporary pavement markings shall include centerlines, lane lines (solid and broken), and stop bars.
2. Centerlines shall consist of two 4 inch wide yellow markings, 2 feet in length, side by side, 4 inches apart, at 40 foot intervals.
3. Lane lines shall consist of 4 inch wide white markings, 2 feet in length, at 40 foot intervals.
4. No passing zones shall be posted with signs in those areas where the final centerlines have not been established on two-way roadways.
5. Stop bars may consist of two 6 inch wide white markings or three 4 inch wide white markings placed side by side.
6. The temporary plastic pavement marking tape shall be installed in accordance with Section 12.12.
7. The Contractor shall remove and dispose of the temporary plastic pavement marking tape prior to another course of bituminous concrete pavement being installed.

Temporary pavement markings that will be in place for 72 continuous hours or more should consist of temporary painted pavement markings and shall be installed in accordance with Section 12.09. The markings shall include centerlines, edge lines, lane lines (solid and broken), lane-use arrows, and stop bars on each intermediate course of bituminous concrete pavement and

on any milled surface by the end of the work shift. Edge lines and lane-use arrows are not required if the next course of bituminous concrete pavement will be placed within 10 calendar days.

All temporary pavement markings exposed throughout the winter shall be Epoxy Resin Pavement Markings, unless directed otherwise by the Engineer.

Temporary pavement markings, as described above, shall be maintained until the permanent pavement markings are installed.

Final Pavement Markings

Refer to Pavement Marking Groove special provisions for pavement marking requirements. Permanent epoxy resin pavement markings shall be installed in accordance with Section 12.10 and the applicable Traffic Engineering Standard Drawings.

If Temporary Plastic Pavement Marking Tape is installed, then the Contractor shall remove and dispose of these markings during the same work shift that the permanent epoxy resin pavement markings are to be installed. The cost of furnishing, installing and removing the Temporary Plastic Pavement Marking Tape shall be at the Contractor's expense.

Traffic Control During Construction Operations

The following guidelines shall assist field personnel in determining when and what type of traffic control patterns to use for various situations. These guidelines shall provide for a safer and more efficient movement of traffic through work zones and enhance the safety of work forces in the work area.

Traffic Control Patterns

Traffic control patterns shall be used when a work operation requires that all or part of any vehicle or work area protrudes onto any part of a travel lane or shoulder or is within the clear zone. For each situation, the installation of traffic control devices shall be based on the following:

- Speed and volume of traffic.
- Duration of operation.
- Exposure to hazards.

Traffic control patterns shall be uniform, neat, and orderly in order to command respect from the motorist.

Lane reduction tapers should be placed so that the entire length of the taper is installed on a tangent section of roadway and the entire taper area can be seen by the motorist.

All existing conflicting signs shall be removed, covered with an opaque material, or turned so that they are not legible to oncoming traffic prior to implementing a traffic control pattern. The existing signs shall be uncovered or reinstalled once the pattern is removed.

A buffer area should be provided during installation of a traffic control pattern and maintained for the duration of the work. The buffer area shall be free of any equipment, workers, materials, and parked vehicles.

Construction Traffic Control Plans 19 through 25 should be used for moving operations such as line striping, rumble strips, pothole patching, mowing, or sweeping when it is necessary for equipment to occupy a travel lane.

Traffic control patterns are not required for vehicles on an emergency patrol type activity or for a short duration stop of up to one hour, as long as the equipment is contained within the shoulder. Flashing lights, arrow boards, truck-mounted or trailer-mounted impact attenuators, and appropriate Trafficperson(s) shall be used when required.

In a situation not adequately covered by the Construction Traffic Control Plans, the Contractor shall contact the Engineer for assistance prior to setting up a traffic control pattern.

Placement of Signs

Signs shall be placed in a position that allows motorists the opportunity to reduce their speed prior to the work area. Signs shall be installed on the same side of the roadway as the work area. On multi-lane divided highways, advance warning signs shall be installed on both sides of the highway. On directional roadways (on-ramps, off-ramps, one-way roads) where the sight distance to signs is restricted, these signs should be installed on both sides of the roadway.

Allowable Adjustment of Signs and Devices Shown on the Construction Traffic Control Plans

The Construction Traffic Control Plans contained herein show the location and spacing of signs and devices under ideal conditions. Signs and devices should be installed as shown on these plans.

The proper application of the Construction Traffic Control Plans and installation of traffic control devices is dependent upon actual field conditions.

In the case of a horizontal or vertical sight restriction in advance of the work area, the traffic control pattern shall be extended to provide adequate sight distance for approaching traffic.

Adjustments to the Construction Traffic Control Plans shall only be made at the direction of the Engineer.

Table 1 indicates the minimum taper lengths required for a lane closure based on the posted speed limit and lane width of the roadway. These taper lengths shall only be used when the recommended taper lengths shown on the Construction Traffic Control Plans cannot be achieved.

Table 1 – Minimum Taper Length

POSTED SPEED LIMIT (MPH)	MINIMUM TAPER LENGTH FOR A SINGLE LANE CLOSURE (FEET)	
	FREEWAYS	SECONDARY ROADS
30 OR LESS	180	165
35	245	225
40	320	295
45	540	495
50	600	550
55	660	605
65	780	715

1. Work Zone Safety Meetings

- 1.a) Prior to the commencement of work, a Work Zone Safety Meeting shall be conducted with representatives from DOT Construction, Connecticut State Police (Local Barracks), Municipal Police, the Contractor (Project Superintendent) and the Traffic Control Subcontractor (if different than the prime Contractor) to review the traffic operations, lines of responsibility, and operating guidelines which will be used on the Project. DOT Traffic Engineering shall be invited to the Work Zone Safety Meeting. Other Work Zone Safety Meetings during the course of the Project should be scheduled as needed.
- 1.b) A Work Zone Safety Meeting Agenda shall be developed and used at the Meeting to outline the anticipated traffic control issues during the construction of this Project. Any issues that can't be resolved at these Meetings will be brought to the attention of the District Engineer and the Office of Construction. The agenda shall include:
 - i. Review Project scope of work and time;
 - ii. Review Section 1.08, Prosecution and Progress;
 - iii. Review Section 9.70, Trafficpersons;
 - iv. Review Section 9.71, Maintenance and Protection of Traffic;
 - v. Review Contractor's schedule and method of operations;
 - vi. Review special concern areas: ramps, turning roadways, medians, lane drops, etc.;
 - vii. Open discussion of work zone questions and issues;
 - viii. Discussion of review and approval process for changes in Contract requirements as they relate to work zone areas.

2. General

- 2.a) Traffic control patterns shall only be installed if the required minimum number of signs, traffic cones, traffic drums, and other equipment (i.e. one Arrow Board for each lane closed, two Truck-Mounted or Trailer-Mounted Attenuators (TMAs), Changeable Message Sign, etc.) are on Site.
- 2.b) The Contractor shall have spare maintenance and protection of traffic equipment (TMAs, Arrow Board, Changeable Message Sign(s), construction signs, traffic cones, traffic drums, etc.) available at all times in case of mechanical failures, etc. Spare maintenance and protection of traffic equipment installed as a result of a sudden equipment breakdown shall be replaced by the Contractor within 24 hours.
- 2.c) Failure of the Contractor to have the required minimum number of signs, personnel, and equipment, which results in the pattern not being installed, shall not be a reason for a time extension or claim for lost time.
- 2.d) In cases of differences of opinion between the Contractor and the Inspection staff, the Contractor shall follow the directions of the Engineer. The matter shall be brought to the District Office for resolution immediately or, in the case of work after regular business hours, on the next business day.

3. Installing and Removing Traffic Control Patterns

- 3.a) Lane closures shall be installed beginning with the advance warning signs and proceeding forward toward the work area.
- 3.b) Lane closures shall be removed in the reverse order, beginning at the end of the work area, or traffic control pattern, and proceeding back toward the advance warning signs.
- 3.c) Stopping traffic may be allowed within the allowable hours stated in Section 1.08.04:
 - i. For those activities stated within the Contract.
 - ii. During paving, milling operations, or similar activities where, in the middle of the operation, it is necessary to flip the pattern to complete the operation on the other half of the roadway so traffic does not travel across the longitudinal joint or difference in roadway elevation.
 - iii. To move slow moving equipment across live traffic lanes into the work area.
- 3.d) The Contractor shall adhere to using the proper signs, placing the signs correctly, and ensuring the proper spacing of signs.
- 3.e) Additional devices are required on entrance ramps, exit ramps, and intersecting roads to warn and/or move traffic into the proper travel path prior to merging with or exiting from the mainline traffic. This shall be completed before installing the mainline pattern past the ramp or intersecting roadway.
- 3.f) Workers are prohibited from crossing the travel lanes on limited access roadways to install and remove signs or other devices on the opposite side of the roadway. Any signs or devices on the opposite side of the roadway shall be installed and removed separately.

4. Implementation of Rolling Road Block (RRB)

- 4.a) Temporary road closures using a RRB may be allowed on limited access highways for operations associated with the installation and removal of temporary lane closures. RRB may be allowed for the installation and removal of lead signs and lane tapers only and shall meet the following requirements:
 - i. Refer to the Limitation of Operations Chart provided in Section 1.08.04 for the hours allowed for implementing a RRB operation. The Contractor shall only implement a RRB operation within the hours shown in the Chart.
 - ii. In areas with good sight lines and full shoulders, signs on the side of the road opposite the traffic pattern should be installed in a separate operation.
 - iii. TMAs equipped with Arrow Boards shall be used to slow traffic to implement the RRB. State Police Officers in marked vehicles may be used to support the implementation of the RRB. The RRB shall start by having all vehicles, including TMAs and police vehicles, leave the shoulder or on-ramp and accelerate to normal roadway speeds in each lane. The vehicles will then position themselves side by side and decelerate to the RRB speed on the highway.

- iv. A Pre-Warning Vehicle, as specified elsewhere in the Contract, shall be used to advise the motorists that sign pattern installation or removal is underway.
- v. The RRB duration shall not exceed 15 minutes from the start of the traffic block until all lanes are opened as designated in the Limitation of Operations chart. If the RRB duration exceeds 15 minutes on 2 successive shifts, no further RRB will be allowed until the Contractor obtains approval for a revised installation procedure from the District.
- vi. RRB shall not be used to expand a lane closure pattern to an additional lane during the shift. The workers and equipment required to implement the additional lane closure should be staged from within the closed lane. TMAs (and State Police if available) shall be used to protect the workers installing the taper in the additional lane.
- vii. Exceptions to these work procedures may be submitted to the District Office for consideration. A minimum of 2 business days shall be allowed for review and comment by the District.
- viii. The Engineer and the Contractor will review and discuss the RRB procedures (including any revisions) in advance of the work. The implementation of the agreed upon plan will be reviewed with the State Police during the Work Zone Safety Meeting held before each shift involving temporary lane closures. If the State Police determine that alternative procedures should be implemented for traffic control during the work shift, the Department and Contractor will attempt to resolve any discrepancies with the duty sergeant at the Troop. If the discrepancies are unable to be resolved prior to the start of the shift, then the work will proceed as recommended by the Department. Any unresolved issues shall be addressed the following day.

5. Use of Arrow Boards

- 5.a) On limited access roadways, one Arrow Board shall be used for each lane that is closed. The Arrow Board shall be installed concurrently with the installation of the traffic control pattern and its placement shall be as shown on the Construction Traffic Control Plans. Additional Arrow Boards shall be deployed if sight distances are limited.
- 5.b) On non-limited access roadways, the use of an Arrow Board for lane closures is optional. The roadway geometry, sight distance, and traffic volume shall be considered in the decision to use the Arrow Board.
- 5.c) A vehicle displaying an arrow board shall be equipped with high-intensity rotating, flashing, oscillating, or strobe lights.
- 5.d) The flashing arrow mode shall be used for lane closure (merge) tapers.
- 5.e) The flashing arrow mode shall not be used for temporary alternating one-way traffic operations or to laterally shift lanes of traffic.

- 5.f) The flashing double arrow mode shall only be used for closing a center lane on a multilane roadway where adjacent left and right lanes remain open.
- 5.g) For shoulder work or roadside work near the shoulder, the Arrow Board shall be positioned in the shoulder and the flashing alternating diamond mode should be used.
- 5.h) The flashing alternating diamond caution mode should also be used when supplemental Arrow Boards are positioned in an already closed lane.

6. Use of Truck-Mounted or Trailer-Mounted Impact Attenuators (TMAs)

- 6.a) On limited access roadways, lane closures shall use a minimum of two TMAs to install and remove traffic control patterns. If two TMAs are not available, then the pattern shall not be installed.
- 6.b) On non-limited access roadways, the use of TMAs to install and remove patterns closing a lane(s) is optional. The roadway geometry, sight line distance, and traffic volume shall be considered in the decision to utilize the TMAs.
- 6.c) On limited access roadways, one TMA shall be placed on the shoulder and the second TMA shall be approximately 1,000 feet ahead blocking the lane to establish the advance and transition signing. The Arrow Board mounted on the TMA shall be in the arrow mode when taking the lane. The sign truck and workers shall be at sufficient distance ahead of the second TMA. In no case shall the TMA be used as the sign truck or a work truck. Once the transition is in place, the TMAs shall travel in the closed lane until all Portable Changeable Message Signs, signs, Arrow Boards, and cones/drums are installed. The Arrow Board mounted on the TMA should be in the flashing alternating diamond caution mode when traveling in the closed lane.
- 6.d) A TMA shall be placed prior to the first work area in the pattern. If there are multiple work areas within the same pattern, then additional TMAs shall be positioned at each additional work area as needed. The Arrow Board mounted on the TMA should be in the flashing alternating diamond caution mode when in the closed lane.
- 6.e) TMAs shall be positioned a sufficient distance prior to the workers or equipment being protected to allow for appropriate vehicle roll-ahead in the event that the TMA is hit, but not so far that an errant vehicle could travel around the TMA and into the work area. For additional placement and use details, refer to Section 18.06. Some operations, such as paving and concrete repairs, do not allow for placement of the TMA(s) within the specified distances. In these situations, the TMA(s) shall be placed at the beginning of the work area and shall be advanced as the paving or concrete operations proceed.
- 6.f) TMAs will be paid for in accordance with how the unit is used. If it is used as a TMA and is in the proper location as specified, then it will be paid for at the specified hourly rate for Truck-Mounted or Trailer-Mounted Impact Attenuator. When the TMA is used

as an Arrow Board, it will be paid for at the daily rate for Arrow Board. If a TMA is used to install and remove a pattern and is also used as an Arrow Board in the same day, then the unit will be paid for as a Truck-Mounted or Trailer-Mounted Impact Attenuator for the hours used to install and remove the pattern, typically 2 hours (1 hour to install and 1 hour to remove). If the TMA is also used as an Arrow Board during the same day, then the unit will only be paid for at the daily rate as an Arrow Board.

7. Use of Traffic Drums and Traffic Cones

- 7.a) On limited-access highways, ramps, and turning roadways:
- i. Traffic drums shall be used for taper channelization.
 - ii. Traffic drums shall be used to delineate raised catch basins and other hazards.
 - iii. Traffic cones with a minimum height of 42 inches may be used in place of drums in the tangent section of a closed lane or shoulder.
 - iv. Traffic cones less than 42 inches in height shall not be used.
- 7.b) On all roadways:
- i. Traffic drums shall be used in place of traffic cones in traffic control patterns that are in effect for more than a 36-hour duration.
 - ii. Traffic cones shall not be left unattended.
 - iii. Traffic cones with a minimum height of 42 inches shall be used when the posted speed limit is 45 MPH or above.
- 7.c) Typical spacing of traffic drums and/or cones shown on the Construction Traffic Control Plans in the Contract are maximum spacings and may be reduced to meet actual field conditions as required.

8. Use of Barricade Warning Lights

- 8.a) Barricade Warning Lights may be installed on channelizing devices when used in a merge taper. The Barricade Warning Lights shall flash in a sequential pattern when used in a merge taper. The successive flashing shall occur from the upstream end (beginning) of the merge taper to the downstream end (end) of the merge taper.
- 8.b) Type C Barricade Warning Lights may be used at night to delineate the edge of the travel way.
- c) Type B Barricade Warning Lights shall be used on post-mounted advanced warning signs.

9. Use of Portable Changeable Message Signs (PCMS)

- 9.a) On limited access roadways, one PCMS shall be used in advance of the traffic control pattern for all lane closures. Prior to installing the pattern, the PCMS shall be installed and in operation, displaying the appropriate lane closure information. The PCMS shall be positioned ½ to 1 mile ahead of the start of the lane closure taper. If the distance to the

nearest exit ramp is greater than the specified ½ to 1 mile distance, then an additional PCMS shall be positioned a sufficient distance ahead of the exit ramp (and before the previous on-ramp where practical) to alert motorists to the work and therefore offer them an opportunity to take the exit.

- 9.b) On non-limited access roadways, the use of PCMS for lane closures is optional. The roadway geometry, sight line distance, and traffic volume shall be considered in the decision to use the PCMS.
- 9.c) PCMS should be placed off the shoulder of the roadway and behind a traffic barrier, if practical. Where a traffic barrier is not available to shield the PCMS, it should be placed off the shoulder and outside of the clear zone. If a PCMS has to be placed on the shoulder of the roadway or within the clear zone, it should be placed on the paved shoulder with a minimum of five traffic drums placed in a taper in front of it to delineate its position. The taper shall meet minimum distance requirements for a shoulder closure. The PCMS shall be protected if it is used for a continuous duration of 36 hours or more.
- 9.d) The PCMS shall be removed from the clear zone and have the display screen cleared and turned 90 degrees away from the roadway when the PCMS is no longer required.
- 9.e) The PCMS should not be used within 1,000 feet of an existing PCMS or Variable Message Sign (VMS).
- 9.f) A PCMS message shall:
 - i. consist of no more than two phases;
 - ii. contain no more than three lines of text per phase;
 - iii. have no more than eight characters per line, including spaces.
- 9.g) The PCMS should be used for specific situations that need to command the motorist's attention which cannot be conveyed with standard construction signs. The PCMS should not be used for generic messages (ex.: Road Work Ahead, Bump Ahead, Gravel Road, etc.) or for messages that need to be displayed for long periods of time, such as during stage construction. These types of messages should be displayed with construction signs. Special signs shall be coordinated with the Office of Construction and the Division of Traffic Engineering for the proper layout/dimensions required.
- 9.h) Typical messages that are allowed on the PCMS are shown below. Approval must be received from the Office of Construction for any message(s) different than the typical messages shown in Figure 1.
- 9.i) All messages shall comply with the information provided in Tables 2 and 3.

	<u>Phase 1</u>	<u>Phase 2</u>	<u>Message No.</u>	<u>Phase 1</u>	<u>Phase 2</u>
1	LEFT LANE CLOSED	MERGE RIGHT	9	LANES CLOSED AHEAD	REDUCE SPEED
2	2 LEFT LANES CLOSED	MERGE RIGHT	10	LANES CLOSED AHEAD	USE CAUTION
3	LEFT LANE CLOSED	REDUCE SPEED	11	EXIT XX CLOSED	USE EXIT YY
4	2 LEFT LANES CLOSED	REDUCE SPEED	12	EXIT XX CLOSED USE YY	FOLLOW DETOUR
5	RIGHT LANE CLOSED	MERGE LEFT	13	2 LANES SHIFT AHEAD	USE CAUTION
6	2 RIGHT LANES CLOSED	MERGE LEFT	14	3 LANES SHIFT AHEAD	USE CAUTION
7	RIGHT LANE CLOSED	REDUCE SPEED			
8	2 RIGHT LANES CLOSED	REDUCE SPEED			

Figure 1: Typical PCMS Messages

Table 2: Acceptable Abbreviations

Word Message	Standard Abbreviation	Word Message	Standard Abbreviation
Access	ACCS	Minimum	MIN
Afternoon / Evening	PM	Minor	MNR
Ahead	AHD	Minute(s)	MIN
Alternate	ALT	Monday	MON
Avenue	AVE, AV	Morning / Late Night	AM
Bicycle	BIKE	Mount	MT
Blocked	BLKD	Mountain	MTN
Boulevard	BLVD	National	NATL
Bridge	BR	Normal	NORM
CB Radio	CB	North	N
Center	CTR	Northbound	NBND
Center	CNTR	Oversized	OVRSZ
Chemical	CHEM	Parking	PKING
Circle	CIR	Parkway	PKWY
Compressed Natural Gas	CNG	Pavement	PVMT
Condition	COND	Pedestrian	PED
Congested	CONG	Place	PL
Construction	CONST	Pounds	LBS
Court	CT	Prepare	PREP
Crossing	XING	Quality	QLTY
Crossing (other than highway-rail)	XING	Right	RT
Downtown	DWNTN	Road	RD
Drive	DR	Roadwork	RDWK
East	E	Route	RT, RTE
Eastbound	EBND	Saint	ST
Electric Vehicle	EV	Saturday	SAT
Emergency	EMER	Service	SERV
Entrance, Enter	ENT	Shoulder	SHLDR
Exit	EX	Slippery	SLIP
Express	EXP	South	S
Expressway	EXPWY	Southbound	SBND
Feet	FT	Speed	SPD
Freeway	FRWY, FWY	State, county, or other non-US or non-Interstate numbered route	[Route Abbreviation determined by highway agency]**
Friday	FRI	Street	ST
Frontage	FRNTG	Sunday	SUN
Hazardous	HAZ	Telephone	PHONE
Hazardous Material	HAZMAT	Temporary	TEMP
High Occupancy Vehicle	HOV	Terrace	TER
Highway	HWY	Thruway	THWY
Highway-Rail Grade Crossing	RR XING	Thursday	THURS

Hospital	HOSP	Tons of Weight	T
Hour(s)	HR, HRS	Traffic	TRAF
Information	INFO	Trail	TR
International	INTL	Travelers	TRVLRS
Interstate	I-	Tuesday	TUES
Junction / Intersection	JCT	Turnpike	TPK
Lane	LN	Two-Way Intersection	2-WAY
Left	LFT	Two-Wheeled Vehicles	CYCLES
Liquid Propane Gas	LP-GAS	Upper	UPR
Local	LOC	US Numbered Route	US
Lower	LWR	Vehicle(s)	VEH, VEHS
Maintenance	MAINT	Warning	WARN
Major	MAJ	Wednesday	WED
Maximum	MAX	West	W
Mile(s)	MI	Westbound	WBND
Miles Per Hour	MPH		

** A space and no dash shall be placed between the abbreviation and the number of the route.

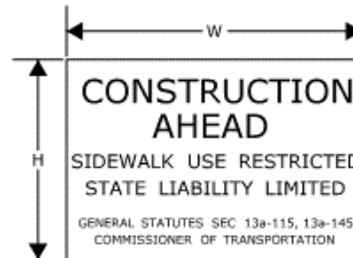
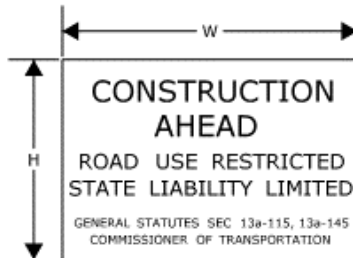
Table 3: Unacceptable Abbreviations

Unacceptable Abbreviation	Intended Word	Common Misinterpretation
ACC	Accident	Access (Road)
CLRS	Clears	Colors
DLY	Delay	Daily
FDR	Feeder	Federal
L	Left	Lane (Merge)
LT	Light (Traffic)	Left
PARK	Parking	Park
POLL	Pollution (Index)	Poll
RED	Reduce	Red
STAD	Stadium	Standard
WRNG	Warning	Wrong

10. Use of State Police Officers

- 10.a) State Police may be used only on limited access highways and secondary roadways that are under their primary jurisdiction. A minimum of one Officer may be used per critical sign pattern; however, a State Police presence is not required. Shoulder closures and right lane closures can generally be implemented without the presence of a State Police Officer. Left lane closures may also be implemented without State Police presence in areas with only moderate traffic and wide, unobstructed medians. It may be desirable to have a State Police presence, when available, under specific situations, such as nighttime lane closures; left lane closures with minimal width for setting up advance signs and staging; lane and shoulder closures on turning roadways/ramps or mainline where sight distance is minimal; and closures where extensive turning movements or traffic congestion regularly occur; however, they are not required.
- 10.b) If a State Police presence is provided, once the pattern is in place, the State Police Officer should be positioned in a non- hazardous location in advance of the pattern to provide advance warning to the motorist. If traffic backs up beyond the beginning of the pattern, then the State Police Officer shall reposition so that they are located prior to the backup. The State Police Officer should not be located immediately behind or within the roll ahead area of any TMA or within the work zone buffer area. The State Police Officer shall not be positioned in such a way that the State Police Officer obstructs any construction warning signs or PCMS from view of the motorist.
- 10.c) Other functions of the State Police Officer(s) may include:
- i. Assisting construction vehicles entering and exiting the work area.
 - ii. Enforcement of motor vehicle laws within the work area, if specifically requested by the Engineer.
- 10.d) State Police Officers assigned to a work site shall take direction from the Engineer.

SERIES 16 SIGNS



		W	H
16-E	80-1605	84" x 60"	
16-H	80-1608	60" x 42"	
16-M	80-1613	30" x 24"	

		W	H
16-S	80-1619	48" x 30"	

SIGN 16-S SHALL BE USED ON ALL PROJECTS THAT REQUIRE SIDEWALK RECONSTRUCTION OR RESTRICT PEDESTRIAN TRAVEL ON AN EXISTING SIDEWALK.

SERIES 16 SIGNS SHALL BE INSTALLED IN ADVANCE OF THE TRAFFIC CONTROL PATTERNS. SERIES 16 SIGNS SHOULD BE LOCATED TO ALLOW MOTORISTS THE OPPORTUNITY TO AVOID A WORK ZONE. SERIES 16 SIGNS SHOULD BE INSTALLED ON MAJOR INTERSECTING ROADWAYS THAT APPROACH THE WORK ZONE. ON LIMITED-ACCESS HIGHWAYS, THESE SIGNS SHOULD BE LOCATED IN ADVANCE OF THE NEAREST UPSTREAM EXIT RAMP AND ON ANY ENTRANCE RAMPS PRIOR TO OR WITHIN THE WORK ZONE LIMITS.

SIGNS 16-E AND 16-H SHALL BE POST-MOUNTED.

SIGN 16-E SHALL BE USED ON ALL FREEWAYS AND EXPRESSWAYS.

SIGN 16-H SHALL BE USED ON ALL RAMPS, OTHER STATE ROADWAYS AND MAJOR TOWN/CITY ROADWAYS.

SIGN 16-M SHALL BE USED ON OTHER TOWN ROADWAYS.

CONSTRUCTION TRAFFIC CONTROL PLAN
SERIES 16 SIGNS

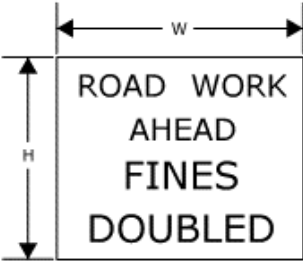
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REGULATORY SIGN "ROAD WORK AHEAD, FINES DOUBLED"

THE REGULATORY SIGN "ROAD WORK AHEAD FINES DOUBLED" SHALL BE INSTALLED FOR ALL WORK ZONES THAT OCCUR ON ANY STATE HIGHWAY AND MUNICIPAL ROAD IN CONNECTICUT WHERE THERE ARE WORKERS PRESENT ON THE HIGHWAY.

THE "ROAD WORK AHEAD FINES DOUBLED" REGULATORY SIGN SHALL BE PLACED AFTER THE SERIES 16 SIGN AND IN ADVANCE OF THE "ROAD WORK AHEAD" SIGN.

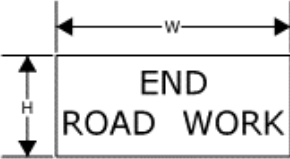
	W	H
31-1906	48"	42"
31-1907	60"	54"



"END ROAD WORK" SIGN

THE LAST SIGN IN THE PATTERN SHALL BE THE "END ROAD WORK" SIGN.

	W	H
80-9606	36"	18"
80-9612	48"	24"



CONSTRUCTION TRAFFIC CONTROL PLAN
**ROAD WORK AHEAD
 SIGNS**

SCALE: NONE

NOTES FOR TRAFFIC CONTROL PLANS

1. IF A TRAFFIC STOPPAGE OCCURS IN ADVANCE OF SIGN (A), THEN AN ADDITIONAL SIGN (A) SHALL BE INSTALLED IN ADVANCE OF THE STOPPAGE.
2. SIGNS (AA), (A), AND (D) SHOULD BE OMITTED WHEN THESE SIGNS HAVE ALREADY BEEN INSTALLED IN ADVANCE TO DESIGNATE A LARGER WORK ZONE THAN THE WORK ZONE THAT IS ENCOMPASSED ON THIS PLAN.
3. SEE TABLE 1 FOR ADJUSTMENT OF TAPERS IF NECESSARY.
4. TRAFFIC CONES AND PORTABLE CONSTRUCTION SIGNS SHALL NOT BE LEFT UNATTENDED.
5. ALL CONFLICTING SIGNS WITHIN THE LIMITS OF A ROADWAY / LANE CLOSURE AREA SHALL BE COVERED WITH AN OPAQUE MATERIAL WHILE THE CLOSURE IS IN EFFECT, AND UNCOVERED WHEN THE ROADWAY / LANE CLOSURE IS RE-OPENED TO ALL LANES OF TRAFFIC.
6. IF THIS PLAN REMAINS IN CONTINUOUS OPERATION FOR MORE THAN 48 HOURS, THEN ANY EXISTING CONFLICTING PAVEMENT MARKINGS SHALL BE ERADICATED OR COVERED, AND TEMPORARY PAVEMENT MARKINGS THAT DELINEATE THE PROPER TRAVELPATHS SHALL BE INSTALLED.
7. DISTANCES BETWEEN SIGNS IN THE ADVANCE WARNING AREA MAY BE REDUCED TO 100' ON LOW-SPEED URBAN ROADS (SPEED LIMIT \leq 40 MPH).
8. IF THIS PLAN IS TO REMAIN IN OPERATION FROM SUNSET TO SUNRISE, INSTALL BARRICADE WARNING LIGHTS - HIGH INTENSITY ON ALL POST-MOUNTED DIAMOND SIGNS IN THE ADVANCE WARNING AREA.
9. A PORTABLE CHANGEABLE MESSAGE SIGN SHALL BE INSTALLED ONE HALF MILE TO ONE MILE IN ADVANCE OF THE LANE CLOSURE TAPER.
10. SIGN (P) SHALL BE MOUNTED A MINIMUM OF 7 FEET FROM THE PAVEMENT SURFACE TO THE BOTTOM OF THE SIGN.

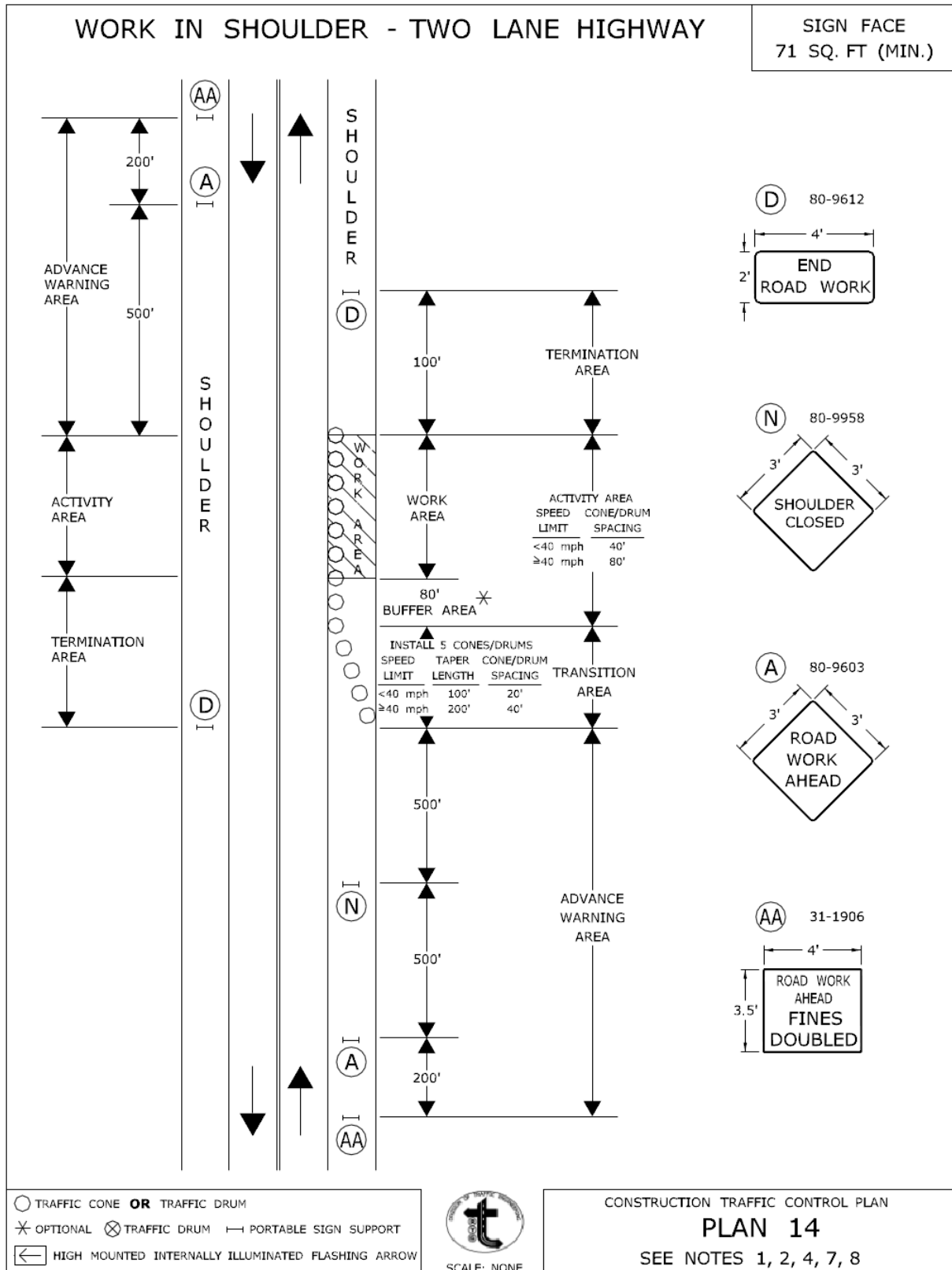
TABLE 1 - MINIMUM TAPER LENGTHS

POSTED SPEED LIMIT (MILES PER HOUR)	MINIMUM TAPER LENGTH FOR A SINGLE LANE CLOSURE
30 OR LESS	180'
35	245'
40	320'
45	540'
50	600'
55	660'
65	780'

CONSTRUCTION TRAFFIC CONTROL PLAN

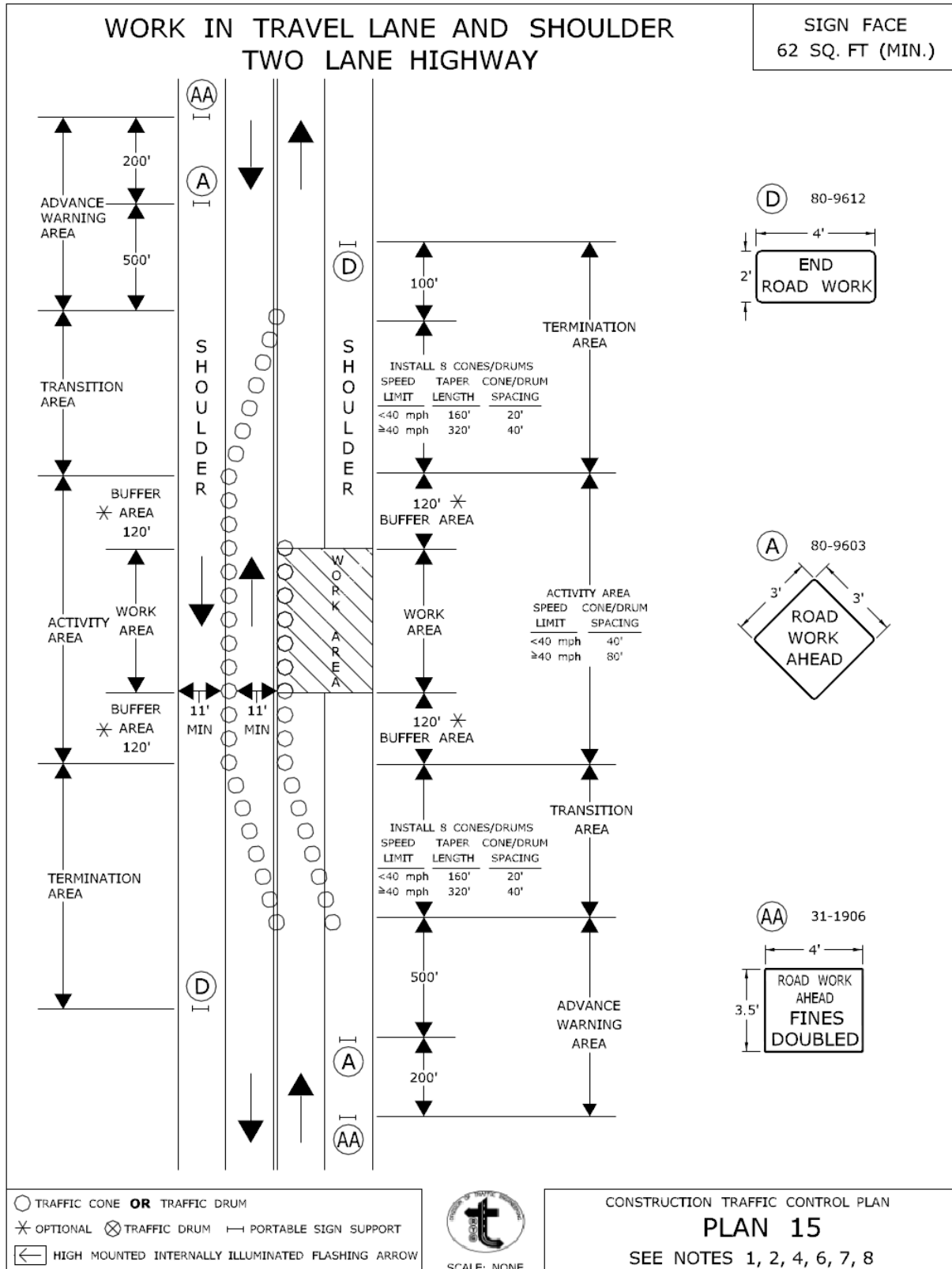
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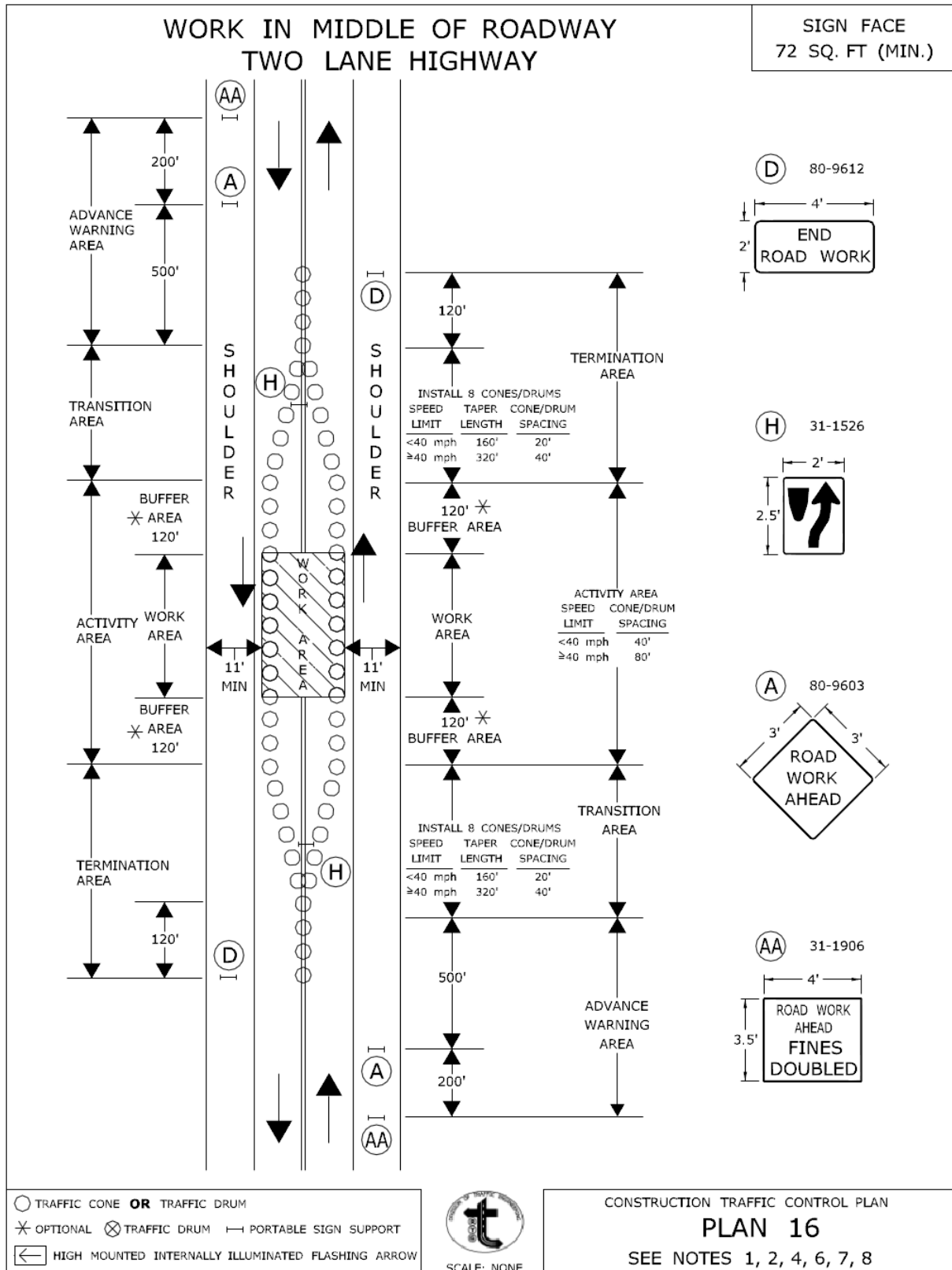
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CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED *Charles S. Harlow*
PRINCIPAL ENGINEER
Charles S. Harlow
2012.06.05 15:56:09-04'00"





Article 9.71.05 – Basis of Payment *is supplemented by the following:*

The temporary relocation of signs and supports, and the furnishing, installation and removal of any temporary supports shall be paid for under the item “Maintenance and Protection of Traffic”. Temporary overhead sign supports and foundations shall be paid for under the appropriate item(s).

The cost of furnishing, installing, and removing the material for the 4H:1V traversable slope shall be paid for under the item “Maintenance and Protection of Traffic”.

ITEM #0980001A – CONSTRUCTION STAKING

Section 9.80 “Construction Staking” is supplemented as follows:

All vertical data shall be in North American Vertical Datum of 1988 (NAVD88). The vertical datum shall be referenced to NGVD29 to establish the relationship with the original design reference datum for the FDR System.

9.80.04—Method of Measurement: All control points, monitoring river levels in accordance with the FDR System Emergency Action Plan shall be included in the Contract lump sum for Construction Staking.

Surveying, producing and delivering Final As-Built drawings of the work (plans, profiles and sections as PDFs and CAD files) and any interim as-built drawings or survey as requested by the Town, the Engineer or required by the Army Corp of Engineers, Department of Energy and Environmental Protection or any other regulatory agency, shall be included in the Contract lump sum for Construction Staking.

ITEM #0992090A –BENCH

Description:

Work under this item shall consist of furnishing all equipment, tools, labor, and materials to perform all work necessary to furnish and install secured benches attached through the concrete plaza and into concrete pads (also included under this item) at the locations shown on the plan and as detailed.

Materials:

Model no. CR-10, Classic series, 6' standard (73-5/8" overall length), 28-3/4" ht. X 23-3/8" top width, 19-7/8" foot mounting width X 16-3/4" seat ht. seat; 28- 1/4" X 1-1/2" solid steel bars, integral welded cross members of 1-5/16" tubular steel. Ductile iron cast end frame. Benches to be factory finished with TGIC polyester powder coat resin finish. Color- Black. Manufactured by Victor Stanley, Dunkirk, MD. (301) 855-8300

Alternate: Manchester 6', MC104-72. Color – Black. Manufactured by Bison, Lincoln, NE (888) 438-5311. Or approved equal.

All steel components to be Buy America compliant.

Concrete shall be "Class 'C'

Construction Methods:

Install benches where shown on contract drawings. Benches shall be secured into concrete pads (pads are included with this item) beneath the concrete plaza using anchor bolts. Drill anchor bolt holes after proper placement of bench. Use epoxy or hydraulic cement to secure bolts into concrete below. Anchor bolts to be stainless steel. Bolts to be provided by contractor. Benches to be set level, evenly spaced as per plan.

Method of Measurement:

This work will be measured for payment by the number of "Benches" completed and accepted by the Engineer.

Excavation and pouring of concrete pads will not be measured for payment but the cost thereof shall be included in the price bid for the bench.

Basis of Payment:

The work shall be paid for at the contract unit price per each bid for "Bench", completed and accepted in place, which price shall be complete and include all materials, equipment, tools, labor, excavation, concrete pad construction for each bench, backfill, disposal of surplus and unusable material and work incidental thereto.

Pay Item
BENCH

Pay Unit
EA.

ITEM #0992091A – REST SHELTER

Description: This item shall consist of designing, furnishing and installing a rest shelter conforming to the project documents, along the Riverwalk path.

Materials: Rest Shelter components to be factory finished with TGIC polyester powder coat resin finish. Color - **Black**. The metal roof shall be steel, Color - **Beige**.

Submit working drawings and design calculations signed by a CT-Licensed Professional Engineer that the rest shelter meets CT Building Code Requirements for wind and snow loading; including structure, mounting bolts, and foundation. Foundation design and construction method shall be reviewed for impact to flood control levee.

All steel components to be Buy America compliant.

Concrete shall conform to Article M.03
Metal Hardware shall conform to Article M.06
Reinforcing Steel shall conform to Article M.06.01
Structural Steel shall conform to Article M.06.02

Construction Method: Foundations for poured-in-place concrete footings to be drilled to rest within Compacted Impervious Fill section of flood control levee unless approved otherwise. Avoid over-excavation of flood control levee. All construction to be in accordance with U.S. Army Corps of Engineers Section 408 Levee Modification Permit requirements.

Method of Measurement: This work will be measured for payment by the number of rest shelters installed and accepted.

Excavation and pouring of concrete foundations and post piers will not be measured for payment but the cost thereof shall be included in the price bid for the rest shelter.

Basis of Payment: This work will be paid for at the contract unit price per each for “Rest Shelter,” complete in place, which price shall include all materials, including sleeves and fastening devices in which the posts are set, excavation and concrete for post piers and all equipment, tools and labor incidental thereto.

Pay Item	Pay Unit
Rest Shelter	ea.

ITEM #0992132A – ORNAMENTAL MEDALLIONS

Description:

Work under this item shall consist of furnishing all equipment, tools, labor, and materials to perform all work necessary to install ornamental medallions at locations shown on the plans, as detailed or as directed by the Engineer.

Materials:

Flush bronze plaques shall be as manufactured by International Bronze.

Alternate vendor: Artistic Bronze, 8915 SW 19th Avenue Rd, Ocala, FL 34476 phone: (800) 330-7525 or as approved by the City.

The pattern for the medallions shall be as chosen by the City of Ansonia.
All steel components to be Buy America compliant.

Construction Methods:

Medallions shall be installed in the concrete sidewalk and concrete plazas at locations shown on the plans or as directed by the Engineer.

The installation shall conform to the manufacturer’s procedures.

Method of Measurement:

This work will be measured for payment by the number of each “Ornamental Medallions” installed and accepted.

Basis of Payment:

The work shall be paid for at the contract unit price per each bid for “Ornamental Medallions”, completed and accepted in place, which price shall be complete and include all materials, equipment, tools, labor, and work incidental thereto.

Pay Item
Ornamental Medallions

Pay Unit
E.A.

ITEM #1003596A – DECORATIVE POLE

ITEM #1003612 – ORNAMENTAL ACCESSORY, BANNER ARMS

Description:

Work under this item shall consist of furnishing all equipment, tools, labor, and materials to perform all work necessary to furnish and install decorative poles with banner arms at the locations shown on the plan and as detailed.

Materials:

Decorative Poles: 12' ht. cast aluminum ornamental lightpoles, Birmingham Series, as manufactured by Sternberg Lighting (847)588-3400, or approved equal. www.sternberglighting.com. Pole shall have a ball center cap. Anchor bolts to be supplied and installed as per manufacturer's instructions. Bolt template to be supplied by manufacturer.

Alternate: 12' – 4" fluted pole – FL0412, surface mount, plus globe finial - FN-024, plus 4" base BS-04A, all as manufactured by Signature Streetscapes, 2350 South Getty Street, Muskegon MI 49444. (800) 705-1446 or approved equal.

Banner Arms: shall be as shown on the details, as manufactured by Sternberg Lighting (847)588-3400, or approved equal. www.sternberglighting.com

Alternate: Two (2) for each decorative pole - "Hatteras scroll bracket" CHA-4 as manufactured by Signature Streetscapes, 2350 South Getty Street, Muskegon MI 49444. (800) 705-1446 or approved equal.

Poles and arms to have factory applied powder coat resin finish. Color: Black.

