

TABLE OF CONTENTS OF SPECIAL PROVISIONS

Note: This Table of Contents 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 Table of Contents shall not be considered part of the contract.

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September 6, 2017
FEDERAL AID PROJECT NO. 0012(140)
STATE PROJECT NO. 103-269

Retaining Wall Failure Remediation on Route12

City of Norwich
Federal Aid Project No. 0012(140)

The State of Connecticut, Department of Transportation, Standard Specifications for Roads, Bridges, Facilities and Incidental Construction, Form 817, 2016, as revised by the Supplemental Specifications dated January 2017 (otherwise referred to collectively as "ConnDOT Form 817") is hereby made part of this contract, as modified by the Special Provisions contained herein. Form 817 is available at the following DOT website link <http://www.ct.gov/dot/cwp/view.asp?a=3609&q=430362>. The current edition of the State of Connecticut Department of Transportation's "Construction Contract Bidding and Award Manual" ("Manual"), 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 at the following DOT website link <http://www.ct.gov/dot/cwp/view.asp?a=2288&q=259258>. The Special Provisions relate in particular to the Retaining Wall Failure Remediation on Route12 in the City of Norwich.

CONTRACT TIME AND LIQUIDATED DAMAGES

Seventy-Eight (78) calendar days will be allowed for completion of the work on this Contract and the liquidated damages charge to apply will be One Thousand Six Hundred Dollars (\$1,600.00) per calendar day.

NOTICE TO CONTRACTOR – PRE-BID QUESTIONS AND ANSWERS

Questions pertaining to DOT advertised construction projects must be presented through the CTDOT Pre-Bid Q and A Website. The Department cannot guarantee that all questions will be answered prior to the bid date. **PLEASE NOTE - at 9:00 am Monday (i.e. typical Wednesday Bid Opening) the project(s) being bid will be closed for questions, at which time questions can no longer be submitted through the Q and A Website.**

Answers may be provided by the Department up to 12:00 noon, the day before the bid. At this time, the Q and A for those projects will be considered final, unless otherwise stated and/or the bid is postponed to a future date and time to allow for further questions and answers to be posted.

If a question needs to be asked the day before the bid date, please contact the Contracts Unit staff and email your question to dotcontracts@ct.gov immediately.

Contractors must identify their company name, contact person, contact email address and phone number when asking a question. The email address and phone number will not be made public.

The questions and answers (if any) located on the Q and A Website are hereby made part of the bid/contract solicitation documents (located on the State Contracting Portal), and resulting contract for the subject project(s). It is the bidder's responsibility to monitor, review, and become familiar with the questions and answers, as with all bid requirements and contract documents, prior to bidding. By signing the bid proposal and resulting contract, the bidder acknowledges receipt of, and agrees to the incorporation of the final list of Q and A, into the contract document.

Contractors will not be permitted to file a future claim based on lack of receipt, or knowledge of the questions and answers associated with a project. All bidding requirements and project information, including but not limited to contract plans, specifications, addenda, Q and A, Notice to Contractors, etc., are made public on the State Contracting Portal and/or the CTDOT website.

NOTICE TO CONTRACTOR – Federal Wage Determinations (Davis Bacon Act)

The following Federal Wage Determinations are applicable to this Federal- Aid contract and are hereby incorporated by reference. During the bid advertisement period, it is the bidder’s responsibility to obtain the latest Federal wage rates from the US Department of Labor website, as may be revised 10 days prior to bid opening. Any revisions posted 10 days prior to the bid opening shall be the wage determinations assigned to this contract.

Check Applicable WD# (DOT Use Only)	WD#	Construction Type	Counties
	CT1	Highway	Fairfield, Litchfield, Middlesex, New Haven, Tolland, Windham
X	CT2	Highway	New London
	CT3	Highway	Hartford
	CT5	Heavy Dredging (Hopper Dredging)	Fairfield, Middlesex, New Haven, New London
	CT6	Heavy Dredging	Statewide
	CT13	Heavy	Fairfield
	CT14	Heavy	Hartford
	CT15	Heavy	Middlesex, Tolland
	CT16	Heavy	New Haven
	CT17	Heavy	New London
	CT26	Heavy	Litchfield, Windham
	CT18	Building	Litchfield
	CT19	Building	Windham
	CT20	Building	Fairfield
	CT21	Building	Hartford
	CT22	Building	Middlesex
	CT23	Building	New Haven
	CT24	Building	New London
	CT25	Building	Tolland
	CT4	Residential	Litchfield, Windham
	CT7	Residential	Fairfield
	CT8	Residential	Hartford
	CT9	Residential	Middlesex
	CT10	Residential	New Haven
	CT11	Residential	New London
	CT12	Residential	Tolland