Concrete Foundations: Concrete for foundations shall be Class "C" and shall conform to Article M.03.

ASTM A 615 - Reinforcing Bars: Grade 60 deformed

Construction Methods:

Install concrete foundations as detailed and where indicated on the drawings using anchor bolts and bolt template provided by light pole manufacturer. Install poles as detailed and where indicated on the drawings. Install poles plumb.

Method of Measurement:

This work will be measured for payment by the number of "Decorative Poles" completed and accepted by the Engineer.

This work will be measured for payment by the pair of “Ornamental Accessory, Banner Arms” completed and accepted by the Engineer.

Excavation and pouring of concrete foundations will not be measured for payment but the cost thereof shall be included in the price bid for the decorative pole.

Basis of Payment:

The work shall be paid for at the contract unit price per each “Decorative Poles”, completed and accepted in place, which price shall be complete and include all materials, equipment, tools, labor, excavation, concrete foundations, backfill, disposal of surplus and unusable material and work incidental thereto.

The work shall be paid for at the contract unit price per pair “Ornamental Accessory, Banner Arms”, completed and accepted in place, which price shall be complete and include all materials, hardware, equipment, tools, labor, and unusable material and work incidental thereto.

Pay Item	Pay Unit
DECORATIVE POLES	E.A.
ORNAMENTAL ACCESSORY BANNER ARMS	E.A.

ITEM NO. 1206023A - REMOVAL AND RELOCATION OF EXISTING SIGNS

Section 12.06 is supplemented as follows:

Article 12.06.01 – Description is supplemented with the following:

Work under this item shall consist of the removal and/or relocation of designated sheet aluminum signs, sign posts, sign supports, and foundations where indicated on the plans or as directed by the Engineer. Work under this item shall also include furnishing and installing new sign posts and associated hardware for signs designated for relocation.

Article 12.06.03 – Construction Methods is supplemented with the following:

The Contractor shall take care during the removal and relocation of existing signs, sign posts, and sign supports that are to be relocated so that they are not damaged. Any material that is damaged shall be replaced by the Contractor at no cost to the State or the City.

Foundations and other materials designated for removal shall be removed and disposed of by the Contractor as directed by the Engineer and in accordance with existing standards for Removal of Existing Signing.

Sheet aluminum signs designated for relocation are to be re-installed on new sign posts.

Article 12.06.04 – Method of Measurement is supplemented with the following:

Payment under Removal and Relocation of Existing Signs shall be at the contract lump sum price which shall include all extruded aluminum and sheet aluminum signs, sign posts, and sign supports designated for relocation, all new sign posts and associated hardware for signs designated for relocation, all extruded aluminum signs, sheet aluminum signs, sign posts and sign supports designated for scrap, and foundations and other materials designated for removal and disposal, and all work and equipment required.

Article 12.06.05 – Basis of Payment is supplemented with the following:

This work will be paid for at the contract lump sum price for “Removal and Relocation of Existing Signs” which price shall include relocating designated extruded aluminum and sheet aluminum signs, sign posts, and sign supports, providing new posts and associated hardware for relocated signs, removing and disposing of foundations and other materials, and all equipment, material, tools and labor incidental thereto. This price shall also include removing, loading, transporting, and unloading of extruded aluminum signs, sheet aluminum signs, sign posts, and sign supports designated for scrap and all equipment, material, tools and labor incidental thereto.

<u>Pay Item</u>	<u>Pay Unit</u>
Removal and Relocation of Existing Signs	L.S.

ITEM #1507000A – PROTECTION AND SUPPORT OF EXISTING UTILITIES

Description: Work under this item shall consist of protecting the outlet pipes from the City of Ansonia’s Front Street Pumping Station that go up and over the flood control levee throughout the construction. The Contractor shall also protect the 6 foot gravity outlet, and the Beaver Brook 14.5 foot x 8 foot box outlet. The work will also include a pre and post construction video inspection of the existing utilities.

Materials: The material for this work shall be as shown on the plans.

Steel plates shall meet the requirements of Article M.06.02.

Crushed Stone shall meet the requirements of Article M.02.01.

Construction Methods: Prior to performing any work on the flood levee the Contractor shall excavate test pits over the three 30” diameter pump outlet pipes to confirm the actual cover over the pipe (reported to be 2 feet). The pipes shall be protected with steel plates and crushed stone during construction. The steel plates shall remain as permanent fixtures to protect the outlet pipes.

In addition, the contractor shall engage a firm to prepare CCTV inspections of the 3 pipes, the 6’ gravity outlet, and the Beaver Brook outlet from the Naugatuck River upstream to the Pumping Station or first structure before and after construction to document the physical condition of the structures. If damaged during construction the structures shall be repaired or replaced at no cost to the City. The Contractor shall schedule the inspections in conjunction with Ansonia Department of Public Works staff, and DPW staff shall participate in the inspections. The Contractor shall provide digital and record copies of the inspections to the Engineer for submission to the USACE and CT DEEP.

The Contractor shall install systems to protect utilities from construction traffic loads as shown on the plans or as directed by the Engineer. Systems of protections shall be maintained for the duration of the work or construction traffic will be in the vicinity of the sewer facilities. Upon the completion of the work, the Contractor will remove the systems of protection and perform a post-construction video inspection of the levee outlet facilities.

Method of Measurement: Protection of Pump Outlet Pipes will be measured for payment as a contract lump sum item.

Excavation and test pits will not be measured for payment but the cost shall be included in the price bid for protection and support of existing utilities.

Pre and post video inspection of the pipes will not be measured for payment but the cost shall be included in the price bid for protection and support of existing utilities.

Basis of Payment: Protection of Pump Outlet Pipes and drainage pipe will be paid for at the contract lump sum price for "Protection and Support of Existing Utilities" which price shall include all maintenance, materials, excavation, backfilling, steel plates, crushed stone, removal and disposal of surplus material, pre-construction video inspection, post-construction video inspection, equipment, tools and labor incidental to complete the installation.

Pay Item	Pay Unit
Protection and Support of Existing Utilities	LS

ATTACHMENT A
PROJECT PERMITS



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19 FEB 26 PM 1:38
Jared Heon
CITY CLERK
ANSONIA, CONNECTICUT

City of Ansonia

PLANNING AND ZONING COMMISSION

Call to order and Pledge of Allegiance: The February 25, 2019 meeting was opened with the Pledge of Allegiance at 7:00 p.m. Roll call of the members was taken. Present were Michael Bettini, Tim Holman, William Malerba, Maureen McCormack and Ken Moffat. Chairman Jared Heon was excused. Also in attendance were City Planner David Elder, City Engineer Fred D'Amico and Zoning Enforcement Officer David Blackwell. (7:10) Ken Moffat, Vice Chairman will chair the meeting.

Approval of Minutes: A motion was made by Mr. Bettini, seconded by Mr. Malerba to accept the Regular and Organizational Meeting Minutes from 1/29/19, all were in favor, motion carried.

Approval of Bills: No bills.

Correspondence: No communication.

Public Session: After asking three times if anyone from the public wished to speak, a motion was made by Mr. Bettini, seconded by Mr. Malerba to close the public session. All in favor, motion carried.

New Business: City of Ansonia, Ansonia Riverwalk Segment 3 & 4 – Terrance Gallagher presented to the commission the site plan for said segments. Outlining this portion of the ½ mile long Riverwalk with including, but not limited to, 10 foot paved walkway, 2 foot crushed stone shoulder, timber rail, handicapped accessible, benches and canopy plans. The entrance near Target's entrance will be landscaped and run alongside the backside of businesses on Main Street. There will be circular seating area overlooking the river. The project is 80% federally funded and the goal is to begin as soon as possible for a fall completion. The exit (or other entrance) of this portion of the Riverwalk will be further south down Main Street in the vicinity past Henry Healy Drive. There will be some brass plaques at both entrances. Commissioner Holman mentioned possibly having benches with sponsor name plaques as an option to look in to. Plenty of parking with open lots and side streets. Mr. Malerba questioned whether or not an old oil tank from the Farrel Company is still under the ground in that area. Mr. Gallagher also noting they are scheduled to come before Inland/Wetlands. City Engineer Fred D'Amico stated he has been aware of these plans through the process and does not have any concerns. Motion to approve Site Plan Application for construction of the Ansonia Riverwalk, segments 3&4, including soil and sedimentation control plan, conditioned on successful approval by the Inland Wetlands Commission, plans dated January 31, 2019, prepared by DeCarlo and Doll, Inc., was made by Mr. Bettini, seconded by Mr. Malerba. All were in favor, motion passed.



City of Ansonia PLANNING AND ZONING COMMISSION

158 Main Street – Mike Marcinek addressed the commission regarding the plan to modify building from a 4 story professional building to a mixed use commercial and residential building. Also the plan for 200 Main Street to modify a 3 story professional building to a mixed use commercial/residential building. Commissioner Holman voiced concerns regarding a site walk for the buildings to have a better feel for the modifications. Parking concerns were addressed as well. With the restaurant appeal downtown, parking spaces are becoming very limited and creating mixed use, commercial during the day will create a different parking issue that the residential use will add in the evening to the current problem. Mr. Blackwell agreeing that the parking is maxed out right now. Commissioners also noting the new Police Station will add traffic, parking issues as well. A motion was made by Mr. Holman, seconded by Mr. Bettini to set the public hearing for 158 Main Street for March 25, 2019 at 6:30, all were in favor, motion carried. A motion was also made by Mr. Holman, seconded by Mr. Bettini to set the public hearing for 200 Main Street for March 25, 2019 for 6:45 p.m., or at the conclusion of the 6:30 p.m. public hearing. All were in favor, motion carried.

Old Business: Mr. Elder advised the final revised regulations are ready and if any commissioners would like a bound copy, he will have them bound.

Reports: City Engineer, Fred D'Amico – No report. City Planner, David Elder, no report. City Zoning Enforcement Officer, David Blackwell – advised the commission that the subject of Air B & B's continues to come up. After some discussion, Mr. Elder will do additional research and report back to the commission. Mr. Blackwell noting the paved front yards is an epidemic problem throughout the city. It is likely that most of these homes have illegal units in them, creating these parking issues. All in agreement that enforcement needs to happen for these illegal units and parking issues.

A motion to adjourn was made by Mr. Holman at 8:07 p.m., seconded by Mr. Bettini, all in favor, motion carried. Meeting adjourned.

Respectfully submitted,

Darlene L. Zawisza

LEGAL NOTICE
CITY OF ANSONIA

NOTICE OF DECISIONS

At the Regular Meeting of the Ansonia Planning and Zoning Commission held on February 25, 2019 the Planning & Zoning Commission voted the following:

APPROVED: City of Ansonia - Ansonia Riverwalk – Segment 3&4 Site Plan

SET A PUBLIC HEARING DATE: for 158 Main St. - TM 158 LLC- Change in Use - at 6:30 p.m on March 25, 2019; and 200 Main St. – TM200 LLC – Change in Use – at 6:45 p.m. on March 25, 2019

ANSONIA PLANNING & ZONING COMMISSION
Jared Heon, Chairman

Dated at Ansonia, CT
This 27th day of February 2019

RECEIVED FOR FILE
19 FEB 26 PM 1:49
Jared Heon
TOWN AND CITY CLERK
ANSONIA, CONNECTICUT



City of Ansonia
INLAND WETLANDS COMMISSION

253 Main Street
Ansonia, Connecticut 06401

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19 MAR 13 PM 3:57

Janet Whitehead
TOWN AND CITY CLERK
ANSONIA, CONNECTICUT

March 7, 2019

Regular Meeting

Present: Timothy Holman, Chairman
Michael Bettini, Vice-Chairman
John Jones
William Malerba

Absent: Charles Albea - excused
Robert Sobolisky

Others Present: Fred D'Amico, City Engineer

The Regular Meeting of the Ansonia Inland Wetlands Commission was called to order at 7:10 p.m. by Chairman Holman.

All present rose and Pledged Allegiance to the Flag.

The secretary called the roll. There was a quorum present.

Approval of Minutes

Mr. Bettini made a motion to accept the minutes of the January 3, 2019 Regular Meeting as written and place on file. Mr. Jones seconded. All in favor, so carried.

Mr. Bettini made a motion to accept the minutes of the January 3, 2019 Organizational Meeting as written and place on file. Mr. Malerba seconded. All in favor, so carried.

Approval of Bills

There were no bills received.

IWC030719

Correspondence

Mr. Bettini made a motion to accept all of the correspondence received, dispense with the reading, and place them on file. If a member requests one read or acted upon the correspondence will be brought up individually. Mr. Malerba seconded. All in favor, so carried.

1. CT Land Use Law for Municipal Land Use Agencies, Boards & Commissions – Seminar – March 23, 2019

Public Session

Chairman Holman asked if there was anyone from the public who wished to address the Commission.

Gregg Martin – Office of the Mayor
15 Granite Terrace
Ansonia, CT 06401

Mr. Martin said the City has a low cost high impact project for Colony Pond. One improvement would be a walking trail around the pond. Eventually the trail will connect with an existing trail in the woods. There would be 200 feet of boardwalks built. One boardwalk will extend across the brook. There are springs on one side of the pond. There will be three 75 foot boardwalks constructed and laid down. The boardwalks will be constructed by Emmett O'Brien students. They will be made from pre-treated wood 4 feet wide with 2x6 boards on the bottom so the streams can flow. There will be poles (similar to telephone poles) cut and laid down. The boardwalks will sit on top of the poles. Without boardwalks it makes it difficult to have walking trails.

Mr. Bettini asked if the project was going up to Granite Terrace. Will it be on City property or on private property?

Mr. Martin said it will go about one mile up and start to come back down around behind the area where the tennis courts are located. It will be a walk around the pond. He showed everyone a picture of the existing boardwalk which will be replaced. Home Depot and Lowe's will donate lumber for the project. It will be constructed by the students at Emmett O'Brien under Chris Sansone's supervision. The boardwalks will be in two or three sections and bracketed in on site.

Mr. Bettini asked if there will be rails on the boardwalks.

Mr. Martin said yes.

Chairman Holman said Emmett O'Brien will build the rails and boardwalks. He said he wants the City Engineer to inspect the work and the plans. The City Engineer is to see the plans and actually inspect the work.

Mr. Malerba asked if the boardwalks will be set on the telephone poles.

Mr. Martin said yes, they will sit on the telephone poles.

Mr. Malerba said the poles will roll all over the place and will not be stable to hold the boardwalks. He said there is a bridge and walkway already installed that goes to the Emmett O'Brien field. What are they on?

Chairman Holman said Mr. D'Amico, City Engineer has to look at the plans for this project.

Mr. Martin said it has to be a hot summer so the springs will dry up and they can install the walkway. He said they are looking to start as soon as possible and install the boardwalks and walkways in May.

Mr. Malerba asked if the Building Dept. is involved in the project.

Mr. D'Amico said they will have to get permits from the Building Dept.

Mr. Martin said the last part of the water project is they are proposing a boat launch for canoes, kayaks and row boats.

Chairman Holman said you need a lot of space for kayaks.

Mr. Martin said no, there is enough room in the pond.

Chairman Holman asked who will monitor this project.

Mr. Martin said they will be following Derby's procedure. They will need permits for the boats, there will be signage, life jackets and they have spoken with the insurance company.

Chairman Holman asked who will enforce this.

Mr. Martin said the Park & Rec Dept.

There was a discussion on the ponds in Derby and their rules and regulations for use of these ponds for boating and recreation.

Chairman Holman said this is good. He asked Mr. Martin for the plans for what he is proposing and presenting to the Commission.

Mr. Martin said he doesn't have any plans.

Mr. Bettini asked if there are any design plans for the project and the boardwalks and walkways and launches.

Mr. Martin said he doesn't have any plans or design plans. He will have these prepared and will come back to the IWC next month with them. He would like all of this work to take place in June.

Mr. D'Amico said when preparing the plans, show where the walkway is in relation to the pond. Where the parking is for the boat launch.

Mr. Martin said he will come back with the plans.

Mr. Bettini said there is no need for an environmental study for this submission. Take the aerial map and show us where everything is.

Chairman Holman said he is concerned with the boat ramp. The walkways and walk around seem to be OK.

Mr. Bettini said show where the boat ramp is going to be located, where the parking for the boat ramp will be, and the proximity of the boat ramp to the parking area.

Chairman Holman said Mr. Martin has to bring the Commission an IWC application, the plans and specs for the boat ramp and the design plan for the walkways and boardwalks.

Mr. Bettini said there should be fencing around the boat ramp.

Chairman Holman said we need the specs and plans for the boat ramp. There has to be rails on the boardwalks.

Mr. Martin said the hiking trails are on City property. He said Mr. Connolly is adding Trout now and in June he will add Cat Fish and Trout when he is stocking the pond. He will come back next month with the application, plans design plans and specs for the project.

Barbara & Richard Scarpa
18 Glen Drive
Ansonia, CT 06401

Mrs. Scarpa addressed the commission stating there should be catch basin between 24 – 26 Glen Drive. There is an open well there and the water is flowing in the street. Her driveway is being eroded from the water and ice and is in need of repair. In the winter there is ice in the road and on the residents property in their driveway and near their mailboxes.

Chairman Holman said he walked the property. The property next door had drainage coming out into the road and going down the street. He said he took pictures. He said he doesn't know if they have a permit to discharge.

Mr. D'Amico said anything to do with basements didn't have permits. The property owners were installing sump pumps and they should be required to get a plumbing permit. This case the

catch basin is at the bottom. He doesn't think it went from bottom to top. He doesn't see a pipe in the area.

Mr. Scarpa said he thinks there is a pipe underneath where Mrs. Scarpa wants the catch basin.

Chairman Holman said he is concerned the property violates our regulations.

Mr. D'Amico said they should be required to get a plumbing permit.

Chairman Holman said they are draining the property and discharging down the road.

There was discussion as to whether this situation could be considered blight. The commissioners all feel that there should have been a plumbing permit for the installation of a sump pump. There is a question of where the pipe is located on the property and where it is discharging. The homeowner would be required to get a permit to discharge into the City's storm drainage system.

Chairman Holman said there are a lot of issues here that involve Planning and Zoning. This issue should be referred to Planning & Zoning for their input.

Mr. Bettini made a motion to draft a letter to Planning & Zoning, Building Dept., Blight, Zoning Dept. and Corporation Counsel asking them to initiate an investigation into this situation on 18 Glen Drive. Mr. Malerba seconded. All in favor, so carried.

Mr. D'Amico will contact Mr. & Mrs. Scarpa next week.

Chairman Holman asked if there was anyone from the public who wished to address the Commission. He asked three (3) times. There being no one, he called for a motion to close the public session.

Mr. Bettini made a motion to close the public session. Mr. Malerba seconded. All in favor, so carried.

City of Ansonia/DeCarlo & Doll re: New Section of the Riverwalk

Mr. Terrance Gallagher, Engineer, DeCarlo & Doll was present.

Mr. Gallagher said the impact to the wetlands and watercourse are minimal for this project. The only wet area is the Naugatuck River. The project barely touches the 100 foot upland review area. The Riverwalk is not affecting the flood gate or the wall. It is a nice improvement to the driveway area behind Target. The Riverwalk itself is similar to the Riverwalk on the other side. There will be three places for benches on the walkway with landscaping enhancements. There will be erosion and sedimentation controls in place. He said he doesn't see any wetland impacts. There are specific provisions for the pipes that go over the flood wall. He said he sent the plans to the Army Corp of Engineers.

Mr. Bettini made a motion to approve the design for Phase II of the Riverwalk as presented. Mr. Malerba seconded. All in favor, so carried.


April Meeting

The April Meeting of the Inland Wetland Commission will be held on Thursday, April 4, 2019 at 7:00 p.m.

Adjourn

Mr. Malerba made a motion to adjourn the meeting at 7:55 p.m. Mr. Bettini seconded. All in favor, so carried.

Respectfully submitted,


Jo-Lynn Flaherty
Secretary



**DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD MA 01742-2751**

April 3, 2020

Engineering Division
Geotechnical/Water Resources Branch

Ms. Sheila O'Malley
Director of Economic Development
City Hall
253 Main Street
Ansonia, CT 06401

Dear Ms. O'Malley:

This letter is in regards to the proposed Ansonia River Walk, Segments 3 and 4 Project along the federally constructed Naugatuck River Left Bank and Beaver Brook River Right Bank Flood Damage Reduction (FDR) System in Ansonia, Connecticut.

The FDR System consists of approximately 3,900 feet of earth embankment, 7,300 feet of concrete floodwalls, two pump stations, and four closure structures. The FDR System was completed in 1972.

The proposed project is part of the Naugatuck River Greenway to extend the multi-use River Walk for improved pedestrian and bicyclist access along the Naugatuck River. The River Walk will consist of a 10-foot-wide, bituminous concrete, multi-use pedestrian path constructed on the crest of the Naugatuck River left bank levee. The proposed path will begin on Main Street near the existing Target store driveway. The path will use the existing levee access Ramp No. 1 to access the levee crest and will follow the levee crest south from just north of the access ramp to existing Ramp No. 2, where the path will tie into Main Street. The total length of the path will be approximately 2,500 feet. The proposed project includes a post and rail fence, a pedestrian overlook between Ramp No. 1 and the existing levee embankment crest, three pedestrian benches with shelters, and other trail amenities. Grading changes will be minor; typically within 1' or less above existing grades along the crest of the levee. The River Walk will be designed to comply with Americans with Disabilities requirements for ADA access. Access to Railroad Gate No. 3 at the northern end of the levee embankment will be maintained during and after construction.

The United States Army Corps of Engineers (USACE) New England District, in accordance with guidance and Title 33 United States Code Section 408 (33 USC 408) requirements, reviewed the information supplied in the following documents:

- Section 408 Request Letter titled “Section 408 Levee Modification Review, Ansonia River Walk, Segments 3 & 4” dated February 12, 2019.
- Section 408 Permit Application titled “Ansonia River Walk, Segments 3 & 4” dated February 12, 2019.
- Section 408 Levee Modification Resubmittal titled “Ansonia River Walk, Segments 3 & 4” dated May 2, 2019.
- Section 408 Levee Modification – Second Resubmittal titled “Ansonia River Walk, Segments 3 & 4” dated November 15, 2019.

Based on the information supplied above, it is the opinion of USACE that the proposed Ansonia River Walk, Segments 3 and 4 Project, as currently presented, does not appear to adversely affect the functioning of the FDR System identified above, provided that no damage, collapse, or impacts to the structural integrity of the FDR System and the associated appurtenances occurs during the construction activities of the project. Any damages to the FDR System, including but not limited to, the embankments, pumping stations, drainage system components, or other appurtenant system components, shall be immediately repaired to the satisfaction of USACE so as to not affect the safety of the public due to flooding. All work shall be managed in accordance with the technical plans and specifications supplied in the information above.

This acceptance of the above referenced project is contingent upon adhering to the following comments:

- Within 90 days of the completion of the project, city of Ansonia must update the Operations and Maintenance (O&M) Manual for the system and submit the revised O&M Manual to USACE for review and approval.
- Within 90 days of the completion of the project, city of Ansonia shall provide USACE a Completion of Work Report. This Completion of Work Report should be an electronic copy in “pdf” or other approved electronic format containing a copy of “As-Built” drawings, the associated material specifications/product data sheets for the materials used for final construction, and daily construction log reports. The report should be signed and sealed by a professional engineer.

- The city of Ansonia shall provide USACE with a copy of an Emergency Action Plan (EAP) that reflects the FDR System and the Ansonia River Walk, Segments 3 and 4 Project alterations. All construction work should be subject to the conditions of the City's EAP, such that the contractor is monitoring river levels and prepared to take precautionary or emergency measures if needed during a high water event.
- Access to the FDR System shall be maintained at all times for the duration of the project. Any damages to the system or its components, including but not limited to, the floodwall, drainage system components, or closure structures, shall be immediately repaired to the satisfaction of USACE so as to not affect the safety of the public due to flooding.
- The approved modifications will be ineligible for repair under the Rehabilitation Program under Public Law 84-99. Any damage to those components, the repair and restoration will be the sole responsibility of the city of Ansonia.
- All vertical data shall be in North American Vertical Datum of 1988 (NAVD88), which is the current orthometric vertical reference datum within the National Spatial Reference System. We also request that the vertical datum be referenced to the older, superseded NGVD29 to establish the relationship with the original design reference datum.
- The issuance of this acceptance does not relieve the city of Ansonia from its obligation to obtain any other federal, state, or local approvals or permits as may be required for this project, including but not limited to, Section 10 and Section 404 permits.
- In accordance with the obligations and requirements between the City and USACE, none of the approvals granted herein shall impair the operation, maintenance, or functional performance of the flood protection wall and its related structures.
- Any changes or amendments to the above referenced documents or drawings shall be submitted to USACE for acceptance *prior* to implementation.

USACE reserves the right and authority to request removal of any components of the system if such components do not conform to regulations, policies, guidance, or present an adverse impact to the FDR System. If a potential situation arises between the Ansonia River Walk, Segments 3 and 4 Project and the FDR System, USACE will work with the city of Ansonia on potential solutions to address the concern.

Be assured that USACE holds life and public safety paramount with regards to protecting the communities behind the Naugatuck River Left Bank and Beaver Brook Right Bank FDR System. Should you have any further questions or concerns, please feel free to contact Alex Garneau, Project Manager at (978) 318-8389 or the Levee Safety Program Manager, Kevin DiRocco at (978) 318-8396.

Sincerely,

Michael Bachand, P.E.
Chief, Geotech/Water Resources Branch
Levee Safety Officer

Copy Furnished

Michael D'Alessio
Superintendent, Department of Public Works
1 North Division Street
Ansonia, CT 06401

Kartik Parekh
Dam Safety Section
Water Planning & Management Division
Bureau of Water Protection & Land Reuse
Connecticut Department of Energy and Environmental Protection
79 Elm Street,
Hartford, CT 06106-5127

Terrance Gallagher, P.E.
Luchs Consulting Engineers, LLC
DeCarlo & Doll, Inc.
89 Colony Street
Meriden, CT 06451

December 12, 2018

Terrance Gallagher, P.E.
Decarlo & Doll, Inc.
89 Colony St
Meriden, CT 06451
tgallagher@luchs.com

Project: Construction of Section 3 & 4 of the Ansonia Riverwalk along the Naugatuck River Greenway (on top of the flood control levee, from Target to Main St), Ansonia
NDDB Determination No.: 201815265

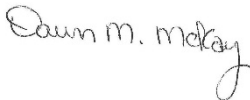
Dear Terrance Gallagher, P.E.,

I have reviewed Natural Diversity Data Base (NDDB) maps and files regarding the area delineated on the map provided for the proposed Construction of Section 3 & 4 of the Ansonia Riverwalk along the Naugatuck River Greenway (on top of the flood control levee, from Target to Main St), Ansonia, Connecticut. I do not anticipate negative impacts to State-listed species (RCSA Sec. 26-306) resulting from your proposed activity at the site based upon the information contained within the NDDB. The result of this review does not preclude the possibility that listed species may be encountered on site and that additional action may be necessary to remain in compliance with certain state permits. This determination is good for two years. Please re-submit a new NDDB Request for Review if the scope of work changes or if work has not begun on this project by December 12, 2020.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substitutes for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available.

Please contact me if you have further questions at (860) 424-3592, or dawn.mckay@ct.gov . Thank you for consulting the Natural Diversity Data Base.

Sincerely,



Dawn M. McKay
Environmental Analyst 3

DRAFT PERMIT

Permittee: City of Ansonia
City Hall, 253 Main Street, Ansonia, CT 06401
somalley@ansoniaact.org

Attention: Shelia O'Malley

Permit No: DS-202006152

Town: Ansonia

Project: Ansonia Levee (DEEP ID# 209, Hazard Class C, High Hazard)

Waters: Naugatuck River

Pursuant to Connecticut General Statutes Section 22a-403, the Commissioner of Energy and Environmental Protection (“Commissioner”) hereby grants a permit to City of Ansonia (“the Permittee”) to conduct regulated activities at Ansonia Levee. The purpose of said activities authorized herein is to modify an existing levee.

AUTHORIZED ACTIVITY

Specifically, the permittee is authorized to perform the following: construct a 10-foot wide paved multi-use path along the Ansonia Levee, located along the eastern bank of the Naugatuck River.

All activities shall be conducted in accordance with plans entitled: “Construction of Ansonia Riverwalk-Segments 3 & 4” dated June 2020, revised July 17, 2020, which was prepared by DeCarlo and Doll, Inc.

This authorization constitutes the licenses and approvals required by Section 22a-403 of the Connecticut General Statutes. This authorization is subject to and does not derogate any present or future property rights or other rights or powers of the State of Connecticut, conveys no property rights in real estate or material nor any exclusive privileges, and is further subject to any and all public and private rights and to any federal, state, or local laws or regulations pertinent to the property or activity affected thereby.

The permittee's failure to comply with the terms and conditions of this permit shall subject the permittee, including the permittee's agents or contractor(s) to enforcement actions and penalties as provided by law.

This authorization is subject to the following conditions:

CONDITIONS:

1. **Expiration.** This permit shall expire three years from the date of issuance unless this permit is specifically renewed.
2. **Construction Commencement and Completion.** If construction authorized herein is not completed within three years of issuance of this permit or within such other time as may be provided by this permit, or if any activity authorized herein is not commenced within three years of issuance of this permit or within such other time as may be provided by this permit, this permit shall expire three years after issuance or at the end of such time as may be authorized by the Commissioner.
3. **Notification of Project Initiation.**
 - a. The permittee shall notify the Commissioner in writing no less than seven (7) days prior to commencement of permitted activities and no less than seven (7) days following completion of permitted activities. Notifications may be made by email to: DEEP.DamSafety@ct.gov.
 - b. The permittee shall, pursuant to Section 22a-377(b)-1(a)(16)C of the Regulations of Connecticut State Agencies, notify the Commissioner and any potentially affected water company in writing at least seven (7) days prior to the lowering of Naugatuck River for the purpose of undertaking permitted activities.
 - c. The Department of Energy and Environmental Protection (DEEP) Fisheries Division shall be notified at least forty-eight (48) hours prior to drawdown of the impoundment, in accordance with Section 26-138 of the Connecticut General Statutes. Such notification shall be made to the Fisheries Division, 79 Elm Street, Hartford, CT 06106-5127, and telephone no. 860- 424-3474.
4. **De minimis Alteration.** The Permittee shall not deviate from the authorized activity without prior written approval from the Commissioner. The Permittee may request a de minimis change to any authorized structure, facility, or activity. A de minimis alteration means a change in the authorized design, construction or operation that individually and cumulatively has minimal additional environmental impact and does not substantively alter the project as authorized.
5. **Accuracy of Documentation.** In issuing this permit, the Commissioner has relied on information provided by the permittee. If such information was false, incomplete, or misleading, this permit may be modified, suspended or revoked and the permittee may be subject to any other remedies or penalties provided by law.

- 6. Best Management Practices & Notification of Adverse Impact.** In constructing or maintaining any structure or facility or conducting any activity authorized herein, or in removing any such structure or facility under condition 5 hereof, the permittee shall employ best management practices to control storm water discharges, to prevent erosion and sedimentation, and to otherwise prevent pollution of wetlands and other waters of the State. Best Management Practices include, but are not limited to, practices identified in the *Connecticut Guidelines for Soil Erosion and Sediment Control* as revised, 2004 *Connecticut Stormwater Quality Manual*, Department of Transportation's *ConnDOT Drainage Manual* as revised, and the Department of Transportation Standard Specifications as revised.

The permittee shall immediately inform the Commissioner of any adverse impact or hazard to the environment which occurs or is likely to occur as the direct result of the construction, maintenance, or conduct of structures, facilities, or activities authorized herein.

Drawdown of Naugatuck River shall be limited in extent and duration to that necessary to complete the permitted activities.

- 7. Reporting of Violations.** The permittee shall, no later than 48 hours after the permittee learns of a violation of this permit, report same in writing to the Commissioner. Such report shall contain the following information:

- a. the provision(s) of this permit that has been violated;
- b. the date and time the violation(s) was first observed and by whom;
- c. the cause of the violation(s), if known
- d. if the violation(s) has ceased, the duration of the violation(s) and the exact date(s) and time(s) it was corrected;
- e. if the violation(s) has not ceased, the anticipated date when it will be corrected;
- f. steps taken and steps planned to prevent a reoccurrence of the violation(s) and the date(s) such steps were implemented or will be implemented;
- g. the signatures of the permittee and of the individual(s) responsible for actually preparing such report, each of whom shall certify said report in accordance with condition 10 of this permit.

- 8. Material Storage in the Floodplain.** The storage of any materials at the site which are buoyant, hazardous, flammable, explosive, soluble, expansive, radioactive, or which could in the event of a flood be injurious to human, animal or plant life, below the elevation of the five-hundred (500) year flood is prohibited. Any other material or equipment stored at the site below said elevation by the permittee or the permittee's contractor must be firmly anchored, restrained or enclosed to prevent flotation. The quantity of fuel stored below such elevation for equipment used at the site shall not exceed the quantity of fuel that is expected to be used by such equipment in one day.

9. **Permit Transfer.** This permit is not transferable without the prior written consent of the Commissioner.
10. **Contractor Notification.** The permittee shall give a copy of this permit to the contractor(s) who will be carrying out the activities authorized herein prior to the start of construction and shall receive a written receipt for such copy, signed and dated by such contractor(s). The permittee's contractor(s) shall conduct all operations at the site in full compliance with this permit and, to the extent provided by law, may be held liable for any violation of the terms and conditions of this permit.
11. **Certification of Documents.** Any document, including but not limited to any notice, which is required to be submitted to the Commissioner under this permit shall be signed by the permittee or a responsible corporate officer of the permittee, a general partner of the permittee, and by the individual or individuals responsible for actually preparing such document, each of whom shall certify in writing as follows:

“I have personally examined and am familiar with the information submitted in this document and all attachments thereto and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement in the submitted information may be punishable as a criminal offense in accordance with Section 22a-6 of the General Statutes, pursuant to Section 53a-157b and in accordance with any other applicable statute.”

12. **Submission of Documents.** Any document or notice required to be submitted to the Commissioner under this permit shall, unless otherwise specified in writing by the Commissioner, be directed to:

DEEP.DamSafety@ct.gov

The date of submission to the Commissioner of any document required by this permit shall be the date such document is received by the Commissioner. The date of any notice by the Commissioner under this permit, including but not limited to notice of approval or disapproval on any document or other action, shall be the date such notice is emailed by the Commissioner. Except as otherwise specified in this permit, the word "day" means any calendar day. Any document or action which is required by this permit to be submitted or performed by a date which falls on a Saturday, Sunday or legal holiday shall be submitted or performed by the next business day thereafter.

13. **Rights.** This permit is subject to and does not derogate any rights or powers of the State of Connecticut, conveys no property rights or exclusive privileges, and is subject to all

public and private rights and to all applicable federal, state, and local law. In constructing or maintaining any structure or facility or conducting any activity authorized herein, the permittee may not cause pollution, impairment, or destruction of the air, water, or other natural resources of this State. The issuance of this permit shall not create any presumption that this permit should be renewed.

14. Dam Safety Conditions

- a. This permit and a copy of the approved plans shall be kept at the project site and made available to the Commissioner at any time during the construction of permitted activities.
- b. Permitted activities shall be performed under the supervision of an engineer who is licensed to practice in the State of Connecticut and who is familiar with dam construction. Said engineer shall, upon completion of the permitted activities, certify to the Commissioner in writing that the permitted activities have been completed according to the approved plans and specifications.
- c. Within thirty (30) days of completion of the permitted activities, permittee shall submit to the Commissioner record drawings depicting the levee modification as completed, including any deviations from the approved plans and specifications. Said drawing shall be prepared and sealed by the engineer who oversaw the construction. In addition, the permittee shall arrange for submission of an electronic copy of the final record drawing in Adobe Acrobat “pdf” format.
- d. Nothing in this permit and no order, approval or advice of the Commissioner, shall relieve any owner or operator of a dam from his legal duties, obligations and liabilities resulting from such ownership or operation. No action for damages sustained through the partial or total failure of any structure or its maintenance shall be brought or maintained against the state, the Commissioner of Energy and Environmental Protection, or his employees or agents.

- 15. De minimis Alteration.** If during the process of construction, unforeseen conditions are found on the site and the permittee and their engineer determine that it would be appropriate to modify the design, then the permittee shall notify DEEP within 24 hours of any potential design changes to determine if the design modifications will be an activity that can be categorized as a de minimis activity when compared to the permitted design. No work shall take place which was not included as part of the permitted design until DEEP responds to this determination request.

Issued by the Commissioner of Energy and Environmental Protection on:

Date

Graham J. Stevens, Bureau Chief
Bureau of Water Protection and Land Reuse

DRAFT

ATTACHMENT B

DISADVANTAGED BUSINESS
ENTERPRISES FOR FEDERAL
FUNDED PROJECTS

Schedule 1

SPECIAL PROVISIONS
DISADVANTAGED BUSINESS ENTERPRISES
FOR FEDERAL FUNDED PROJECTS

(For Municipal Advertised and Awarded Projects Only)

Revised – February 26, 2009

NOTE: Certain of the requirements and procedures stated in this Special Provisions are applicable prior to the award and execution of the Contract document.

I. ABBREVIATIONS AND DEFINITIONS AS USED IN THIS SPECIAL PROVISION

- A. "ComDOT" means the Connecticut Department of Transportation.
- B. "DOT" means the U.S. Department of Transportation, including the Office of the Secretary, the Federal Highway Administration ("FHWA"), the Federal Transit Administration ("FTA"), and the Federal Aviation Administration ("FAA").
- C. "Broker" means a party acting as an agent for others in negotiating Contracts, Agreements, purchases, sales, etc., in return for a fee or commission.
- D. "Contract," "Agreement" or "subcontract" means a legally binding relationship obligating a seller to furnish supplies or services (including, but not limited to, construction and professional services) and the buyer to pay for them. For the purposes of this provision, a lease for equipment or products is also considered to be a Contract.
- E. "Contractor," means a prime contractor, consultant, second party or any other entity doing business with or engaged by the Municipality or, as the context may require, with or by another Contractor.
- F. "Disadvantaged Business Enterprise" ("DBE") means a small business concern:
 - 1. That is at least fifty-one percent (51%) owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which fifty-one percent (51%) of the stock of which is owned by one or more such individuals; and
 - 2. Whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.
- G. "DOT-assisted Contract" means any Contract between a recipient and a Contractor (at any tier) funded in whole or in part with DOT financial assistance, including letters of credit or loan guarantees.

- H. "Good Faith Efforts" means efforts to achieve a DBE goal or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the program requirement. Refer to Appendix A of 49 Code of Federal Regulation ("CFR") Part 26 -- "Guidance Concerning Good Faith Efforts," a copy of which is attached to this provision, for guidance as to what constitutes good faith efforts.
- I. "Small Business Concern" means, with respect to firms seeking to participate as DBEs in DOT-assisted Contracts, a small business concern as defined pursuant to Section 3 of the Small Business Act and Small Business Administration ("SBA") regulations implementing it (13 CFR Part 121) that also does not exceed the cap on average annual gross receipts specified in 49 CFR Part 26, Section 26.65(b).
- J. "Socially and Economically Disadvantaged Individuals" means any individual who is a citizen (or lawfully admitted permanent resident) of the United States and who is—
1. Any individual who ConnDOT finds on a case-by-case basis to be a socially and economically disadvantaged individual.
 2. Any individuals in the following groups, members of which are rebuttably presumed to be socially and economically disadvantaged:
 - i. "Black Americans," which includes persons having origins in any of the Black racial groups of Africa;
 - ii. "Hispanic Americans," which includes persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American, or other Spanish or Portuguese culture or origin, regardless of race;
 - iii. "Native Americans," which includes persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians;
 - iv. "Asian-Pacific Americans," which includes persons whose origins are from Japan, China, Taiwan, Korea, Burma (Myanmar), Vietnam, Laos, Cambodia (Kampuchea), Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U.S. Trust Territories of the Pacific Islands (Republic of Palau), the Commonwealth of the Northern Marianas Islands, Macao, Fiji, Tonga, Kiribati, Juvalu, Nauru, Federated States of Micronesia, or Hong Kong;
 - v. "Subcontinent Asian Americans," which includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka;
 - vi. Women;
 - vii. Any additional groups whose members are designated as socially and economically disadvantaged by the SBA, at such time as the SBA designation becomes effective.

II. GENERAL REQUIREMENTS

- A. The Contractor, sub-recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted Contracts. Failure by the Contractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy, as the Municipality and ConnDOT deem appropriate.
- B. The Contractor shall cooperate with the Municipality, ConnDOT and DOT in implementing the requirements concerning DBE utilization on this Contract in accordance with Title 49 of the Code of Federal Regulations, Part 26 entitled "Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs" ("49 CFR Part 26"), as revised. The Contractor shall also cooperate with the Municipality, ConnDOT and DOT in reviewing the Contractor's activities relating to this Special Provision. This Special Provision is in addition to all other equal opportunity employment requirements of this Contract.
- C. The Contractor shall designate a liaison officer who will administer the Contractor's DBE program. Upon execution of this Contract, the name of the liaison officer shall be furnished in writing to the Municipality.
- D. For the purpose of this Special Provision, DBEs to be used to satisfy the DBE goal must be certified by ConnDOT's Division of Contract Compliance for the type(s) of work they will perform.
- E. If the Contractor allows work designated for DBE participation required under the terms of this Contract and required under III-B to be performed by other than the named DBE organization without concurrence from the Municipality, the Municipality will not pay the Contractor for the value of the work performed by organizations other than the designated DBE.
- F. At the completion of all Contract work, the Contractor shall submit a final report to the Municipality indicating the work done by, and the dollars paid to DBEs. If the Contractor does not achieve the specified Contract goals for DBE participation, the Contractor shall also submit written documentation to the Municipality detailing its good faith efforts to satisfy the goal that were made during the performance of the Contract. Documentation is to include, but not be limited to the following:
1. A detailed statement of the efforts made to select additional subcontracting opportunities to be performed by DBEs in order to increase the likelihood of achieving the stated goal.
 2. A detailed statement, including documentation of the efforts made to contact and solicit bids with ConnDOT certified DBEs, including the names, addresses, dates and telephone numbers of each DBE contacted, and a description of the information provided to each DBE regarding the scope of services and anticipated time schedule of work items proposed to be subcontracted and nature of response from firms contacted.
 3. Provide a detailed statement for each DBE that submitted a subcontract proposal, which the Contractor considered not to be acceptable stating the reasons for this conclusion.

4. Provide documents to support contacts made with ConnDOT requesting assistance in satisfying the Contract specified goal.
 5. Provide documentation of all other efforts undertaken by the Contractor to meet the defined goal.
- G. Failure of the Contractor, at the completion of all Contract work, to have at least the specified percentage of this Contract performed by DBEs as required in III-B will result in the reduction in Contract payments to the Contractor by an amount determined by multiplying the total Contract value by the specified percentage required in III-B and subtracting from that result, the dollar payments for the work actually performed by DBEs. However, in instances where the Contractor can adequately document or substantiate its good faith efforts made to meet the specified percentage to the satisfaction of the Municipality and ConnDOT, no reduction in payments will be imposed.
- H. All records must be retained for a period of three (3) years following acceptance by the Municipality of the Contract and shall be available at reasonable times and places for inspection by authorized representatives of the Municipality, ConnDOT and Federal agencies. If any litigation, claim, or audit is started before the expiration of the three (3) year period, the records shall be retained until all litigation, claims, or audits findings involving the records are resolved.
- I. Nothing contained herein, is intended to relieve any Contractor or subcontractor or material supplier or manufacturer from compliance with all applicable Federal and State legislation or provisions concerning equal employment opportunity, affirmative action, nondiscrimination and related subjects during the term of this Contract.

III. SPECIFIC REQUIREMENTS:

In order to increase the participation of DBEs, the Municipality requires the following:

- A. The Contractor shall assure that certified DBEs will have an opportunity to compete for subcontract work on this Contract, particularly by arranging solicitations and time for the preparation of proposals for services to be provided so as to facilitate the participation of DBEs regardless if a Contract goal is specified or not.
- B. The DBE contract goal percentage for the Project is 10% (Construction) and 0% (Construction Inspection). The goal shall be based upon the total contract value. Compliance with this provision may be fulfilled when a DBE or any combination of DBEs perform work under contract in accordance with 49 CFR Part 26, Subpart C Section 26.55, as revised. **Only work actually performed by and/or services provided by DBEs which are certified for such work and/or services can be counted toward the DBE goal. Supplies and equipment a DBE purchases or leases from the prime Contractor or its affiliate cannot be counted toward the goal.**

If the Contractor does not document commitments, by subcontracting and/or procurement of material and/or services that at least equal the goal, it must document the good faith efforts that outline the steps it took to meet the goal in accordance with VII.

- C. Along with the bid forms, each bidder must indicate in writing to the Municipality, on the forms provided, the DBE(s) it will use to achieve the goal indicated in III-B. The submission shall include the name and address of each DBE that will participate in this Contract, a description of the work each will perform, the dollar amount of participation, and the percentage this is of the

bid amount. This information shall be signed by the named DBE and the low bidder. The named DBE shall be from a list of certified DBEs available from ComDOT. In addition, the named DBE(s) shall be certified to perform the type of work they will be contracted to do.

- D. The prime Contractor shall submit to the Municipality all requests for subcontractor approvals on the standard forms provided by the Municipality.

If the request for approval is for a DBE subcontractor for the purpose of meeting the Contract DBE goal, a copy of the legal Contract between the prime and the DBE subcontractor must be submitted along with the request for subcontractor approval. Any subsequent amendments or modifications of the Contract between the prime and the DBE subcontractor must also be submitted to the Municipality with an explanation of the change(s). The Contract must show items of work to be performed, unit prices and, if a partial item, the work involved by all parties.

In addition, the following documents are to be attached:

1. An explanation indicating who will purchase material.
 2. A statement explaining any method or arrangement for renting equipment. If rental is from a prime, a copy of the Rental Agreement must be submitted.
 3. A statement addressing any special arrangements for manpower.
- E. The Contractor is required, should there be a change in a DBE they submitted in III-C, to submit documentation to the Municipality which will substantiate and justify the change (i.e., documentation to provide a basis for the change for review and approval by the Municipality) prior to the implementation of the change. The Contractor must demonstrate that the originally named DBE is unable to perform in conformity to the scope of service or is unwilling to perform, or is in default of its Contract, or is overextended on other jobs. The Contractor's ability to negotiate a more advantageous Agreement with another subcontractor is not a valid basis for change. Documentation shall include a letter of release from the originally named DBE indicating the reason(s) for the release.
- F. Contractors subcontracting with DBEs to perform work or services as required by this Special Provision shall not terminate such firms without advising the Municipality in writing, and providing adequate documentation to substantiate the reasons for termination if the DBE has not started or completed the work or the services for which it has been contracted to perform.
- G. When a DBE is unable or unwilling to perform, or is terminated for just cause, the Contractor shall make good faith efforts to find other DBE opportunities to increase DBE participation to the extent necessary to at least satisfy the goal required by III-B.
- H. In instances where an alternate DBE is proposed, a revised submission to the Municipality together with the documentation required in III-C, III-D, and III-E, must be made for its review and approval.
- I. Each quarter after execution of the Contract, the Contractor shall submit a report to the Municipality indicating the work done by, and the dollars paid to the DBE for the current quarter and to date.
- J. Each contract that the Municipality signs with a Contractor and each subcontract the Contractor signs with a subcontractor must include the following assurance: *The contractor, sub recipient*

or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

IV. MATERIAL SUPPLIERS OR MANUFACTURERS

- A. If the Contractor elects to utilize a DBE supplier or manufacturer to satisfy a portion or all of the specified DBE goal, the Contractor must provide the Municipality with:
1. An executed "Affidavit for the Utilization of Material Suppliers or Manufacturers" (sample attached), and
 2. Substantiation of payments made to the supplier or manufacturer for materials used on the project.
- B. Credit for DBE suppliers is limited to 60% of the value of the material to be supplied, provided such material is obtained from a regular DBE dealer. A regular dealer is a firm that owns, operates, or maintains a store, warehouse or other establishment in which the materials or supplies required for the performance of the Contract are bought, kept in stock and regularly sold or leased to the public in the usual course of business. To be a regular dealer, the firm must engage in, as its principal business, and in its own name, the purchase and sale of the products in question. A regular dealer in such bulk items as steel, cement, gravel, stone and petroleum products, need not keep such products in stock if it owns or operates distribution equipment. Brokers and packagers shall not be regarded as material suppliers or manufacturers.
- C. Credit for DBE manufacturers is 100% of the value of the manufactured product. A manufacturer is a firm that operates or maintains a factory or establishment that produces on the premises the materials or supplies obtained by the Municipality, Department of Transportation or Contractor.

V. NON-MANUFACTURING OR NON-SUPPLIER DBE CREDIT:

- A. Contractors may count towards their DBE goals the following expenditures with DBEs that are not manufacturers or suppliers:
1. Reasonable fees or commissions charged for providing a bona fide service such as professional, technical, consultant or managerial services and assistance in the procurement of essential personnel, facilities, equipment materials or supplies necessary for the performance of the Contract, provided that the fee or commission is determined by the Municipality to be reasonable and consistent with fees customarily allowed for similar services.
 2. The fees charged for delivery of materials and supplies required on a job site (but not the cost of the materials and supplies themselves) when the hauler, trucker, or delivery service is a DBE but is not also the manufacturer of or a regular dealer in the materials and supplies, provided that the fees are determined by the Municipality to be reasonable and not excessive as compared with fees customarily allowed for similar services.
 3. The fees or commissions charged for providing bonds or insurance specifically required for the performance of the Contract, provided that the fees or commissions are determined by the

Municipality to be reasonable and not excessive as compared with fees customarily allowed for similar services.

VI. BROKERING

- A. Brokering of work by DBEs who have been approved to perform subcontract work with their own workforce and equipment is not allowed, and is a Contract violation.
- B. DBEs involved in the brokering of subcontract work that they were approved to perform may be decertified.
- C. Firms involved in the brokering of work, whether they are DBEs and/or majority firms who engage in willful falsification, distortion or misrepresentation with respect to any facts related to the project shall be referred to the U.S. Department of Transportation's Office of the Inspector General for prosecution under Title 18, U.S. Code, Section 10.20.

VII. REVIEW OF PRE-AWARD GOOD FAITH EFFORTS

- A. If the Contractor does not document pre-award commitments by subcontracting and/or procurement of material and/or services that at least equal the goal stipulated in III-B, the Contractor must document the good faith efforts that outline the specific steps it took to meet the goal. The Contract will be awarded to the Contractor if its good faith efforts are deemed satisfactory and approved by ConnDOT. To obtain such an exception, the Contractor must submit an application to the Municipality, which documents the specific good faith efforts that were made to meet the DBE goal. **Application form for Review of Pre-Award Good Faith Efforts is attached hereto.**

The application must include the following documentation:

1. a statement setting forth in detail which parts, if any, of the Contract were reserved by the Contractor and not available for bid by subcontractors;
2. a statement setting forth all parts of the Contract that are likely to be sublet;
3. a statement setting forth in detail the efforts made to select subcontracting work in order to likely achieve the stated goal;
4. copies of all letters sent to DBEs;
5. a statement listing the dates and DBEs that were contacted by telephone and the result of each contact;
6. a statement listing the dates and DBEs that were contacted by means other than telephone and the result of each contact;
7. copies of letters received from DBEs in which they declined to bid;
8. a statement setting forth the facts with respect to each DBE bid received and the reason(s) any such bid was declined;
9. a statement setting forth the dates that calls were made to ConnDOT's Division of Contract Compliance seeking DBE referrals and the result of each such call; and

10. any information of a similar nature relevant to the application.

The review of the Contractor's good faith efforts may require an extension of time for award of the Contract. In such a circumstance, and in the absence of other reasons not to grant the extension or make the award, the Municipality will agree to the needed extension(s) of time for the award of the Contract, provided the Contractor and the surety also agree to such extension(s).

- B. Upon receipt of the submission of an application for review of pre-award good faith efforts, the Municipality shall submit the documentation to ConnDOT initiating unit for submission to the ConnDOT Division of Contract Compliance. ConnDOT Division of Contract Compliance will review the documents and determine if the package is complete, accurate and adequately documents the Contractor's good faith efforts. Within fourteen (14) days of receipt of the documentation, the ConnDOT Division of Contract Compliance shall notify the Contractor by certified mail of the approval or denial of its good faith efforts.
- C. If the Contractor's application is denied, the Contractor shall have seven (7) days upon receipt of written notification of denial to request administrative reconsideration. The Contractor's request for administrative reconsideration should be sent in writing to the Municipality. The Municipality will forward the Contractor's reconsideration request to the ConnDOT initiating unit for submission to the DBE Screening Committee. The DBE Screening Committee will schedule a meeting within fourteen (14) days from receipt of the Contractor's request for administrative reconsideration and advise the Contractor of the date, time and location of the meeting. At this meeting, the Contractor will be provided with the opportunity to present written documentation and/or argument concerning the issue of whether it made adequate good faith efforts to meet the goal. Within seven (7) days following the reconsideration meeting, the chairperson of the DBE Screening Committee will send the Contractor, via certified mail, a written decision on its reconsideration request, explaining the basis of finding either for or against the request. The DBE Screening Committee's decision is final. **If the reconsideration is denied, the Contractor shall indicate in writing to the Municipality within fourteen (14) days of receipt of the written notification of denial, the DBEs it will use to achieve the goal indicated in III-B.**
- D. Approval of pre-award good faith efforts does not relieve the Contractor from its obligation to make additional good faith efforts to achieve the DBE goal should contracting opportunities arise during actual performance of the Contract work.

APPENDIX A TO 49 CFR PART 26 -- GUIDANCE CONCERNING GOOD FAITH EFFORTS

- I. When, as a recipient, you establish a Contract goal on a DOT-assisted Contract, a bidder must, in order to be responsible and/or responsive, make good faith efforts to meet the goal. The bidder can meet this requirement in either of two ways. First, the bidder can meet the goal, documenting commitments for participation by DBE firms sufficient for this purpose. Second, even if it doesn't meet the goal, the bidder can document adequate good faith efforts. This means that the bidder must show that it took all necessary and reasonable steps to achieve a DBE goal or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not fully successful.
- II. In any situation in which you have established a Contract goal, Part 26 requires you to use the good faith efforts mechanism of this part. As a recipient, it is up to you to make a fair and reasonable judgment whether a bidder that did not meet the goal made adequate good faith efforts. It is important for you to consider the quality, quantity, and intensity of the different kinds of efforts that the bidder has made. The efforts employed by the bidder should be those that one could reasonably expect a bidder to take if the bidder were actively and aggressively trying to obtain DBE participation sufficient to meet the DBE Contract goal. Mere *pro forma* efforts are not good faith efforts to meet the DBE Contract requirements. We emphasize, however, that your determination concerning the sufficiency of the firm's good faith efforts is a judgment call: meeting quantitative formulas is not required.
- III. The Department also strongly cautions you against requiring that a bidder meet a Contract goal (i.e., obtain a specified amount of DBE participation) in order to be awarded a Contract, even though the bidder makes an adequate good faith efforts showing. This rule specifically prohibits you from ignoring *bona fide* good faith efforts.
- IV. The following is a list of types of actions which you should consider as part of the bidder's good faith efforts to obtain DBE participation. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.
 - A. Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBEs who have the capability to perform the work of the Contract. The bidder must solicit this interest within sufficient time to allow the DBEs to respond to the solicitation. The bidder must determine with certainty if the DBEs are interested by taking appropriate steps to follow up initial solicitations.
 - B. Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out Contract work items into economically feasible units to facilitate DBE participation, even when the prime Contractor might otherwise prefer to perform these work items with its own forces.

- C. Providing interested DBEs with adequate information about the plans, specifications, and requirements of the Contract in a timely manner to assist them in responding to a solicitation.
- D. (1) Negotiating in good faith with interested DBEs. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional Agreements could not be reached for DBEs to perform the work.
- (2) A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as Contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's failure to meet the Contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime Contractor to perform the work of a Contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Prime Contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.
- E. Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The Contractor's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the Contractor's efforts to meet the project goal.
- F. Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or Contractor.
- G. Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.
- H. Effectively using the services of available minority/women community organizations; minority/women Contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.
- V. In determining whether a bidder has made good faith efforts, you may take into account the performance of other bidders in meeting the Contract. For example, when the apparent successful bidder fails to meet the Contract goal, but others meet it, you may reasonably raise the question of whether, with additional reasonable efforts, the apparent successful bidder could have met the goal. If the apparent successful bidder fails to meet the goal, but meets or exceeds the average DBE participation obtained by other bidders, you may view this, in conjunction with other factors, as evidence of the apparent successful bidder having made good faith efforts.

**AFFIDAVIT FOR THE UTILIZATION OF
MATERIAL SUPPLIERS OR MANUFACTURERS**

This affidavit must be completed by the Municipality Contractor's DBE notarized and attached to the Contractor's request to utilize a DBE supplier or manufacturer as a credit towards its DBE Contract requirements; failure to do so will result in not receiving credit towards the Contract DBE requirement.

State Project No.

Federal Aid Project No.

Description of Project

I, _____, acting in behalf of _____
(Name of person signing Affidavit) (DBE person, firm, association or organization)
of which I am the _____ certify and affirm that _____
(Title of Person) (DBE person, firm, association or organization)

is a certified Connecticut Department of Transportation DBE. I further certify and affirm that I have read and understand 49 CFR, Sec. 26.55(e)(2), as the same may be revised.

I further certify and affirm that _____ will assume the actual and
(DBE person, firm, association or organization)

contractual responsibility for the provision of the materials and/or supplies sought by _____
(Municipality Contractor)

If a manufacturer, I produce goods from raw materials or substantially alter them before resale, or if a supplier, I perform a commercially useful function in the supply process.

I understand that false statements made herein are punishable by Law (Sec. 53a-157), CGS, as revised).

(Name of Organization or Firm)

(Signature & Title of Official making the Affidavit)

Subscribed and sworn to before me, this ____ day of _____, 20 ____.

Notary Public (Commissioner of the Superior Court)

My Commission Expires

CERTIFICATE OF CORPORATION

I, _____, certify that I am the _____ (Official)
of the Organization named in the foregoing instrument; that I have been duly authorized to affix the seal of the Organization to such papers as
require the seal; that _____, who signed said instrument on behalf of the Organization, was then _____
of said Organization; that said instrument was duly signed for and in behalf of said Organization by authority of its governing body and is within
the scope of its organizational powers.

(Signature of Person Certifying)

(Date)

ATTACHMENT C

CONSTRUCTION CONTRACTS
REQUIRED CONTRACT PROVISIONS
(FHWA FUNDED CONTRACTS)

Construction Contracts - Required Contract Provisions (FHWA Funded Contracts)

Index

1. Federal Highway Administration (FHWA) Form 1273 (Revised May 1, 2012)
2. Title VI of the Civil Rights Act of 1964 / Nondiscrimination Requirements
3. Contractor Work Force Utilization (Federal Executive Order 11246) / Specific Equal Employment Opportunity
4. Requirements of Title 49, CFR, Part 26, Participation by DBEs
5. Contract Wage Rates
6. Americans with Disabilities Act of 1990, as Amended
7. Connecticut Statutory Labor Requirements
 - a. Construction, Alteration or Repair of Public Works Projects; Wage Rates
 - b. Debarment List - Limitation on Awarding Contracts
 - c. Construction Safety and Health Course
 - d. Awarding of Contracts to Occupational Safety and Health Law Violators Prohibited
 - e. Residents Preference in Work on Other Public Facilities (Not Applicable to Federal Aid Contracts)
8. Tax Liability - Contractor's Exempt Purchase Certificate (CERT – 141)
9. Executive Orders (State of CT)
10. Non Discrimination Requirement (pursuant to section 4a-60 and 4a-60a of the Connecticut General Statutes, as revised)
11. Whistleblower Provision
12. Connecticut Freedom of Information Act
 - a. Disclosure of Records
 - b. Confidential Information
13. Service of Process
14. Substitution of Securities for Retainages on State Contracts and Subcontracts
15. Health Insurance Portability and Accountability Act of 1996 (HIPAA)
16. Forum and Choice of Law

17. Summary of State Ethics Laws
18. Audit and Inspection of Plants, Places of Business and Records
19. Campaign Contribution Restriction
20. Tangible Personal Property
21. Bid Rigging and/or Fraud – Notice to Contractor
22. Consulting Agreement Affidavit
23. Federal Cargo Preference Act Requirements (46 CFR 381.7(a)-(b))

Index of Exhibits

- EXHIBIT A – FHWA Form 1273 (Begins on page 14)
- EXHIBIT B – Title VI Contractor Assurances (page 34)
- EXHIBIT C – Contractor Work Force Utilization (Federal Executive Order 11246) / Equal Employment Opportunity (page 36)
- EXHIBIT D – Health Insurance Portability and Accountability Act of 1996 (HIPAA) (page 43)
- EXHIBIT E – Campaign Contribution Restriction (page 51)
- EXHIBIT F – Federal Wage Rates (Attached at the end)
- EXHIBIT G – State Wage Rates and Other Related Information (Attached at the end)

1. Federal Highway Administration (FHWA) Form 1273

The Contractor shall comply with the Federal Highway Administration (FHWA), Form 1273 attached at Exhibit A, as revised, which is hereby made part of this contract. The Contractor shall also require its subcontractors to comply with the FHWA – Form 1273 and include the FHWA – Form 1273 as an attachment to all subcontracts and purchase orders.

2. Title VI of the Civil Rights Act of 1964 / Nondiscrimination Requirements

The Contractor shall comply with Title VI of the Civil Rights Act of 1964 as amended (42 U.S.C. 2000 et seq.), all requirements imposed by the regulations of the United States Department of Transportation (49 CFR Part 21) issued in implementation thereof, and the Title VI Contractor Assurances attached hereto at Exhibit B, all of which are hereby made a part of this Contract.

3. Contractor Work Force Utilization (Federal Executive Order 11246) / Equal Employment Opportunity

- (a) The Contractor shall comply with the Contractor Work Force Utilization (Federal Executive Order 11246) / Equal Employment Opportunity requirements attached at Exhibit C and hereby made part of this Contract, whenever a contractor or subcontractor at any tier performs construction work in excess of \$10,000. These goals shall be included in each contract and subcontract. Goal achievement is calculated for each trade using the hours worked under each trade.
- (b) Companies with contracts, agreements or purchase orders valued at \$10,000 or more will develop and implement an Affirmative Action Plan utilizing the ConnDOT Affirmative Action Plan Guideline. This Plan shall be designed to further the provision of equal employment opportunity to all persons without regard to their race, color, religion, sex or national origin, and to promote the full realization of equal employment opportunity through a positive continuation program. Plans shall be updated as required by ConnDOT.

4. Requirements of Title 49, Code of Federal Regulations (CFR), Part 26, Participation by DBEs, as may be revised.

Pursuant to 49 CFR 26.13, the following paragraph is part of this Contract and shall be included in each subcontract the Contractor enters into with a subcontractor:

“The Contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26, Participation by DBEs, in the award and administration of U.S. DOT-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this contract or such other remedy as ConnDOT (recipient) deems appropriate, which may include, but is not limited to: (1) Withholding monthly progress payments, (2) Assessing sanctions, (3) Liquidated damages; and/or, (4) Disqualifying the contractor from future bidding as non-responsible.”

5. Contract Wage Rates

The Contractor shall comply with:

The Federal and State wage rate requirements indicated in Exhibits F and G hereof, as revised, are hereby made part of this Contract. The Federal wage rates (Davis-Bacon Act) applicable to this Contract shall be the Federal wage rates that are current on the US Department of Labor website (<http://www.wdol.gov/dba.aspx>) as may be revised 10 days prior to bid opening. These applicable Federal wage rates will be physically incorporated in the final contract document executed by both parties. The Department will no longer physically include revised Federal wage rates in the bid documents or as part of addenda documents, prior to the bid opening date. During the bid advertisement period, bidders are responsible for obtaining the appropriate Federal wage rates from the US Department of Labor website.

To obtain the latest Federal wage rates go to the US Department of Labor website (link above). Under Davis-Bacon Act, choose “Selecting DBA WDs” and follow the instruction to search the latest wage rates for the State, County and Construction Type. Refer to the Notice to Contractor (NTC) - Federal Wage Determinations (Davis Bacon Act).

If a conflict exists between the Federal and State wage rates, the higher rate shall govern.

Prevailing Wages for Work on State Highways; Annual Adjustments. With respect to contracts for work on state highways and bridges on state highways, the Contractor shall comply with the provisions of Section 31-54 and 31-55a of the Connecticut General Statutes, as revised.

As required by Section 1.05.12 (Payrolls) of the State of Connecticut, Department of Transportation’s Standard Specification for Roads, Bridges and Incidental Construction (FORM 817), as may be revised, every Contractor or subcontractor performing project work on a Federal aid project is required to post the relevant prevailing wage rates as determined by the United States Secretary of Labor. The wage rate determinations shall be posted in prominent and easily accessible places at the work site.

6. Americans with Disabilities Act of 1990, as Amended

This provision applies to those Contractors who are or will be responsible for compliance with the terms of the Americans with Disabilities Act of 1990, as amended (42 U.S.C. 12101 et seq.), (Act), during the term of the Contract. The Contractor represents that it is familiar with the terms of this Act and that it is in compliance with the Act. Failure of the Contractor to satisfy this standard as the same applies to performance under this Contract, either now or during the term of the Contract as it may be amended, will render the Contract voidable at the option of the State upon notice to the contractor. The Contractor warrants that it will hold the State harmless and indemnify the State from any liability which may be imposed upon the State as a result of any failure of the Contractor to be in compliance with this Act, as the same applies to performance under this Contract.

7. Connecticut Statutory Labor Requirements

(a) Construction, Alteration or Repair of Public Works Projects; Wage Rates. The Contractor shall comply with Section 31-53 of the Connecticut General Statutes, as revised. The wages paid on an hourly basis to any person performing the work of any mechanic, laborer or

worker on the work herein contracted to be done and the amount of payment or contribution paid or payable on behalf of each such person to any employee welfare fund, as defined in subsection (i) of section 31-53 of the Connecticut General Statutes, shall be at a rate equal to the rate customary or prevailing for the same work in the same trade or occupation in the town in which such public works project is being constructed. Any contractor who is not obligated by agreement to make payment or contribution on behalf of such persons to any such employee welfare fund shall pay to each mechanic, laborer or worker as part of such person's wages the amount of payment or contribution for such person's classification on each pay day.

(b) Debarment List. Limitation on Awarding Contracts. The Contractor shall comply with Section 31-53a of the Connecticut General Statutes, as revised.

(c) Construction Safety and Health Course. The Contractor shall comply with section 31-53b of the Connecticut General Statutes, as revised. The contractor shall furnish proof to the Labor Commissioner with the weekly certified payroll form for the first week each employee begins work on such project that any person performing the work of a mechanic, laborer or worker pursuant to the classifications of labor under section 31-53 of the Connecticut General Statutes, as revised, on such public works project, pursuant to such contract, has completed a course of at least ten hours in duration in construction safety and health approved by the federal Occupational Safety and Health Administration or, has completed a new miner training program approved by the Federal Mine Safety and Health Administration in accordance with 30 CFR 48 or, in the case of telecommunications employees, has completed at least ten hours of training in accordance with 29 CFR 1910.268.

Any employee required to complete a construction safety and health course as required that has not completed the course, shall have a maximum of fourteen (14) days to complete the course. If the employee has not been brought into compliance, they shall be removed from the project until such time as they have completed the required training.

Any costs associated with this notice shall be included in the general cost of the contract. In addition, there shall be no time granted to the contractor for compliance with this notice. The contractor's compliance with this notice and any associated regulations shall not be grounds for claims as outlined in Section 1.11 – "Claims".

(d) Awarding of Contracts to Occupational Safety and Health Law Violators Prohibited. The Contract is subject to Section 31-57b of the Connecticut General Statutes, as revised.

(e) Residents Preference in Work on Other Public Facilities. NOT APPLICABLE TO FEDERAL AID CONTRACTS. Pursuant to Section 31-52a of the Connecticut General Statutes, as revised, in the employment of mechanics, laborers or workmen to perform the work specified herein, preference shall be given to residents of the state who are, and continuously for at least six months prior to the date hereof have been, residents of this state, and if no such person is available, then to residents of other states

8. Tax Liability - Contractor's Exempt Purchase Certificate (CERT – 141)

The Contractor shall comply with Chapter 219 of the Connecticut General Statutes pertaining to tangible personal property or services rendered that is/are subject to sales tax. The Contractor is

responsible for determining its tax liability. If the Contractor purchases materials or supplies pursuant to the Connecticut Department of Revenue Services' "Contractor's Exempt Purchase Certificate (CERT-141)," as may be revised, the Contractor acknowledges and agrees that title to such materials and supplies installed or placed in the project will vest in the State simultaneously with passage of title from the retailers or vendors thereof, and the Contractor will have no property rights in the materials and supplies purchased.

Forms and instructions are available anytime by:

Internet: Visit the DRS website at www.ct.gov/DRS to download and print Connecticut tax forms; or
Telephone: Call 1-800-382-9463 (Connecticut calls outside the Greater Hartford calling area only) and select Option 2 or call 860-297-4753 (from anywhere).

9. Executive Orders

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

10. Non Discrimination Requirement (pursuant to section 4a-60 and 4a-60a of the Connecticut General Statutes, as revised): References to "minority business enterprises" in this Section are not applicable to Federal-aid projects/contracts. Federal-aid projects/contracts are instead subject to the Federal Disadvantaged Business Enterprise Program.

(a) For purposes of this Section, the following terms are defined as follows:

- (1) "Commission" means the Commission on Human Rights and Opportunities;
- (2) "Contract" and "contract" include any extension or modification of the Contract or contract;
- (3) "Contractor" and "contractor" include any successors or assigns of the Contractor or contractor;
- (4) "Gender identity or expression" means a person's gender-related identity, appearance or behavior, whether or not that gender-related identity, appearance or behavior is different from that traditionally associated with the person's physiology or assigned sex at birth, which gender-related identity can be shown by providing evidence including, but not limited to, medical history, care or treatment of the gender-related identity, consistent and uniform assertion of the gender-related identity or any other evidence that the gender-related identity is sincerely held, part of a person's core identity or not being asserted for an improper purpose.
- (5) "good faith" means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations;
- (6) "good faith efforts" shall include, but not be limited to, those reasonable initial efforts necessary to comply with statutory or regulatory requirements and additional or substituted

efforts when it is determined that such initial efforts will not be sufficient to comply with such requirements;

- (7) "marital status" means being single, married as recognized by the state of Connecticut, widowed, separated or divorced;
- (8) "mental disability" means one or more mental disorders, as defined in the most recent edition of the American Psychiatric Association's "Diagnostic and Statistical Manual of Mental Disorders", or a record of or regarding a person as having one or more such disorders;
- (9) "minority business enterprise" means any small contractor or supplier of materials fifty-one percent or more of the capital stock, if any, or assets of which is owned by a person or persons: (1) who are active in the daily affairs of the enterprise, (2) who have the power to direct the management and policies of the enterprise, and (3) who are members of a minority, as such term is defined in subsection (a) of Connecticut General Statutes § 32-9n; and
- (10) "public works contract" means any agreement between any individual, firm or corporation and the State or any political subdivision of the State other than a municipality for construction, rehabilitation, conversion, extension, demolition or repair of a public building, highway or other changes or improvements in real property, or which is financed in whole or in part by the State, including, but not limited to, matching expenditures, grants, loans, insurance or guarantees.

For purposes of this Section, the terms "Contract" and "contract" do not include a contract where each contractor is (1) a political subdivision of the State of Connecticut, including, but not limited to municipalities, unless the contract is a municipal public works contract or quasi-public agency project contract, (2) any other state of the United States, including but not limited to, the District of Columbia, Puerto Rico, U.S. territories and possessions, and federally recognized Indian tribal governments, as defined in Connecticut General Statutes § 1-267, (3) the federal government, (4) a foreign government, or (5) an agency of a subdivision, state or government described in subdivision (1), (2), (3), or (4) of this subsection.

- (b) (1) The Contractor agrees and warrants that in the performance of the Contract such Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, status as a veteran, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such Contractor that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the State of Connecticut; and the Contractor further agrees to take affirmative action to insure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, status as a veteran, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by the Contractor that such disability prevents performance of the work involved; (2) the Contractor agrees, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, to state that it is an "affirmative action-equal opportunity employer" in accordance with regulations adopted by the Commission; (3) the Contractor agrees to provide each labor union or representative of workers with which the Contractor has a collective bargaining agreement or other contract or understanding and each vendor with which the Contractor has a contract or understanding, a notice to be provided by the Commission, advising the labor union or workers' representative of the Contractor's commitments under this section and to post copies of the notice in conspicuous places available to employees and applicants for employment; (4) the Contractor

agrees to comply with each provision of this Section and Connecticut General Statutes §§ 46a-68e and 46a-68f and with each regulation or relevant order issued by said Commission pursuant to Connecticut General Statutes §§ 46a-56, 46a-68e and 46a-68f; and (5) the Contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the Commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor as relate to the provisions of this Section and Connecticut General Statutes § 46a-56. If the contract is a public works contract, the Contractor agrees and warrants that he will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such public works projects.

- (c) Determination of the Contractor's good faith efforts shall include, but shall not be limited to, the following factors: The Contractor's employment and subcontracting policies, patterns and practices; affirmative advertising, recruitment and training; technical assistance activities and such other reasonable activities or efforts as the Commission may prescribe that are designed to ensure the participation of minority business enterprises in public works projects.
- (d) The Contractor shall develop and maintain adequate documentation, in a manner prescribed by the Commission, of its good faith efforts.
- (e) The Contractor shall include the provisions of subsection (b) of this Section in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the State and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by regulations or orders of the Commission. The Contractor shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with Connecticut General Statutes §46a-56; provided if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission, the Contractor may request the State of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the State and the State may so enter.
- (f) The Contractor agrees to comply with the regulations referred to in this Section as they exist on the date of this Contract and as they may be adopted or amended from time to time during the term of this Contract and any amendments thereto.
- (g) (1) The Contractor agrees and warrants that in the performance of the Contract such Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of sexual orientation, in any manner prohibited by the laws of the United States or the State of Connecticut, and that employees are treated when employed without regard to their sexual orientation; (2) the Contractor agrees to provide each labor union or representative of workers with which such Contractor has a collective bargaining agreement or other contract or understanding and each vendor with which such Contractor has a contract or understanding, a notice to be provided by the Commission on Human Rights and Opportunities advising the labor union or workers' representative of the Contractor's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (3) the Contractor agrees to comply with each provision of this section and with each regulation or relevant order issued by said Commission pursuant to Connecticut General Statutes § 46a-56; and (4) the Contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the Commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor which relate to the provisions of this Section and Connecticut General Statutes § 46a-56.
- (h) The Contractor shall include the provisions of the foregoing paragraph in every subcontract or purchase order entered into in order to fulfill any obligation of a contract with the State and such provisions shall be binding on a subcontractor, vendor or manufacturer unless exempted by

regulations or orders of the Commission. The Contractor shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such provisions including sanctions for noncompliance in accordance with Connecticut General Statutes § 46a-56; provided, if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission, the Contractor may request the State of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the State and the State may so enter.

Please be aware the Nondiscrimination Certifications can be found at the Office of Policy and Management website:

<https://portal.ct.gov/OPM/Fin-PSA/Forms/Nondiscrimination-Certification>

11. Whistleblower Provision

The following clause is applicable if the Contract has a value of Five Million Dollars (\$5,000,000) or more.

Whistleblowing. This Contract may be subject to the provisions of Section 4-61dd of the Connecticut General Statutes. In accordance with this statute, if an officer, employee or appointing authority of the Contractor takes or threatens to take any personnel action against any employee of the Contractor in retaliation for such employee's disclosure of information to any employee of the contracting state or quasi-public agency or the Auditors of Public Accounts or the Attorney General under the provisions of subsection (a) of such statute, the Contractor shall be liable for a civil penalty of not more than five thousand dollars for each offense, up to a maximum of twenty per cent of the value of this Contract. Each violation shall be a separate and distinct offense and in the case of a continuing violation, each calendar day's continuance of the violation shall be deemed to be a separate and distinct offense. The State may request that the Attorney General bring a civil action in the Superior Court for the Judicial District of Hartford to seek imposition and recovery of such civil penalty. In accordance with subsection (f) of such statute, each large state contractor, as defined in the statute, shall post a notice of the provisions of the statute relating to large state contractors in a conspicuous place which is readily available for viewing by the employees of the Contractor.

12. Connecticut Freedom of Information Act

- (a) **Disclosure of Records.** This Contract may be subject to the provisions of section 1-218 of the Connecticut General Statutes. In accordance with this statute, each contract in excess of two million five hundred thousand dollars between a public agency and a person for the performance of a governmental function shall (a) provide that the public agency is entitled to receive a copy of records and files related to the performance of the governmental function, and (b) indicate that such records and files are subject to FOIA and may be disclosed by the public agency pursuant to FOIA. No request to inspect or copy such records or files shall be valid unless the request is made to the public agency in accordance with FOIA. Any complaint by a person who is denied the right to inspect or copy such records or files shall be brought to the Freedom of Information Commission in accordance with the provisions of sections 1-205 and 1-206 of the Connecticut General Statutes.
- (b) **Confidential Information.** The State will afford due regard to the Contractor's request for the protection of proprietary or confidential information which the State receives from the Contractor. However, all materials associated with the Contract are subject to the terms of the FOIA and all corresponding rules, regulations and interpretations. In making such a request, the Contractor may not merely state generally that the materials are proprietary or confidential in nature and not, therefore, subject to release to third parties. Those particular

sentences, paragraphs, pages or sections that the Contractor believes are exempt from disclosure under the FOIA must be specifically identified as such. Convincing explanation and rationale sufficient to justify each exemption consistent with the FOIA must accompany the request. The rationale and explanation must be stated in terms of the prospective harm to the competitive position of the Contractor that would result if the identified material were to be released and the reasons why the materials are legally exempt from release pursuant to the FOIA. To the extent that any other provision or part of the Contract conflicts or is in any way inconsistent with this section, this section controls and shall apply and the conflicting provision or part shall not be given effect. If the Contractor indicates that certain documentation is submitted in confidence, by specifically and clearly marking the documentation as “CONFIDENTIAL,” DOT will first review the Contractor’s claim for consistency with the FOIA (that is, review that the documentation is actually a trade secret or commercial or financial information and not required by statute), and if determined to be consistent, will endeavor to keep such information confidential to the extent permitted by law. See, *e.g.*, Conn. Gen. Stat. §1-210(b)(5)(A-B). The State, however, has no obligation to initiate, prosecute or defend any legal proceeding or to seek a protective order or other similar relief to prevent disclosure of any information that is sought pursuant to a FOIA request. Should the State withhold such documentation from a Freedom of Information requester and a complaint be brought to the Freedom of Information Commission, the Contractor shall have the burden of cooperating with DOT in defense of that action and in terms of establishing the availability of any FOIA exemption in any proceeding where it is an issue. In no event shall the State have any liability for the disclosure of any documents or information in its possession which the State believes are required to be disclosed pursuant to the FOIA or other law.

13. Service of Process

The Contractor, if not a resident of the State of Connecticut, or, in the case of a partnership, the partners, if not residents, hereby appoints the Secretary of State of the State of Connecticut, and his successors in office, as agent for service of process for any action arising out of or as a result of this Contract; such appointment to be in effect throughout the life of this Contract and six (6) years thereafter.

14. Substitution of Securities for Retainages on State Contracts and Subcontracts

This Contract is subject to the provisions of Section 3-112a of the General Statutes of the State of Connecticut, as revised.

15. Health Insurance Portability and Accountability Act of 1996 (HIPAA)

The Contractor shall comply, if applicable, with the Health Insurance Portability and Accountability Act of 1996 and, pursuant thereto, the provisions attached at Exhibit D, and hereby made part of this Contract.

16. Forum and Choice of Law

Forum and Choice of Law. The parties deem the Contract to have been made in the City of Hartford, State of Connecticut. Both parties agree that it is fair and reasonable for the validity and construction of the Contract to be, and it shall be, governed by the laws and court decisions of the State of

Connecticut, without giving effect to its principles of conflicts of laws. To the extent that any immunities provided by Federal law or the laws of the State of Connecticut do not bar an action against the State, and to the extent that these courts are courts of competent jurisdiction, for the purpose of venue, the complaint shall be made returnable to the Judicial District of Hartford only or shall be brought in the United States District Court for the District of Connecticut only, and shall not be transferred to any other court, provided, however, that nothing here constitutes a waiver or compromise of the sovereign immunity of the State of Connecticut. The Contractor waives any objection which it may now have or will have to the laying of venue of any Claims in any forum and further irrevocably submits to such jurisdiction in any suit, action or proceeding.

17. Summary of State Ethics Laws

Pursuant to the requirements of section 1-101qq of the Connecticut General Statutes, the summary of State ethics laws developed by the State Ethics Commission pursuant to section 1-81b of the Connecticut General Statutes is incorporated by reference into and made a part of the Contract as if the summary had been fully set forth in the Contract.

18. Audit and Inspection of Plants, Places of Business and Records

- (a) The State and its agents, including, but not limited to, the Connecticut Auditors of Public Accounts, Attorney General and State's Attorney and their respective agents, may, at reasonable hours, inspect and examine all of the parts of the Contractor's and Contractor Parties' plants and places of business which, in any way, are related to, or involved in, the performance of this Contract. For the purposes of this Section, "Contractor Parties" means the Contractor's members, directors, officers, shareholders, partners, managers, principal officers, representatives, agents, servants, consultants, employees or any one of them or any other person or entity with whom the Contractor is in privity of oral or written contract and the Contractor intends for such other person or entity to Perform under the Contract in any capacity.
- (b) The Contractor shall maintain, and shall require each of the Contractor Parties to maintain, accurate and complete Records. The Contractor shall make all of its and the Contractor Parties' Records available at all reasonable hours for audit and inspection by the State and its agents.
- (c) The State shall make all requests for any audit or inspection in writing and shall provide the Contractor with at least twenty-four (24) hours' notice prior to the requested audit and inspection date. If the State suspects fraud or other abuse, or in the event of an emergency, the State is not obligated to provide any prior notice.
- (d) The Contractor shall keep and preserve or cause to be kept and preserved all of its and Contractor Parties' Records until three (3) years after the latter of (i) final payment under this Agreement, or (ii) the expiration or earlier termination of this Agreement, as the same may be modified for any reason. The State may request an audit or inspection at any time during this period. If any Claim or audit is started before the expiration of this period, the Contractor shall retain or cause to be retained all Records until all Claims or audit findings have been resolved.
- (e) The Contractor shall cooperate fully with the State and its agents in connection with an audit or inspection. Following any audit or inspection, the State may conduct and the Contractor shall cooperate with an exit conference.
- (f) The Contractor shall incorporate this entire Section verbatim into any contract or other agreement that it enters into with any Contractor Party.

19. Campaign Contribution Restriction

For all State contracts, defined in Conn. Gen. Stat. §9-612(f)(1) as having a value in a calendar year of \$50,000 or more, or a combination or series of such agreements or contracts having a value of \$100,000 or more, the authorized signatory to this contract expressly acknowledges receipt of the State

Elections Enforcement Commission's notice advising state contractors of state campaign contribution and solicitation prohibitions, and will inform its principals of the contents of the notice, as set forth in "Notice to Executive Branch State Contractors and Prospective State Contractors of Campaign Contribution and Solicitation Limitations," a copy of which is attached hereto and hereby made a part of this contract, attached as Exhibit E.

20. Tangible Personal Property

- (a) The Contractor on its behalf and on behalf of its Affiliates, as defined below, shall comply with the provisions of Conn. Gen. Stat. §12-411b, as follows:
- (1) For the term of the Contract, the Contractor and its Affiliates shall collect and remit to the State of Connecticut, Department of Revenue Services, any Connecticut use tax due under the provisions of Chapter 219 of the Connecticut General Statutes for items of tangible personal property sold by the Contractor or by any of its Affiliates in the same manner as if the Contractor and such Affiliates were engaged in the business of selling tangible personal property for use in Connecticut and had sufficient nexus under the provisions of Chapter 219 to be required to collect Connecticut use tax;
 - (2) A customer's payment of a use tax to the Contractor or its Affiliates relieves the customer of liability for the use tax;
 - (3) The Contractor and its Affiliates shall remit all use taxes they collect from customers on or before the due date specified in the Contract, which may not be later than the last day of the month next succeeding the end of a calendar quarter or other tax collection period during which the tax was collected;
 - (4) The Contractor and its Affiliates are not liable for use tax billed by them but not paid to them by a customer; and
 - (5) Any Contractor or Affiliate who fails to remit use taxes collected on behalf of its customers by the due date specified in the Contract shall be subject to the interest and penalties provided for persons required to collect sales tax under chapter 219 of the general statutes.
- (b) For purposes of this section of the Contract, the word "Affiliate" means any person, as defined in section 12-1 of the general statutes, that controls, is controlled by, or is under common control with another person. A person controls another person if the person owns, directly or indirectly, more than ten per cent of the voting securities of the other person. The word "voting security" means a security that confers upon the holder the right to vote for the election of members of the board of directors or similar governing body of the business, or that is convertible into, or entitles the holder to receive, upon its exercise, a security that confers such a right to vote. "Voting security" includes a general partnership interest.
- (c) The Contractor represents and warrants that each of its Affiliates has vested in the Contractor plenary authority to so bind the Affiliates in any agreement with the State of Connecticut. The Contractor on its own behalf and on behalf of its Affiliates shall also provide, no later than 30 days after receiving a request by the State's contracting authority, such information as the State may require to ensure, in the State's sole determination, compliance with the provisions of Chapter 219 of the Connecticut General Statutes, including, but not limited to, §12-411b.

21. Bid Rigging and/or Fraud – Notice to Contractor

The Connecticut Department of Transportation is cooperating with the U.S. Department of Transportation and the Justice Department in their investigation into highway construction contract bid rigging and/or fraud.

A toll-free "HOT LINE" telephone number 800-424-9071 has been established to receive information from contractors, subcontractors, manufacturers, suppliers or anyone with knowledge of bid rigging and/or fraud, either past or current. The "HOT LINE" telephone number will be available during

normal working hours (8:00 am – 5:00 pm EST). Information will be treated confidentially and anonymity respected.

22. Consulting Agreement Affidavit

The Contractor shall comply with Connecticut General Statutes Section 4a-81(a) and 4a-81(b), as revised. Pursuant to Public Act 11-229, after the initial submission of the form, if there is a change in the information contained in the form, a contractor shall submit the updated form, as applicable, either (i) not later than thirty (30) days after the effective date of such change or (ii) prior to execution of any new contract, whichever is earlier.

The Affidavit/Form may be submitted in written format or electronic format through the Department of Administrative Services (DAS) website.

23. Cargo Preference Act Requirements (46 CFR 381.7(a)-(b)) – Use of United States Flag Vessels

The Contractor agrees to comply with the following:

(a) Agreement Clauses.

- (1) Pursuant to Pub. L. 664 ([43 U.S.C. 1241\(b\)](#)) at least 50 percent of any equipment, materials or commodities procured, contracted for or otherwise obtained with funds granted, guaranteed, loaned, or advanced by the U.S. Government under this agreement, and which may be transported by ocean vessel, shall be transported on privately owned United States-flag commercial vessels, if available.
- (2) Within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (a)(1) of this section shall be furnished to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

(b) Contractor and Subcontractor Clauses. The contractor agrees—

- (1) To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.
- (2) To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b) (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.
- (3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

EXHIBIT A

FHWA-1273 -- Revised May 1, 2012

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26, and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26, in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for

employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same

prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the “Statement of Compliance” required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise

employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be

performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.
2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).
3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and

1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

EXHIBIT B

**TITLE VI CONTRACTOR ASSURANCES
APPENDIX A**

During the performance of this contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Regulations relative to Nondiscrimination in Federally-assisted programs of the United States Department of Transportation Federal Highway Administration and Federal Transit Administration, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. **Nondiscrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, national origin, sex, age, disability, income or Limited English Proficiency in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.

4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the Federal Highway Administration or Federal Transit Administration to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor will so certify to the Recipient or the Federal Highway Administration or the Federal Transit Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Non-compliance:** In the event of the contractor's non-compliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the Federal Highway Administration or the Federal Transit Administration may determine to be appropriate, including, but not limited to:

- a. withholding contract payments to the contractor under the contract until the contractor complies; and/or
- b. cancelling, terminating, or suspending a contract, in whole or in part.

6. **Incorporation of Provisions:** The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the Federal Highway Administration or the Federal Transit Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with, litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

TITLE VI CONTRACTOR ASSURANCES APPENDIX E

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following nondiscrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. § 2000d et seq.), (prohibits discrimination on the basis of race, color, national origin), as implemented by 49 C.F.R. § 21.1 et seq. and 49 C.F.R. part 303;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973 (23 U.S.C. § 324 et seq.) (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794 et seq.) (prohibits discrimination on the basis of disability); and 49 C.F.R. part 27;
- The Age Discrimination Act of 1975, as amended (42 U.S.C. § 6101 et seq.) (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982 (Pub. L. 97-248 (1982)), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987 (102 Stat. 28) ("*... which restore[d] the broad scope of coverage and to clarify the application of Title IX of the Education Amendments of 1972, section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, and Title VI of the Civil Rights Act of 1964.*");
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 --12189), as implemented by Department of Justice regulations at 28 C.F.R. parts 35 and 36, and Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;

- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. § 1681 et seq).

EXHIBIT C

CONTRACTOR WORKFORCE UTILIZATION (FEDERAL EXECUTIVE ORDER 11246) / EQUAL EMPLOYMENT OPPORTUNITY (Federal - FHWA)

1. Project Workforce Utilization Goals:

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or Federally assisted or funded) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for the geographical area where the work is actually performed.

Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications which contain the applicable goals for minority and female participation.

The goals for minority and female utilization are expressed in percentage terms for the contractor's aggregate work-force in each trade on all construction work in the covered area, are referenced in the attached Appendix A.

2. Executive Order 11246

The Contractor's compliance with Executive Order 11246 and 41-CFR Part 60-4 shall be based on its implementation of the specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(A) and its efforts to meet the goals established for the geographical area where the contract is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hour performed.

If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan.

Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or subcontractors toward a goal in an approved Pan does not excuse any covered Contractor's of subcontractor's failure to take good faith efforts to achieve the plan goals and timetables.

The Contractor shall implement the specific affirmative action standards provided in a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered Construction contractors performing construction work in geographical areas where they do not have a federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form and such notices may be obtained from any Office of Federal Contract Compliance Programs (OFCCP) Office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractors obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant hereto.

In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

- a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites; and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
- b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community

organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

- c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off the street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason thereafter; along with whatever additional actions the Contractor may have taken.
- d. Provide immediate written notification to the Director when the Union or Unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or women sent by the Contractor, or when the Contractor has other information that the Union referral process has impeded the Contractor's efforts to meet its obligations.
- e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under b above.
- f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO Policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g. Review, at least annually, the company EEO Policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment, decisions including specific Foreman, etc. prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the Contractor's EEO Policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and subcontractors with whom the Contractor does or anticipates doing business.
- i. Direct its recruitment efforts, both oral and written, to minority female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the contractor

shall send written notification to organizations such as the above, describing the openings, screening procedures and tests to be used in the selection process.

- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work-force.
- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
- l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
- n. Ensure that all facilities and company activities are non-segregated except that separate or single user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
- o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
- p. Conduct a review at least annually of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (a through p). The efforts of a contractor association, joint contractor union, contractor community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under a through p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female work-force participation, makes a good faith effort to meet with individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of Executive Order 11246 if a particular group is employed in a substantially disparate manner, (for example, even though the

Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is under utilized).

The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status, (e.g. mechanic, apprentice, trainee, helper, or laborer) dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

Nothing herein provided shall be construed as a limitation upon the application of their laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g. those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

The Director of the Office of Federal Contract Compliance Programs, from time to time, shall issue goals and timetables for minority and female utilization which shall be based on appropriate work-force, demographic or other relevant data and which shall cover construction projects or construction contracts performed in specific geographical areas. The goals, which shall be applicable to each construction trade in a covered contractor's or timetables, shall be published as notices in the Federal Register, and shall be inserted by the Contracting officers and applicants, as applicable, in the Notice required by 41 CFR 60-4.2.

FEDERALLY FUNDED OR ASSISTED PROJECTS
APPENDIX A
(Labor Market Goals)

Standard Metropolitan Statistical Area (SMSA)

Female

Minority

Bridgeport – Stamford – Norwalk – Danbury	10.2%
6.9%	

Bethel	Bridgeport	Brookfield	Danbury
Darien	Derby	Easton	Fairfield
Greenwich	Milford	Monroe	New Canaan
New Fairfield	Newton	Norwalk	Redding
Shelton	Stamford	Stratford	Trumbull
Weston	Westport	Wilton	

Hartford – Bristol – New Britain	6.9%
6.9%	

Andover	Avon	Berlin	Bloomfield
Bolton	Bristol	Burlington	Canton
Colchester	Columbia	Coventry	Cromwell
East Granby	East Hampton	East Hartford	East Windsor
Ellington	Enfield	Farmington	Glastonbury
Granby	Hartford	Hebron	Manchester
Marlborough	New Britain	New Hartford	Newington
Plainville	Plymouth	Portland	Rocky Hill
Simsbury	South Windsor	Southington	Stafford
Suffield	Tolland	Vernon	West Hartford
Wethersfield	Willington	Windsor	Windsor Locks

New Haven – Waterbury – Meriden	9.0%
6.9%	

Beacon Falls	Bethany	Branford	Cheshire
Clinton	East Haven	Guilford	Hamden
Madison	Meriden	Middlebury	Naugatuck
New Haven	North Branford	North Haven	Orange
Prospect	Southbury	Thomaston	Wallingford
Waterbury	Watertown	West Haven	Wolcott
Woodbridge	Woodbury		

New London – Norwich	4.5%
6.9%	

Bozrah	East Lyme	Griswold	Groton
Ledyard	Lisbon	Montville	New London

Norwich
Sprague

Old Lyme
Stonington

Old Saybrook
Waterford

Preston

Non SMSA

Female

Minority

Litchfield – Windham

5.9%

6.9%

Abington	Ashford	Ballouville	Bantam
Barkhamsted	Bethlehem	Bridgewater	Brooklyn
Canaan	Canterbury	Central Village	Cahplin
Colebrook	Cornwall	Cornwall Bridge	Danielson
Dayville	East Canaan	East Killingly	East Woodstock
Eastford	Falls Village	Gaylordsville	Goshen
Grosvenor Dale	Hampton	Harwinton	Kent
Killigly	Lakeside	Litchfield	Moosup
Morris	New Milford	New Preston	New Preston Marble Dale
Norfolk	North Canaan	No. Grosvenordale	North Windham
Oneco	Pequabuck	Pine Meadow	Plainfield
Pleasant Valley	Pomfret	Pomfret Center	Putnam
Quinebaug	Riverton	Rogers	Roxbury
Salisbury	Scotland	Sharon	South Kent
South Woodstock	Sterling	Taconic	Terryville
Thompson	Torrington	Warren	Warrenville
Washington	Washington Depot	Wauregan	West Cornwall
Willimantic	Winchester	Winchester Center	Windham
Winsted	Woodstock	Woodstock Valley	

EXHIBIT D

Health Insurance Portability and Accountability Act of 1996 (“HIPAA”).

- (a) If the Contactor is a Business Associate under the requirements of the Health Insurance Portability and Accountability Act of 1996 (“HIPAA”), the Contractor must comply with all terms and conditions of this Section of the Contract. If the Contractor is not a Business Associate under HIPAA, this Section of the Contract does not apply to the Contractor for this Contract.
- (b) The Contractor is required to safeguard the use, publication and disclosure of information on all applicants for, and all clients who receive, services under the Contract in accordance with all applicable federal and state law regarding confidentiality, which includes but is not limited to HIPAA, more specifically with the Privacy and Security Rules at 45 C.F.R. Part 160 and Part 164, subparts A, C, and E; and
- (c) The State of Connecticut Agency named on page 1 of this Contract (hereinafter the “Department”) is a “covered entity” as that term is defined in 45 C.F.R. § 160.103; and
- (d) The Contractor, on behalf of the Department, performs functions that involve the use or disclosure of “individually identifiable health information,” as that term is defined in 45 C.F.R. § 160.103; and
- (e) The Contractor is a “business associate” of the Department, as that term is defined in 45 C.F.R. § 160.103; and
- (f) The Contractor and the Department agree to the following in order to secure compliance with the HIPAA, the requirements of Subtitle D of the Health Information Technology for Economic and Clinical Health Act (hereinafter the HITECH Act), (Pub. L. 111-5, sections 13400 to 13423), and more specifically with the Privacy and Security Rules at 45 C.F.R. Part 160 and Part 164, subparts A, C, and E.
- (g) Definitions
 - (1) “Breach shall have the same meaning as the term is defined in section 13400 of the HITECH Act (42 U.S.C. §17921(1))
 - (2) “Business Associate” shall mean the Contractor.
 - (3) “Covered Entity” shall mean the Department of the State of Connecticut named on page 1 of this Contract.
 - (4) “Designated Record Set” shall have the same meaning as the term “designated record set” in 45 C.F.R. § 164.501.
 - (5) “Electronic Health Record” shall have the same meaning as the term is defined in section 13400 of the HITECH Act (42 U.S.C. §17921(5))

- (6) "Individual" shall have the same meaning as the term "individual" in 45 C.F.R. § 160.103 and shall include a person who qualifies as a personal representative as defined in 45 C.F.R. § 164.502(g).
 - (7) "Privacy Rule" shall mean the Standards for Privacy of Individually Identifiable Health Information at 45 C.F.R. part 160 and parts 164, subparts A and E.
 - (8) "Protected Health Information" or "PHI" shall have the same meaning as the term "protected health information" in 45 C.F.R. § 160.103, limited to information created or received by the Business Associate from or on behalf of the Covered Entity.
 - (9) "Required by Law" shall have the same meaning as the term "required by law" in 45 C.F.R. § 164.103.
 - (10) "Secretary" shall mean the Secretary of the Department of Health and Human Services or his designee.
 - (11) "More stringent" shall have the same meaning as the term "more stringent" in 45 C.F.R. § 160.202.
 - (12) "This Section of the Contract" refers to the HIPAA Provisions stated herein, in their entirety.
 - (13) "Security Incident" shall have the same meaning as the term "security incident" in 45 C.F.R. § 164.304.
 - (14) "Security Rule" shall mean the Security Standards for the Protection of Electronic Protected Health Information at 45 C.F.R. part 160 and parts 164, subpart A and C.
 - (15) "Unsecured protected health information" shall have the same meaning as the term as defined in section 13402(h)(1)(A) of HITECH. Act. (42 U.S.C. §17932(h)(1)(A)).
- (h) Obligations and Activities of Business Associates.
- (1) Business Associate agrees not to use or disclose PHI other than as permitted or required by this Section of the Contract or as Required by Law.
 - (2) Business Associate agrees to use appropriate safeguards to prevent use or disclosure of PHI other than as provided for in this Section of the Contract.
 - (3) Business Associate agrees to use administrative, physical and technical safeguards that reasonably and appropriately protect the confidentiality, integrity, and availability of electronic protected health information that it creates, receives, maintains, or transmits on behalf of the Covered Entity.