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. The Department will no longer physically include revised Federal wage rates in the bid documents or as part of addenda documents. These applicable Federal wage rates will be incorporated in the final contract document executed by both parties. If a conflict exists between the Federal and State wage rates, the higher rate shall govern.

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.

NOTICE TO CONTRACTOR – MINIMUM CONCRETE COMPRESSIVE STRENGTH

The concrete strength or allowable design stress specified in the General Notes is for design purposes only. The minimum compressive strength of concrete in constructed components shall comply with the requirements of Section 6.01 Concrete for Structures.

SECTION 1.02 – PROPOSAL REQUIREMENTS AND CONDITIONS

Article 1.02.04 – Examination of Plans, Specifications, Special Provisions and Site of Work:

Replace the third sentence of the last paragraph with:

The Department cannot ensure a response to inquiries received later than ten (10) days prior to the original scheduled opening of the related bid.

SECTION 1.07 – LEGAL RELATIONS AND RESPONSIBILITIES

Article 1.07.10 - Contractor's Duty to Indemnify the State against Claims for Injury or Damage:

Add the following after the only paragraph:

“It is further understood and agreed by the parties hereto, that the Contractor shall not use the defense of Sovereign Immunity in the adjustment of claims or in the defense of any suit, including any suit between the State and the Contractor, unless requested to do so by the State.”

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 12 (North Main Street)

Monday through Friday between 3:00 p.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.

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

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 an uniform textured, non-segregated, smooth bituminous concrete pavement to the grade and cross section shown on the plans.

The terms listed below 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 and as defined in Article 4.06.03.

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 test 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 ConnDOT 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 conform to 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, the additive name and dosage rate or water injection rate must be listed.
- 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 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 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 one 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 mixture 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 percent, 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 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 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.

Rollers: All rollers shall be self-propelled and designed for compaction of bituminous concrete. Rollers 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 of. 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 pounds per square inch 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 is 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 25 feet 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 a minimum output of 50,000 lumens, and emit light equally in all directions.

Material Transfer Vehicle (MTV): A MTV shall be used when placing a bituminous concrete surface course as indicated in the contract documents.

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:

- The make and model of the MTV.
- The individual axle weights and axle spacing for each piece of paving equipment (haul vehicle, MTV and paver).
- 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 conform to 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, shall meet the following length requirements:

- a) Posted speed limit is greater than 35 MPH: 30 feet per inch of elevation change.
- b) Posted speed limit is 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: A temporary transition is defined as a transition that does not remain a permanent part of the work. All temporary transitions shall meet the following length requirements:

- a) Posted speed limit is greater than 50 MPH
 - (1) Leading Transitions = 15 feet per inch of vertical change (thickness)
 - (2) Trailing Transitions = 6 feet per inch of vertical change (thickness)
- b) Posted speed limit is 40, 45, or 50 MPH
 - (1) Leading and Trailing = 4 feet per inch of vertical change (thickness)
- c) Posted speed limit is 35 MPH or less
 - (1) 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 conform to 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.

The Engineer may verify the mixture temperature by means of a probe or infrared type of thermometer. The Engineer may reject the load based on readings from a probe type thermometer and the specify temperature in the quality control plan (QCP) for placement.

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 gallons per square yard for a non-milled surface and an application rate of 0.05 to 0.07 gallons per square yard 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 gallons per square yard. The Engineer must approve the equipment and the method of measurement prior to use. The material for tack coat shall not be heated in excess of 160°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 exposed surface 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 Contractor shall inspect the newly placed pavement for defects in the 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 impractical 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 specification.

- 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 accordance with Article 4.06.04.

- c) **Delivered Weight of Mixture** - When the delivery ticket shows that the vehicle 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 4.06.03 and eliminate all roller marks without displacement, shoving, cracking, or aggregate breakage.