- (4) Business Associate agrees to mitigate, to the extent practicable, any harmful effect that is known to the Business Associate of a use or disclosure of PHI by Business Associate in violation of this Section of the Contract.
- (5) Business Associate agrees to report to Covered Entity any use or disclosure of PHI not provided for by this Section of the Contract or any security incident of which it becomes aware.
- (6) Business Associate agrees to insure that any agent, including a subcontractor, to whom it provides PHI received from, or created or received by Business Associate, on behalf of the Covered Entity, agrees to the same restrictions and conditions that apply through this Section of the Contract to Business Associate with respect to such information.
- (7) Business Associate agrees to provide access, at the request of the Covered Entity, and in the time and manner agreed to by the parties, to PHI in a Designated Record Set, to Covered Entity or, as directed by Covered Entity, to an Individual in order to meet the requirements under 45 C.F.R. § 164.524.
- (8) Business Associate agrees to make any amendments to PHI in a Designated Record Set that the Covered Entity directs or agrees to pursuant to 45 C.F.R. § 164.526 at the request of the Covered Entity, and in the time and manner agreed to by the parties.
- (9) Business Associate agrees to make internal practices, books, and records, including policies and procedures and PHI, relating to the use and disclosure of PHI received from, or created or received by, Business Associate on behalf of Covered Entity, available to Covered Entity or to the Secretary in a time and manner agreed to by the parties or designated by the Secretary, for purposes of the Secretary determining Covered Entity's compliance with the Privacy Rule.
- (10) Business Associate agrees to document such disclosures of PHI and information related to such disclosures as would be required for Covered Entity to respond to a request by an Individual for an accounting of disclosures of PHI in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated thereunder.
- (11) Business Associate agrees to provide to Covered Entity, in a time and manner agreed to by the parties, information collected in accordance with clause h. (10) of this Section of the Contract, to permit Covered Entity to respond to a request by an Individual for an accounting of disclosures of PHI in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated thereunder. Business Associate agrees at the Covered Entity's direction to provide an accounting of disclosures of PHI directly to an individual in accordance with 45 C.F.R. § 164.528 and section 13405 of the HITECH Act (42 U.S.C. § 17935) and any regulations promulgated thereunder.
- (12) Business Associate agrees to comply with any state or federal law that is more stringent than the Privacy Rule.

- (13) Business Associate agrees to comply with the requirements of the HITECH Act relating to privacy and security that are applicable to the Covered Entity and with the requirements of 45 C.F.R. sections 164.504(e), 164.308, 164.310, 164.312, and 164.316.
- (14) In the event that an individual requests that the Business Associate (a) restrict disclosures of PHI; (b) provide an accounting of disclosures of the individual's PHI; or (c) provide a copy of the individual's PHI in an electronic health record, the Business Associate agrees to notify the covered entity, in writing, within two business days of the request.
- (15) Business Associate agrees that it shall not, directly or indirectly, receive any remuneration in exchange for PHI of an individual without (1) the written approval of the covered entity, unless receipt of remuneration in exchange for PHI is expressly authorized by this Contract and (2) the valid authorization of the individual, except for the purposes provided under section 13405(d)(2) of the HITECH Act,(42 U.S.C. § 17935(d)(2)) and in any accompanying regulations
- (16) Obligations in the Event of a Breach
- A. The Business Associate agrees that, following the discovery of a breach of unsecured protected health information, it shall notify the Covered Entity of such breach in accordance with the requirements of section 13402 of HITECH (42 U.S.C. 17932(b) and the provisions of this Section of the Contract.
- B. Such notification shall be provided by the Business Associate to the Covered Entity without unreasonable delay, and in no case later than 30 days after the breach is discovered by the Business Associate, except as otherwise instructed in writing by a law enforcement official pursuant to section 13402 (g) of HITECH (42 U.S.C. 17932(g)) . A breach is considered discovered as of the first day on which it is, or reasonably should have been, known to the Business Associate. The notification shall include the identification and last known address, phone number and email address of each individual (or the next of kin of the individual if the individual is deceased) whose unsecured protected health information has been, or is reasonably believed by the Business Associate to have been, accessed, acquired, or disclosed during such breach.
- C. The Business Associate agrees to include in the notification to the Covered Entity at least the following information:
1. A brief description of what happened, including the date of the breach and the date of the discovery of the breach, if known.
 2. A description of the types of unsecured protected health information that were involved in the breach (such as full name, Social Security number, date of birth, home address, account number, or disability code).
 3. The steps the Business Associate recommends that individuals take to protect themselves from potential harm resulting from the breach.

4. A detailed description of what the Business Associate is doing to investigate the breach, to mitigate losses, and to protect against any further breaches.
 5. Whether a law enforcement official has advised either verbally or in writing the Business Associate that he or she has determined that notification or notice to individuals or the posting required under section 13402 of the HITECH Act would impede a criminal investigation or cause damage to national security and; if so, include contact information for said official.
- D. Business Associate agrees to provide appropriate staffing and have established procedures to ensure that individuals informed by the Covered Entity of a breach by the Business Associate have the opportunity to ask questions and contact the Business Associate for additional information regarding the breach. Such procedures shall include a toll-free telephone number, an e-mail address, a posting on its Web site and a postal address. Business Associate agrees to include in the notification of a breach by the Business Associate to the Covered Entity, a written description of the procedures that have been established to meet these requirements. Costs of such contact procedures will be borne by the Contractor.
- E. Business Associate agrees that, in the event of a breach, it has the burden to demonstrate that it has complied with all notifications requirements set forth above, including evidence demonstrating the necessity of a delay in notification to the Covered Entity.
- (i) Permitted Uses and Disclosure by Business Associate.
- (1) General Use and Disclosure Provisions Except as otherwise limited in this Section of the Contract, Business Associate may use or disclose PHI to perform functions, activities, or services for, or on behalf of, Covered Entity as specified in this Contract, provided that such use or disclosure would not violate the Privacy Rule if done by Covered Entity or the minimum necessary policies and procedures of the Covered Entity.
 - (2) Specific Use and Disclosure Provisions
 - (A) Except as otherwise limited in this Section of the Contract, Business Associate may use PHI for the proper management and administration of Business Associate or to carry out the legal responsibilities of Business Associate.
 - (B) Except as otherwise limited in this Section of the Contract, Business Associate may disclose PHI for the proper management and administration of Business Associate, provided that disclosures are Required by Law, or Business Associate obtains reasonable assurances from the person to whom the information is disclosed that it will remain confidential and used or further disclosed only as Required by Law or

for the purpose for which it was disclosed to the person, and the person notifies Business Associate of any instances of which it is aware in which the confidentiality of the information has been breached.

(C) Except as otherwise limited in this Section of the Contract, Business Associate may use PHI to provide Data Aggregation services to Covered Entity as permitted by 45 C.F.R. § 164.504(e)(2)(i)(B).

(j) Obligations of Covered Entity.

(1) Covered Entity shall notify Business Associate of any limitations in its notice of privacy practices of Covered Entity, in accordance with 45 C.F.R. § 164.520, or to the extent that such limitation may affect Business Associate's use or disclosure of PHI.

(2) Covered Entity shall notify Business Associate of any changes in, or revocation of, permission by Individual to use or disclose PHI, to the extent that such changes may affect Business Associate's use or disclosure of PHI.

(3) Covered Entity shall notify Business Associate of any restriction to the use or disclosure of PHI that Covered Entity has agreed to in accordance with 45 C.F.R. § 164.522, to the extent that such restriction may affect Business Associate's use or disclosure of PHI.

(k) Permissible Requests by Covered Entity. Covered Entity shall not request Business Associate to use or disclose PHI in any manner that would not be permissible under the Privacy Rule if done by the Covered Entity, except that Business Associate may use and disclose PHI for data aggregation, and management and administrative activities of Business Associate, as permitted under this Section of the Contract.

(l) Term and Termination.

(1) Term. The Term of this Section of the Contract shall be effective as of the date the Contract is effective and shall terminate when the information collected in accordance with clause h. (10) of this Section of the Contract is provided to the Covered Entity and all of the PHI provided by Covered Entity to Business Associate, or created or received by Business Associate on behalf of Covered Entity, is destroyed or returned to Covered Entity, or, if it is infeasible to return or destroy PHI, protections are extended to such information, in accordance with the termination provisions in this Section.

(2) Termination for Cause Upon Covered Entity's knowledge of a material breach by Business Associate, Covered Entity shall either:

(A) Provide an opportunity for Business Associate to cure the breach or end the violation and terminate the Contract if Business Associate does not cure the breach or end the violation within the time specified by the Covered Entity; or

(B) Immediately terminate the Contract if Business Associate has breached a material term of this Section of the Contract and cure is not possible; or

(C) If neither termination nor cure is feasible, Covered Entity shall report the violation to the Secretary.

(3) Effect of Termination

(A) Except as provided in (1)(2) of this Section of the Contract, upon termination of this Contract, for any reason, Business Associate shall return or destroy all PHI received from Covered Entity, or created or received by Business Associate on behalf of Covered Entity. Business Associate shall also provide the information collected in accordance with clause h. (10) of this Section of the Contract to the Covered Entity within ten business days of the notice of termination. This provision shall apply to PHI that is in the possession of subcontractors or agents of Business Associate. Business Associate shall retain no copies of the PHI.

(B) In the event that Business Associate determines that returning or destroying the PHI is infeasible, Business Associate shall provide to Covered Entity notification of the conditions that make return or destruction infeasible. Upon documentation by Business Associate that return or destruction of PHI is infeasible, Business Associate shall extend the protections of this Section of the Contract to such PHI and limit further uses and disclosures of PHI to those purposes that make return or destruction infeasible, for as long as Business Associate maintains such PHI. Infeasibility of the return or destruction of PHI includes, but is not limited to, requirements under state or federal law that the Business Associate maintains or preserves the PHI or copies thereof.

(m) Miscellaneous Provisions.

(1) Regulatory References. A reference in this Section of the Contract to a section in the Privacy Rule means the section as in effect or as amended.

(2) Amendment. The Parties agree to take such action as is necessary to amend this Section of the Contract from time to time as is necessary for Covered Entity to comply with requirements of the Privacy Rule and the Health Insurance Portability and Accountability Act of 1996, Pub. L. No. 104-191.

(3) Survival. The respective rights and obligations of Business Associate shall survive the termination of this Contract.

(4) Effect on Contract. Except as specifically required to implement the purposes of this Section of the Contract, all other terms of the Contract shall remain in force and effect.

(5) Construction. This Section of the Contract shall be construed as broadly as necessary to implement and comply with the Privacy Standard. Any ambiguity in this Section of the Contract shall be resolved in favor of a meaning that complies, and is consistent with, the Privacy Standard.

(6) Disclaimer. Covered Entity makes no warranty or representation that compliance with this Section of the Contract will be adequate or satisfactory for Business Associate's own purposes. Covered Entity shall not be liable to Business Associate for any claim, civil or criminal penalty, loss or damage related to or arising from the unauthorized use or disclosure of PHI by Business Associate or any of its officers, directors, employees, contractors or agents, or any third party to whom Business Associate has disclosed PHI contrary to the provisions of this Contract or applicable law. Business Associate is solely responsible for all decisions made, and actions taken, by Business Associate regarding the safeguarding, use and disclosure of PHI within its possession, custody or control.

(7) Indemnification. The Business Associate shall indemnify and hold the Covered Entity harmless from and against any and all claims, liabilities, judgments, fines, assessments, penalties, awards and any statutory damages that may be imposed or assessed pursuant to HIPAA, as amended or the HITECH Act, including, without limitation, attorney's fees, expert witness fees, costs of investigation, litigation or dispute resolution, and costs awarded thereunder, relating to or arising out of any violation by the Business Associate and its agents, including subcontractors, of any obligation of Business Associate and its agents, including subcontractors, under this section of the contract, under HIPAA, the HITECH Act, the Privacy Rule and the Security Rule.

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

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

CAMPAIGN CONTRIBUTION AND SOLICITATION LIMITATIONS

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

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

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

DUTY TO INFORM

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

PENALTIES FOR VIOLATIONS

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

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

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

CONTRACT CONSEQUENCES

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

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

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

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

DEFINITIONS

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

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

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

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

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

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

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

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

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

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

or older of an individual described in this subparagraph, or (vi) a political committee established or controlled by an individual described in this subparagraph or the business entity or nonprofit organization that is the subcontractor.

EXHIBIT F

(Federal wage rate package will be inserted at the end after State wages for the final executed contract only. Refer to NTC – Federal Wage Determinations)

EXHIBIT G

State Wages and Other Related Information

Please refer to the Department of Labor website for the latest updates, annual adjusted wage rate increases, certified payroll forms and applicable statutes.

<http://www.ctdol.state.ct.us/wgwkstnd/prevailwage.htm>

Prevailing Wage Law Poster Language

**THIS IS A PUBLIC WORKS PROJECT Covered by the
PREVAILING WAGE LAW CT General Statutes Section 31-53**

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

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

Informational Bulletin

THE 10-HOUR OSHA CONSTRUCTION SAFETY AND HEALTH COURSE (applicable to public building contracts entered into on or after July 1, 2007, where the total cost of all work to be performed is at least \$100,000)

- (1) This requirement was created by Public Act No. 06-175, which is codified in Section 31-53b of the Connecticut General Statutes (pertaining to the prevailing wage statutes);
- (2) The course is required for public building construction contracts (projects funded in whole or in part by the state or any political subdivision of the state) entered into on or after July 1, 2007;
- (3) It is required of private employees (not state or municipal employees) and apprentices who perform manual labor for a general contractor or subcontractor on a public building project where the total cost of all work to be performed is at least \$100,000;
- (4) The ten-hour construction course pertains to the ten-hour Outreach Course conducted in accordance with federal OSHA Training Institute standards, and, for telecommunications workers, a ten-hour training course conducted in accordance with federal OSHA standard, 29 CFR 1910.268;
- (5) The internet website for the federal OSHA Training Institute is http://www.osha.gov/fso/ote/training/edcenters/fact_sheet.html;
- (6) The statutory language leaves it to the contractor and its employees to determine who pays for the cost of the ten-hour Outreach Course;

(7) Within 30 days of receiving a contract award, a general contractor must furnish proof to the Labor Commissioner that all employees and apprentices performing manual labor on the project will have completed such a course;

(8) Proof of completion may be demonstrated through either: (a) the presentation of a bona fide student course completion card issued by the federal OSHA Training Institute; or (2) the presentation of documentation provided to an employee by a trainer certified by the Institute pending the actual issuance of the completion card;

(9) Any card with an issuance date more than 5 years prior to the commencement date of the construction project shall not constitute proof of compliance;

(10) Each employer shall affix a copy of the construction safety course completion card to the certified payroll submitted to the contracting agency in accordance with Conn. Gen. Stat. § 31-53(f) on which such employee's name first appears;

(11) Any employee found to be in non-compliance shall be subject to removal from the worksite if such employee does not provide satisfactory proof of course completion to the Labor Commissioner by the fifteenth day after the date the employee is determined to be in noncompliance;

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

(13) The Labor Commissioner may make complaint to the prosecuting authorities regarding any employer or agent of the employer, or officer or agent of the corporation who files a false certified payroll with respect to the status of an employee who is performing manual labor on a public building construction project;

(14) The statute provides the minimum standards required for the completion of a safety course by manual laborers on public construction contracts; any contractor can exceed these minimum requirements; and

(15) Regulations clarifying the statute are currently in the regulatory process, and shall be posted on the CTDOL website as soon as they are adopted in final form.

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

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

November 29, 2006

Notice

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

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

Forklift Operator:

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

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

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

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

**CONNECTICUT DEPARTMENT OF LABOR
WAGE AND WORKPLACE STANDARDS DIVISION**

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

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

do hereby certify that the _____
Company Name

Street

City

and all of its subcontractors will pay all workers on the

Project Name and Number

Street and City

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

Signed

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

Notary Public

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

Rate Schedule Issued (Date): _____

Information Bulletin ***Occupational Classifications***

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

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

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

□ **ASBESTOS WORKERS**

Applies all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems.

□ **ASBESTOS INSULATOR**

Handle, install apply, fabricate, distribute, prepare, alter, repair, dismantle, heat and frost insulation, including penetration and fire stopping work on all penetration fire stop systems.

□ **BOILERMAKERS**

Erects hydro plants, incomplete vessels, steel stacks, storage tanks for water, fuel, etc. Builds incomplete boilers, repairs heat exchanges and steam generators.

□ **BRICKLAYERS, CEMENT MASONS, CEMENT FINISHERS, MARBLE MASONS, PLASTERERS, STONE MASONS, PLASTERERS. STONE MASONS, TERRAZZO WORKERS, TILE SETTERS**

Lays building materials such as brick, structural tile and concrete cinder, glass, gypsum, terra cotta block. Cuts, tools and sets marble, sets stone, finishes concrete, applies decorative steel, aluminum and plastic tile, applies cements, sand, pigment and marble chips to floors, stairways, etc.

□ **CARPENTERS, MILLWRIGHTS. PILEDRIVERMEN. LATHERS. RESILEINT FLOOR LAYERS, DOCK BUILDERS, DIKERS, DIVER TENDERS**

Constructs, erects, installs and repairs structures and fixtures of wood, plywood and wallboard. Installs, assembles, dismantles, moves industrial machinery. Drives piling into ground to provide foundations for structures such as buildings and bridges, retaining walls for earth embankments, such as cofferdams. Fastens wooden, metal or rockboard lath to walls, ceilings and partitions of buildings, acoustical tile layer, concrete form builder. Applies firestopping materials on fire resistive joint systems only. Installation of curtain/window walls only where attached to wood or metal studs. Installation of insulated material of all types whether blown, nailed or attached in other ways to walls, ceilings and floors of buildings. Assembly and installation of modular

furniture/furniture systems. Free-standing furniture is not covered. This includes free standing: student chairs, study top desks, book box desks, computer furniture, dictionary stand, atlas stand, wood shelving, two-position information access station, file cabinets, storage cabinets, tables, etc.

□ **LABORER, CLEANING**

- The clean up of any construction debris and the general (heavy/light) cleaning, including sweeping, wash down, mopping, wiping of the construction facility and its furniture, washing, polishing, and dusting.

□ **DELIVERY PERSONNEL**

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

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

□ **ELECTRICIANS**

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

□ **ELEVATOR CONSTRUCTORS**

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

□ **FORK LIFT OPERATOR**

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

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

□ **GLAZIERS**

Glazing wood and metal sash, doors, partitions, and 2 story aluminum storefronts. Installs glass windows, skylights, store fronts and display cases or surfaces such as building fronts, interior walls, ceilings and table tops and metal store fronts. Installation of aluminum window walls and

curtain walls is the "joint" work of glaziers and ironworkers, which require equal composite workforce.

□ **IRONWORKERS**

Erection, installation and placement of structural steel, precast concrete, miscellaneous iron, ornamental iron, metal curtain wall, rigging and reinforcing steel. Handling, sorting, and installation of reinforcing steel (rebar). Metal bridge rail (traffic), metal bridge handrail, and decorative security fence installation. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers which require equal composite workforce.

□ **INSULATOR**

- Installing fire stopping systems/materials for "Penetration Firestop Systems": transit to cables, electrical conduits, insulated pipes, sprinkler pipe penetrations, ductwork behind radiation, electrical cable trays, fire rated pipe penetrations, natural polypropylene, HVAC ducts, plumbing bare metal, telephone and communication wires, and boiler room ceilings.

□ **LABORERS**

Acetylene burners, asphalt rakers, chain saw operators, concrete and power buggy operator, concrete saw operator, fence and guard rail erector (except metal bridge rail (traffic), decorative security fence (non-metal).

installation.), hand operated concrete vibrator operator, mason tenders, pipelayers (installation of storm drainage or sewage lines on the street only), pneumatic drill operator, pneumatic gas and electric drill operator, powermen and wagon drill operator, air track operator, block paver, curb setters, blasters, concrete spreaders.

□ **PAINTERS**

Maintenance, preparation, cleaning, blasting (water and sand, etc.), painting or application of any protective coatings of every description on all bridges and appurtenances of highways, roadways, and railroads. Painting, decorating, hardwood finishing, paper hanging, sign writing, scenic art work and drywall hhg for any and all types of building and residential work.

□ **LEAD PAINT REMOVAL**

- Painter's Rate 1. Removal of lead paint from bridges. 2. Removal of lead paint as preparation of any surface to be repainted. 3. Where removal is on a Demolition project prior to reconstruction. • Laborer's Rate 1. Removal of lead paint from any surface NOT to be repainted. 2. Where removal is on a TOTAL Demolition project only.

□ **PLUMBERS AND PIPEFITTERS**

Installation, repair, replacement, alteration or maintenance of all plumbing, heating, cooling and piping. *License required per Connecticut General Statutes: P-1,2,6,7,8,9 J1,2,3,4 SP-1,2 S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4.

□ **POWER EQUIPMENT OPERATORS**

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

□ **ROOFERS**

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

□ **SHEETMETAL WORKERS**

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

□ **SPRINKLER FITTERS**

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

□ **TILE MARBLE AND TERRAZZO FINISHERS**

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

□ **TRUCK DRIVERS**

~How to pay truck drivers delivering asphalt is under REVISION~

Truck Drivers are requires to be paid prevailing wage for time spent "working" directly on the site. These drivers remain covered by the prevailing wage for any time spent transporting between the actual construction location and facilities (such as fabrication, plants, mobile factories, batch plant, borrow pits, job headquarters, tool yards, etc.) dedicated exclusively, or nearly so, to performance

of the contract or project, which are so located in proximity to the actual construction location that it is reasonable to include them. ***License required, drivers only, per Connecticut General Statutes.**

For example:

- Material men and deliverymen are not covered under prevailing wage as long as they are not directly involved in the construction process. If, they unload the material, they would then be covered by prevailing wage for the classification they are performing work in: laborer, equipment operator, etc.
- Hauling material off site is not covered provided they are not dumping it at a location outlined above.
- Driving a truck on site and moving equipment or materials on site would be considered covered work, as this is part of the construction process.

Any questions regarding the proper classification should be directed to:

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

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

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

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

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

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

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

Elevator Constructors: Mechanics

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

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

Glaziers

a. Paid Holidays: Labor Day and Christmas Day.

Power Equipment Operators

(Heavy and Highway Construction & Building Construction)

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

Ironworkers

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

Laborers (Tunnel Construction)

a. Paid Holidays: New Year’s Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. No employee shall be eligible for holiday pay when he

fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

Roofers

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

Sprinkler Fitters

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

Truck Drivers

(Heavy and Highway Construction & Building Construction)

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

Rev. 7/1/19

SEE BELOW FOR STATE WAGE RATES

INSERT STATE WAGES HERE

**Minimum Rates and Classifications for
Heavy/Highway Construction**

ID#: 20-13971

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

By virtue of the authority vested in the Labor Commissioner under provisions of Section 31-53 of the General Statutes of Connecticut, as amended, the following are declared to be the prevailing rates and welfare payments and will apply only where the contract is advertised for bid within 20 days of the date on which the rates are established. Any contractor or subcontractor not obligated by agreement to pay to the welfare and pension fund shall pay this amount to each employee as part of his/her hourly wages.

Project Number: Ansonia

Project Town: Ansonia

State#: Ansonia

FAP#: Ansonia

Project: Construction of Ansonia Riverwalk - Segments #3 & #4 (Ansonia)

CLASSIFICATION	Hourly Rate	Benefits
1) Boilermaker	33.79	34% + 8.96
1a) Bricklayer, Cement Masons, Cement Finishers, Plasterers, Stone Masons	35.72	33.16
2) Carpenters, Piledrivermen	34.53	25.64
2a) Diver Tenders	34.53	25.64
3) Divers	42.99	25.64
03a) Millwrights	34.94	26.19
4) Painters: (Bridge Construction) Brush, Roller, Blasting (Sand, Water, etc.), Spray	52.25	22.55
4a) Painters: Brush and Roller	35.62	22.55
4b) Painters: Spray Only	38.62	22.55
4c) Painters: Steel Only	37.62	22.55
4d) Painters: Blast and Spray	38.62	22.55
4e) Painters: Tanks, Tower and Swing	37.62	22.55

Project: Construction of Ansonia Riverwalk - Segments #3 & #4 (Ansonia)

5) Electrician (Trade License required: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)	39.0	29.91+3% of gross wage
6) Ironworkers: Ornamental, Reinforcing, Structural, and Precast Concrete Erection	36.67	37.62 + a
7) Plumbers (Trade License required: (P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2) and Pipefitters (Including HVAC Work) (Trade License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4 G-1, G-2, G-8, G-9)	44.63	32.95
----LABORERS-----		
8) Group 1: Laborer (Unskilled), Common or General, acetylene burner, concrete specialist	31.0	22.15
9) Group 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators, powdermen	31.25	22.15
10) Group 3: Pipelayers	31.5	22.15
11) Group 4: Jackhammer/Pavement breaker (handheld); mason tenders (cement/concrete), catch basin builders, asphalt rakers, air track operators, block paver, curb setter and forklift operators	31.5	22.15
12) Group 5: Toxic waste removal (non-mechanical systems)	33.0	22.15
13) Group 6: Blasters	32.75	22.15
Group 7: Asbestos/lead removal, non-mechanical systems (does not include leaded joint pipe)	32.0	22.15
Group 8: Traffic control signalmen	18.0	22.15
Group 9: Hydraulic Drills	29.3	18.90
----LABORERS (TUNNEL CONSTRUCTION, FREE AIR). Shield Drive and Liner Plate Tunnels in Free Air.----		
13a) Miners, Motormen, Mucking Machine Operators, Nozzle Men, Grout Men, Shaft & Tunnel Steel & Rodmen, Shield & Erector, Arm Operator, Cable Tenders	33.23	22.15 + a
13b) Brakemen, Trackmen	32.26	22.15 + a
----CLEANING, CONCRETE AND CAULKING TUNNEL----		

As of: July 15, 2020

14) Concrete Workers, Form Movers, and Strippers	32.26	22.15 + a
15) Form Erectors	32.59	22.15 + a
----ROCK SHAFT LINING, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR:----		
16) Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers	32.26	22.15 + a
17) Laborers Topside, Cage Tenders, Bellman	32.15	22.15 + a
18) Miners	33.23	22.15 + a
----TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED AIR: ----		
18a) Blaster	39.72	22.15 + a
19) Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders	39.52	22.15 + a
20) Change House Attendants, Powder Watchmen, Top on Iron Bolts	37.54	22.15 + a
21) Mucking Machine Operator	40.31	22.15 + a
----TRUCK DRIVERS----(*see note below)		
Two axle trucks	29.86	25.79 + a
Three axle trucks; two axle ready mix	29.97	25.79 + a
Three axle ready mix	30.03	25.79 + a
Four axle trucks, heavy duty trailer (up to 40 tons)	30.08	25.79 + a
Four axle ready-mix	30.13	25.79 + a
Heavy duty trailer (40 tons and over)	30.35	25.79 + a

Project: Construction of Ansonia Riverwalk - Segments #3 & #4 (Ansonia)

Specialized earth moving equipment other than conventional type on- 30.13 25.79 + a
the road trucks and semi-trailer (including Euclids)

----POWER EQUIPMENT OPERATORS----

Group 1: Crane handling or erecting structural steel or stone, 42.45 25.30 + a
hoisting engineer (2 drums or over), front end loader (7 cubic yards or
over), Work Boat 26 ft. & Over, Tunnel Boring Machines. (Trade
License Required)

Group 2: Cranes (100 ton rate capacity and over); Excavator over 2 42.11 25.30 + a
cubic yards; Piledriver (\$3.00 premium when operator controls
hammer); Bauer Drill/Caisson. (Trade License Required)

Group 3: Excavator/Backhoe under 2 cubic yards; Cranes (under 100 41.32 25.30 + a
ton rated capacity), Gradall; Master Mechanic; Hoisting Engineer (all
types of equipment where a drum and cable are used to hoist or drag
material regardless of motive power of operation), Rubber Tire
Excavator (Drott-1085 or similar); Grader Operator; Bulldozer Fine
Grade (slopes, shaping, laser or GPS, etc.). (Trade License Required)

Group 4: Trenching Machines; Lighter Derrick; Concrete Finishing 40.91 25.30 + a
Machine; CMI Machine or Similar; Koehring Loader (Skooper)

Group 5: Specialty Railroad Equipment; Asphalt Paver; Asphalt 40.28 25.30 + a
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

Group 5 continued: Side Boom; Combination Hoe and Loader; 40.28 25.30 + a
Directional Driller.

Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough 39.95 25.30 + a
grade dozer).

Group 7: Asphalt Roller; Concrete Saws and Cutters (ride on types); 39.59 25.30 + a
Vermeer Concrete Cutter; Stump Grinder; Scraper; Snooper; Skidder;
Milling Machine (24

Group 8: Mechanic, Grease Truck Operator, Hydroblaster, Barrier 39.17 25.30 + a
Mover, Power Stone Spreader; Welder; Work Boat under 26 ft.;
Transfer Machine.

Group 9: Front End Loader (under 3 cubic yards), Skid Steer Loader 38.71 25.30 + a
regardless of attachments (Bobcat or Similar); Fork Lift, Power
Chipper; Landscape Equipment (including hydroseeder).

Group 10: Vibratory Hammer, Ice Machine, Diesel and Air Hammer, 36.54 25.30 + a
etc.

Group 11: Conveyor, Earth Roller; Power Pavement Breaker 36.54 25.30 + a
(whiphammer), Robot Demolition Equipment.

Group 12: Wellpoint Operator. 36.48 25.30 + a

As of: July 15, 2020

Project: Construction of Ansonia Riverwalk - Segments #3 & #4 (Ansonia)

Group 13: Compressor Battery Operator.	35.86	25.30 + a
Group 14: Elevator Operator; Tow Motor Operator (Solid Tire No Rough Terrain).	34.66	25.30 + a
Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	34.23	25.30 + a
Group 16: Maintenance Engineer/Oiler	33.54	25.30 + a
Group 17: Portable asphalt plant operator; portable crusher plant operator; portable concrete plant operator.	38.11	25.30 + a
Group 18: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (minimum for any job requiring CDL license).	35.53	25.30 + a
**NOTE: SEE BELOW		
----LINE CONSTRUCTION----(Railroad Construction and Maintenance)---		
-		
20) Lineman, Cable Splicer, Technician	48.19	6.5% + 22.00
21) Heavy Equipment Operator	42.26	6.5% + 19.88
22) Equipment Operator, Tractor Trailer Driver, Material Men	40.96	6.5% + 19.21
23) Driver Groundmen	26.5	6.5% + 9.00
23a) Truck Driver	40.96	6.5% + 17.76
----LINE CONSTRUCTION----		
24) Driver Groundmen	30.92	6.5% + 9.70
25) Groundmen	22.67	6.5% + 6.20
26) Heavy Equipment Operators	37.1	6.5% + 10.70
27) Linemen, Cable Splicers, Dynamite Men	41.22	6.5% + 12.20

As of: July 15, 2020

Project: Construction of Ansonia Riverwalk - Segments #3 & #4 (Ansonia)

28) Material Men, Tractor Trailer Drivers, Equipment Operators

35.04

6.5% + 10.45

Project: Construction of Ansonia Riverwalk - Segments #3 & #4 (Ansonia)

Welders: Rate for craft to which welding is incidental.

*Note: Hazardous waste removal work receives additional \$1.25 per hour for truck drivers.

**Note: Hazardous waste premium \$3.00 per hour over classified rate

ALL Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra \$4.00 premium in addition to the hourly wage rate and benefit contributions:

- 1) Crane handling or erecting structural steel or stone; hoisting engineer (2 drums or over)**
- 2) Cranes (100 ton rate capacity and over) Bauer Drill/Caisson**
- 3) Cranes (under 100 ton rated capacity)**

Crane with 150 ft. boom (including jib) - \$1.50 extra

Crane with 200 ft. boom (including jib) - \$2.50 extra

Crane with 250 ft. boom (including jib) - \$5.00 extra

Crane with 300 ft. boom (including jib) - \$7.00 extra

Crane with 400 ft. boom (including jib) - \$10.00 extra

All classifications that indicate a percentage of the fringe benefits must be calculated at the percentage rate times the "base hourly rate".

Apprentices duly registered under the Commissioner of Labor's regulations on "Work Training Standards for Apprenticeship and Training Programs" Section 31-51-d-1 to 12, are allowed to be paid the appropriate percentage of the prevailing journeymen hourly base and the full fringe benefit rate, providing the work site ratio shall not be less than one full-time journeyman instructing and supervising the work of each apprentice in a specific trade.

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

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.

As of: July 15, 2020

Project: Construction of Ansonia Riverwalk - Segments #3 & #4 (Ansonia)

~~Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clause (29 CFR 5.5 (a) (1) (ii)).

Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.

As of: July 15, 2020

Important Information:

For use with Building, Heavy/Highway, and Residential

Welders: Rate for craft to which welding is incidental.

*Note: Hazardous waste removal work receives additional \$1.25 per hour for truck drivers.

**Note: Hazardous waste premium \$3.00 per hour over classified rate.

ALL Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra \$4.00 premium in addition to the hourly wage rate and benefit contributions:

- 1) Crane handling or erecting structural steel or stone; hoisting engineer (2 drums or over)
- 2) Cranes (100 ton rate capacity and over) Bauer Drill/Caisson
- 3) Cranes (under 100 ton rated capacity)

Crane with boom including jib, 150 feet - \$1.50 extra.

Crane with boom including jib, 200 feet - \$2.50 extra.

Crane with boom including jib, 250 feet - \$5.00 extra.

Crane with boom including jib, 300 feet - \$7.00 extra.

Crane with boom including jib, 400 feet - \$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 one apprentice in a specific trade.

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

- The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.
- Each contractor shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.
- It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.
- The annual adjustments will be posted on the Department of Labor's Web page: www.ctdol.state.ct.us.
- 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.

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 Persons 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.

Davis-Bacon Act WD #CT20200001

"General Decision Number: CT20200001 06/05/2020

Superseded General Decision Number: CT20190001

State: Connecticut

Construction Type: Highway

Counties: Fairfield, Litchfield, Middlesex, New Haven,
Tolland and Windham Counties in Connecticut.

HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.80 for calendar year 2020 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.80 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2020. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act

itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/03/2020
1	01/17/2020
2	01/24/2020
3	02/07/2020
4	04/03/2020
5	04/24/2020
6	05/08/2020
7	05/15/2020
8	05/22/2020
9	06/05/2020

BRCT0001-004 01/06/2020

	Rates	Fringes
BRICKLAYER		
BRICKLAYERS, CEMENT		
MASONS, CEMENT FINISHERS,		
PLASTERERS AND STONE MASONS.	\$ 35.72	33.16

 CARP0326-003 05/04/2020

LITCHFIELD COUNTY

Harwinton, Plymouth, Thomaston, Watertown

MIDDLESEX COUNTY

NEW HAVEN COUNTY

Beacon Falls, Bethany, Branford, Cheshire, East Haven, Guilford, Hamden. Madison, Meriden, Middlebury, Naugatuck, New Haven, North Branford, North Haven, Orange (east of Orange Center Road and north of Route 1, and north of Route 1 and east of the Oyster River), Prospect, Southbury, Wallingford, Waterbury, West Haven, Wolcott, Woodbridge

TOLLAND COUNTY

Andover, Columbia, Coventry, Hebron, Mansfield, Union, Willington

WINDHAM COUNTY

	Rates	Fringes
Carpenters:		
CARPENTERS, PILEDRIVERS.....	\$ 34.53	25.64
DIVER TENDERS.....	\$ 34.53	25.64
DIVERS.....	\$ 42.99	25.64

CARP0326-014 05/04/2020

	Rates	Fringes
Carpenters: (TOLLAND COUNTY		
Bolton, Ellington, Somers, Tolland, Vernon)		
CARPENTERS, PILEDRIVERS.....	\$ 34.53	25.64
DIVER TENDERS.....	\$ 34.53	25.64

DIVERS.....\$ 42.99 25.64

CARP0326-017 05/04/2020

Rates Fringes

Carpenters:

CARPENTERS, PILEDRIVERS.....\$ 34.53 25.64

DIVER TENDERS.....\$ 34.53 25.64

DIVERS.....\$ 42.99 25.64

FAIRFIELD COUNTY

Bethel, Bridgeport, Brookfield, Danbury, Darien, Easton,
Fairfield, Greenwich, Monroe, New Canaan, New Fairfield,
Newtown, Norwalk, Redding, Ridgefield, Shelton, Sherman,
Stamford, Stratford, Trumbull, Weston, Westport, Wilton;

LITCHFIELD COUNTY

Barkhamstead, Bethlehem, Bridgewater, Canaan, Colebrook,
Cornwall, Goshen, Kent, Litchfield, Morris, New Hartford, New
Milford, Norfolk, North Canaan, Roxbury, Salisbury, Sharon,
Torrington, Warren, Washington, Winchester, Woodbury;

NEW HAVEN COUNTY

Ansonia, Derby, Milford, Orange (west of Orange Center Road
and south of Route 1 and west of the Oyster River), Oxford,
Seymour;

CARP1121-006 01/06/2020

Rates Fringes

MILLWRIGHT.....\$ 34.94 26.19

ELEC0003-002 05/08/2008

	Rates	Fringes
Electricians		
FAIRFIELD COUNTY		
Darien, Greenwich, New		
Canaan, Stamford.....	\$ 44.75	30.42

* ELEC0035-001 06/01/2020

	Rates	Fringes
Electricians:		
MIDDLESEX COUNTY		
(Cromwell, Middlefield,		
Middleton and Portland);		
TOLLAND COUNTY; WINDHAM		
COUNTY.....	\$ 40.25	3%+29.17

* ELEC0090-002 06/01/2020

	Rates	Fringes
Electricians:.....	\$ 39.00	3%+29.91

LITCHFIELD COUNTY

Plymouth Township;

MIIDDLESEX COUNTY

Chester, Clinton, Deep River, Durham, East Haddam, East

Hampton, Essex, Haddam, Killingworth, Old Saybrook, Westbrook;

NEW HAVEN COUNTY

All Townships excluding Beacon Falls, Middlebury, Milford, Naugatuck, Oxford, Prospect, Seymour, Southbury, Waterbury and Wolcott.

* ELEC0488-002 06/01/2020

	Rates	Fringes
Electricians.....	\$ 39.92	3%+28.75

FAIRFIELD COUNTY

Bethel, Bridgeport, Brookfield, Danbury, Easton, Fairfield, Monroe, New Fairfield, Newtown, Norwalk, Redding, Ridgefield, Shelton, Sherman, Stratford, Trumbull, Weston, Westport and Wilton.

LITCHFIELD COUNTY

Except Plymouth;

NEW HAVEN COUNTY

Beacon Falls, Middlebury, Milford, Naugatuck, Oxford, Prospect, Seymour, Southbury, Waterbury and Wolcott

ENGI0478-001 04/05/2020

	Rates	Fringes
Power equipment operators:		
GROUP 1.....	\$ 42.45	25.30
GROUP 2.....	\$ 42.11	25.30
GROUP 3.....	\$ 41.32	25.30
GROUP 4.....	\$ 40.91	25.30
GROUP 5.....	\$ 40.28	25.30

GROUP 6.....	\$ 39.95	25.30
GROUP 7.....	\$ 39.59	25.30
GROUP 8.....	\$ 39.17	25.30
GROUP 9.....	\$ 38.71	25.30
GROUP 10.....	\$ 36.54	25.30
GROUP 11.....	\$ 36.54	25.30
GROUP 12.....	\$ 36.48	25.30
GROUP 13.....	\$ 38.11	25.30
GROUP 14.....	\$ 35.86	25.30
GROUP 15.....	\$ 35.53	25.30
GROUP 16.....	\$ 34.66	25.30
GROUP 17.....	\$ 34.23	25.30
GROUP 18.....	\$ 33.54	25.30

Hazardous waste premium \$3.00 per hour over classified rate.

Crane with boom, including jib, 150 feet - \$1.50 extra.

Crane with boom, including jib, 200 feet - \$2.50 extra.

Crane with boom, including jib, 250 feet - \$5.00 extra.

Crane with boom, including jib, 300 feet - \$7.00 extra.

Crane with boom, including jib, 400 feet - \$10.00 extra

All Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra \$4.00 premium in addition to the hourly wage rate and benefit contributions:

- 1) Crane handling or erecting structural steel or stone, hoisting engineer(2 drums or over)
- 2) Cranes(100 ton rated capacity and over) Bauer Drill/Caisson

3) Cranes(under 100 ton rated capacity)

a. PAID HOLIDAYS: New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Crane handling or erecting structural steel or stone, hoisting engineer (2 drums or over), front end loader (7 cubic yards or over), work boat 26 ft. and over.

GROUP 2: Cranes (100 ton capacity & over), Excavator over 2 cubic yards, piledriver (\$3.00 premium when operator controls hammer), Bauer Drill/Caisson

GROUP 3: Excavator, cranes (under 100 ton rated capacity), 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 or operation) Rubber Tire Excavator (drott 1085 or similar); Grader Operator; Bulldozer Fine Grade (slopes, shaping, laser or GPS, etc.)

GROUP 4: Trenching machines, lighter derrick, concrete finishing machine, CMI machine or similar, Koehring Loader (skoper).

GROUP 5: Specialty railroad equipment, asphalt spreader, asphalt reclaiming machine, line grider, concrete pumps, drills with self contained power units, boring machine, post hole digger, auger, pounder, well digger, milling machine (over 24' mandrel), side boom, combination hoe and loader, directional driller

GROUP 6: Front end loader (3 cu. yds. up to 7 cu. yards), bulldozer (Rough grade dozer) .

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).

GROUP 8: Mechanic, grease truck operator, hydoblaster, barrier mover, power stone spreader, welder, work boat under 26 ft. transfer machine.

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).

GROUP 10: Vibratory hammer, ice machine, diesel & air, hammer, etc.

GROUP 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment.

GROUP 12: Wellpoint operator.

GROUP 13: Portable asphalt plant operator, portable concrete plant operator, portable crusher plant operator.

GROUP 14: Compressor battery operator.

GROUP 15: Power Safety boat, Vacuum truck, Zim mixer, Sweeper; (Minimum for any job requiring a CDL license) .

GROUP 16: Elevator operator, tow motor operator (solid tire no rough terrain).

GROUP 17: Generator operator, compressor operator, pump operator, welding machine operator; Heater operator.

GROUP 18: Maintenance engineer.

* IRON0015-002 06/01/2020

	Rates	Fringes
Ironworkers: (Reinforcing, Structural and Precast Concrete Erection).....	\$ 36.67	37.62

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

LABO0056-003 04/05/2020

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 31.00	22.15
GROUP 2.....	\$ 31.25	22.15
GROUP 3.....	\$ 31.50	22.15
GROUP 4.....	\$ 32.00	22.15
GROUP 5.....	\$ 32.75	22.15
GROUP 6.....	\$ 33.00	22.15
GROUP 7.....	\$ 18.00	22.15

LABORERS CLASSIFICATIONS

GROUP 1: Laborers (Unskilled), acetylene burner, concrete specialist

GROUP 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators and powdermen.

GROUP 3: Pipelayers, Jackhammer/Pavement breaker (handheld), mason tenders/catch basin builders, asphalt rakers, air track operators, block paver and curb setter

GROUP 4: Asbestos/lead removal

GROUP 5: Blasters

GROUP 6: Toxic waste remover

GROUP 7: Traffic control signalman

LABO0056-004 04/05/2020

	Rates	Fringes
Laborers: (TUNNEL CONSTRUCTION)		
CLEANING, CONCRETE AND CAULKING TUNNEL:		
Concrete Workers, Form Movers and Strippers.....\$ 32.26		
		22.15
Form Erectors.....\$ 32.59		
		22.15
ROCK SHAFT, CONCRETE, LINING OF SAME AND TUNNEL IN FREE AIR:		
Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers.....\$ 32.26		
		22.15
Laborers Topside, Cage Tenders, Bellman.....\$ 32.15		
		22.15
Miners.....\$ 33.23		
		22.15
SHIELD DRIVE AND LINER PLATE TUNNELS IN FREE AIR:		
Brakemen and Trackmen.....\$ 32.26		
		22.15
Miners, Motormen, Mucking Machine Operators, Nozzlemen, Grout Men, Shaft and Tunnel, Steel		

and Rodmen, Shield and
 Erector, Arm Operator,
 Cable Tenders.....\$ 33.23 22.15

TUNNELS, CAISSON AND
 CYLINDER WORK IN
 COMPRESSED AIR:

Blaster.....\$ 39.72 22.15
 Brakemen, Trackmen,
 Groutman, Laborers,
 Outside Lock Tender,
 Gauge Tenders.....\$ 39.52 22.15
 Change House Attendants,
 Powder Watchmen, Top on
 Iron Bolt.....\$ 37.54 22.15
 Mucking Machine Operator...\$ 40.31 22.15

a. PAID HOLIDAYS: On tunnel work only: New Year's Day,
 Memorial Day, Independence Day, Labor Day, Thanksgiving Day
 and Christmas Day.

No employee shall be eligible for holiday pay when he fails,
 without cause, to work the regular work day preceding the
 holiday or the regular work day following the holiday.

 * PAIN0011-001 06/01/2020

	Rates	Fringes
Painters:		
Blast and Spray.....	\$ 38.62	22.55

Brush and Roll.....	\$ 35.62	22.55
Tanks, Towers, Swing..	\$ 37.62	22.55

* PAIN0011-003 06/01/2020

	Rates	Fringes
Painters: (BRIDGE CONSTRUCTION)		
Brush, Roller, Blasting (Sand, Water, etc.) Spray...	\$ 52.25	22.55

TEAM0251-002 04/05/2020

	Rates	Fringes
Truck drivers:		
2 Axle Ready Mix.....	\$ 29.97	25.79
2 Axle.....	\$ 29.86	25.79
3 Axle Ready Mix.....	\$ 30.03	25.79
3 Axle.....	\$ 29.97	25.79
4 Axle Ready Mix.....	\$ 30.13	25.79
4 Axle.....	\$ 30.08	25.79
Heavy Duty Trailer 40 tons and over.....	\$ 30.35	25.79
Heavy Duty Trailer up to 40 tons.....	\$ 30.08	25.79
Specialized (Earth moving equipment other than conventional type on-the- road trucks and semi- trailers, including		

Euclids).....\$ 30.13 25.79

Hazardous waste removal work receives additional \$1.25 per hour.

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

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons

resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

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 clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example:
PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this

classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a

new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the

interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION"

ATTACHMENT D

SUPPLEMENTAL SPECIFICATIONS TO
THE STANDARD SPECIFICATIONS FOR ROADS,
BRIDGES, FACILITIES AND INCIDENTAL
CONSTRUCTION FORM 817, JULY 2019

Digital version of The Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, Form 817 with the July 2019 Supplemental Specification can be found at the following Link:

<https://portal.ct.gov/DOT/Publications/Form-817/Supp-Form-817-July-2019>

ATTACHMENT E
GEOTECHNICAL ENGINEERING
EVALUATION REPORT



**DOWN TO EARTH
CONSULTING, LLC**
GEOTECHNICAL AND ENVIRONMENTAL ENGINEERING

GEOTECHNICAL ENGINEERING EVALUATION REPORT

**ANSONIA RIVERWALK
SEGMENTS 3 AND 4
ANSONIA, CONNECTICUT**

STATE PROJECT NO. 002-128

Prepared for:

DeCarlo & Doll, Inc.
89 Colony Street
Meriden, CT 06451

Prepared by:

Down To Earth Consulting, LLC
122 Church Street
Naugatuck, Connecticut 06770

File No. 0034-008.00
November 2019

Down To Earth Consulting, LLC
122 Church Street, Naugatuck, CT 06770
(203) 683-4155



**DOWN TO EARTH
CONSULTING, LLC**
GEOTECHNICAL AND ENVIRONMENTAL ENGINEERING

November 8, 2019
File No. 0034-008.00

Mr. Doron Dagan, P.E.
DeCarlo & Doll, Inc.
89 Colony Street
Meriden, CT 06451

Via email: dagand@luchs.com

Re: Geotechnical Engineering Evaluation Report
Ansonia Riverwalk – Segments 3 and 4
Ansonia, Connecticut
State Project No. 002-128

Down To Earth Consulting, LLC (DTE) has completed a geotechnical evaluation for the proposed Ansonia Riverwalk project that will be constructed within the limits of the existing Ansonia Flood Damage Reduction System (AFDRS) in Ansonia, Connecticut. Our services included reviewing available drawings and subsurface information, characterizing the subsurface conditions in the vicinity of the proposed improvements, and performing geotechnical engineering analyses to demonstrate that the intended function of the AFDRS will not be compromised after construction of the Ansonia Riverwalk project. A summary of our assumptions and analyses is included herein. Our services were completed in general accordance with our proposal, revision dated July 31, 2019.

We appreciate this opportunity to work with you. Please call if you have any questions.

Sincerely,

Down To Earth Consulting, LLC

Raymond P. Janeiro, P.E.
Principal



TABLE OF CONTENTS

1.0	GENERAL	1
1.1	INTRODUCTION	1
1.2	ANALYSES METHODS AND REFERENCE DATUM	1
1.3	CITY OF ANSONIA FLOOD DAMAGE REDUCTION SYSTEM (AFDRS).....	2
1.4	PROPOSED ANSONIA RIVERWALK CONSTRUCTION.....	2
1.5	SUBSURFACE CONDITIONS AND GROUNDWATER.....	2
1.6	LABORATORY AND IN-SITU TESTING DATA	4
1.7	CRITICAL CROSS SECTIONS	4
1.8	MATERIAL PROPERTY SELECTION.....	5
2.0	SEEPAGE	6
2.1	INTRODUCTION	6
2.2	ANALYSIS METHOD.....	6
2.3	POTENTIAL ANSONIA FLOOD DAMAGE REDUCTION SYSTEM SEEPAGE IMPACTS	6
2.4	MODEL PARAMETERS.....	6
2.5	RESULTS AND CONCLUSIONS	7
3.0	GLOBAL STABILITY	8
3.1	INTRODUCTION	8
3.2	ANALYSIS METHOD.....	8
3.3	POTENTIAL ANSONIA FLOOD DAMAGE REDUCTION SYSTEM STABILITY IMPACTS	8
3.4	MODEL PARAMETERS.....	9
3.5	RESULTS AND CONCLUSIONS	9
4.0	SETTLEMENT	11
4.1	INTRODUCTION	11
4.2	ANALYSIS METHOD.....	11
4.3	POTENTIAL ANSONIA FLOOD DAMAGE REDUCTION SYSTEM SETTLEMENT IMPACTS	11
4.4	MODEL PARAMETERS.....	11
4.5	RESULTS AND CONCLUSIONS	12
5.0	FILTER COMPATIBILITY	13
5.1	INTRODUCTION	13
5.2	ANALYSIS AND CONCLUSIONS	13

APPENDICES

- APPENDIX 1 – TABLES & FIGURES
- APPENDIX 2 – SEEPAGE ANALYSES
- APPENDIX 3 – GLOBAL STABILITY ANALYSES
- APPENDIX 4 – SETTLEMENT ANALYSES
- APPENDIX 5 – BORING LOGS (BY OTHERS)
- APPENDIX 6 – LIMITATIONS



1.0 GENERAL

1.1 INTRODUCTION

This geotechnical engineering report presents a geotechnical evaluation of potential impacts from the Ansonia Riverwalk project (Segments 3 and 4) on the existing Left Bank Section of the City of Ansonia Flood Damage Reduction System (AFDRS). This report provides background and geotechnical information to support the regulatory review process and technical reviews by the US Army Corps of Engineers (USACE) and the CTDEEP office of Dam Safety.

After their review of preliminary Riverwalk design drawings, the USACE developed a set of *Review Comments*, dated May 2, 2019. Our objective was to address the geotechnical related review comments in this report.

The proposed Riverwalk project generally follows the earthen dike crest of the AFDRS from approximate Station 71+00 to 90+00 as referenced in the USACE record drawings dated August 1967. Figures 1.1 through 1.4 in Appendix 1 show the extent of the Riverwalk project and the AFDRS.

The geotechnical engineering evaluation focused on whether the construction activities from the Ansonia Riverwalk project would negatively impact the original design and intended performance of the AFDRS. Primary geotechnical engineering design elements include:

- Seepage;
- Global Stability; and
- Settlement.

Specialized geotechnical topics and considerations were also evaluated. Evaluations of existing conditions and potential impacts to existing AFDRS drainage systems (e.g., internal embankment and toe drain piping) and structural elements (e.g., railroad and sluice gate structures) are beyond the scope of this geotechnical evaluation.

1.2 ANALYSES METHODS AND REFERENCE DATUM

Geotechnical evaluations were conducted by reviewing available information and following USACE technical guidance where applicable. The following is a list of the analyses and evaluations performed in general accordance with USACE technical guidance:

- Seepage - EM1110-2-1913, *Design and Construction of Levees*, 30 April 2000 and ETL 1110-2-569, *Design Guidance for Levee Underseepage*, 1 May 2005
- Global stability - EM 1110-2-1913, *Design and Construction of Levees*, 30 April 2000 and EM 1110-2-1902, *Slope Stability*, 31 October 2003
- Settlement - EM 1110-1-1904, *Settlement Analysis*, 30 September 1990

Current geotechnical methods and standards of practice were utilized where specific USACE guidance was not available for the specialized geotechnical considerations.



All elevations shown in this section and subsequent analyses are based on the NGVD29 (mean sea level) vertical datum.

1.3 CITY OF ANSONIA FLOOD DAMAGE REDUCTION SYSTEM (AFDRS)

Original USACE design memoranda and record drawings were reviewed to assess the original AFDRS project features, design criteria, specifications and construction of the AFDRS. Based on geotechnical assessments, the major feature of the potentially impacted Left Bank section of the AFDRS consists of the Earth Dike. Minor features (in terms of anticipated impact from proposed Riverwalk improvements) include the turnaround ramps (Ramp No. 1 and 2), sluice gate structures (No. 6 and 9), Front Street Pumping Station, and outlet structures.

The Earth Dike, located from approximate Station 71+00 to 90+00 (project limits), has a compacted pervious core that is enclosed by various zoned protection to the west. Various zones of drainage filter materials exist at and beneath the landside toe. The water side of the dike is sloped at 3H:1V. The land side of the dike is sloped at 2.5H:1V and is grass vegetated.

1.4 PROPOSED ANSONIA RIVERWALK CONSTRUCTION

Proposed work for the Ansonia Riverwalk project occurs on the crest and landside surfaces of the existing earthen dike, along approximately 1,900 feet of the AFDRS. For the purpose of the geotechnical evaluations, the nature of the work can be summarized as follows:

- Fill is proposed on the crest and side slopes of the AFDRS from approximate Station 71+00 to 73+50, 77+50 to 78+25, 83+00 to 86+00, and 88+00 to 90+00 for the construction of the Riverwalk. The proposed fill will reach heights of about 1 to 5 feet above existing AFDRS grades and will generally result in a higher dike crest within project limits.
- An Overlook Pavilion is proposed at approximate Station 71+50. The Pavilion will be supported by an approximate 5-foot high retaining wall. Regrading of Ramp No. 1 will be required to accommodate construction of the proposed pavilion and retaining wall. The reconstructed Ramp No. 1 will bear on Modified Riprap (CTDOT Form 817, Section M.12.02-3) comprised of material graded coarser than existing toe drain materials to prevent migration of soil particles.
- Two Rest Shelters and associated nominal filling (i.e., less than two feet) are proposed at approximate Station 77+75 and 83+50.
- A Riverwalk access ramp is proposed along the land side of the AFDRS from approximate Station 88+00 to 90+00. The access drive is intended to regrade the existing access and Ramp No. 2.

1.5 SUBSURFACE CONDITIONS AND GROUNDWATER

The subsurface conditions were reviewed and evaluated from the following site-specific geotechnical reports and data:



- USACE Design Memorandum #6 titled, *Embankments, Foundations, and Channel Improvements for the Ansonia-Derby Local Protection, Naugatuck River, Connecticut* (1966).
- Milone and MacBroom titled, *Summary of Certifications FEMA Accreditation, Housatonic River and Naugatuck River Flood Protection Projects – Section 1* (2010).
- GeoDesign, Inc., titled *Geotechnical Analysis Report, Naugatuck River Flood Protection Project, Systems 2 and 3, Ansonia, Connecticut* (November 2011).

Subsurface data was obtained from sources as previously detailed. Subsurface conditions between exploration locations were interpolated from data at adjacent borings. During our reconnaissance efforts, DTE determined that additional borings or laboratory testing was not required as sufficient information existed to complete analyses and determine general trends. There was general agreement between the conditions represented by the USACE borings as shown on the record drawings and those encountered subsequently by Milone and MacBroom and GeoDesign.

The conditions described are based on our interpretation of a composite of the available data referenced. In general, the stratigraphy consists of Fill overlying Gravelly Sands, Silt, and Silty Sand. The general stratigraphy from the ground surface down is described as follows:

- **Fill** was encountered within the levee embankment and generally consisted of dense to very dense fine to coarse Sand, with varying proportions of fine to coarse Gravel and Silt. Fill ranged in thickness from 12 to 38.5 feet below ground surface.
- **Gravelly Sand** was encountered beneath the Fill and varied slightly in composition. The stratum generally consisted of varying proportions of fine to coarse Gravel and Sand, with trace amounts of Silt. Occasionally, fine to medium Sand strata was encountered with only trace amounts of fine Gravel. This stratum ranged in thickness from about 6 to 10 feet. Inferred cobbles and/or boulders were encountered within this stratum.
- **Silt** deposits were encountered at the northern limits of the AFDRS and were generally stratified. The thickness of this deposit ranged from about 12 to 30 feet and consisted of medium dense Silt, with layers of fine Sand and Silty Clay. This stratum generally consisted of non-plastic and inorganic fine-grained soils, as supported by exploration data provided in the referenced geotechnical reports.
- **Silty Sand** deposits consisted of medium dense fine to medium Sand, with varying amounts of Silt and trace amounts of fine Gravel and Mica. GeoDesign Boring B-15 was the only nearby exploration to extend to refusal on inferred bedrock, which indicated the Silty Sand was about 30 feet thick at that location.

Groundwater was encountered at about Elevation 6 to 12 feet at the time of the most recent borings. Groundwater is likely influenced by river stage fluctuations and other geological, meteorological and seasonal factors.



1.6 LABORATORY AND IN-SITU TESTING DATA

Laboratory and in-situ test data were obtained and utilized from the following site-specific geotechnical reports:

- USACE Design Memorandum #6 titled *Embankments, Foundations, and Channel Improvements for the Ansonia-Derby Local Protection, Naugatuck River, Connecticut (1966)*
 - Grain-size Analyses
 - Atterberg Limits
 - Moisture Content

- Milone and MacBroom, Inc. titled *Summary of Certifications FEMA Accreditation, Housatonic River and Naugatuck River Flood Protection Projects – Section 1 (2010)*
 - Grain-size Analyses
 - Atterberg Limits
 - Oedometer Tests on Silt
 - Standard Penetration Tests
 - Pump-in Tests performed on natural foundation soils

- GeoDesign, Inc. titled *Geotechnical Analysis Report, Naugatuck River Flood Protection Project, Systems 2 and 3, Ansonia, Connecticut (November 2011)*.
 - Grain-size Analyses
 - Atterberg Limits
 - Organic Content
 - Standard Penetration Tests

1.7 CRITICAL CROSS SECTIONS

Cross sections were developed for the range of AFDRS features and Ansonia Riverwalk project construction conditions. The cross sections were selected based on available subsurface data and conditions, features of the AFDRS, and proposed Ansonia Riverwalk construction. The cross sections were used to complete a range of geotechnical analyses and to evaluate potential impacts to the AFDRS resulting from Ansonia Riverwalk construction.

Geotechnical analyses were conducted at critical cross sections considering changes resulting from proposed Ansonia Riverwalk work. The following Table 1.1 summarizes the individual cross sections, relevant borings, and elements of Ansonia Riverwalk construction representing potential impacts. Figures 1.1 and 1.2 in Appendix 1 shows the cross-section locations. Figures 1.3 and 1.4 in Appendix 1 represent the two cross-sections.



Stations	Cross Section	Flood Control Feature	Relevant Soil Borings	Proposed Ansonia Riverwalk Construction	
				Landside	Riverside
71+50	A-A	Earth Dike	B-23, FD-7, FD-41, and FD-101	1. Filling behind Dike 2. Imposed loads from overlook and retaining structures	1. Filling on Dike Crest
88+60	B-B	Earth Dike	B-15, FD-111, and FD-113	1. Filling behind Dike	1. Filling on Dike Crest

1.8 MATERIAL PROPERTY SELECTION

Material properties for use in geotechnical analyses were evaluated. Representative values were selected from a combination of in-situ tests, laboratory tests, empirical correlations, site specific geotechnical reports, and engineering judgment. Tables 1.2 and 1.3 in Appendix 1 were generated from Figures 1.5 and 1.6. These tables represent ranges of empirical soil property values that were implemented in the absence of site specific in-situ or laboratory data.

Correlated unit weights, void ratios, and drained friction angles were obtained from Table 1.2 using Standard Penetration N-values and Unified Soil Classification System (USCS) descriptions. Correlated hydraulic conductivities were obtained from Table 1.3 using USCS descriptions and construction descriptions of soil materials. An average hydraulic conductivity value was used in the absence of construction descriptions (e.g., for natural soil deposits). Figures 1.7 and 1.8 in Appendix 1 were used to supplement and check the correlated values in Tables 1.2 and 1.3. Soil properties for a specific analysis were selected in the following manner:

- Reviewing site specific geotechnical reports listed in Sub-Section 1.5 *Subsurface Conditions and Groundwater*, for historic recommended soil properties.
- Comparing historic recommended soil properties with laboratory, in-situ, and correlated soil properties.
- Selecting a soil property based on the above reviews/comparisons and engineering experience working with similar materials.

Table 1.4 presents a summary of the selected soil property values used in the analyses completed by DTE.



2.0 SEEPAGE

2.1 INTRODUCTION

The following analyses were performed to evaluate possible seepage impacts to the AFDRS from the proposed Ansonia Riverwalk project. The results of the seepage analyses are also incorporated into subsequent geotechnical analyses, such as, evaluation of global stability.

Seepage was evaluated assuming steady-state conditions and at USACE Freeboard Design Elevations, which ranged from 1 to 2 feet above the design water surface at Elevation 32 feet as recommended by the USACE Design Memorandum #9 (DM9) titled, *Hydraulic Analyses and Miscellaneous Supplements for the Ansonia-Derby Local Protection, Naugatuck River, Connecticut (1967)*.

2.2 ANALYSIS METHOD

The analyses were completed in general accordance with USACE guidance, EM1110-2-1913, *Design and Construction of Levees* and ETL 1110-2-569, *Design Guidance for Levee Underseepage*, 1 May 2005.

The principal criteria for evaluating seepage under steady-state conditions are the exit gradient (estimated gradient at the point of exit). Excessive exit gradients can cause sand boils, piping (internal erosion), and overall foundation disturbance and instability. The USACE guidance documents state that the maximum exit gradient should not be greater than 0.5.

Two representative cross sections, encompassing the Earth Dike and proposed Ansonia Riverwalk construction, were analyzed using SLIDE developed by Rocscience, Inc. SLIDE is a two-dimensional finite element/limit equilibrium program and was used to evaluate the following:

- Steady-state phreatic levels and pore pressures at the AFDRS structures and foundation soils.
- Seepage flow paths and lines of equipotential.
- Estimated exit gradient and uplift pressures.

2.3 POTENTIAL ANSONIA FLOOD DAMAGE REDUCTION SYSTEM SEEPAGE IMPACTS

The Ansonia Riverwalk project has no proposed hydraulic cutoffs or other work that could influence seepage conditions. The proposed overlook retaining wall and drainage structures will be located on new fill and about 20 feet landward from the centerline of the earth dike and embedded at about Elevation 32 feet (i.e., at about design flood elevation). No utility penetrations of the AFDRS are proposed.

2.4 MODEL PARAMETERS

Cross sections were developed using subsurface data from nearby borings, USACE record drawings, and Ansonia Riverwalk design drawings. Soil properties were selected based on



correlations to the USCS system, SPT N-value, and grain-size data, when available. Refer to Section 1.0 for more details regarding subsurface conditions and soil property selection.

A horizontal to vertical hydraulic conductivity ratio (k_h/k_v) of 4 was used for the Earth Dike and natural soils (CESPK 2003). A (k_h/k_v) ratio of 1 was used for fill materials. Conservative assumptions were made for limited contribution/influence of existing under-drains, and the drains were not utilized in the seepage analyses. Refer to Figures 2.1 and 2.2 in Appendix 2 for specific soil properties and seepage model boundary conditions selected for respective seepage analyses.

2.5 RESULTS AND CONCLUSIONS

The results of the seepage evaluations are summarized below. Refer to Figures 2.1 and 2.2 in Appendix 2 for the individual seepage model results. Exit gradients were calculated to be below the maximum allowable limit of 0.5 for both cross sections. Therefore, no negative impacts for seepage concerns result from the Ansonia Riverwalk project.

The proposed fill placed behind the AFDRS will also raise the overall site grade elevation and resulted in additional cover and reduced landside seepage gradients. The landside fill is a net benefit to AFDRS in this respect.

Stations	Cross Sections	Flood Control Feature	Maximum Exit Gradient
71+50	A-A	Earth Dike	0.1
88+60	B-B	Earth Dike	0.4



3.0 GLOBAL STABILITY

3.1 INTRODUCTION

Geotechnical global stability analyses were conducted to evaluate potential impacts to the AFDRS from Ansonia Riverwalk construction. The following analyses were performed to determine factors of safety for four specific USACE loading conditions:

- Case 1: End of construction;
- Case 2: Rapid drawdown;
- Case 3: Steady-state seepage at full flood stage; and
- Case 4: Earthquake.

3.2 ANALYSIS METHOD

The analyses were completed in general accordance with USACE guidance, EM 1110-2-1913, *Design and Construction of Levees*, 30 April 2000 and EM 1110-2-1902, *Slope Stability*, 31 October 2003. The minimum allowable factors of safety, as specified by USACE guidance, are as follows:

- Case 1: 1.4;
- Case 2: 1.0 (assuming water levels are unlikely to last for an extended period of time);
- Case 3: 1.4; and
- Case 4: 1.0.

Two cross sections were analyzed using SLIDE 2018 developed by Rocscience, Inc. SLIDE is a two-dimensional finite element/limit equilibrium program and was used to evaluate the following:

- Predict the steady-state phreatic levels and pore pressures in the Earth Dike and foundation soils.
- Evaluate global stability.

The phreatic surfaces and pore water pressures were obtained from the seepage analyses described in Section 2.0. Stability was evaluated using the Spencer Method, which satisfies both moment and force equilibrium.

3.3 POTENTIAL ANSONIA FLOOD DAMAGE REDUCTION SYSTEM STABILITY IMPACTS

The Ansonia Riverwalk project has various proposed construction elements that could potentially affect global stability of the AFDRS. These elements are as follows:

- Filling (embankment construction) land side of the Earth Dike up to approximate Elevation 36 feet (NGVD 29) and construction of the Overlook retaining wall at about Station 88+00 to 90+00.
- Filling (embankment construction) land side of the Earth Dike up to approximate Elevation 37 feet (NGVD 29) from Station 88+00 to 90+00.



3.4 MODEL PARAMETERS

Representative cross sections were modeled from nearby borings, USACE record drawings, and Ansonia Riverwalk design drawings. Soil properties were selected based on correlations to the USCS system, SPT N-value, Atterberg limits, and laboratory strength data where available. Refer to Section 1.0 for more details regarding subsurface conditions and soil property selection. The model loading conditions are as follows:

- 1) End of construction analyses (Case 1) were performed assuming a low river level of Elevation 6 feet (per USACE Design Memorandum #1 (DM1) titled, *Hydrology and Interior Drainage for the Ansonia-Derby Local Protection, Naugatuck River, Connecticut* (1965)) and steady-state conditions. Drained strengths were assigned to fine- and coarse-grained soils.
- 2) Rapid drawdown analyses (Case 2) assumed that the water level rises to the USACE freeboard design height and remains there long enough to saturate the levee to create an elevated piezometric surface with steady-state conditions - and then the river stage suddenly drops to Elevation 6 feet not allowing for excess pore pressures to dissipate within materials with low (10^{-4} cm/sec or less) hydraulic conductivities (i.e., compacted Impervious Fill and natural Silt deposits). Soils with hydraulic conductivities less than 10^{-4} cm/sec were assumed undrained, and each slice within the model was assigned the lower of the drained or undrained soil strengths. The rapid drawdown analyses generally follow the USACE 1970 Procedure.
- 3) Steady-state seepage at full flood stage analyses (Case 3) assumed that the water level rises to the USACE freeboard design height (about 2 feet below top of original crest) and remains there long enough to create an elevated piezometric surface and steady-state seepage condition. Drained strengths were assigned to fine- and coarse-grained soils due to the long-term nature of steady-state seepage.
- 4) Earthquake analyses (Case 4) assumed steady-state seepage condition from a river level at Elevation 6 feet. A pseudo-static earthquake force was used to simulate earthquake loading. The acceleration coefficient for Connecticut varies from 0.14 to 0.16 according to AASHTO Specifications. Generally, the pseudo-static earthquake force is taken as 0.5 times the acceleration coefficient. Therefore, a pseudo-static coefficient of 0.08 was used in the global stability analyses in order to evaluate the sensitivity of the pseudo-static coefficient.

Refer to Figures 3.1 through 3.8 in Appendix 3 for specific soil properties and loading conditions selected for respective stability analyses.

3.5 RESULTS AND CONCLUSIONS

The results of the global stability evaluations are summarized in the following Table 3.1. Refer to Figures 3.1 through 3.10 in Appendix 3.0 for the individual global stability models. Factors of safety for the four respective cases were at or above the USACE recommended minimum factors of safety.



The proposed Ansonia Riverwalk construction includes placement of Riverwalk Fill at the crest and landward of the Earth Dike. Global stability analyses confirmed that the additional Riverwalk Fill had slight influences on the factor of safety (all at/above USACE recommended values) for potential slip surfaces displacing either towards the water side or land side of the Earth Dike.

Location and Feature			Factor of Safety			
Stations	Cross Sections	Flood Control Type	Case 1	Case 2	Case 3	Case 4
71+50	A-A	Earth Dike	1.5	1.1	1.5	1.2
88+60	B-B	Earth Dike	1.7	1.2	1.6	1.4
Case 1: End of Construction - Minimum Fs = 1.4						
Case 2: Rapid Drawdown - Minimum Fs = 1.0						
Case 3: Steady-State - Minimum Fs = 1.4						
Case 4: Earthquake (0.08g) - Minimum Fs = 1.0						



4.0 SETTLEMENT

4.1 INTRODUCTION

Settlement analyses were conducted to evaluate potential impacts on the AFDRS from placement of proposed Fill and associated loading. Proposed site grading would result in the placement of up to approximately 5 feet of embankment fill above existing AFDRS site grades. Additional Fill placement has the potential to cause settlements within underlying AFDRS foundation soils.

4.2 ANALYSIS METHOD

The analysis was completed in general accordance with USACE guidance, EM 1110-1-1904, Settlement Analysis, 30 September 1990.

Two cross-sections were analyzed using SETTLE developed by Rocscience, Inc. SETTLE a 3-dimensional program used for the analysis of vertical consolidation and settlement. SETTLE was used in conjunction with conventional settlement analysis techniques to assess the following:

- Vertical Stress Distributions
- Elastic Settlements

4.3 POTENTIAL ANSONIA FLOOD DAMAGE REDUCTION SYSTEM SETTLEMENT IMPACTS

Generally, the subsurface investigations revealed deposits of dense, granular materials. Notwithstanding, a deposit of Silt was located beneath the proposed project limits, particularly in the area of the proposed Riverwalk Overlook (Station 71+50). Borings indicate that the Silt deposit is approximately 15 feet thick under the Earth Dike. The Ansonia Riverwalk project proposes fill on top of and behind the Earth Dike. Proposed fill thicknesses range from about 1 foot at the existing Earth Dike crest to about 5 feet behind the Earth Dike (at the landside toe).

The new load imposed from the proposed fill is small (i.e., 1 to 5 feet of new fill) compared to the imposed load of the Earth Dike itself. The change in stress due to the proposed fill should not cause significant settlements below the crest of the Earth Dike.

4.4 MODEL PARAMETERS

Representative cross sections were modeled using subsurface data from nearby borings, USACE record drawings, and Ansonia Riverwalk design drawings. Soil properties were selected based on correlations to the USCS system, SPT N-value, and laboratory data where available. Refer to Section 1.0 for more details regarding subsurface conditions and soil property selection.

Refer to Appendix 4 for specific soil properties and loading conditions selected for respective stability analyses.



4.5 RESULTS AND CONCLUSIONS

The following Table 4.1 contains the results of the settlement analysis. Due to the relatively small amount of total settlement estimated, we do not expect the proposed Riverwalk fill to induce problematic differential settlement nor to create or propagate longitudinal or transverse cracks within the existing Earth Dike materials.

Stations	Cross Sections	Flood Control Feature	Total Estimated Settlement
71+50	A-A	Earth Dike	0.9 inches
88+60	B-B	Earth Dike	0.6 inches



5.0 FILTER COMPATIBILITY

5.1 INTRODUCTION

Based on the provided Ansonia Riverwalk drawings, regrading of Ramp No. 1 and 2 will require material placement above the existing toe drain filter system (specifically, over existing crushed stone fill) and landside stone bedding. Modified riprap (CTDOT Form 817, Section M.12.02-3) will be placed over the referenced AFDRS materials. A review of the toe drain filter system and proposed fill materials is required to assess whether proposed materials will impact the existing toe drain system.

5.2 ANALYSIS AND CONCLUSIONS

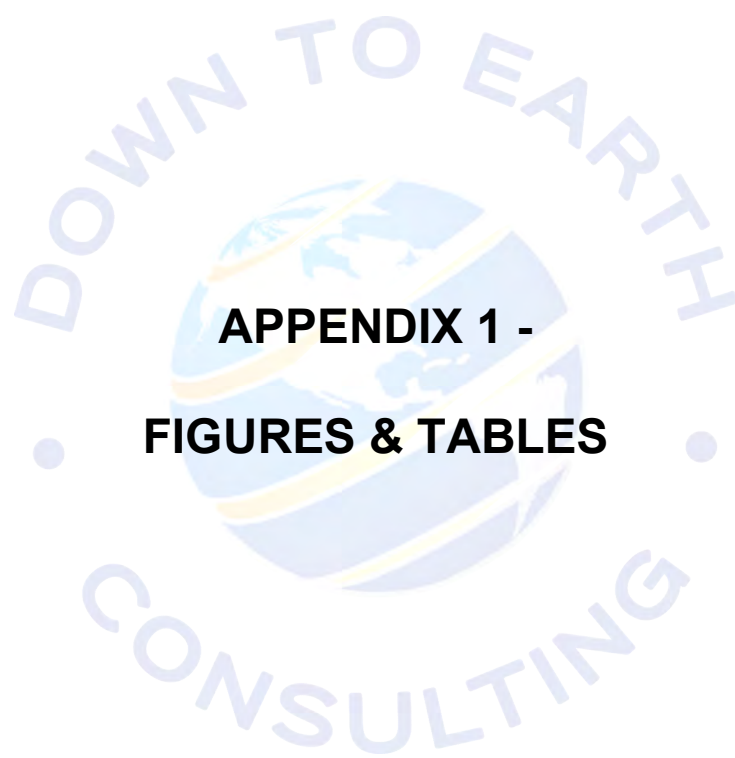
Modified Riprap is a State of Connecticut Department of Transportation (CTDOT) standardized material (CTDOT Standard Specifications for Roads, Bridge, Facilities and Incidental Construction – Form 817 (2016)) that consists of sound, tough, durable and angular rock, free from decomposed stones or other defects impairing its durability. The gradation for Modified Riprap is as follows:

Sieve Size	Percent finer by weight
10-inches	100%
6- to 10-inches	20 – 50%
4- to 6-inches	30 – 60%
2- to 4-inches	30 – 40%
1- to 2-inches	10 – 20%
<1-inch	0 – 10%

USACE Design Memorandum #6 (DM6) titled, *Embankments, Foundations and Channel Improvements for the Ansonia-Derby Local Protection, Naugatuck River, Connecticut (1966)* was reviewed to determine the gradation of the existing Crushed Stone Fill and Stone Bedding. According to DM6, and associated references, the crushed stone fill consists of material meeting the gradation specifications for $\frac{1}{4}$ - to $\frac{3}{4}$ -inch concrete aggregate. The *Specifications for the Construction of Local Protection Project, Ansonia-Derby, Naugatuck River, Connecticut (1968)*, Volume 1 of 3, provides a slightly wider and finer gradation for Crushed Stone Fill ranging from a No.4 sieve (4.75 mm) to $\frac{3}{4}$ -inch particle size.

The referenced specifications also provide a gradation for Stone Bedding as having a maximum size stone weight between 15 and 25 pounds, with a minimum stone size of 2- to 2.5-inches. The material may also contain up to 5% by dry weight of particles passing the 2- to 2.5-inch sieve size. This would suggest that the proposed Modified Riprap has slightly finer-graded material (i.e., minimum 1-inch) compared to the Stone Bedding. Therefore, filter compatibility was checked using technical guidance from the USACE (EM 1110-2-193, Appendix D), which is consistent with the National Resources Conservation Service (NRCS) Part 633 National Engineering Handbook, Chapter 26. The Modified Riprap would be classified as a Category 1 material; therefore, the Stone Bedding must have a D_{15} size less than or equal to 4 times the D_{85} of the Modified Riprap. That condition is satisfied based on the gradation of materials presented above.

Materials associated with Ansonia Riverwalk construction activities will not cause filter compatibility issues with existing AFDRS toe drain materials.



**APPENDIX 1 -
FIGURES & TABLES**

Stations	Cross Section	Flood Control Feature	Relevant Soil Borings	Proposed Ansonia Riverwalk Construction	
				Landside	Riverside
71+50	A-A	Earth Dike	B-23, FD-7, FD-41, and FD-101	1. Filling behind Dike 2. Imposed loads from overlook and retaining structures	1. Filling on Dike Crest
88+60	B-B	Earth Dike	B-15, FD-111, and FD-113	1. Filling behind Dike	1. Filling on Dike Crest

Table 1.1: AFDRS Critical Cross-Sections

USCS	Relative Density or Consistency	SPT N-Value	ϕ°_1			γ_d (pcf) ₁			Void Ratio (e) ₂			Saturated Unit Weight (pcf) ₃		
			Hi	Lo	Ave	Hi	Lo	Ave	Hi	Lo	Ave	Hi	Lo	Ave
ML	Loose	4-10	31	28	29	90	82	86	1.04	0.86	0.95	119	114	116
	Medium Dense	10-30	34	30	32	95	85	90	0.97	0.76	0.86	122	116	119
	Dense	30-50	36	33	34	99	91	95	0.84	0.69	0.76	124	119	122
	Very Dense	>50	37	35	36	101	94	98	0.78	0.66	0.72	126	121	124
SM	Very Loose	<4	29	26	27	94	84	89	0.99	0.78	0.88	121	115	118
	Loose	4-10	31	28	30	98	87	93	0.92	0.71	0.81	124	117	120
	Medium Dense	10-30	35	30	32	104	90	97	0.86	0.61	0.73	128	119	123
	Dense	30-50	37	34	35	108	95	102	0.76	0.55	0.65	130	122	126
	Very Dense	>50	38	36	37	111	99	105	0.69	0.51	0.60	132	124	128
SP-SM	Very Loose	<4	29	26	28	98	88	93	0.90	0.71	0.80	124	118	121
	Medium Dense	10-30	34	31	33	108	94	101	0.78	0.55	0.66	130	121	126
	Dense	30-50	37	34	36	111	101	106	0.66	0.51	0.58	132	126	129
	Very Dense	>50	39	36	38	114	106	110	0.58	0.47	0.52	134	129	131
SW-SC	Very Loose	<4	28	26	27	98	94	96	0.78	0.71	0.74	124	121	123
SP	Loose	4-10	32	28	30	105	94	100	0.78	0.59	0.69	128	121	125
	Medium Dense	10-30	35	31	33	111	99	105	0.69	0.51	0.60	132	124	128
	Dense	30-50	37	35	36	116	104	110	0.61	0.44	0.52	135	128	131
	Very Dense	>50	39	36	38	119	109	114	0.53	0.41	0.47	137	131	134
SW / SW-SM	Very Loose	<4	29	27	28	108	98	103	0.71	0.55	0.63	130	124	127
	Loose	4-10	32	29	31	112	101	107	0.66	0.49	0.57	133	126	129
	Medium Dense	10-30	36	31	34	119	105	112	0.59	0.41	0.50	137	128	133
	Dense	30-50	39	35	37	124	111	118	0.51	0.35	0.43	140	132	136
	Very Dense	>50	42	38	40	128	116	122	0.44	0.31	0.37	143	135	139
GP / GP-GM /GM	Very Loose	<4	29	27	28	116	105	111	0.59	0.44	0.52	135	128	132
	Loose	4-10	33	29	31	121	108	115	0.55	0.38	0.47	138	130	134
	Medium Dense	10-30	37	32	35	129	112	121	0.49	0.30	0.39	143	133	138
	Dense	30-50	40	36	38	135	119	127	0.41	0.24	0.32	147	137	142
	Very Dense	>50	43	39	41	139	123	131	0.36	0.20	0.28	150	140	145

1 Dry density and friction angle are based on Figure 3-1 of EM 1110-2-2504 (after NAVFAC DM 7.01 Figure 7)
2 Void ratio, e, calculated from

$$e = G_s \times \gamma_w / \gamma_d - 1$$

3 Moist unit weight calculated from

$$\gamma_{Sat} = (G_s + e) \times \gamma_w / (1 + e)$$

4 $G_s=2.68$, assumed specific gravity of soil particles.

Table 1.2: Correlated Unit Weights, Void Ratios, and Drained Friction Angles

	Lo(K)		Hi(K)		Ave(K)	
	K(cm/sec)	K(ft/sec)	K(cm/sec)	K(ft/sec)	K(cm/sec)	K(ft/sec)
CL	1.00E-08	3.28E-10	1.00E-05	3.28E-07	8.00E-07	2.62E-08
ML	1.00E-08	3.28E-10	2.30E-05	7.55E-07	6.50E-06	2.13E-07
SC	2.50E-08	8.20E-10	1.00E-05	3.28E-07	3.50E-07	1.15E-08
SM	1.00E-08	3.28E-10	1.00E-03	3.28E-05	7.00E-05	2.30E-06
SP	1.00E-04	3.28E-06	1.20E-02	3.94E-04	7.00E-03	2.30E-04
SW	1.50E-04	4.92E-06	3.00E-03	9.84E-05	1.50E-03	4.92E-05
GC	9.00E-08	2.95E-09	1.00E-02	3.28E-04	9.00E-04	2.95E-05
GM	2.00E-08	6.56E-10	8.00E-03	2.62E-04	6.00E-04	1.97E-05
GP	4.00E-07	1.31E-08	5.00E-02	1.64E-03	6.00E-03	1.97E-04
GW	1.00E-04	3.28E-06	4.00E-02	1.31E-03	6.00E-03	1.97E-04
Note: The values in the table were read from the Figure 5.14 of "DESIGN OF SMALL DAMS" 3rd Edition, 1987, (Page 98)						
Steel sheet pile		K(cm/sec)	K(ft/sec)			
		4.90E-07	1.60E-08			
Note: From Patrick Powers, Construction Dewatering and Groundwater Control Third Edition, 2007, (page 364)						





Table 1.3: Correlated Hydraulic Conductivity Values

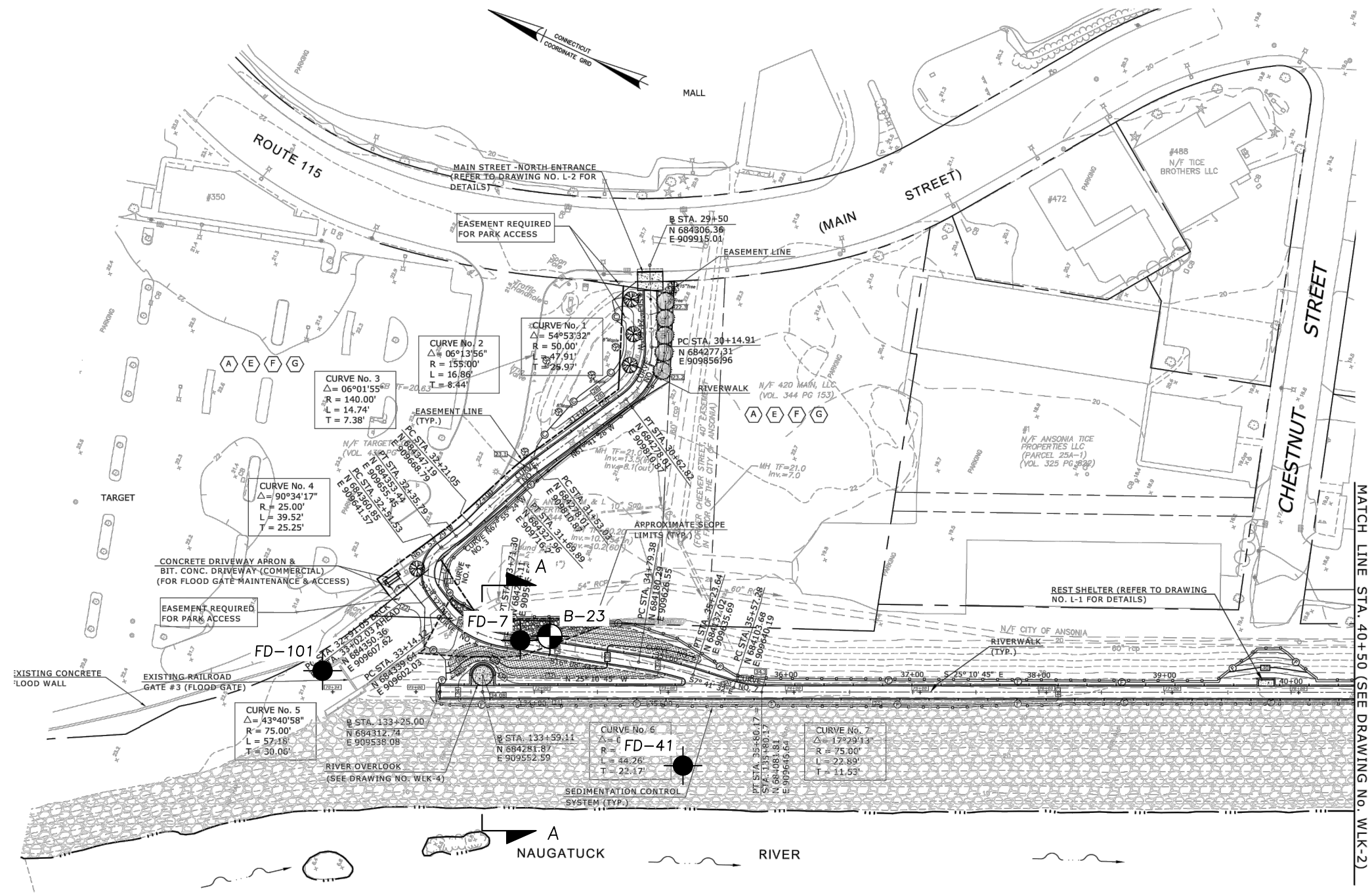
Soil Strata	USCS Classification	Sources of Information	Relative Density	Material Unit Weight (pcf)	Drained Friction Angle (°)	Vertical Hydraulic Conductivity (ft/s)
Fill	SW	Boring Logs	Medium Dense to Dense	130	28	5E-05
Foundation Silty Gravelly Sands/Silty Sands	Varies	Boring Logs	Dense to Very Dense	130	33	6E-04
Silt	ML	Boring Logs	Medium Dense	117	28	2E-07
Silty Sand	SP-SM	Boring Logs	Medium Dense	120	30	2E-05
Riverwalk Fill	SW	Ansonia Riverwalk Design Drawings	Dense to Very Dense	130	34	2E-04
Modified Riprap	--	Ansonia Riverwalk Design Drawings	Dense to Very Dense	155	40	2E-02
Compacted Pervious Fill	SP-SM	Boring Logs/USACE Record Drawings	Medium Dense to Dense	140	30	8E-05
Compacted Impervious Fill	SM	Boring Logs/USACE Record Drawings	Medium Dense to Dense	120	33	2E-06
Dumped Gravel Fill	GM	USACE Record Drawings	Dense	128	30	1E-03
Compacted Gravel Fill	GW	USACE Record Drawings	Very Dense	140	32	3E-04
Compacted Sand Fill	--	USACE Record Drawings	--	130	30	5E-04
Crushed Stone Fill	--	USACE Record Drawings	--	140	33	4E-03
Stone Bedding	--	USACE Record Drawings	--	130	35	2E-03
Cover Stone	--	USACE Record Drawings	--	130	38	2E-02
Stone Protection	--	USACE Record Drawings	--	140	35	2E-02
Gravel Bedding	GW	USACE Record Drawings	Dense	140	33	2E-04
Filter Sand Fill	--	USACE Record Drawings	--	120	30	7E-04

Table 1.4: Selected Soil Properties for Analyses

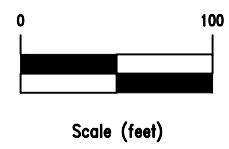
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LEGEND

- FD-1  USACE TEST BORINGS
- B-1  GEODESIGN, INC. TEST BORINGS
-  A
DEVELOPED CROSS-SECTION
(REFER TO FIGURE 1.3)
-  A



DOWN TO EARTH CONSULTING, LLC
GEOTECHNICAL AND ENVIRONMENTAL ENGINEERING



NOTES:
 1. BASE MAP DEVELOPED FROM AN ELECTRONIC FILE PROVIDED BY DECARLO & DOLL, INC., ENTITLED "RIVERWALK SEGMENT 3, MAIN STREET TO EAST DIKE, STA. 29+50 - STA. 40+50" DATED 10/07/2019. ORIGINAL SCALE 1" = 40'.
 2. THE LOCATIONS OF THE BORINGS WERE APPROXIMATED FROM DRAWINGS PREPARED BY THE USACE, ENTITLED "GENERAL PLAN OF EXPLORATIONS, NAUGATUCK RIVER, CT", SHEET 152 AND GEODESIGN, INC., ENTITLED "SITE MAP & BORING LOCATIONS, ANSONIA FLOOD PROTECTION PROJECT, SYSTEMS 2 & 3, ANSONIA, CT", DRAWING NO. D-1.

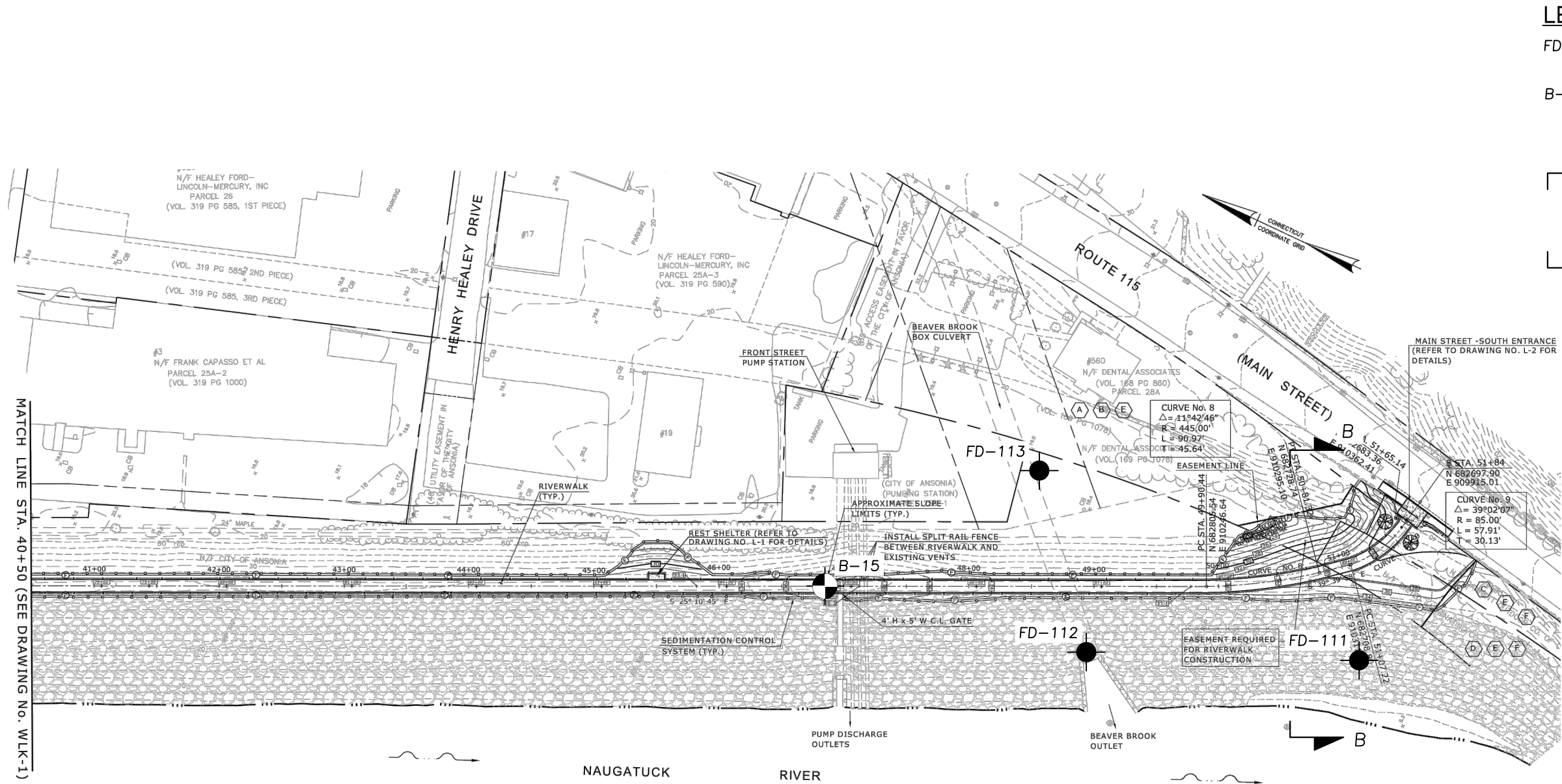
DATE: 10/28/19 DRAWN BY: ARB REVIEWED BY: RPJ

SITE AND EXPLORATION LOCATION PLAN

ANSONIA RIVERWALK, SEGMENTS 3&4 ANSONIA CONNECTICUT

FILE NO.: 0034-008.00 FIGURE NO.: 1.1

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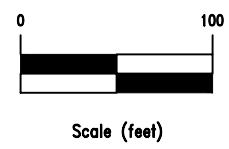


LEGEND

- FD-1 USACE TEST BORINGS
- B-1 GEODESIGN, INC. TEST BORINGS
- B
- B

DEVELOPED CROSS-SECTION
(REFER TO FIGURE 1.4)

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NOTES:

1. BASE MAP DEVELOPED FROM AN ELECTRONIC FILE PROVIDED BY DECARLO & DOLL, INC., ENTITLED "RIVERWALK SEGMENT 4, EAST DIKE TO MAIN STREET, STA. 40+50 - STA. 51+84" DATED 10/07/2019. ORIGINAL SCALE 1" = 40'.
2. THE LOCATIONS OF THE BORINGS WERE APPROXIMATED FROM DRAWINGS PREPARED BY THE USACE, ENTITLED "GENERAL PLAN OF EXPLORATIONS, NAUGATUCK RIVER, CT", SHEET 152 AND GEODESIGN, INC., ENTITLED "SITE MAP & BORING LOCATIONS, ANSONIA FLOOD PROTECTION PROJECT, SYSTEMS 2 & 3, ANSONIA, CT", DRAWING NO. D-1.

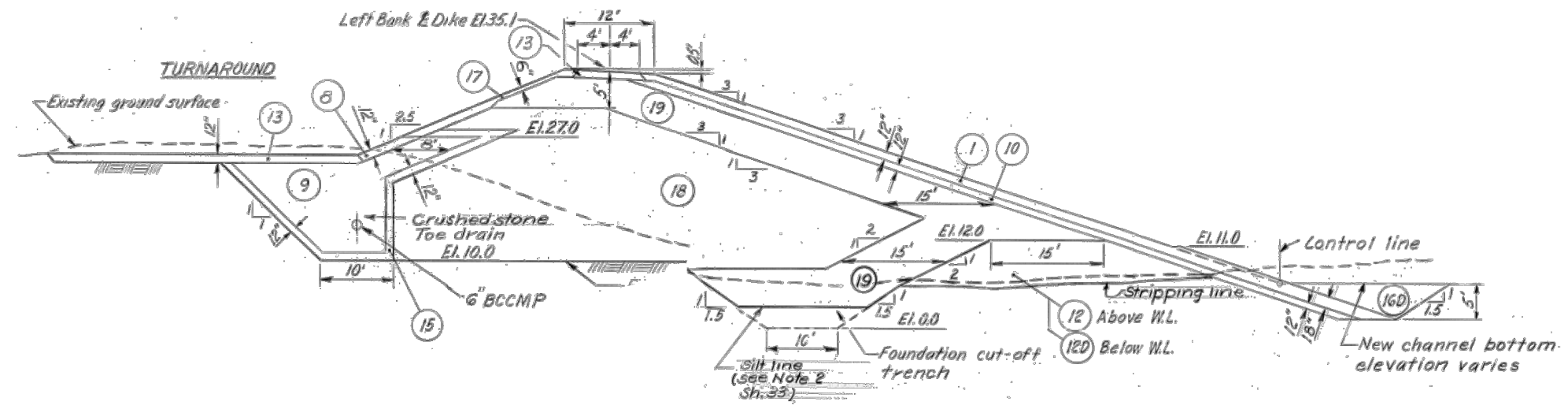
SITE AND EXPLORATION LOCATION PLAN

ANSONIA RIVERWALK, SEGMENTS 3&4 ANSONIA CONNECTICUT

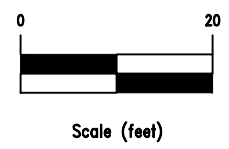
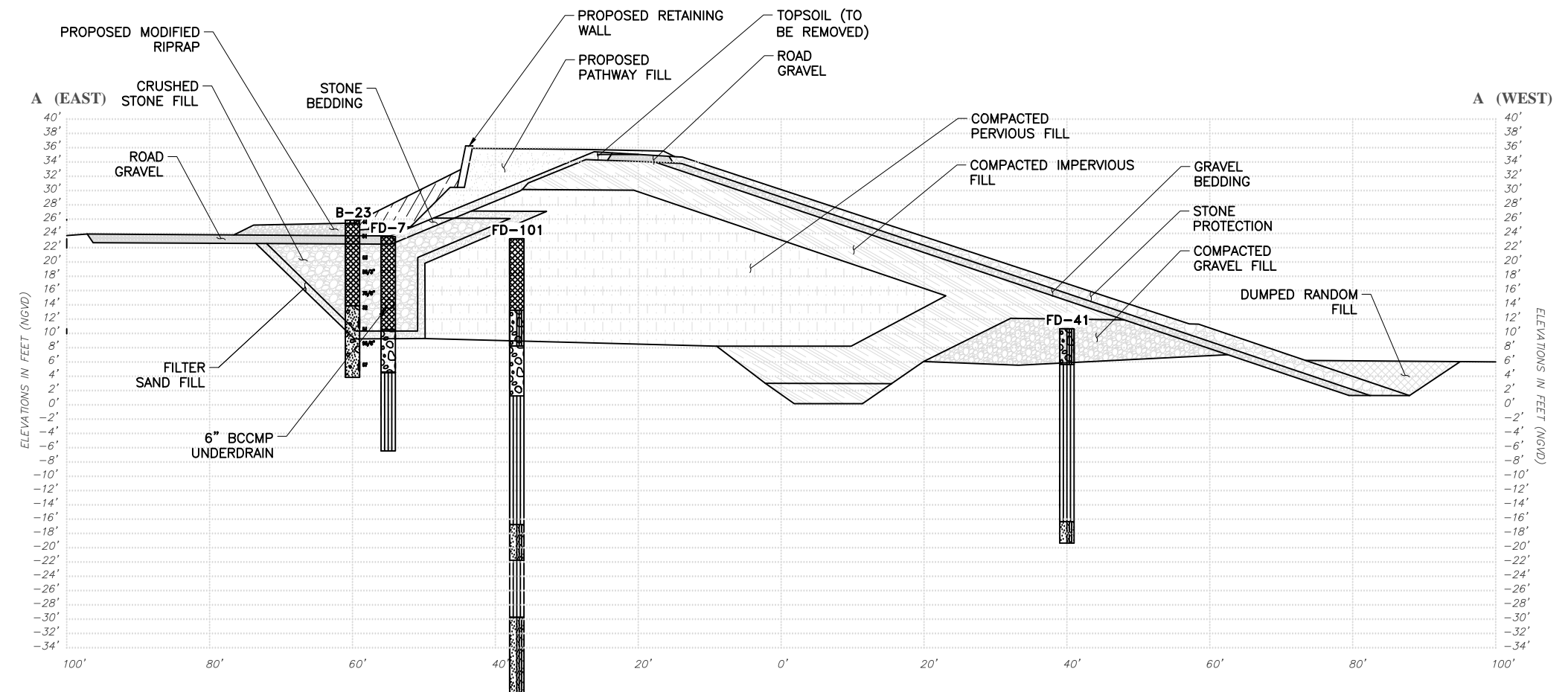
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MATERIALS LEGEND		
DESIGNATION	TYPE OF MATERIAL	PAYMENT ITEM NO.
1	Class I Stone Protection	14
2	Class II Stone Protection	15
2A	Class II A Stone Protection	16
3	Class III Stone Protection	17
4	Class IV Stone Protection	18
6	Class VI Stone Protection	19
7	Class VII Stone Protection	20
8	Stone Bedding	22
9	Crushed Stone Fill	9
10	Class I Gravel Bedding	12
11	Class II Gravel Bedding	13
12	Compacted Gravel Fill	7
12U	Uncompacted Gravel Fill	7
12D	Dumped Gravel Fill	7
13	Road Gravel	11
14	Compacted Sand Fill	8
14U	Uncompacted Sand Fill	8
14D	Dumped Sand Fill	8
15	Filter Sand Fill	10
16A	Class "A" Compacted Random Fill	6
16B	Class "B" Compacted Random Fill	6
16U	Uncompacted Random Fill	6
16D	Dumped Random Fill	6
	Deleted	
17	Topsoil	119
18	Compacted Pervious Fill	5 or 5A
18U	Uncompacted Pervious Fill	5
18D	Dumped Pervious Fill	5
19	Compacted Impervious Fill	4
19U	Uncompacted Impervious Fill	4
19D	Dumped Impervious Fill	4
20	Rolled Gravel Base	11A



Source: USACE Record Drawings for Housatonic River Flood Control, Ansonia - Derby. Dated 1967.

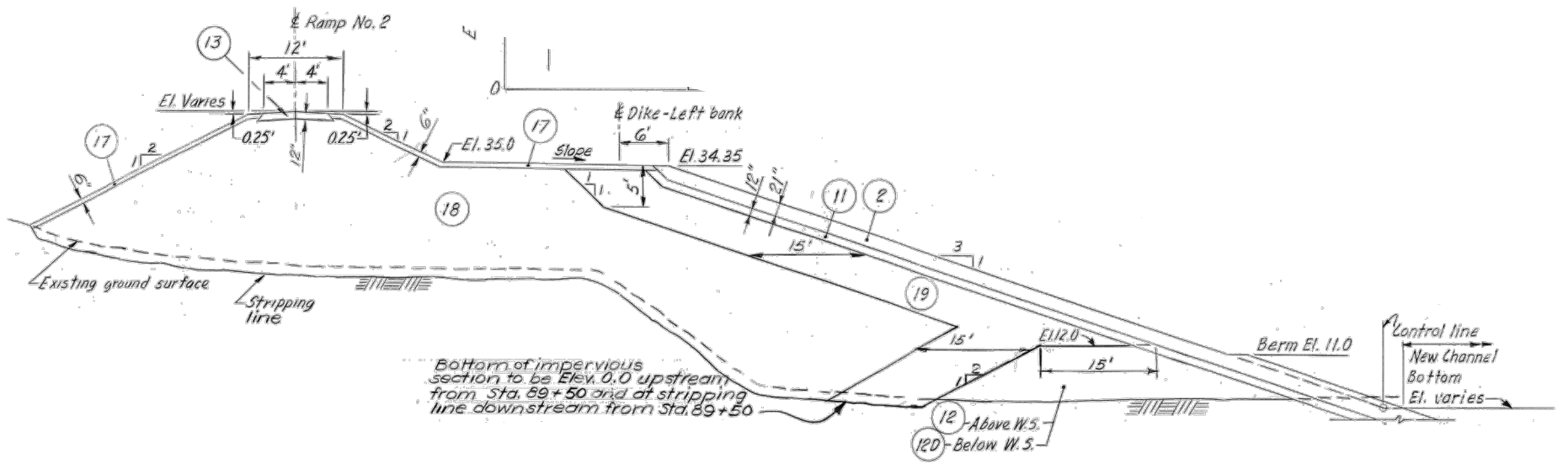


NOTES:
 1. DATA CONCERNING THE VARIOUS STRATA HAVE BEEN INTERPRETED AT BORING LOCATIONS ONLY. THE STRATIGRAPHY BETWEEN BORINGS MAY VARY FROM THAT SHOWN.
 2. REFER TO PLAN VIEW FOR SUBSURFACE PROFILE LOCATION. FOR STRATA DETAILS AND SYMBOL LEGEND, SEE SUBSURFACE PROFILE LEGEND AND BORING LOGS APPENDED TO THIS REPORT.
 3. NUMBERS DISPLAYED BESIDE BORING(S) REPRESENT SPT "N" VALUES CORRESPONDING TO THEIR RESPECTIVE SAMPLING INTERVAL. WHERE CORING WAS PERFORMED, NUMBERS REPRESENT RECOVERY AND RQD VALUES.

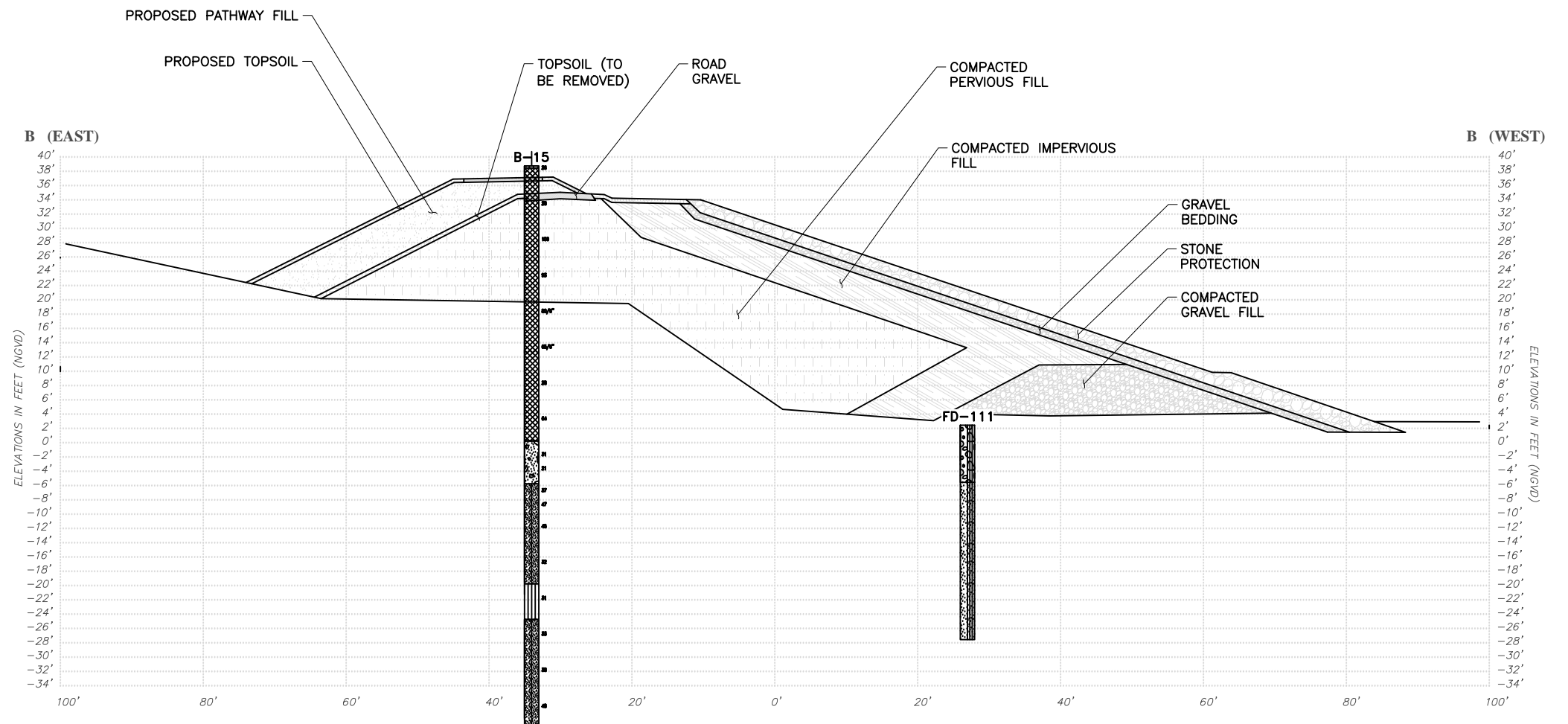
SUBSURFACE SECTION A STA 71+50	
ANSONIA RIVERWALK, SEGMENTS 3&4 ANSONIA CONNECTICUT	
DATE: 10/18/19	DRAWN BY: ARB
REVIEWED BY: RPJ	FILE NO.: 0034-008.00
	FIGURE NO.: 1.3

G:\My Drive\ITE Root Drive\Client Folders (new)\0034 - DeCarlo&Doll-Luchs\008 - Ansonia Riverwalk Seg. 3 and 4\CADD\Segment 3-4 Drawings_recover.dwg Roy 11/7/2019 1:49 PM GrayScale.ctb

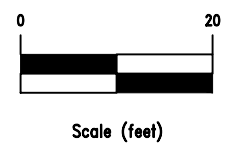
MATERIALS LEGEND		
DESIGNATION	TYPE OF MATERIAL	PAYMENT ITEM NO.
1	Class I Stone Protection	14
2	Class II Stone Protection	15
2A	Class II A Stone Protection	16
3	Class III Stone Protection	17
4	Class IV Stone Protection	18
6	Class VI Stone Protection	19
7	Class VII Stone Protection	20
8	Stone Bedding	22
9	Crushed Stone Fill	9
10	Class I Gravel Bedding	12
11	Class II Gravel Bedding	13
12	Compacted Gravel Fill	7
12U	Uncompacted Gravel Fill	7
12D	Dumped Gravel Fill	7
13	Road Gravel	11
14	Compacted Sand Fill	8
14U	Uncompacted Sand Fill	8
14D	Dumped Sand Fill	8
15	Filter Sand Fill	10
16A	Class "A" Compacted Random Fill	6
16B	Class "B" Compacted Random Fill	6
16U	Uncompacted Random Fill	6
16D	Dumped Random Fill	6
	Deleted	
17	Topsoil	119
18	Compacted Pervious Fill	5 or 5A
18U	Uncompacted Pervious Fill	5
18D	Dumped Pervious Fill	5
19	Compacted Impervious Fill	4
19U	Uncompacted Impervious Fill	4
19D	Dumped Impervious Fill	4
20	Rolled Gravel Base	11A



Source: USACE Record Drawings for Housatonic River Flood Control, Ansonia - Derby. Dated 1967.



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NOTES:
 1. DATA CONCERNING THE VARIOUS STRATA HAVE BEEN INTERPRETED AT BORING LOCATIONS ONLY. THE STRATIGRAPHY BETWEEN BORINGS MAY VARY FROM THAT SHOWN.
 2. REFER TO PLAN VIEW FOR SUBSURFACE PROFILE LOCATION. FOR STRATA DETAILS AND SYMBOL LEGEND, SEE SUBSURFACE PROFILE LEGEND AND BORING LOGS APPENDED TO THIS REPORT.
 3. NUMBERS DISPLAYED BESIDE BORING(S) REPRESENT SPT "N" VALUES CORRESPONDING TO THEIR RESPECTIVE SAMPLING INTERVAL. WHERE CORING WAS PERFORMED, NUMBERS REPRESENT RECOVERY AND RQD VALUES.

DATE: 10/23/19 DRAWN BY: ARB REVIEWED BY: RPJ

**SUBSURFACE SECTION B
 STA 88+60**

**ANSONIA RIVERWALK, SEGMENTS 3&4
 ANSONIA CONNECTICUT**

FILE NO.: 0034-008.00 FIGURE NO.: 1.4

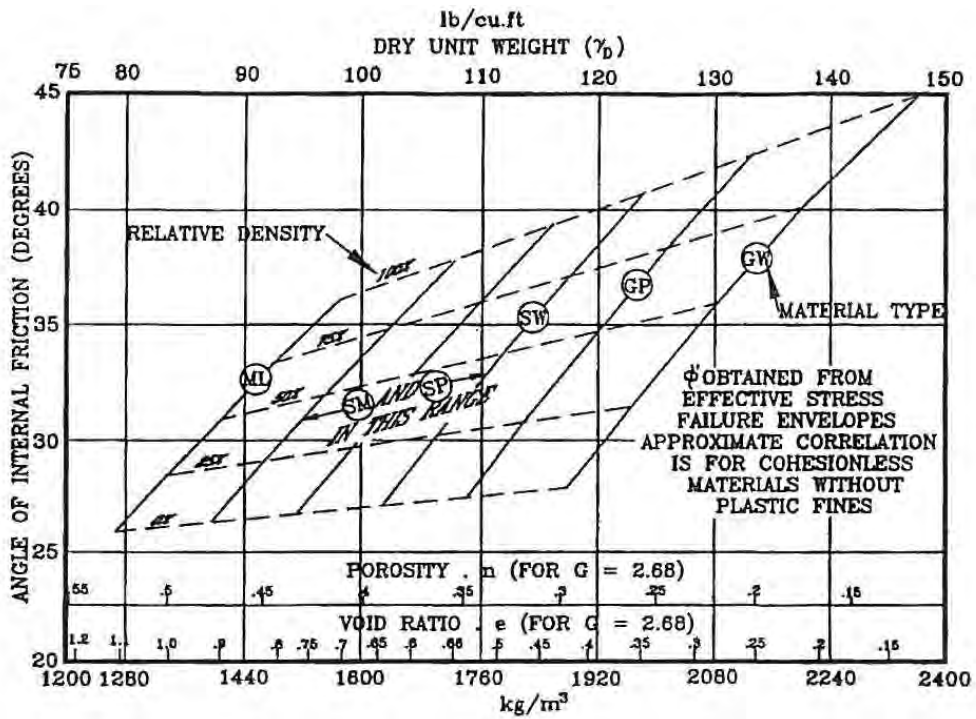


Figure 1.5: NAVFAC DM-7 Unit Weights, Void Ratios, and Drained Friction Angles

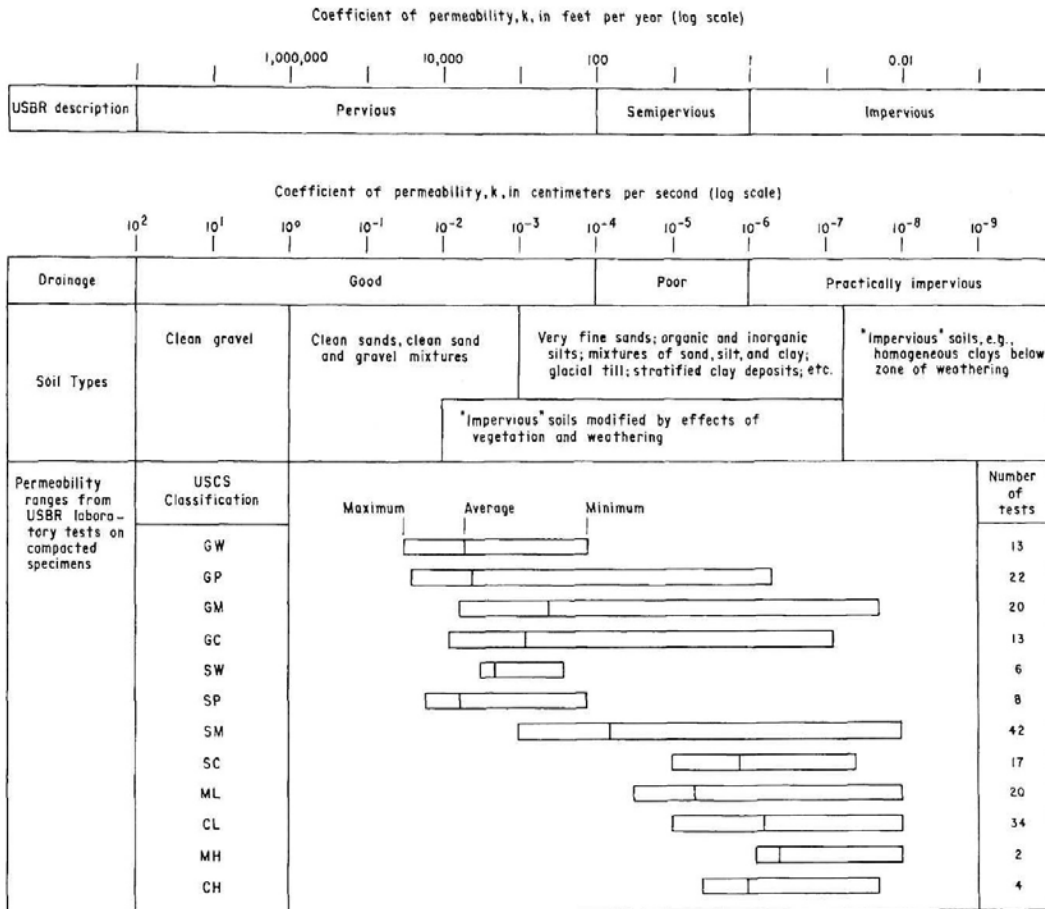


Figure 1.6: Hydraulic Conductivity Correlations (Design of Small Dams 3rd edition 1997)

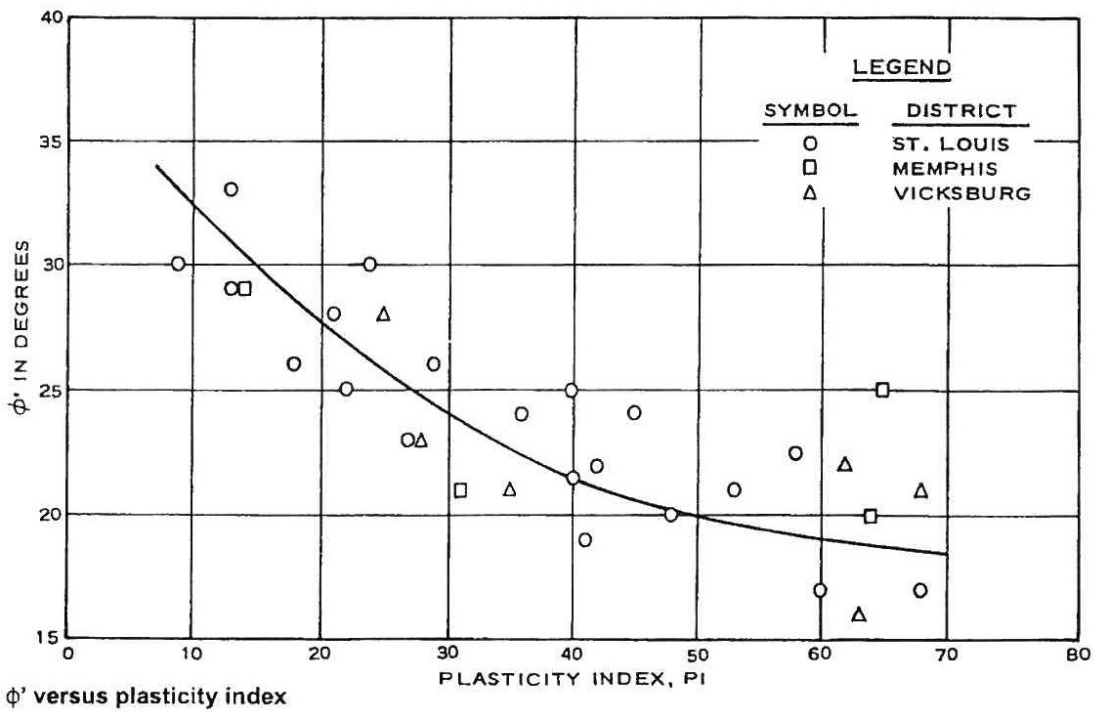


Figure 1.7: Drained Friction Angle vs. Plasticity Index (EM 1110-2-1913)

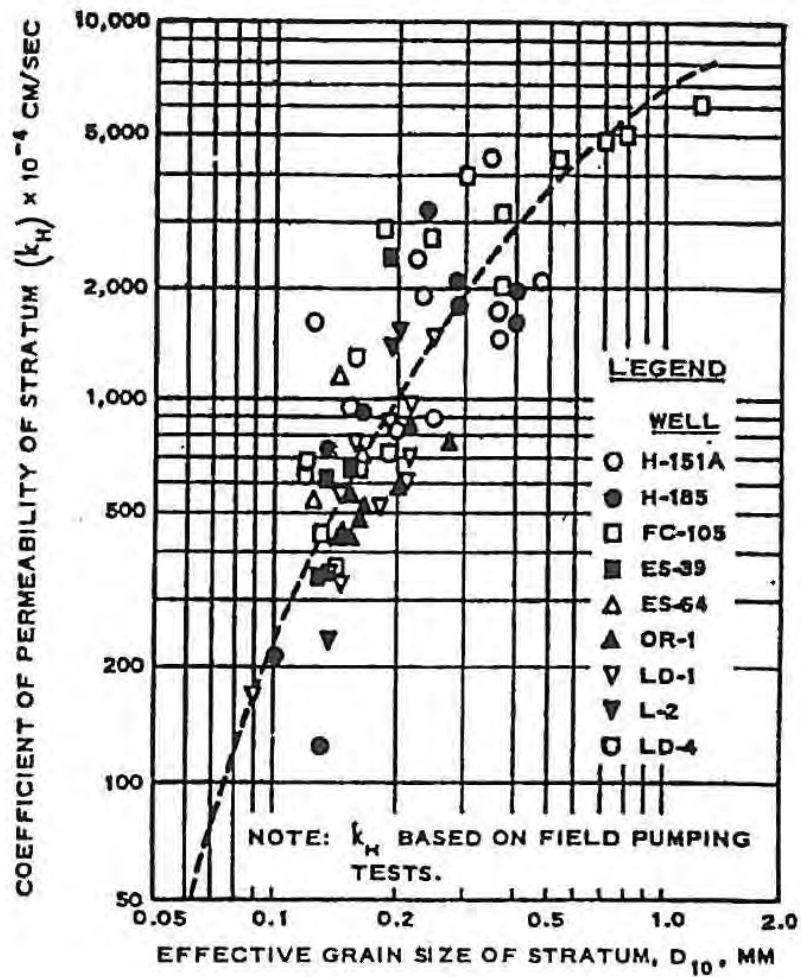
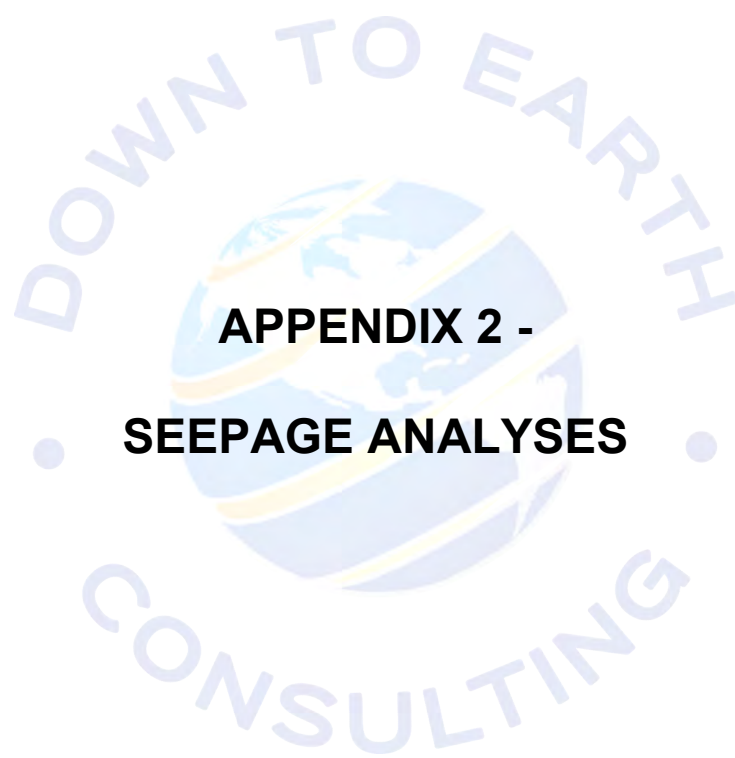


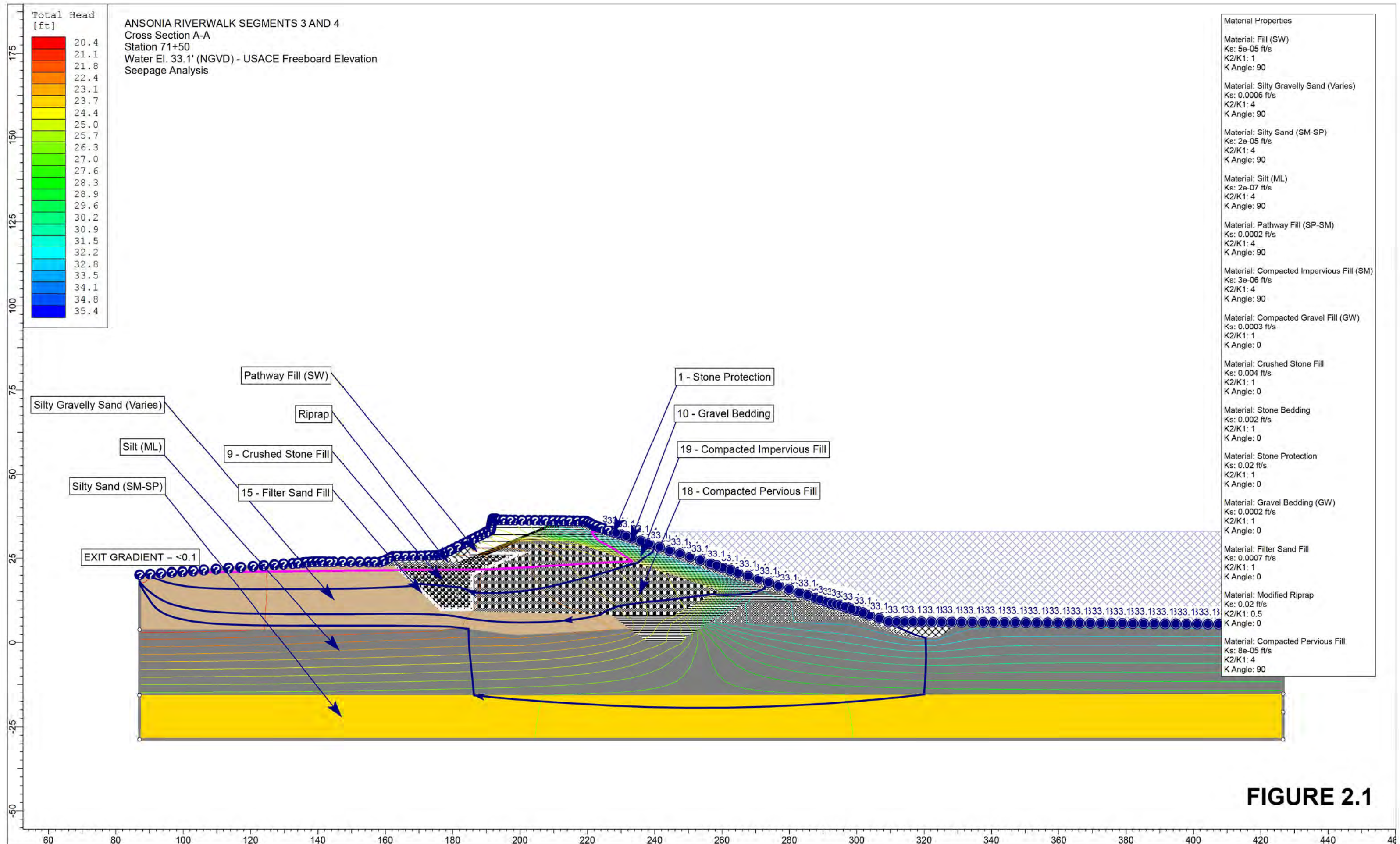
Figure 1.8: Hydraulic Conductivity vs. D_{10} (EM 1110-2-1913)

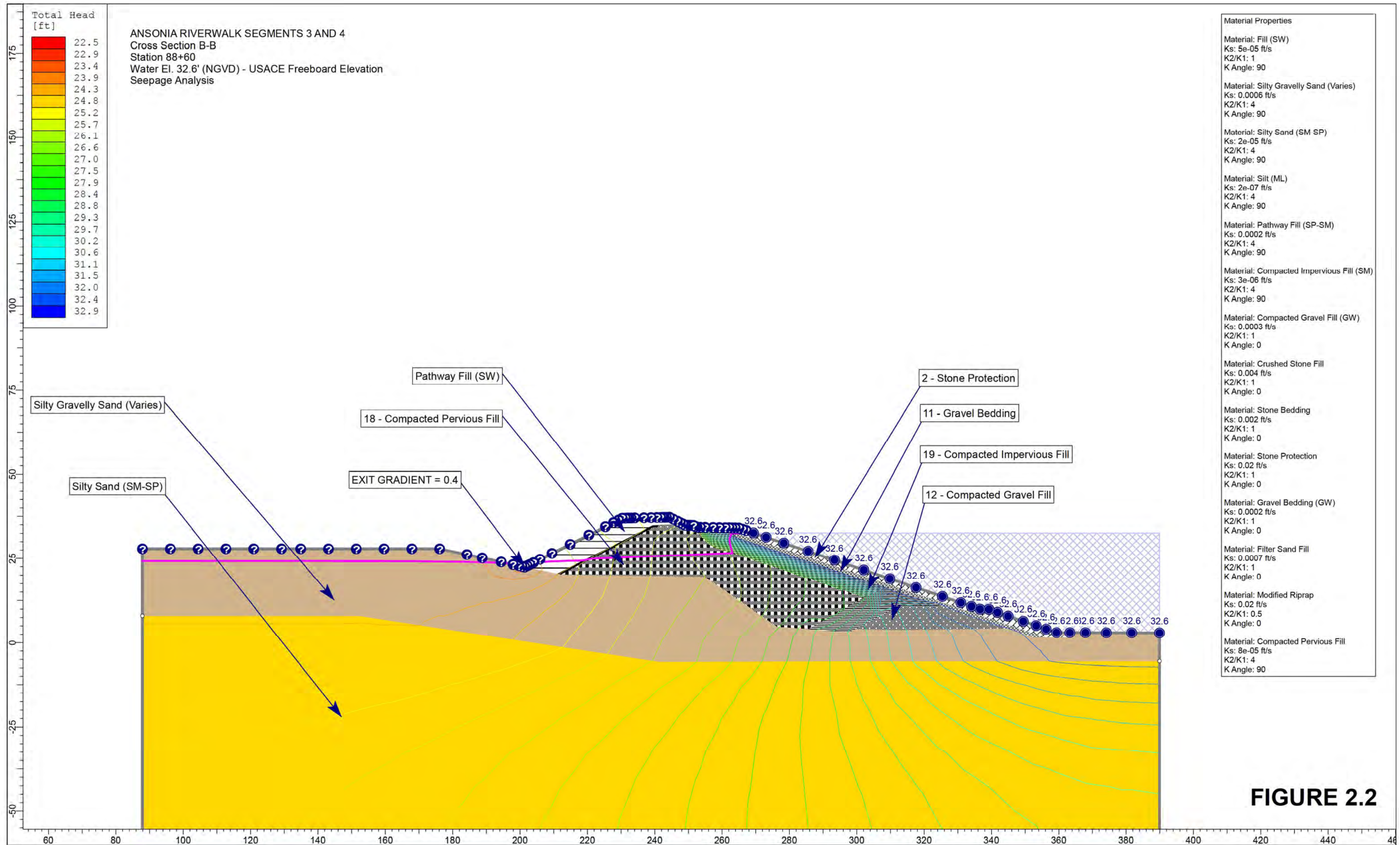


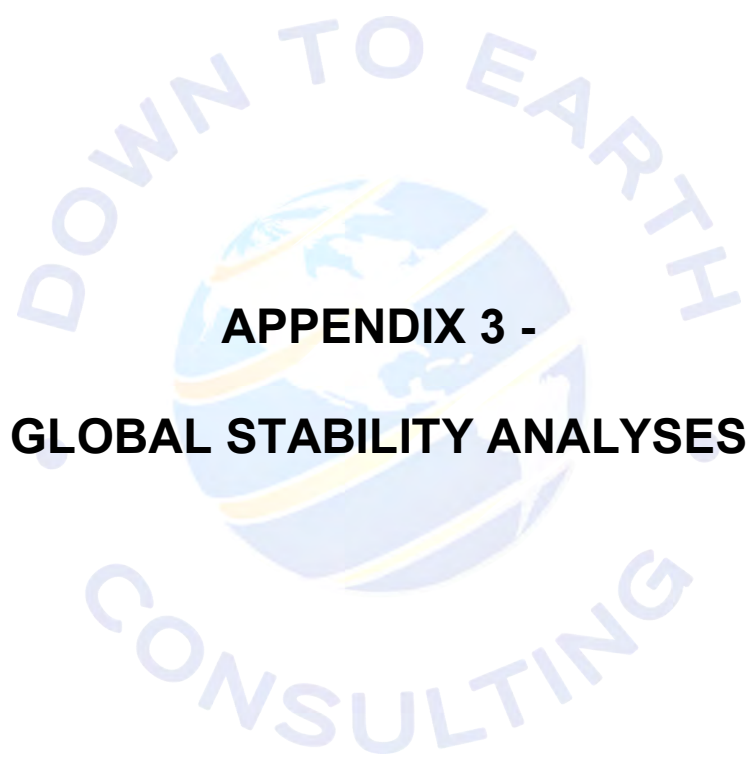
**APPENDIX 2 -
SEEPAGE ANALYSES**

Stations	Cross Sections	Flood Control Feature	Maximum Exit Gradient
71+50	A-A	Earth Dike	0.1
88+60	B-B	Earth Dike	0.4

Table 2.1: Seepage Analysis Results





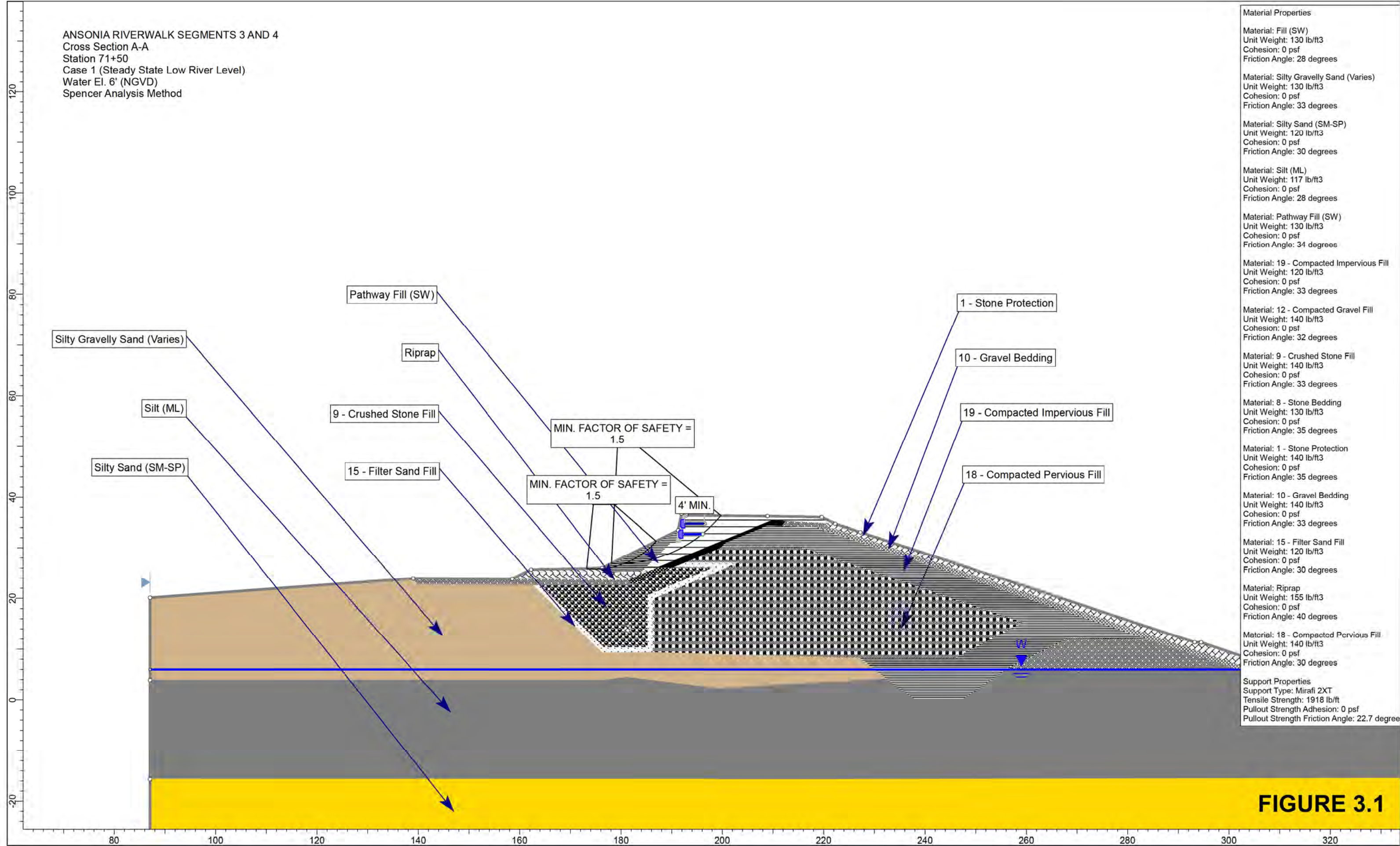


**APPENDIX 3 -
GLOBAL STABILITY ANALYSES**

Location and Feature			Factor of Safety			
Stations	Cross Sections	Flood Control Type	Case 1	Case 2	Case 3	Case 4
71+50	A-A	Earth Dike	1.5	1.1	1.5	1.2
88+60	B-B	Earth Dike	1.7	1.2	1.6	1.4
Case 1: End of Construction - Minimum Fs = 1.4						
Case 2: Rapid Drawdown - Minimum Fs = 1.0						
Case 3: Steady-State - Minimum Fs = 1.4						
Case 4: Earthquake (0.08g) - Minimum Fs = 1.0						

Table 3.1: Global Stability Results

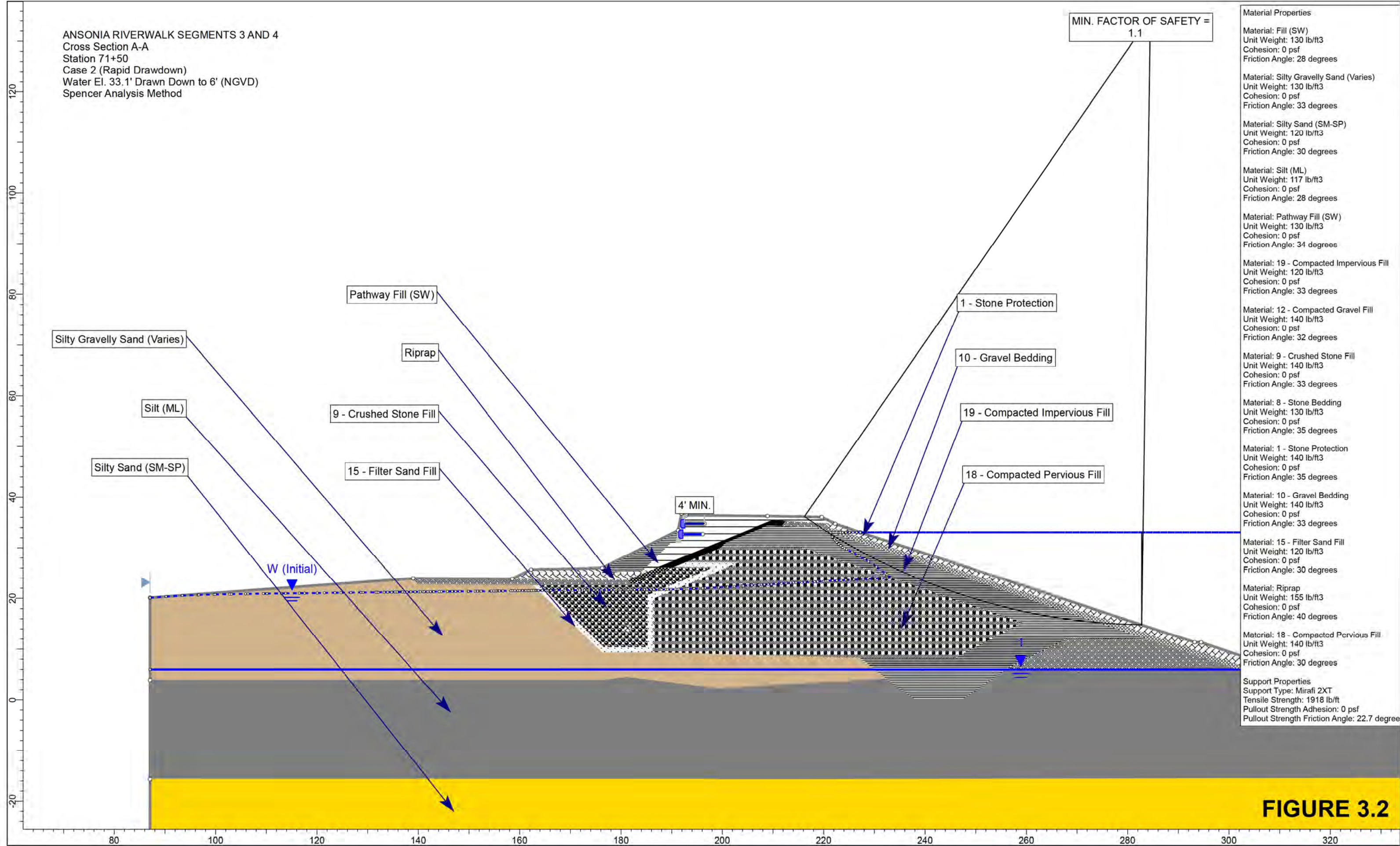
ANSONIA RIVERWALK SEGMENTS 3 AND 4
 Cross Section A-A
 Station 71+50
 Case 1 (Steady State Low River Level)
 Water El. 6' (NGVD)
 Spencer Analysis Method



Material Properties	
Material: Fill (SW)	Unit Weight: 130 lb/ft3 Cohesion: 0 psf Friction Angle: 28 degrees
Material: Silty Gravelly Sand (Varies)	Unit Weight: 130 lb/ft3 Cohesion: 0 psf Friction Angle: 33 degrees
Material: Silty Sand (SM-SP)	Unit Weight: 120 lb/ft3 Cohesion: 0 psf Friction Angle: 30 degrees
Material: Silt (ML)	Unit Weight: 117 lb/ft3 Cohesion: 0 psf Friction Angle: 28 degrees
Material: Pathway Fill (SW)	Unit Weight: 130 lb/ft3 Cohesion: 0 psf Friction Angle: 34 degrees
Material: 19 - Compacted Impervious Fill	Unit Weight: 120 lb/ft3 Cohesion: 0 psf Friction Angle: 33 degrees
Material: 12 - Compacted Gravel Fill	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 32 degrees
Material: 9 - Crushed Stone Fill	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 33 degrees
Material: 8 - Stone Bedding	Unit Weight: 130 lb/ft3 Cohesion: 0 psf Friction Angle: 35 degrees
Material: 1 - Stone Protection	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 35 degrees
Material: 10 - Gravel Bedding	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 33 degrees
Material: 15 - Filter Sand Fill	Unit Weight: 120 lb/ft3 Cohesion: 0 psf Friction Angle: 30 degrees
Material: Riprap	Unit Weight: 155 lb/ft3 Cohesion: 0 psf Friction Angle: 40 degrees
Material: 18 - Compacted Pervious Fill	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 30 degrees
Support Properties	
Support Type: Mirafi 2XT	Tensile Strength: 1918 lb/ft Pullout Strength Adhesion: 0 psf Pullout Strength Friction Angle: 22.7 degree

FIGURE 3.1

ANSONIA RIVERWALK SEGMENTS 3 AND 4
 Cross Section A-A
 Station 71+50
 Case 2 (Rapid Drawdown)
 Water El. 33.1' Drawn Down to 6' (NGVD)
 Spencer Analysis Method

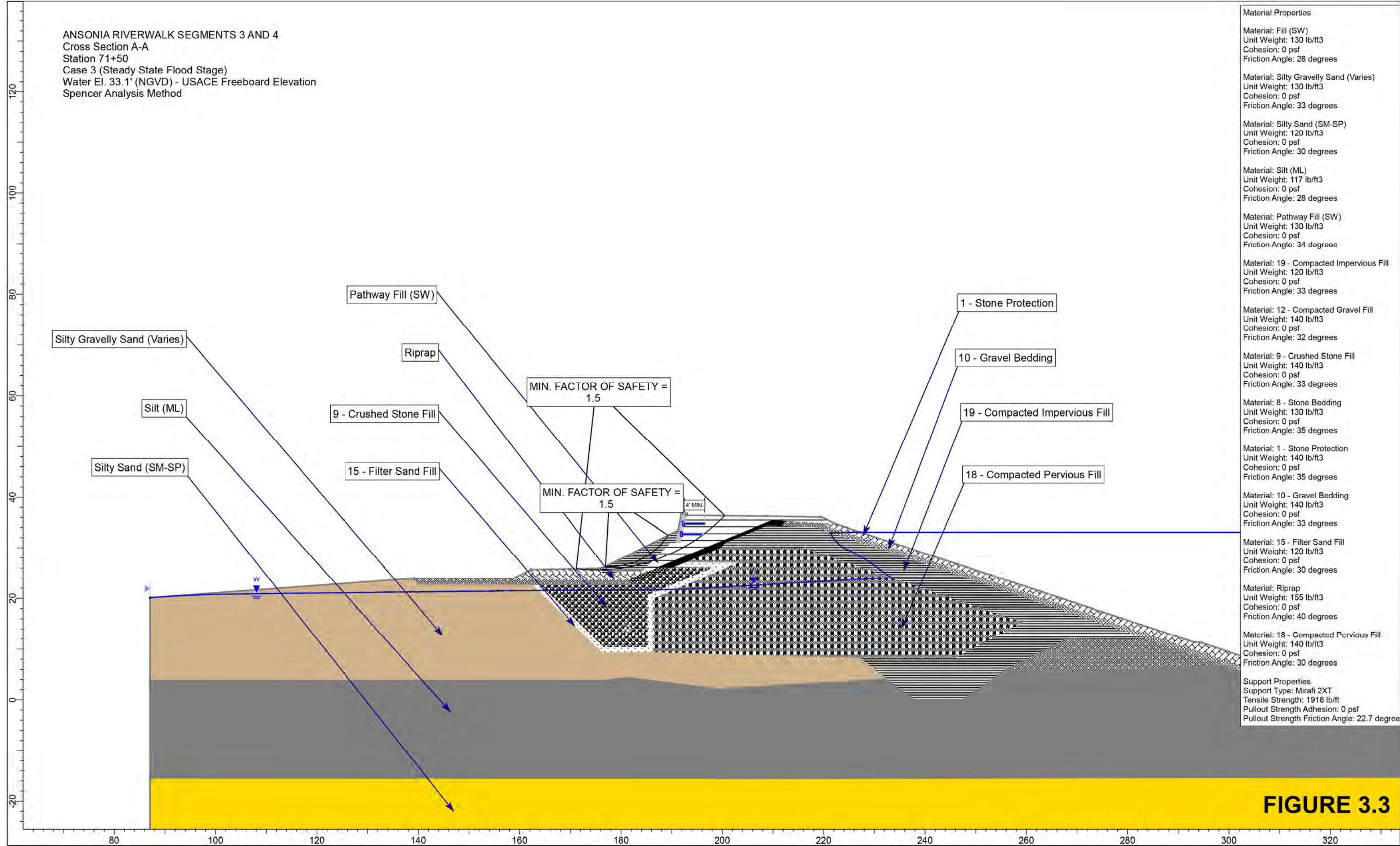


MIN. FACTOR OF SAFETY =
1.1

Material Properties	
Material: Fill (SW)	Unit Weight: 130 lb/ft3 Cohesion: 0 psf Friction Angle: 28 degrees
Material: Silty Gravelly Sand (Varies)	Unit Weight: 130 lb/ft3 Cohesion: 0 psf Friction Angle: 33 degrees
Material: Silty Sand (SM-SP)	Unit Weight: 120 lb/ft3 Cohesion: 0 psf Friction Angle: 30 degrees
Material: Silt (ML)	Unit Weight: 117 lb/ft3 Cohesion: 0 psf Friction Angle: 28 degrees
Material: Pathway Fill (SW)	Unit Weight: 130 lb/ft3 Cohesion: 0 psf Friction Angle: 34 degrees
Material: 19 - Compacted Impervious Fill	Unit Weight: 120 lb/ft3 Cohesion: 0 psf Friction Angle: 33 degrees
Material: 12 - Compacted Gravel Fill	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 32 degrees
Material: 9 - Crushed Stone Fill	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 33 degrees
Material: 8 - Stone Bedding	Unit Weight: 130 lb/ft3 Cohesion: 0 psf Friction Angle: 35 degrees
Material: 1 - Stone Protection	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 35 degrees
Material: 10 - Gravel Bedding	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 33 degrees
Material: 15 - Filter Sand Fill	Unit Weight: 120 lb/ft3 Cohesion: 0 psf Friction Angle: 30 degrees
Material: Riprap	Unit Weight: 155 lb/ft3 Cohesion: 0 psf Friction Angle: 40 degrees
Material: 18 - Compacted Pervious Fill	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 30 degrees
Support Properties	
Support Type: Mirafi 2XT	Tensile Strength: 1918 lb/ft Pullout Strength Adhesion: 0 psf Pullout Strength Friction Angle: 22.7 degree

FIGURE 3.2

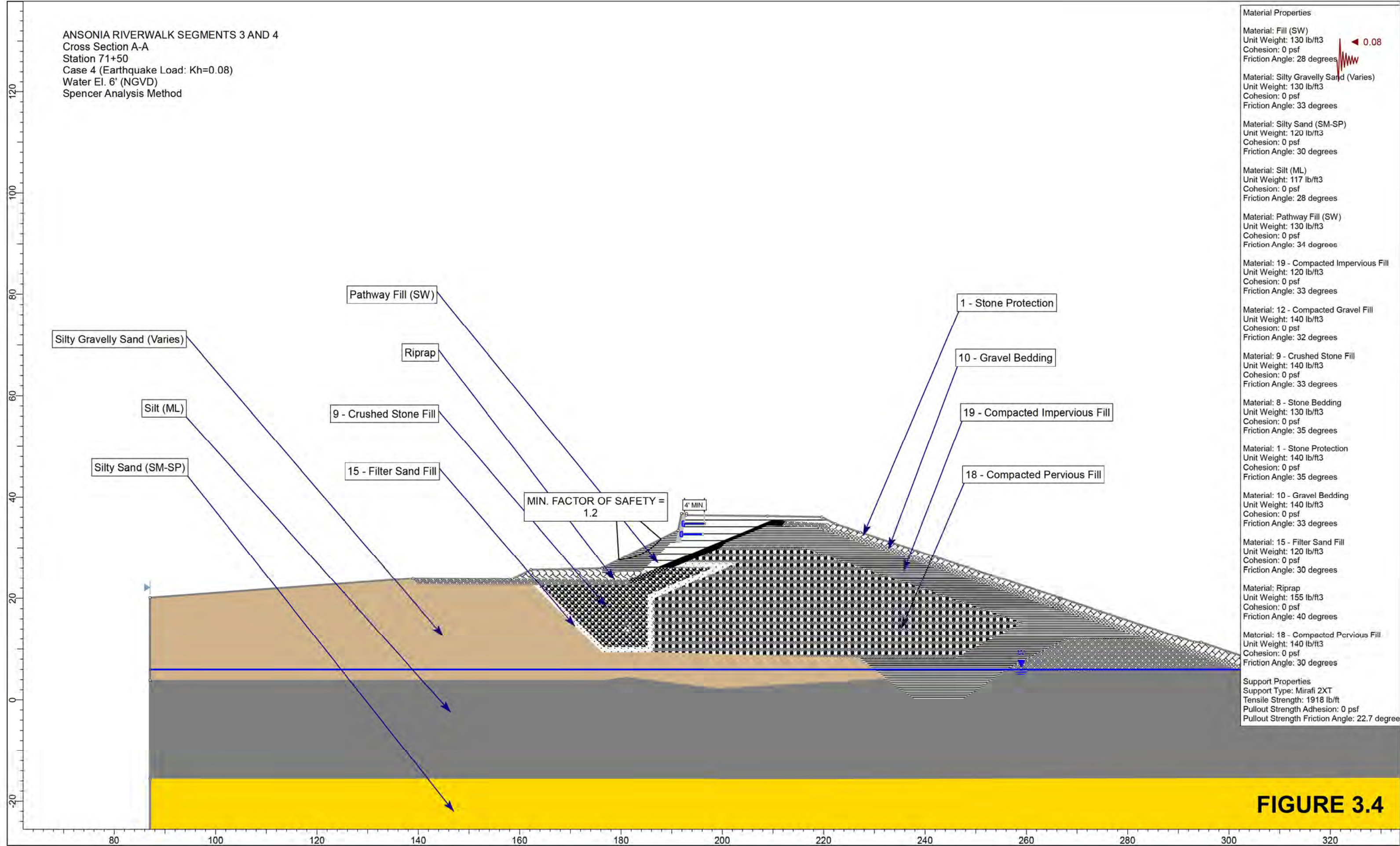
ANSONIA RIVERWALK SEGMENTS 3 AND 4
 Cross Section A-A
 Station 71+50
 Case 3 (Steady State Flood Stage)
 Water El. 33.1' (NGVD) - USACE Freeboard Elevation
 Spencer Analysis Method



Material Properties	
Material: Fill (SW)	Unit Weight: 130 lb/ft3 Cohesion: 0 psf Friction Angle: 28 degrees
Material: Silty Gravelly Sand (Varies)	Unit Weight: 130 lb/ft3 Cohesion: 0 psf Friction Angle: 33 degrees
Material: Silty Sand (SM-SP)	Unit Weight: 120 lb/ft3 Cohesion: 0 psf Friction Angle: 30 degrees
Material: Silt (ML)	Unit Weight: 117 lb/ft3 Cohesion: 0 psf Friction Angle: 28 degrees
Material: Pathway Fill (SW)	Unit Weight: 130 lb/ft3 Cohesion: 0 psf Friction Angle: 34 degrees
Material: 19 - Compacted Impervious Fill	Unit Weight: 120 lb/ft3 Cohesion: 0 psf Friction Angle: 33 degrees
Material: 12 - Compacted Gravel Fill	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 32 degrees
Material: 9 - Crushed Stone Fill	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 33 degrees
Material: 8 - Stone Bedding	Unit Weight: 130 lb/ft3 Cohesion: 0 psf Friction Angle: 35 degrees
Material: 1 - Stone Protection	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 35 degrees
Material: 10 - Gravel Bedding	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 33 degrees
Material: 15 - Filter Sand Fill	Unit Weight: 120 lb/ft3 Cohesion: 0 psf Friction Angle: 30 degrees
Material: Riprap	Unit Weight: 155 lb/ft3 Cohesion: 0 psf Friction Angle: 40 degrees
Material: 18 - Compacted Pervious Fill	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 30 degrees
Support Properties	
Support Type: Mirafi 2XT	Tensile Strength: 1918 lb/ft Pullout Strength Adhesion: 0 psf Pullout Strength Friction Angle: 22.7 degree

FIGURE 3.3

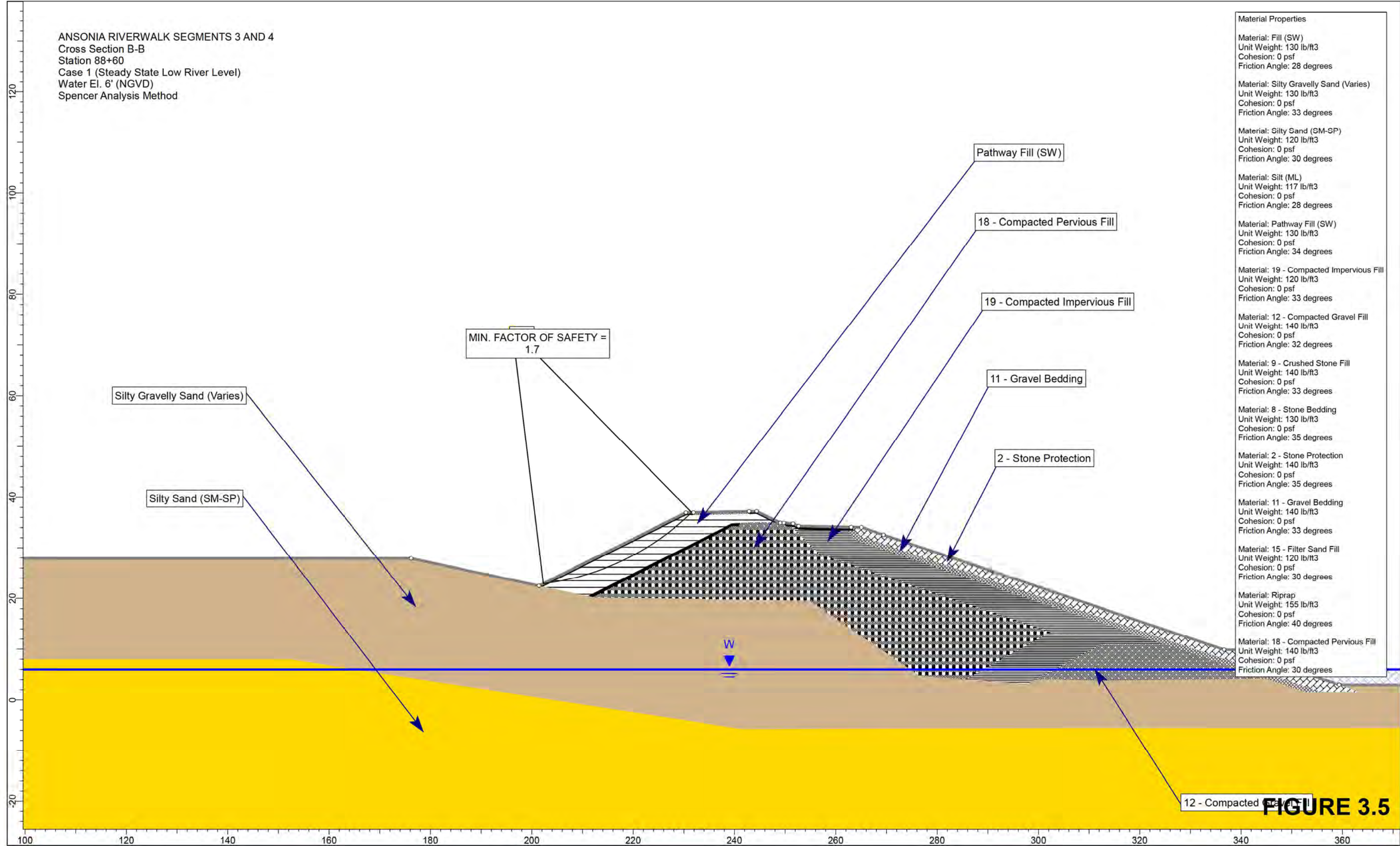
ANSONIA RIVERWALK SEGMENTS 3 AND 4
 Cross Section A-A
 Station 71+50
 Case 4 (Earthquake Load: Kh=0.08)
 Water El. 6' (NGVD)
 Spencer Analysis Method



Material Properties	
Material: Fill (SW)	Unit Weight: 130 lb/ft3 Cohesion: 0 psf Friction Angle: 28 degrees
Material: Silty Gravelly Sand (Varies)	Unit Weight: 130 lb/ft3 Cohesion: 0 psf Friction Angle: 33 degrees
Material: Silty Sand (SM-SP)	Unit Weight: 120 lb/ft3 Cohesion: 0 psf Friction Angle: 30 degrees
Material: Silt (ML)	Unit Weight: 117 lb/ft3 Cohesion: 0 psf Friction Angle: 28 degrees
Material: Pathway Fill (SW)	Unit Weight: 130 lb/ft3 Cohesion: 0 psf Friction Angle: 34 degrees
Material: 19 - Compacted Impervious Fill	Unit Weight: 120 lb/ft3 Cohesion: 0 psf Friction Angle: 33 degrees
Material: 12 - Compacted Gravel Fill	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 32 degrees
Material: 9 - Crushed Stone Fill	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 33 degrees
Material: 8 - Stone Bedding	Unit Weight: 130 lb/ft3 Cohesion: 0 psf Friction Angle: 35 degrees
Material: 1 - Stone Protection	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 35 degrees
Material: 10 - Gravel Bedding	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 33 degrees
Material: 15 - Filter Sand Fill	Unit Weight: 120 lb/ft3 Cohesion: 0 psf Friction Angle: 30 degrees
Material: Riprap	Unit Weight: 155 lb/ft3 Cohesion: 0 psf Friction Angle: 40 degrees
Material: 18 - Compacted Pervious Fill	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 30 degrees
Support Properties	
Support Type: Mirafi 2XT	Tensile Strength: 1918 lb/ft Pullout Strength Adhesion: 0 psf Pullout Strength Friction Angle: 22.7 degree

FIGURE 3.4

ANSONIA RIVERWALK SEGMENTS 3 AND 4
 Cross Section B-B
 Station 88+60
 Case 1 (Steady State Low River Level)
 Water El. 6' (NGVD)
 Spencer Analysis Method



Material Properties	
Material: Fill (SW)	Unit Weight: 130 lb/ft3 Cohesion: 0 psf Friction Angle: 28 degrees
Material: Silty Gravelly Sand (Varies)	Unit Weight: 130 lb/ft3 Cohesion: 0 psf Friction Angle: 33 degrees
Material: Silty Sand (SM-SP)	Unit Weight: 120 lb/ft3 Cohesion: 0 psf Friction Angle: 30 degrees
Material: Silt (ML)	Unit Weight: 117 lb/ft3 Cohesion: 0 psf Friction Angle: 28 degrees
Material: Pathway Fill (SW)	Unit Weight: 130 lb/ft3 Cohesion: 0 psf Friction Angle: 34 degrees
Material: 19 - Compacted Impervious Fill	Unit Weight: 120 lb/ft3 Cohesion: 0 psf Friction Angle: 33 degrees
Material: 12 - Compacted Gravel Fill	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 32 degrees
Material: 9 - Crushed Stone Fill	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 33 degrees
Material: 8 - Stone Bedding	Unit Weight: 130 lb/ft3 Cohesion: 0 psf Friction Angle: 35 degrees
Material: 2 - Stone Protection	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 35 degrees
Material: 11 - Gravel Bedding	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 33 degrees
Material: 15 - Filter Sand Fill	Unit Weight: 120 lb/ft3 Cohesion: 0 psf Friction Angle: 30 degrees
Material: Riprap	Unit Weight: 155 lb/ft3 Cohesion: 0 psf Friction Angle: 40 degrees
Material: 18 - Compacted Pervious Fill	Unit Weight: 140 lb/ft3 Cohesion: 0 psf Friction Angle: 30 degrees

12 - Compacted Gravel Fill **FIGURE 3.5**

ANSONIA RIVERWALK SEGMENTS 3 AND 4
 Cross Section B-B
 Station 88+60
 Case 2 (Rapid Drawdown)
 Water El. 32.6' (NGVD) Drawn Down to 6' (NGVD)
 Spencer Analysis Method

MIN. FACTOR OF SAFETY = 1.2		Material Properties
Material: Fill (SW)	Unit Weight: 130 lb/ft ³	Cohesion: 0 psf
	Friction Angle: 28 degrees	
Material: Silty Gravelly Sand (Varies)	Unit Weight: 130 lb/ft ³	Cohesion: 0 psf
	Friction Angle: 33 degrees	
Material: Silty Sand (SM-SP)	Unit Weight: 120 lb/ft ³	Cohesion: 0 psf
	Friction Angle: 30 degrees	
Material: Silt (ML)	Unit Weight: 117 lb/ft ³	Cohesion: 0 psf
	Friction Angle: 28 degrees	
Material: Pathway Fill (SW)	Unit Weight: 130 lb/ft ³	Cohesion: 0 psf
	Friction Angle: 34 degrees	
Material: 19 - Compacted Impervious Fill	Unit Weight: 120 lb/ft ³	Cohesion: 0 psf
	Friction Angle: 33 degrees	
Material: 12 - Compacted Gravel Fill	Unit Weight: 140 lb/ft ³	Cohesion: 0 psf
	Friction Angle: 32 degrees	
Material: 9 - Crushed Stone Fill	Unit Weight: 140 lb/ft ³	Cohesion: 0 psf
	Friction Angle: 33 degrees	
Material: 8 - Stone Bedding	Unit Weight: 130 lb/ft ³	Cohesion: 0 psf
	Friction Angle: 35 degrees	
Material: 2 - Stone Protection	Unit Weight: 140 lb/ft ³	Cohesion: 0 psf
	Friction Angle: 35 degrees	
Material: 11 - Gravel Bedding	Unit Weight: 140 lb/ft ³	Cohesion: 0 psf
	Friction Angle: 33 degrees	
Material: 15 - Filter Sand Fill	Unit Weight: 120 lb/ft ³	Cohesion: 0 psf
	Friction Angle: 30 degrees	
Material: Riprap	Unit Weight: 155 lb/ft ³	Cohesion: 0 psf
	Friction Angle: 40 degrees	
Material: 18 - Compacted Pervious Fill	Unit Weight: 140 lb/ft ³	Cohesion: 0 psf
	Friction Angle: 30 degrees	

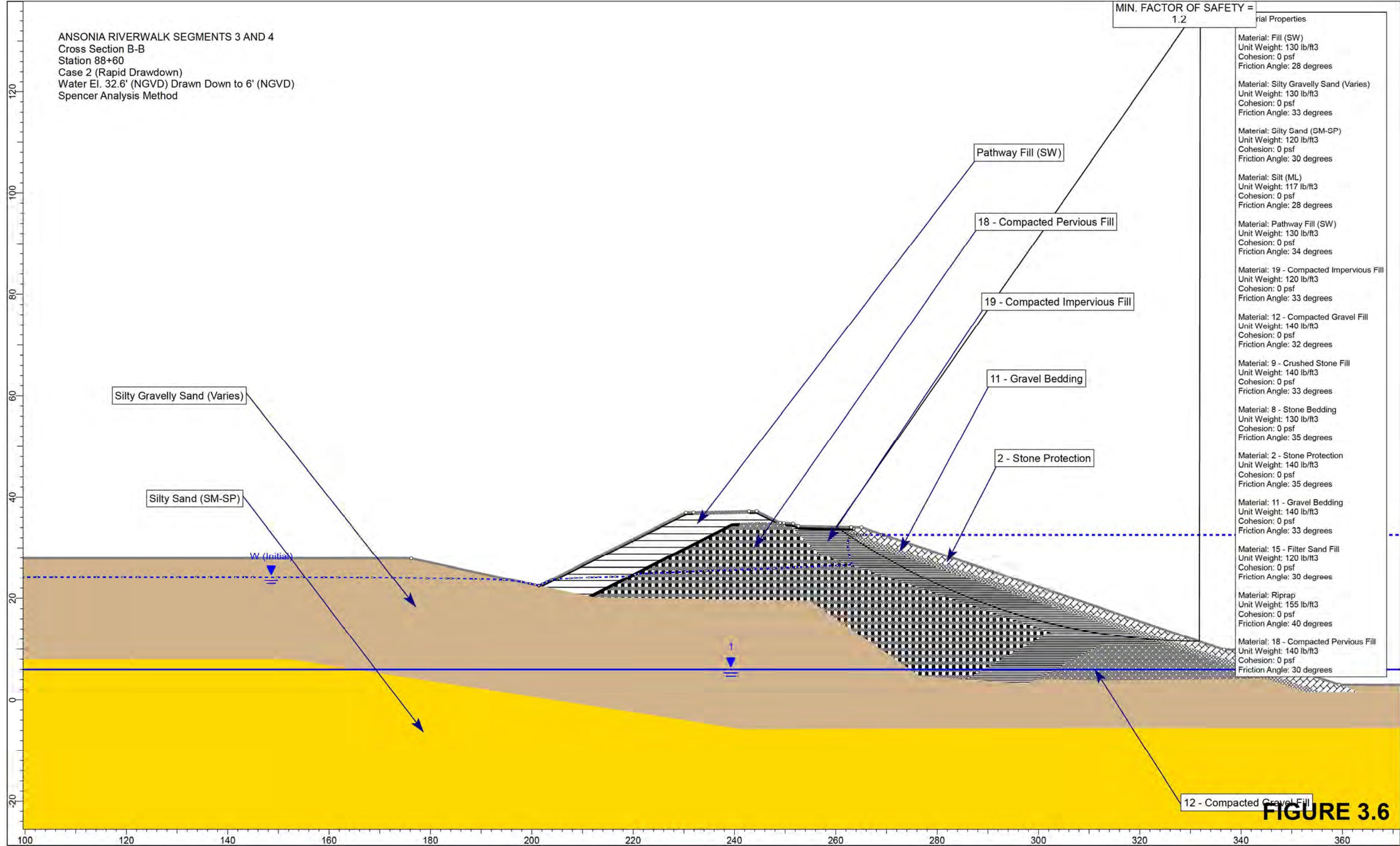
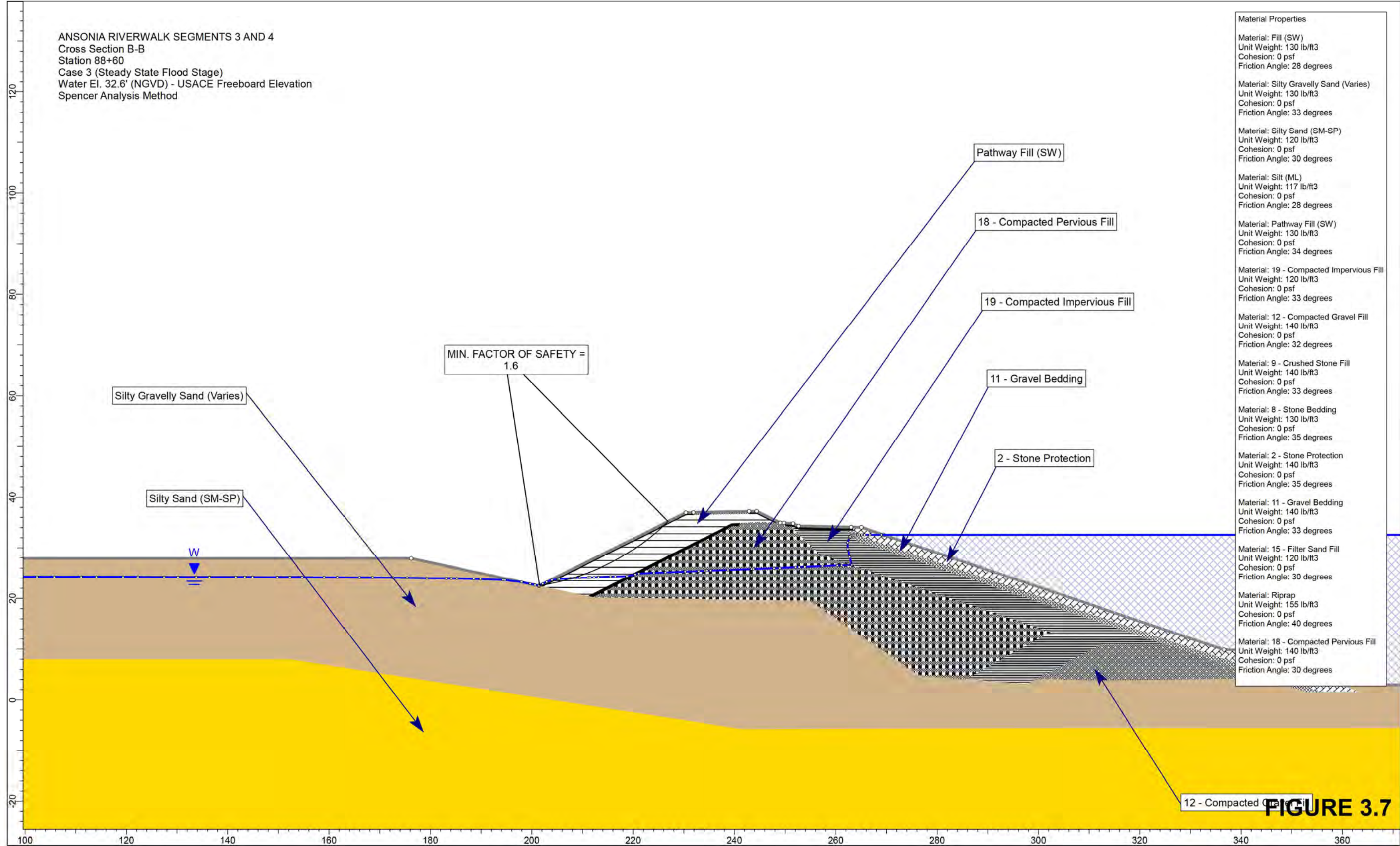


FIGURE 3.6

ANSONIA RIVERWALK SEGMENTS 3 AND 4
 Cross Section B-B
 Station 88+60
 Case 3 (Steady State Flood Stage)
 Water El. 32.6' (NGVD) - USACE Freeboard Elevation
 Spencer Analysis Method



Material Properties	
Material: Fill (SW)	Unit Weight: 130 lb/ft ³ Cohesion: 0 psf Friction Angle: 28 degrees
Material: Silty Gravelly Sand (Varies)	Unit Weight: 130 lb/ft ³ Cohesion: 0 psf Friction Angle: 33 degrees
Material: Silty Sand (SM-SP)	Unit Weight: 120 lb/ft ³ Cohesion: 0 psf Friction Angle: 30 degrees
Material: Silt (ML)	Unit Weight: 117 lb/ft ³ Cohesion: 0 psf Friction Angle: 28 degrees
Material: Pathway Fill (SW)	Unit Weight: 130 lb/ft ³ Cohesion: 0 psf Friction Angle: 34 degrees
Material: 19 - Compacted Impervious Fill	Unit Weight: 120 lb/ft ³ Cohesion: 0 psf Friction Angle: 33 degrees
Material: 12 - Compacted Gravel Fill	Unit Weight: 140 lb/ft ³ Cohesion: 0 psf Friction Angle: 32 degrees
Material: 9 - Crushed Stone Fill	Unit Weight: 140 lb/ft ³ Cohesion: 0 psf Friction Angle: 33 degrees
Material: 8 - Stone Bedding	Unit Weight: 130 lb/ft ³ Cohesion: 0 psf Friction Angle: 35 degrees
Material: 2 - Stone Protection	Unit Weight: 140 lb/ft ³ Cohesion: 0 psf Friction Angle: 35 degrees
Material: 11 - Gravel Bedding	Unit Weight: 140 lb/ft ³ Cohesion: 0 psf Friction Angle: 33 degrees
Material: 15 - Filter Sand Fill	Unit Weight: 120 lb/ft ³ Cohesion: 0 psf Friction Angle: 30 degrees
Material: Riprap	Unit Weight: 155 lb/ft ³ Cohesion: 0 psf Friction Angle: 40 degrees
Material: 18 - Compacted Pervious Fill	Unit Weight: 140 lb/ft ³ Cohesion: 0 psf Friction Angle: 30 degrees

12 - Compacted Gravel Fill **FIGURE 3.7**

ANSONIA RIVERWALK SEGMENTS 3 AND 4
 Cross Section B-B
 Station 88+60
 Case 4 (Earthquake Load: Kh=0.08)
 Water El. 6' (NGVD)
 Spencer Analysis Method

Material Properties	
Material: Fill (SW)	Unit Weight: 130 lb/ft ³ Cohesion: 0 psf Friction Angle: 28 degrees
Material: Silty Gravelly Sand (Varies)	Unit Weight: 130 lb/ft ³ Cohesion: 0 psf Friction Angle: 33 degrees
Material: Silty Sand (SM-SP)	Unit Weight: 120 lb/ft ³ Cohesion: 0 psf Friction Angle: 30 degrees
Material: Silt (ML)	Unit Weight: 117 lb/ft ³ Cohesion: 0 psf Friction Angle: 28 degrees
Material: Pathway Fill (SW)	Unit Weight: 130 lb/ft ³ Cohesion: 0 psf Friction Angle: 34 degrees
Material: 19 - Compacted Impervious Fill	Unit Weight: 120 lb/ft ³ Cohesion: 0 psf Friction Angle: 33 degrees
Material: 12 - Compacted Gravel Fill	Unit Weight: 140 lb/ft ³ Cohesion: 0 psf Friction Angle: 32 degrees
Material: 9 - Crushed Stone Fill	Unit Weight: 140 lb/ft ³ Cohesion: 0 psf Friction Angle: 33 degrees
Material: 8 - Stone Bedding	Unit Weight: 130 lb/ft ³ Cohesion: 0 psf Friction Angle: 35 degrees
Material: 2 - Stone Protection	Unit Weight: 140 lb/ft ³ Cohesion: 0 psf Friction Angle: 35 degrees
Material: 11 - Gravel Bedding	Unit Weight: 140 lb/ft ³ Cohesion: 0 psf Friction Angle: 33 degrees
Material: 15 - Filter Sand Fill	Unit Weight: 120 lb/ft ³ Cohesion: 0 psf Friction Angle: 30 degrees
Material: Riprap	Unit Weight: 155 lb/ft ³ Cohesion: 0 psf Friction Angle: 40 degrees
Material: 18 - Compacted Pervious Fill	Unit Weight: 140 lb/ft ³ Cohesion: 0 psf Friction Angle: 30 degrees

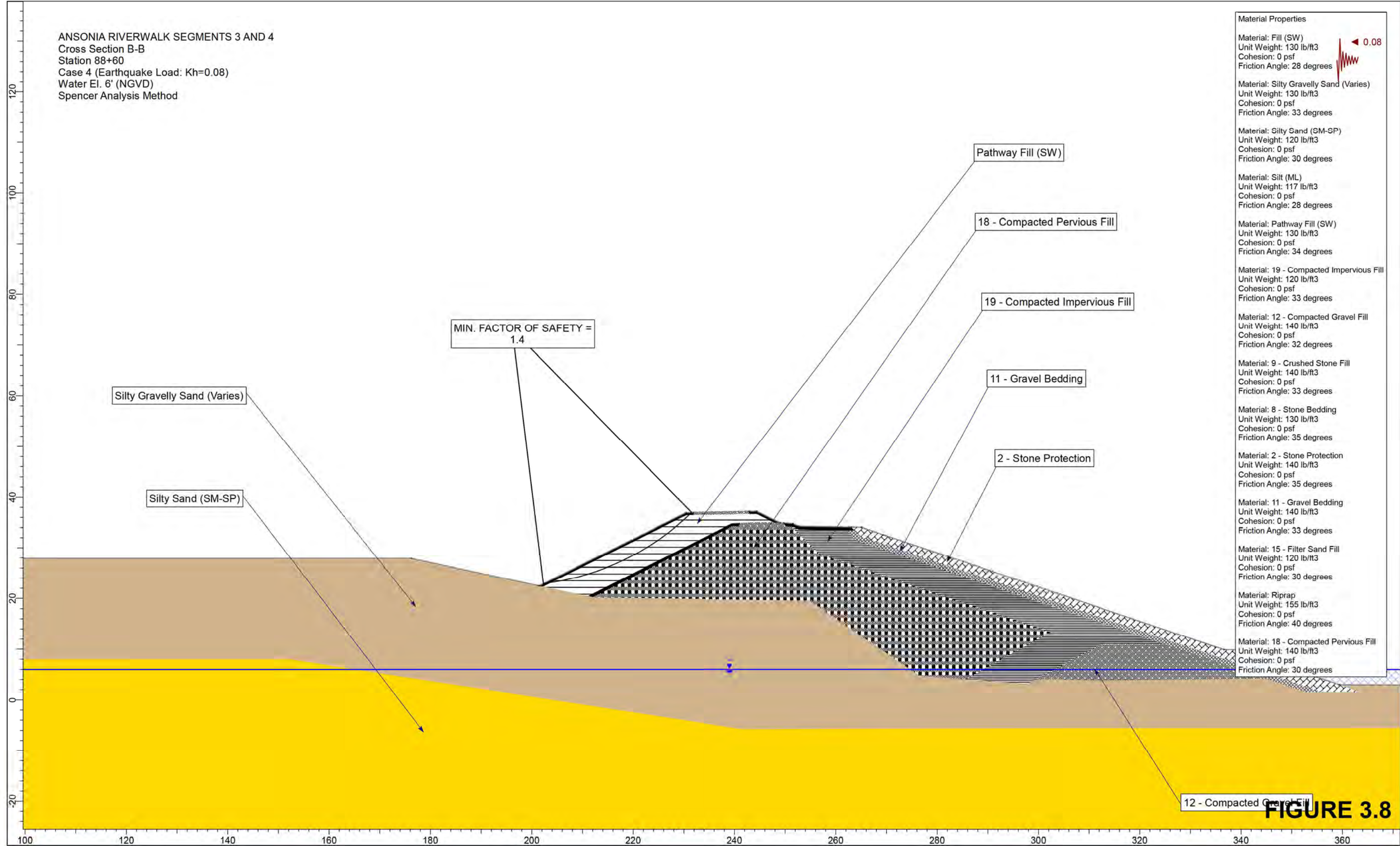


FIGURE 3.8





APPENDIX 4 -

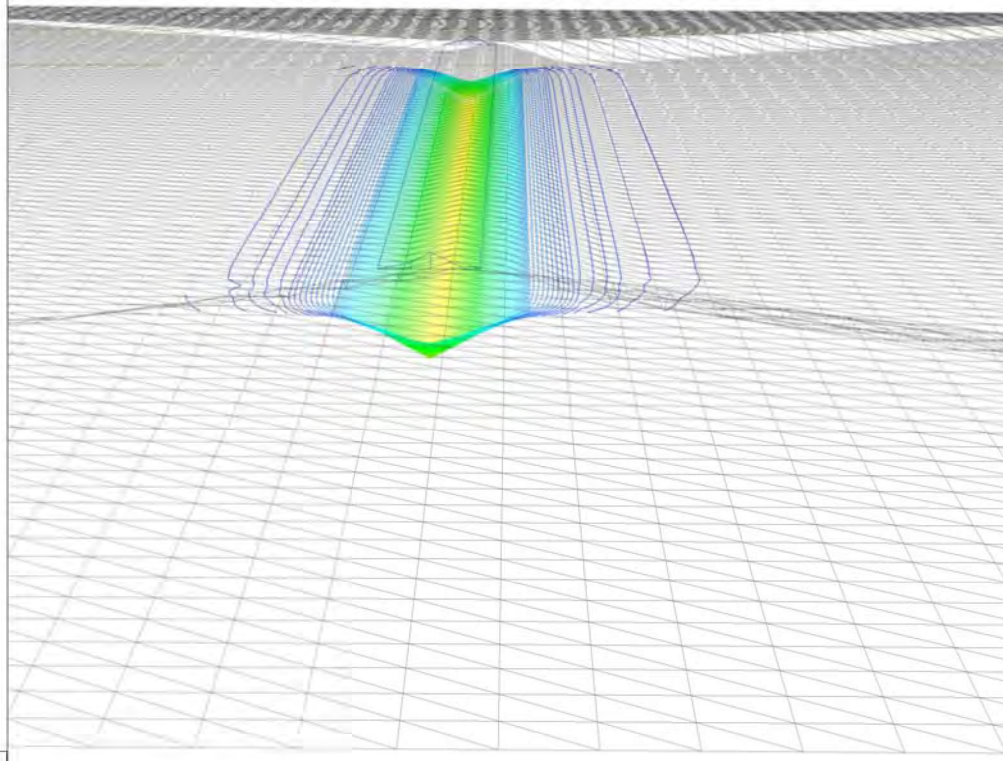
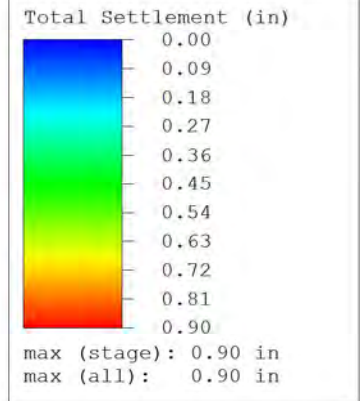
SETTLEMENT ANALYSES

Stations	Cross Sections	Flood Control Feature	Total Estimated Settlement
71+50	A-A	Earth Dike	0.9 inches
88+60	B-B	Earth Dike	0.6 inches

Table 4.1: Settlement Results

**Ansonia Riverwalk
Segments 3 and 4
Sta. 71+50**

Material Name	Color	Unit Weight (kips/ft ³)	Sat. Unit Weight (kips/ft ³)	Es (ksf)
Fill		0.13	0.13	800
Silty Gravelly Sand		0.13	0.13	800
Silty Sand		0.12	0.12	400
Silt		0.117	0.117	200







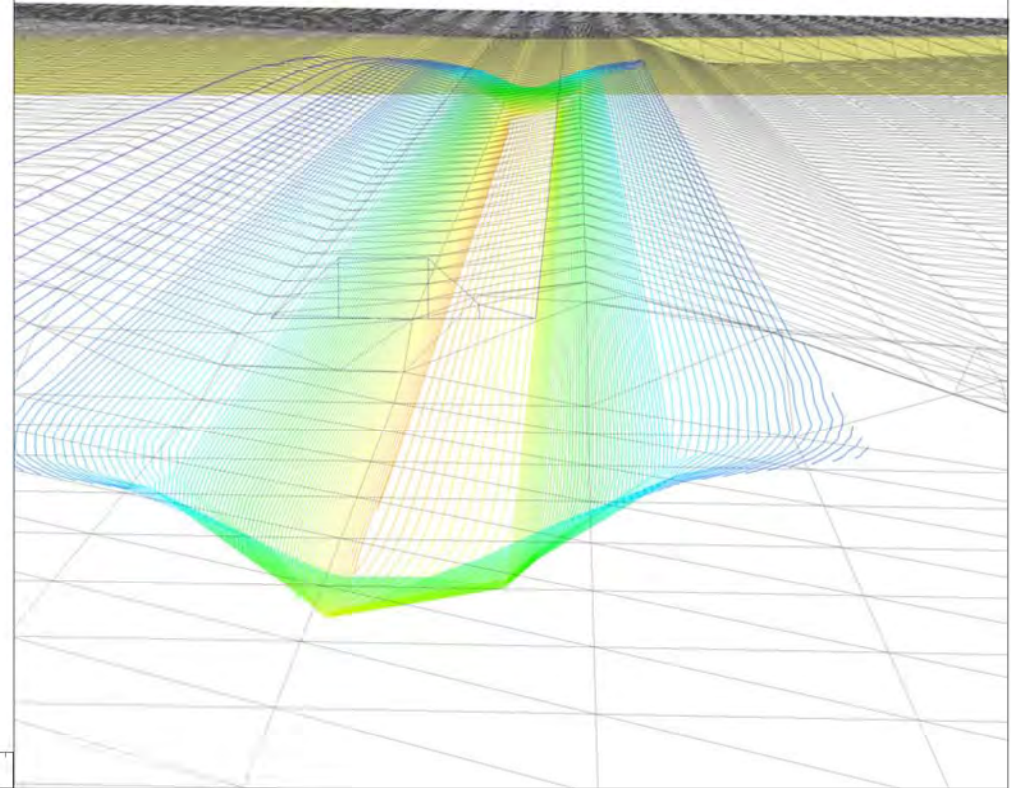
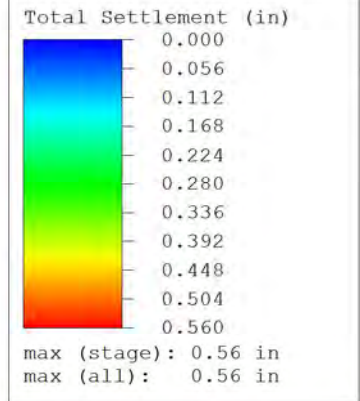
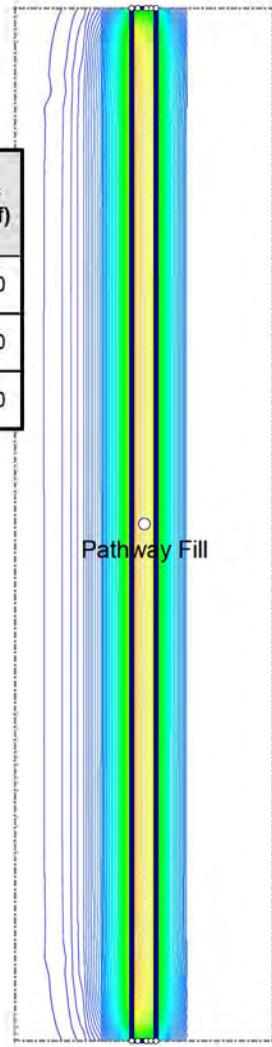
 SETTLE3D 4.023	Project	Sta. 71+50		
	Analysis Description	Settlement		
	Drawn By	DFL	Company	DTEC
	Date	11/5/2019, 12:22:58 PM	File Name	Sta. 71+50.s3z

FIGURE 4.1

**Ansonia Riverwalk
Segments 3 and 4
Sta. 88+60**

Material Name	Color	Unit Weight (kips/ft3)	Sat. Unit Weight (kips/ft3)	Es (ksf)
Fill		0.13	0.13	800
Silty Gravelly Sand		0.13	0.13	800
Silty Sand		0.12	0.12	400




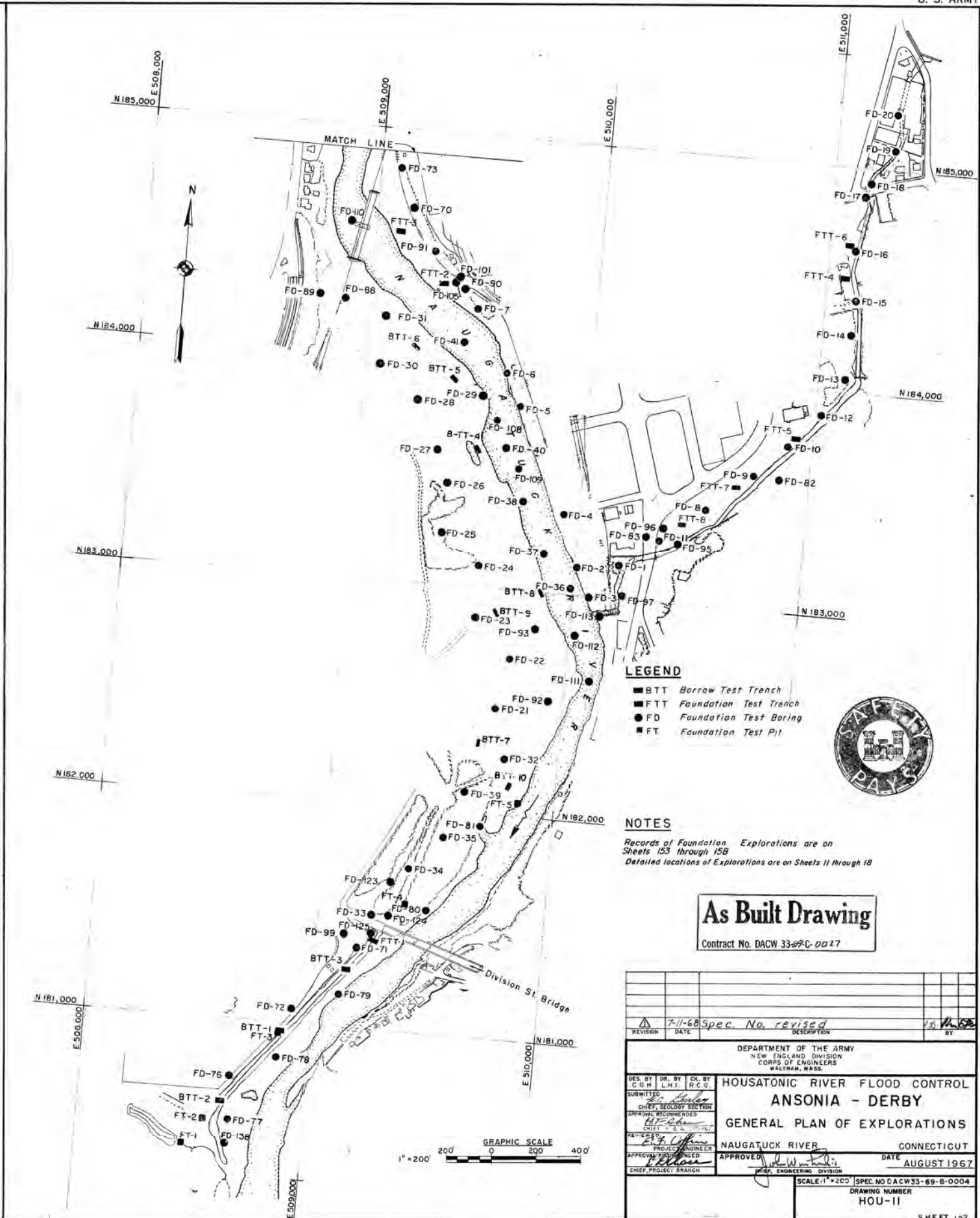
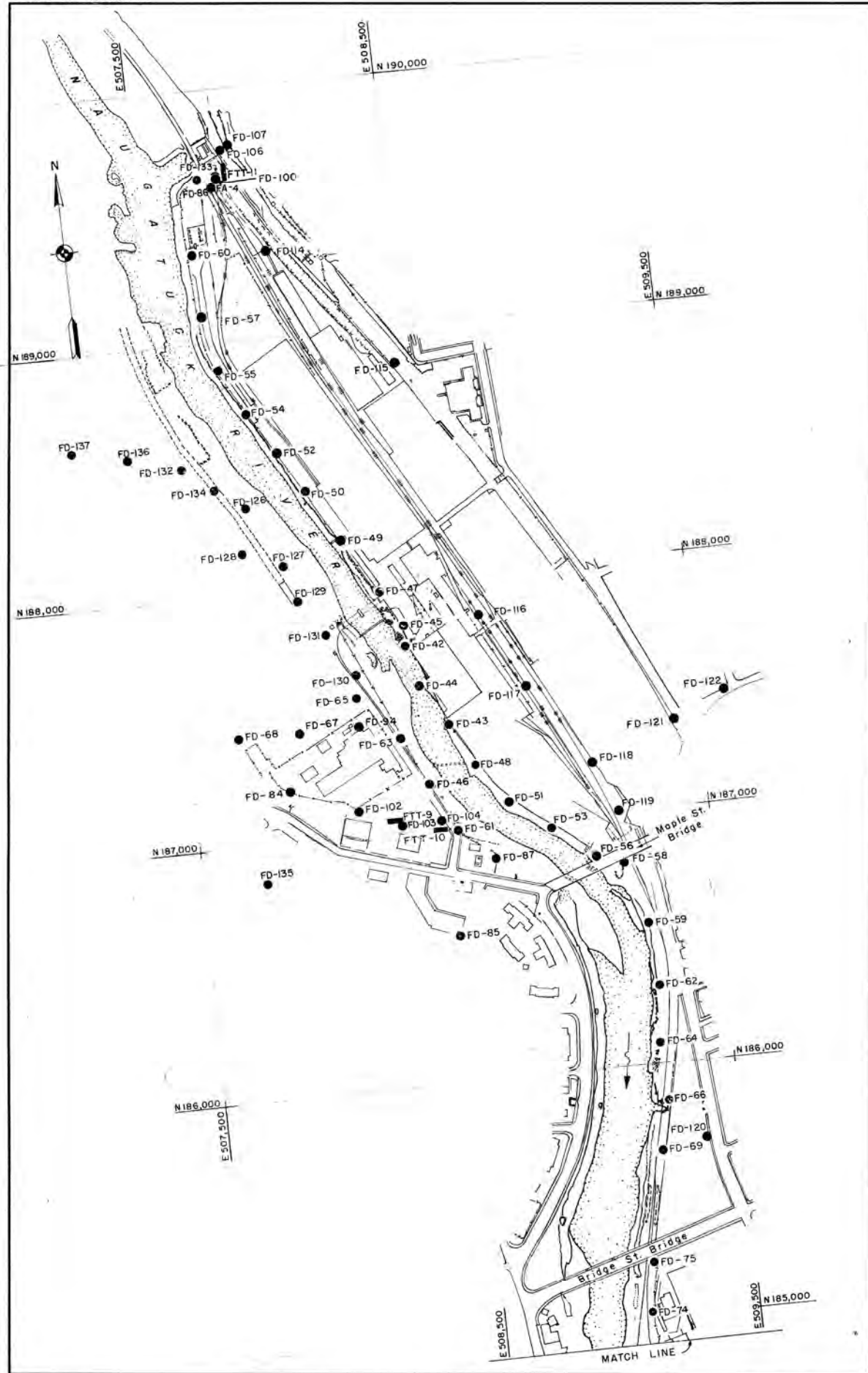
 <small>SETTLE3D 4.023</small>	Project		Sta. 88+60	
	Analysis Description		Settlement	
	Drawn By	DFL	Company	DTEC
	Date	11/5/2019, 12:22:58 PM	File Name	Sta. 88+60.s3z

FIGURE 4.2



**APPENDIX 5 -
BORING LOGS**



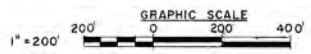
- LEGEND**
- BTT Borrow Test Trench
 - FTT Foundation Test Trench
 - FD Foundation Test Boring
 - FT Foundation Test Pit



NOTES
 Records of Foundation Explorations are on Sheets 153 through 158
 Detailed locations of Explorations are on Sheets 11 through 18

As Built Drawing
 Contract No. DACW 33-69-C-0027

DES. BY	DR. BY	CL. BY			
C. G. H.	L. H. J.	R. C. G.			
SUBMITTED					
CHIEF, GEOLOGY SECTION					
APPROVED					
PROJECT ENGINEER					
APPROVED					
CHIEF, PROJECT BRANCH					
7-11-68 Spec. No. revised			DATE	10/1/68	BY
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS WALTHAM, MASS.					
HOUSATONIC RIVER FLOOD CONTROL ANSONIA - DERBY					
GENERAL PLAN OF EXPLORATIONS					
NAUGATUCK RIVER			CONNECTICUT		
APPROVED			DATE		
AUGUST 1967					
SCALE: 1" = 200'			SPEC. NO. CACW 33-69-B-0004		
DRAWING NUMBER			HOU-II		
SHEET 152					





LEGEND FOR GRAPHIC LOGS

FD Foundation Test Boring
 FA Foundation Hole Auger Boring
 FT Foundation Test Pit
 FTT Foundation Test Trench
 BTT Borrow Test Trench

12 AUG 1965
 El. 23.1

Group letter symbols according to Unified Soil Classification System

AS Not sampled, hole advanced by core-drilling. Machine and/or wash boring, due to operational difficulty

Subsurface water level in boring at time of exploration

Blows per foot of penetration would read most representative for each sample drive using a 300 or 350 pound hammer with a free fall of about 16 in a standard 5-foot sample spoon with a beveled and expanded drive shoe

Cobble or boulder, continuous or nested (Core drilled, waste water checked, El. 23.3 elevation bottom surface)

Rock symbol

Core Recovery	Core Size
0-25%	NX 2 1/2"
25-50%	SM 1 1/2"
50-75%	SM 1 1/2"
75-90%	SM 1 1/2"
90-100%	SM 1 1/2"

El. 25 Elevation bottom of Exploration

NOTE: Subsurface water levels in some explorations may be subject to tidal fluctuations.

Water levels recorded during subsurface explorations seldom correspond with natural levels of free ground water except in reference and flow deposits of sands and gravels which are sufficiently permeable to permit rapid stabilization of water level in the exploratory hole. Absence of subsurface water level in the log or exploration is not necessarily to be construed that ground water will not be encountered in excavation at that location.

Normal length of continuous drive of sampling spoon is 5.0 feet. Penetration resistance of sampling spoon increases with length of drive, and blow counts therefore generally increase correspondingly except where distinct changes in material occur within the length of drive. In gravels, sands and gravels, and some glacial fills, the presence of coarse gravel, cobble or boulder sizes causes the blow count to become erratic, and therefore may not be indicative of the degree of compaction.

While the explorations are representative of subsurface conditions of their respective locations and for their respective vertical reaches, local variations characteristic of the overburden and rocks of this region are anticipated.

NOTES

Locations of Foundation Explorations are on Sheet 152

Elevations are in feet and refer to Mean Sea Level

REVISION	DATE	DESCRIPTION	BY
7-11-68	Spec. No. revised		VLS/VLS/EP

DEPARTMENT OF THE ARMY
 NEW ENGLAND DIVISION
 CORPS OF ENGINEERS
 WALTHAM, MASS.

HOUSATONIC RIVER FLOOD CONTROL
ANSONIA - DERBY
RECORD OF FOUNDATION EXPLORATIONS
 NO 1

NAUGATUCK RIVER CONNECTICUT

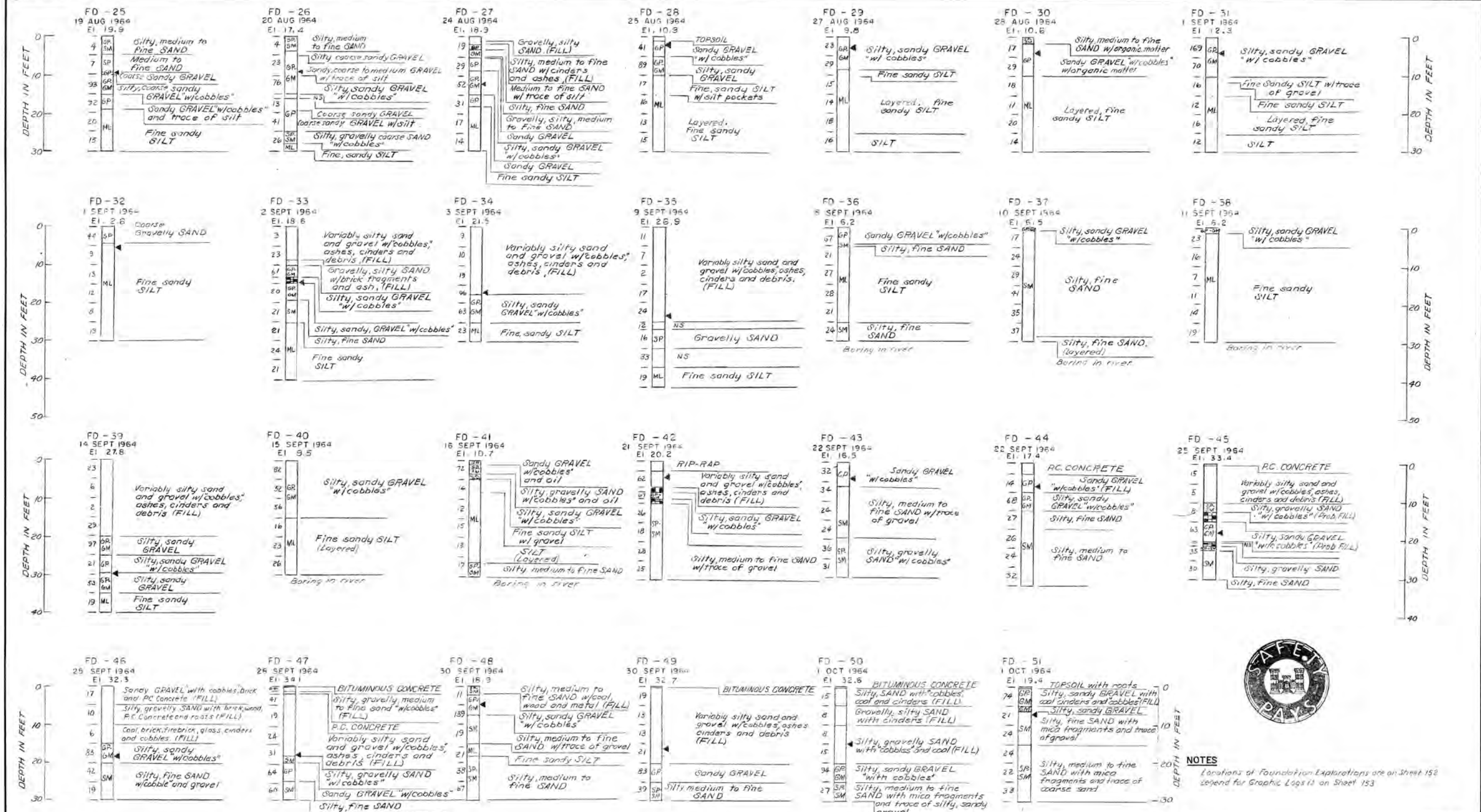
APPROVED: [Signature] DATE: AUGUST 1967

SCALE AS SHOWN | SPEC. NO. DACW 33-69-9-0004
 DRAWING NUMBER
HOU-11
 SHEET 153



As Built Drawing

Contract No. DACW 33-69-C-0027



NOTES
 Locations of Foundation Explorations are on Sheet 152
 Legend for Graphic Logs is on Sheet 153

As Built Drawing
 Contract No. DACW 3369C-0027

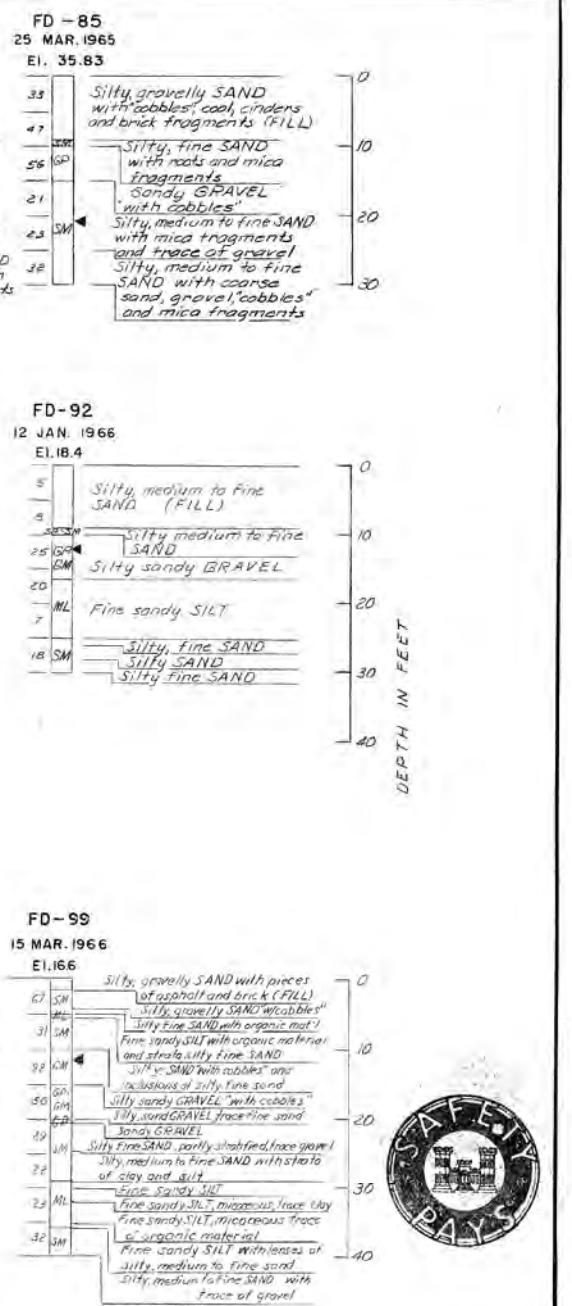
REVISION	DATE	DESCRIPTION	BY
1	7-11-60	Spec. No. revised.	R.M. G.

DEPARTMENT OF THE ARMY
 NEW ENGLAND DIVISION
 CORPS OF ENGINEERS
 WILTAM, MASS.

**HOUSATONIC RIVER FLOOD CONTROL
 ANSONIA - DERBY
 RECORD OF FOUNDATION EXPLORATIONS
 NO. 2**

NAUGATUCK RIVER CONNECTICUT
 APPROVED: *[Signature]* DATE: AUGUST 1967
 CHIEF, EXPLORING DIVISION

SCALE AS SHOWN SPEC. NO. DACW 33-69-B-0004
 DRAWING NUMBER
 HOU-11 SHEET 154



NOTES
 Legend for Graphic Logs is on Sheet 153
 Locations of Foundation Explorations are on Sheet 152

REVISION	DATE	DESCRIPTION	BY
1	7-1-68	Spec. No. revised	...

DEPARTMENT OF THE ARMY
 NEW ENGLAND DIVISION
 CORPS OF ENGINEERS
 WALTHAM, MASS.

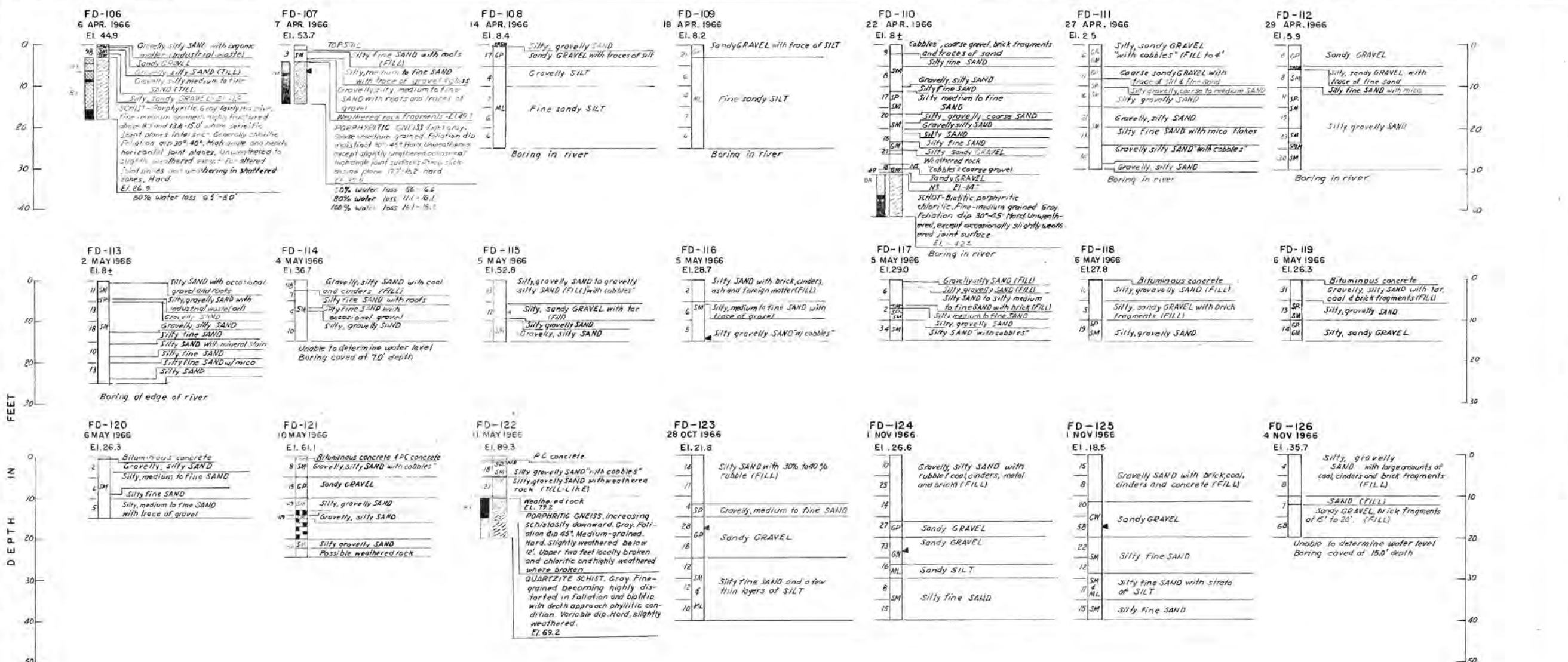
**HOUSATONIC RIVER FLOOD CONTROL
 ANSONIA - DERBY
 RECORD OF FOUNDATION EXPLORATIONS
 NO. 4**

NAUGATUCK RIVER CONNECTICUT
 APPROVED: [Signature] DATE: AUGUST 1967
 CHIEF PROJECT BRANCH CHIEF ENGINEER DIVISION

SCALE AS SHOWN SPEC NO. DEW-33-69-B-0004
 DRAWING NUMBER
HOU-II
 SHEET 156

As Built Drawing
 Contract No. DACW 33-69-C-0027

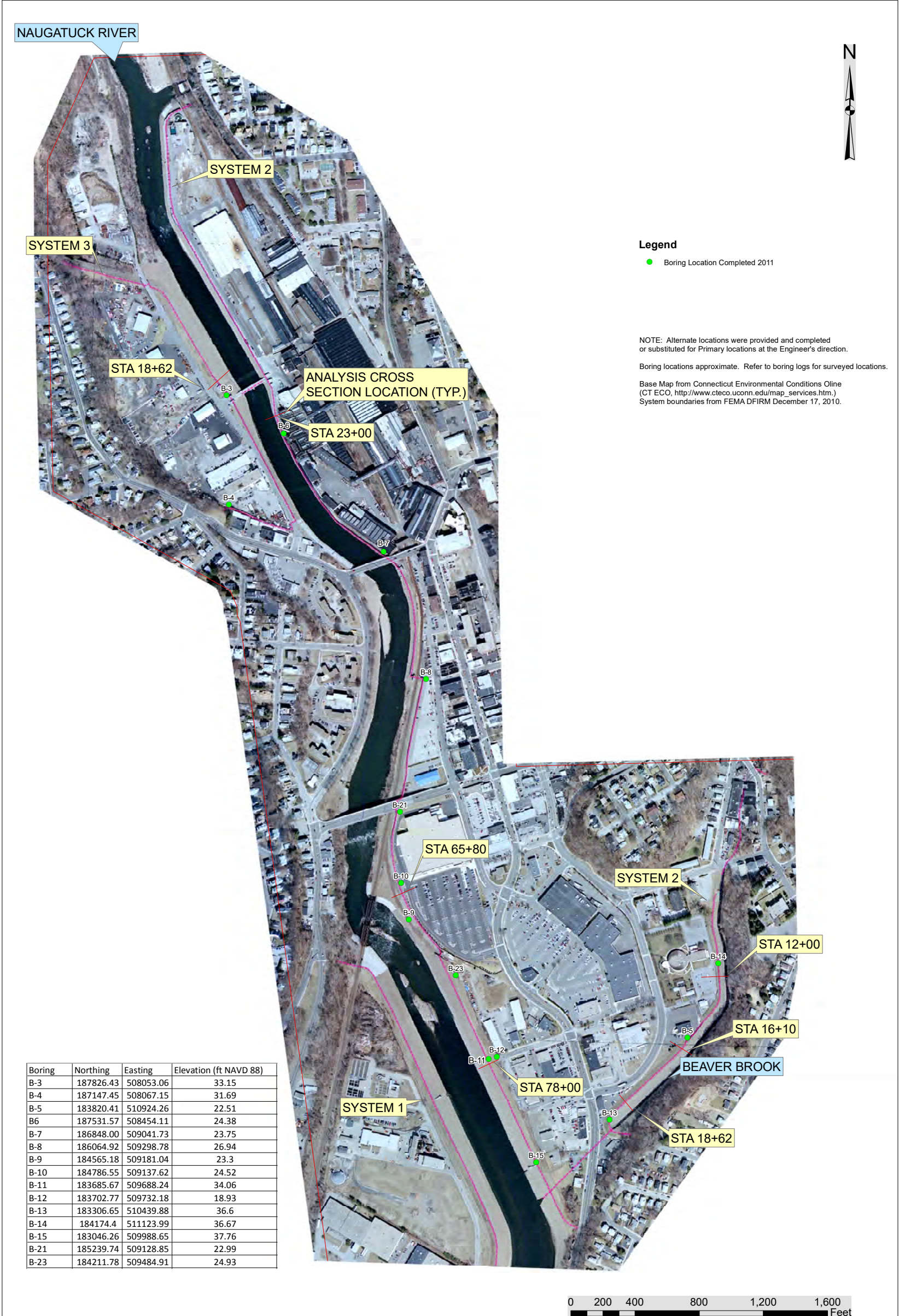




NOTES
 Locations of Foundation Explorations are on Sheet 152
 Legend for Graphic Logs is on Sheet 153

As Built Drawing
 Contract No. DACW 33-69C 0027

DES. BY C.S.H.	CHK. BY R.C.G.	DATE 7-11-68	Spec. No. Revised	BY J.S.
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS WALTHAM, MASS.				
HOUSATONIC RIVER FLOOD CONTROL ANSONIA - DERBY RECORD OF FOUNDATION EXPLORATIONS NO. 5				
APPROVED <i>[Signature]</i> ENGINEER			DATE AUGUST 1967	
APPROVED <i>[Signature]</i> CHIEF PROJECT BRANCH			SCALE AS SHOWN SPEC. NO. DACW 33-69-B-0004 DRAWING NUMBER HOU-11	
SHEET 157				



Legend

● Boring Location Completed 2011

NOTE: Alternate locations were provided and completed or substituted for Primary locations at the Engineer's direction.

Boring locations approximate. Refer to boring logs for surveyed locations.

Base Map from Connecticut Environmental Conditions Online (CT ECO, http://www.cteco.uconn.edu/map_services.htm.)
System boundaries from FEMA DFIRM December 17, 2010.

Boring	Northing	Easting	Elevation (ft NAVD 88)
B-3	187826.43	508053.06	33.15
B-4	187147.45	508067.15	31.69
B-5	183820.41	510924.26	22.51
B-6	187531.57	508454.11	24.38
B-7	186848.00	509041.73	23.75
B-8	186064.92	509298.78	26.94
B-9	184565.18	509181.04	23.3
B-10	184786.55	509137.62	24.52
B-11	183685.67	509688.24	34.06
B-12	183702.77	509732.18	18.93
B-13	183306.65	510439.88	36.6
B-14	184174.4	511123.99	36.67
B-15	183046.26	509988.65	37.76
B-21	185239.74	509128.85	22.99
B-23	184211.78	509484.91	24.93

DESIGNED BY					
DRAWN BY					
CHECKED BY					
APPROVED BY					
	NO.	DATE	DWN	CHK	APP
	REVISIONS				



PROJECT	ANSONIA FLOOD PROTECTION PROJECT SYSTEMS 2 & 3 ANSONIA, CT	FILE NO.	0067-006
DWG. TITLE	SITE MAP & BORING LOCATIONS	SCALE	As Shown
		DATE	11/23/2011
		DRAWING NO.	D-1
		SHEET	1 OF 1

BORING LOG

Boring No.: **B-15**
 Page No.: **1 of 4**
 File No.: **0067-006.00**
 Checked By: _____

Project Name
Ansonia Flood Protection System

Boring Company: New England Boring Contractors
 Foreman: Mike StJohn
 GeoDesign Rep.: Bob Marshall
 Date Started: October 11, 2011 Date Finished: October 13, 2011
 N. Coordinate: _____ E. Coordinate: _____
 Ground Surface Elevation (feet): 37.8
 Station: 84+79 Offset: 3.9 ft Left

Type:	Casing:	Sampler:	Groundwater Observations			
			Date	Depth (ft)	Elev. (ft)	Notes
I.D.:	<u>FJ</u>	<u>SS</u>				
Hammer Wt.:	<u>3.0 in.</u>	<u>1.38 in.</u>				
Hammer Fall:	<u>300 lbs</u>	<u>140 lbs</u>	<u>10/13/11</u>			<u>None observed drill fluid used</u>
Rig Type:	<u>30 in.</u>	<u>30 in.</u>				
Hammer Type:	<u>Mobile-53</u>					
	<u>Safetv - Hydraulic</u>					

Depth (ft)	Sample Information										Strata Description	Symbol	Sample Description				
	Casing Blows/ft	Number	Type	Penetration (inches)	Recovery (inches)	Depth (ft)	Blows / 6 inch Interval							Coring Time (min./ft)	Moisture Content (%)		
							0 - 6	6 - 12	12 - 18	18 - 24							
		1	SS	24	10	0.0	9	11	15	18							
		2	SS	24	10	2.0	12	16	17	24							
5		3	SS	24	20	5.0	11	12	16	14							
		4	SS	24	10	7.0	21	22	30	13							
10		5	SS	24	14	10.0	31	44	56	67							
		6	SS	24	19	12.0	53	52	51	62							
15		7	SS	24	5	15.0	48	45	48	105							
20		8	SS	6	3	20.0	80/6"										
25		9	SS	12	9	25.0	35	65/6"									
30																	

Remarks: Pilot hole advanced to 10' using 4" solid augers, then switched to 3" flush joint casing. Composite bag sample obtained for lab permeability testing from 0 to 10 feet. Following completion of drilling, borehole collapsed to 74' as casing was extracted from 74' to 64' below grade. The borehole was then tremie grouted using a bentonite-cement grout at an approximate 5 lb to 94 lb mix-ratio. Elevation NAVD 88.

Notes: 1) Stratification lines represent approximate boundary between material types, transitions may be gradual.
 2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made. AC = After coring; NR = Not Recorded.
 3) Abbreviations: A = Auger; C = Core; MC=Macrocore; D = Driven; G = Grab; PS = Piston Sample; SS = Split Spoon; SSL = 3.5 Inch ID Split Spoon; ST = Shelby Tube; V = Vane; WOR/H = Weight of Rod/Hammer
 4) Proportions Used: Trace = 1-10%; Little = 10-20%; Some = 20-35%; And = 35-50%

Boring No.: **B-15**

I - BORING LOG MC 2008-2009 ANSONIA RPJ.GPJ GEODESIGN STANDARD.GDT 11/23/11






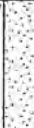
BORING LOG

Project Name
Ansonia Flood Protection System

Boring No.: **B-15**
 Page No.: **3 of 4**
 File No.: **0067-006.00**
 Checked By: _____

Boring Company: **New England Boring Contractors**
 Foreman: **Mike StJohn**
 GeoDesign Rep.: **Bob Marshall**
 Date Started: **October 11, 2011** Date Finished: **October 13, 2011**
 N. Coordinate: _____ E. Coordinate: _____
 Ground Surface Elevation (feet): **37.8**
 Station: **84+79** Offset: **3.9 ft Left**

Casing:		Sampler:		Groundwater Observations					
Type:	I.D.:	Hammer Wt.:	Hammer Fall:	Rig Type:	Hammer Type:	Date	Depth (ft)	Elev. (ft)	Notes
FJ	3.0 in.	300 lbs	30 in.	Mobile-53	Safety - Hydraulic	10/13/11			None, observed drill fluid used
SS	1.38 in.	140 lbs	30 in.						

Depth (ft)	Sample Information										Strata Description	Symbol	Sample Description			
	Casing Blows/ft		Penetration (inches)	Recovery (inches)	Depth (ft)	Blows / 6 inch Interval				Coring Time (min./ft)				Moisture Content (%)	Depth & Elevation (feet)	Classification System:
	Number	Type				0 - 6	6 - 12	12 - 18	18 - 24							
	18	SS	24	17	60.0	12	13	18	27			Silt And Clay (Continued)		Hard, gray SILT and CLAY, occasional fine sand partings		
												63.5				
65																
	19	SS	24	15	65.0	11	15	18	25			Fine Sand and Silt		Dense, gray fine SAND, and Silt		
70																
	20	SS	24	17	70.0	10	17	21	31					Dense, gray fine SAND, and Silt		
75																
	21	SS	24	16	75.0	18	23	25	30					Dense, gray fine SAND, and Silt		
80																
	22	SS	24	12	80.0	16	27	33	37					Very dense, gray fine SAND, some Silt		
85																
	23	SS	24	11	85.0	9	19	28	28					Dense, brown fine SAND, trace Silt		
90																

Remarks: Boring advanced open hole below 74' due to virtual refusal of casing, 5' of running sands in borehole following spoon removal at 85', 7' of running sands in borehole following spoon removal from 90' depth.

Notes:
 1) Stratification lines represent approximate boundary between material types, transitions may be gradual.
 2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made. AC = After coring; NR = Not Recorded.
 3) Abbreviations: A = Auger; C = Core; MC = Macrocore; D = Driven; G = Grab; PS = Piston Sample; SS = Split Spoon; SSL = 3.5 Inch ID Split Spoon; ST = Shelby Tube; V = Vane; WOR/H = Weight of Rod/Hammer
 4) Proportions Used: Trace = 1-10%; Little = 10-20%; Some = 20-35%; And = 35-50%



BORING LOG

Boring No.: **B-15**
 Page No.: **4 of 4**
 File No.: **0067-006.00**
 Checked By: _____

Project Name
Ansonia Flood Protection System

Boring Company: **New England Boring Contractors**
 Foreman: **Mike StJohn**
 GeoDesign Rep.: **Bob Marshall**
 Date Started: **October 11, 2011** Date Finished: **October 13, 2011**
 N. Coordinate: _____ E. Coordinate: _____
 Ground Surface Elevation (feet): **37.8**
 Station: **84+79** Offset: **3.9 ft Left**

Type:	Casing:	Sampler:	Groundwater Observations:			
			Date	Depth (ft)	Elev. (ft)	Notes
I.D.:	3.0 in.	1.38 in.				
Hammer Wt.:	300 lbs	140 lbs	10/13/11			None, observed drill fluid used
Hammer Fall:	30 in.	30 in.				
Rig Type:	Mobile-53					
Hammer Type:	Safety - Hydraulic					

Depth (ft)	Casing Blows/ft	Sample Information										Strata Description	Symbol	Sample Description				
		Number	Type	Penetration (inches)	Recovery (inches)	Depth (ft)	Blows / 6 inch Interval				Coring Time (min./ft)				Moisture Content (%)			
							0 - 6	6 - 12	12 - 18	18 - 24								
	24	SS	24	10	90.0	18	33	35	37									
95	25	SS	24		95.0	18	24	30	28									
100	26	SS	18	6	100.0	18	15	20										
105																		
110																		
115																		
120																		

Remarks
 6' of sands in borehole following S-25 at 95'.
 4' of running sands in borehole following rollerbit removal from 100'; switched to bentonite based drill fluid, washed out sands prior to S-26, with 1' of sands in hole prior to sampling 100'.
 Roller bit refusal at 104'

Notes:
 1) Stratification lines represent approximate boundary between material types, transitions may be gradual.
 2) Water level readings have been made at times and under conditions stated, fluctuations of groundwater may occur due to other factors than those present at the time measurements were made. AC = After coring; NR = Not Recorded.
 3) Abbreviations: A = Auger; C = Core; MC=Macrocore; D = Driven; G = Grab; PS = Piston Sample; SS = Split Spoon; SSL = 3.5 Inch ID Split Spoon; ST = Shelby Tube; V = Vane; WOR/H = Weight of Rod/Hammer
 4) Proportions Used; Trace = 1-10%; Little = 10-20%; Some = 20-35%; And = 35-50%

Boring No.: **B-15**



**APPENDIX 6 -
LIMITATIONS**

LIMITATIONS

Explorations

1. The analyses and recommendations submitted in this report are based in part upon the data obtained from subsurface explorations and laboratory data by others. The nature and extent of variations between these explorations and observations may not become evident until construction activities commence. If variations then appear evident, it will be necessary to reevaluate the recommendations and conclusions of this report.
2. The generalized soil profile described in the text is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized and have been developed by interpretations of widely spaced explorations and samples; actual soil transitions are probably more erratic. For specific information, refer to the boring logs.
3. Water level readings have been made in the drill holes at times and under conditions stated on the boring logs. These data have been reviewed and interpretations have been made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, tidal, temperature, and other factors occurring since the time measurements were made.

Review

4. This report has been prepared for this project based on the available design drawings and specifications from the Ansonia Riverwalk (Segment 3 and 4) project and US Army Corps of Engineers. If these drawings or specifications change, or are found to be inaccurate, the conclusions and recommendations contained in this report shall not be considered valid unless the discrepancies are reviewed and conclusions of this report modified or verified in writing by Down To Earth Consulting, LLC (DTE).

Construction

5. It is recommended that this firm be retained to provide soil engineering services during construction of the earthworks and foundation phases of the work. This is to observe compliance with the design concepts, specifications, and recommendations and to allow design changes in the event that subsurface conditions differ from those anticipated prior to start of construction.

Use of Report

6. This report has been prepared for the exclusive use of DeCarlo & Doll, Inc. for specific application to the project noted in this geotechnical report in accordance with generally accepted soil and foundation engineering practices. No other warranty, express or implied, is made.
7. This soil and foundation evaluation report has been prepared for this project by DTE. This report is for design purposes only and is not sufficient to prepare an accurate bid. Contractors wishing a copy of the report may secure it with the understanding that its scope is limited to design considerations only.
8. This report may contain comparative cost estimates for the purpose of evaluating alternative earthwork schemes. These estimates may also involve approximate quantity evaluations. It should be noted that quantity estimates may not be accurate enough for construction bids. Since DTE has no control over labor and materials cost and design, the estimates of construction costs have been made on the basis of experience. DTE does not guarantee the accuracy of cost estimates as compared to contractor's bids for construction costs.

ATTACHMENT F
EASEMENT AGREEMENT WITH
TARGET COMPANY



Return To:
Target Corporation
Attn: Real Estate Portfolio Management
1000 Nicollet Mall, TPN12
Minneapolis, MN 55403

TEMPORARY CONSTRUCTION AND PERMANENT MAINTENANCE EASEMENT

This Temporary Construction and Permanent Maintenance Easement ("Easement") is made by **TARGET CORPORATION**, a Minnesota corporation with an address located at 1000 Nicollet Mall, TPN12, Minneapolis, Minnesota 55440 ("Grantor"), to and for the benefit of the **CITY OF ANSONIA**, a municipal corporation and subdivision of the State of Connecticut with an address located at 253 Main Street, Ansonia, Connecticut 06401 ("Grantee").

PRELIMINARY STATEMENTS

WHEREAS, Grantor is the owner of a certain parcel of land having a street address of 20 West Main Street, Ansonia, Connecticut and described in Volume 436, Page 546 of the Ansonia Land Records ("Grantor's Property"), a portion thereof being shown on a certain map or plan entitled:

"City of Ansonia, Map showing Easement Acquired From Target Corporation by the City of Ansonia for the construction of Ansonia Riverwalk segments 3 & 4" by DeCarlo and Doll, Inc., scale 1"=40' dated Feb. 2019 and revised last April 20, 2020

(the "Map"), which Map is on file in the City of Ansonia land records.

WHEREAS, as shown on the Map, Grantee intends to construct, operate and maintain a riverwalk, driveway, concrete plaza and fences on a portion of Grantor's Property (the "Riverwalk Project");

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency whereof being hereby expressly acknowledged, the parties agree as follows:

Grantor hereby grants to Grantee certain temporary easements for construction and staging for the Riverwalk Project (the "Temporary Easements") and permanent easements for the operation and maintenance of the Riverwalk Project (the "Permanent Easement") (collectively

the Temporary Easements and the Permanent Easements are referred to herein as the “Easements”) all as more particularly described below:

Grantor hereby grants to Grantee, and its authorized employees, contractors and agents:

- (i) a perpetual, non-exclusive right-of-way easement over and through that portion of Grantor’s Property designated as “Permanent Easement Area” on the plan attached hereto as Exhibit A (the “Easement Plan”) and legally described on Exhibit B attached hereto;
- (ii) a temporary easement for staging, stockpiling of soil, storing of equipment and other materials in connection with the development and construction of the Riverwalk Project within the location designated as “Temporary Easement Area” on the Easement Plan;
- (iii) a temporary easement for the installation of a sedimentation control system and grading within the Temporary Easement Area provided such grading complies with the terms of this Easement; and
- (iv) a perpetual easement for the right to install and maintain certain trees, concrete plaza, paved riverwalk and driveway within the Permanent Easement Area

Grantor desires to record certain Declaration of Environmental Land Use Restrictions (the “ELUR”) in favor of the Commissioner of the Connecticut Department of Energy and Environmental Protection (the “DEEP”), which ELUR will be recorded in the Land Records of the City of Ansonia. By virtue of Section 22a-133o(b) of the Connecticut General Statutes and Section 22a-133q-1(h) of the Regulations of Connecticut State Agencies, the irrevocable subordination by the Grantee of this Easement is required prior to the recording of such ELUR. Grantee and any future successors or assigns of this Easement shall be bound by and agree that this Easement is subject, and irrevocably subordinate, to said ELUR and to the rights, covenants, restrictions and easements created by and under said ELUR. The ELUR shall take precedence over this Easement and shall be entitled to the same rights and privileges as it would have had if executed, delivered and recorded prior to this Easement.

Prior to the recording of an ELUR, Grantee agrees to prepare a materials management plan and comply with all other terms pursuant to and in accordance with Title 22a of the Connecticut General Statutes and Section 22a-133k-1, et. seq of the Regulations of Connecticut State Agencies (the “Remediation Standards Regulations”), and any other applicable law, each as now existing or may be amended in the future, prior to any disturbance of soil below three (3) feet within the Easement Areas. Once any ELUR is recorded on the land records, any disturbance or excavation of soil by Grantee and its authorized employees, contractors and agents must comply with all terms and conditions of any recorded ELUR.

The Temporary Easements are granted for the term beginning on the date Grantee first enters the Temporary Easement Area and expiring upon the earlier of (i) April 1, 2021; or (ii) completion of the construction of the Riverwalk Project.

Grantee, by acceptance of the benefits hereof, hereby expressly agrees to perform and complete all construction and related work in the Easement Areas in a good, workmanlike and lien-free manner. Grantee shall be responsible for obtaining any and all permits and approvals necessary for the Riverwalk Project. At Grantee's expense, Grantor shall cooperate in executing any necessary documents for Grantee's permits and approvals in connection with the Riverwalk Project.

For its part, the Grantee covenants and agrees for itself and its successors and assigns that:

1. Grantee will not plant or permit to be planted, any vegetation (including but not limited to shrubs and trees) within the Easement Areas if any part of such vegetation (including its roots) may extend more than three feet below the existing ground surface when mature;

2. Grantee acknowledges that any bringing in of fill within the Easement Areas will require an appropriate materials management plan, which shall be reviewed and approved by Grantor or its successors or assigns (such approval may be withheld at Grantor's discretion); and

3. Grantee will preserve and maintain the top elevation of the landscaped berm by the entry drive at the current height. The Riverwalk Project will be constructed on the back side of the berm and some excavation of that side of the berm is required for sloping in that direction. All excavated material shall be managed in accordance with the materials management plan, the ELUR, and any applicable CT DEEP permit conditions. The Grantee specifically agrees that the top and the front (facing the Target store) of the existing berm within the Easement Areas must not be flattened or otherwise decreased in height, and will grade the ground surface to blend grades with the existing berm, while maintaining handicapped accessible grades on the Riverwalk Project.

4. Any installation, maintenance or repair of the Riverwalk Project performed or any other work completed on the Easement Areas by Grantee, its agents and employees shall be performed (i) at Grantee's sole cost and expense, (ii) during months other than November, December or January (except in the event of an emergency), and (iii) with adequate provision for the safety and convenience of all persons using the surface of such areas. In addition, Grantee, its agents and employees shall (a) promptly pay all costs and expenses associated with said work and (b) diligently complete such work as quickly as possible.

5. During construction and maintenance activities in the Easement Areas, Grantee shall require its agents and contractors to carry active liability insurance (the "Insurance Policy") with bodily injury and property damage having combined single limits of at least \$1,000,000.00 per occurrence. Such insurance shall include personal injury liability and contractual liability coverage. Grantor shall not be responsible or liable for injuries to persons, including death, or damage to property when such injuries or damages are caused by, result from, or on account of, or growing out of the consent hereby granted, and are not due solely to the negligence of Grantor, its agents, employees successors or assigns, to the extent of applicable law. Grantor must be named as an "additional insured" under the Insurance Policy.

CITY OF ANSONIA
 MAP SHOWING EASEMENT ACQUIRED FROM
 TARGET CORPORATION
 BY
 THE CITY OF ANSONIA
 FOR THE CONSTRUCTION OF
 ANSONIA RIVERWALK - SEGMENTS 3 & 4



DeCaro & Doll, Inc.
 Professional Engineering
 & Land Surveying
 89 Colony Street,
 Meriden, Connecticut 06451
 (203) 379-0487
 (203) 379-0278 fax

SCALE: 1" = 40'
 FEB. 2019

Mark L. Ford, LS No. 70087
 Land Surveyor
 DATE _____

TOWN NO. 002
 PROJECT NO. 02-128
 SERIAL NO. 1
 SHEET 1 OF 1

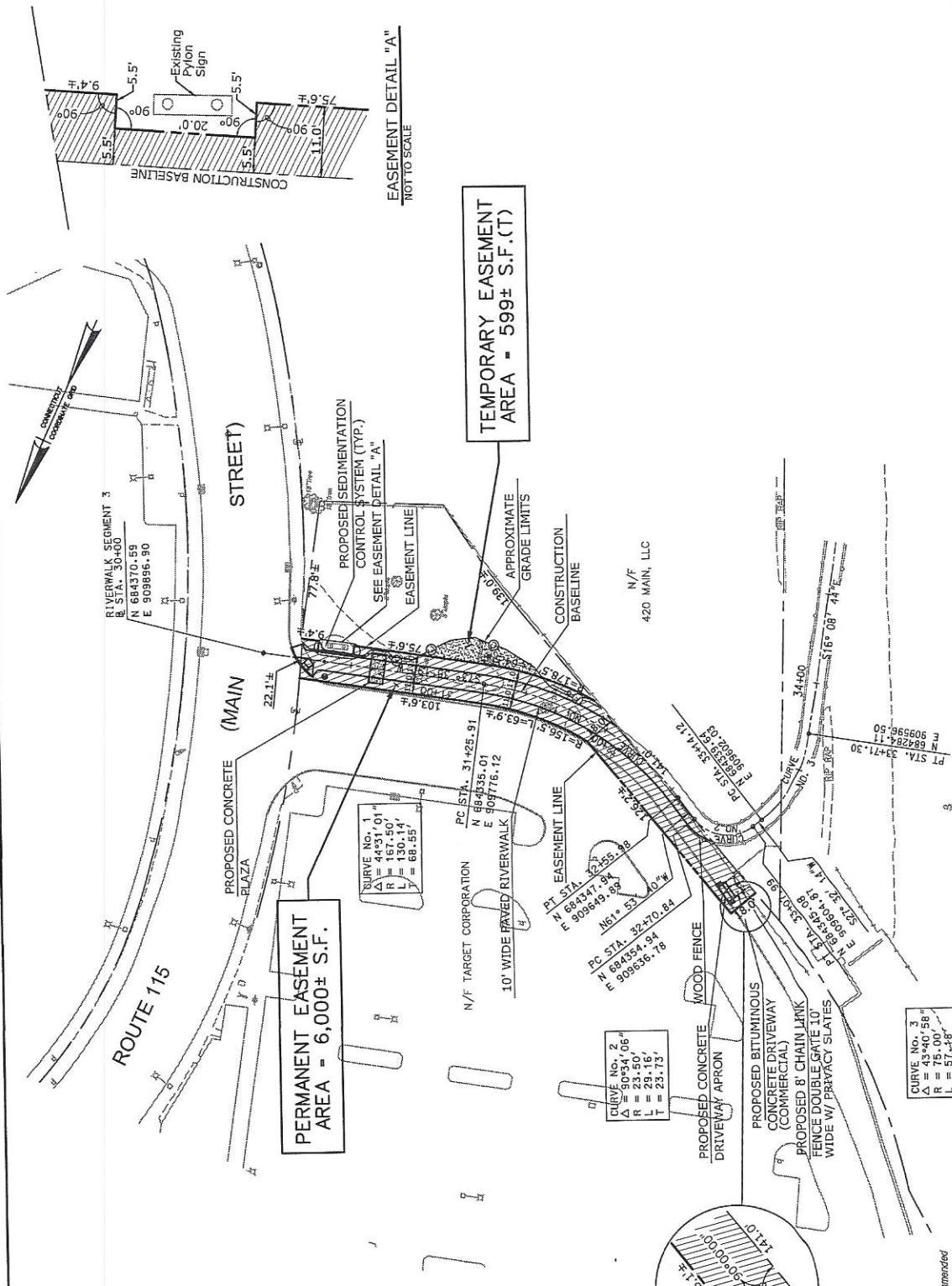
TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS
 MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

DATE	REVISION	REQ. BY
3/7/19	Adjacent Trail added	D&D
5/3/19	Revised Trail added	D&D
8/20/19	revised easement format	Target
11/14/19	revised easements	Target
4/10/20	Revised Trail & Easements	City
5/11/20	Revised Easements	Target

DRAWN BY	DATE	DATE
MLF	FEB. 2019	FEB. 2019
DD	FEB. 2019	FEB. 2019
APPR. BY	DATE	DATE

ENCLOSURE
 Construction Plans entitled "CONSTRUCTION OF ANSONIA RIVERWALK - SEGMENT 3 & 4, Project No. 02-128."

- NOTES:
- This survey has been prepared in accordance with the "Recommended Standards for Surveys and Maps in the State of Connecticut" as adopted for use by the Connecticut Association of Land Surveyors, Inc. on September 26, 1996.
 - The type of survey is a Right of Way Survey and is intended to depict the limits of property transaction for the project referenced herein.
 - The baseline from which this property transaction is referenced conforms to Class A-2 horizontal accuracy.
 - The features depicted herein are the result of the general location survey for the project, or as may be referenced herein.
 - The property lines depicted have been compiled from various sources and are not to be construed as being obtained as the result of a field survey, nor do they represent a property/boundary opinion.



EASEMENT DETAIL "A"
 NOT TO SCALE

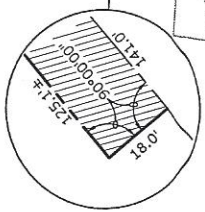
TEMPORARY EASEMENT
 AREA - 599± S.F.(T)

PERMANENT EASEMENT
 AREA - 6,000± S.F.

CURVE NO. 2
 $\Delta = 90.540'$
 $R = 29.16'$
 $L = 23.73'$

CURVE NO. 1
 $\Delta = 44.31701'$
 $R = 167.50'$
 $L = 130.14'$
 $T = 68.55'$

CURVE NO. 3
 $\Delta = 43.40758'$
 $R = 75.00'$
 $L = 57.18'$
 $T = 30.06'$



SCALE IN FEET
 1" = 40'

EXHIBIT B

LEGAL DESCRPTION OF PERMANENT EASEMENT AREA

(See Attached)

Easements & Rights acquired
Target Corporation
By the City of Ansonia
Riverwalk Segment 3 & 4 Construction

May 11, 2020

LEGAL DESCRIPTION

A Certain Easement located in the City of Ansonia, County of New Haven and State of Connecticut, being shown on a map entitled "City of Ansonia, Map showing Easement Acquired From Target Corporation by the City of Ansonia for the construction of Ansonia Riverwalk segments 3 & 4" by DeCarlo and Doll, Inc., scale 1"=40' dated Feb. 2019 and revised last May 11, 2020. Said easement being more particularly bounded and described as follows:

**PROPOSED EASEMENT TO CONSTRUCT & MAINTAIN CONCRETE PLAZA,
PAVED DRIVEWAY, PAVED RIVERWALK & FENCES**

Commencing at a point, Said point being northerly 77.8 feet more or less from the southeast corner of land now or formerly Target Corporation at land now or formerly 420 Main, LLC when measured along land now or formerly 420 Main, LLC and the westerly street line of Route 115 (Main Street), Said point further being the southeasterly corner of the herein described easement;

Thence running southwesterly 9.4 feet more or less through land now or formerly Target Corporation, said course being 11.0 feet perpendicularly distant southerly from and parallel to the construction baseline for the Proposed Riverwalk;

Thence running northwesterly 5.5 feet through land now or formerly Target Corporation, said line forming an interior angle of 90° with the last course;

Thence running southwesterly 20.0 feet through land now or formerly Target Corporation, said course being 5.5 feet perpendicularly distant southerly from and parallel to the construction baseline for the Proposed Riverwalk;

Thence running southeasterly 5.5 feet through land now or formerly Target Corporation, said line forming an exterior angle of 90° with the last course;

Thence running southwesterly 75.6 feet more or less, and southwesterly along a curve to the right having a radius of 178.5 feet and an arc length of 64.5 feet more or less, through land now or formerly Target Corporation to land now or formerly 420 Main, LLC. Said 2 courses being 11.0 feet perpendicularly distant southerly from and parallel to the construction baseline for the Proposed Riverwalk;

Thence running northwesterly 141.0 feet more or less along land now or formerly 420 Main, LLC;

Thence running northeasterly 18.0 feet through land now or formerly Target Corporation, as shown on said map, said line forming an interior angle of 90°00'00" with the previous course;

Thence running southeasterly 126.2 feet more or less through land now or formerly Target Corporation as shown on said map, said line being 18.0 perpendicularly distant northerly from and parallel to the southerly property line of land now or formerly Target Corporation;

Thence running along a curve to the left having a radius of 156.5 feet and an arc length of 63.9 feet more or less, and northeasterly 103.6 feet more or less through land now or formerly Target Corporation to the westerly street line of Route 115 (Main Street). Said 2 courses being 11.0 feet perpendicularly distant northerly from and parallel to the construction baseline for the Proposed Riverwalk;

Thence running southeasterly 22.1 feet more or less along the westerly street line of Route 115 (Main Street) to the point and place of commencement.

Said Easement contains 6,000 square feet more or less

Said Easement is conveyed along with the Temporary rights to install Sedimentation Control System and grade as shown on the said referenced map, in association with the construction of the Proposed Riverwalk.

Received for Record at Ansonia, CT
On 06/18/2020 At 4:49:48 pm

Elizabeth S. Lynch

 DE CARLO
& DOLL, INC.
ARCHITECTS AND ENGINEERS