When placing a lift with a specified thickness less than one and one-half (1 ½) 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. The Engineer may allow the Contractor to operate rollers in the dynamic mode using the oscillatory system at the lowest frequency setting.

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 ¼ inch from a Contractor-supplied 10 foot straightedge. For all other lifts, the tolerance shall be ⅜ inch. Such tolerance will apply to all paved areas.

Any surface that exhibits these characteristics or 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 between 1½ and 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 1½ inches or greater than or equal to 3 inches. During placement of multiple lifts, the longitudinal joint shall be constructed in such a

manner that it is located at least 6 inches from the joint in the lift immediately below. The joint in the final lift shall be at the centerline or at lane lines. 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 in any location.

Method I - Notched Wedge Joint:

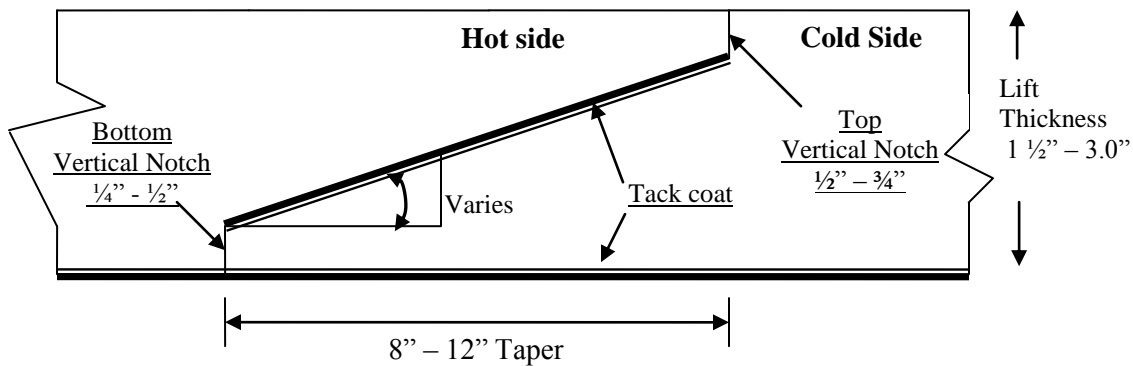


FIGURE 4.06-1: Notched Wedge Joint

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 taper portion of the wedge joint must be placed over the longitudinal joint in the lift immediately below. 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 taper portion of the wedge joint shall not be exposed to traffic for more than 5 calendar days.

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, Notched Wedge Joint cannot be used on lifts between 1.5 and 3 inches, Method III Butt Joint may be substituted according to the requirements below for “Method III – Butt Joint with Hot Pour Rubberized Asphalt Treatment.”

Method II - Butt Joint:

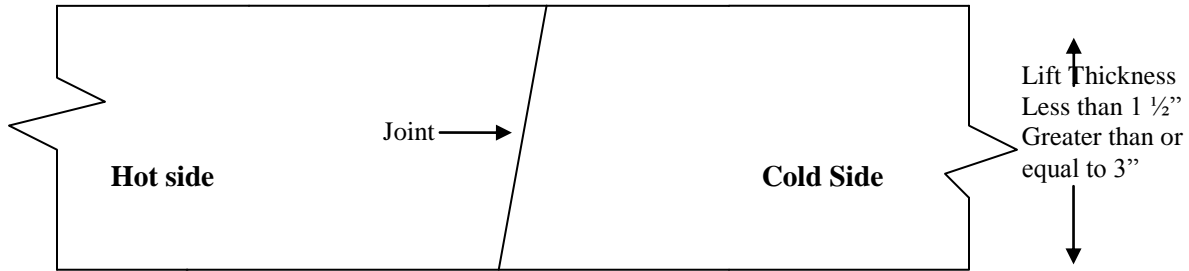


FIGURE 4.06-2: Butt Joint

When adjoining passes are placed, the Contractor shall utilize equipment that creates 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). 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 Wedge Joint 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 utilize Method III Butt Joint as a substitution in those locations. There shall be no additional measurement or payment made when the Method III Butt Joint is substituted for the Method I Notched Wedge Joint. When required by the contract or approved by the Engineer, Method III (see Figure 4.06-3) shall be used.

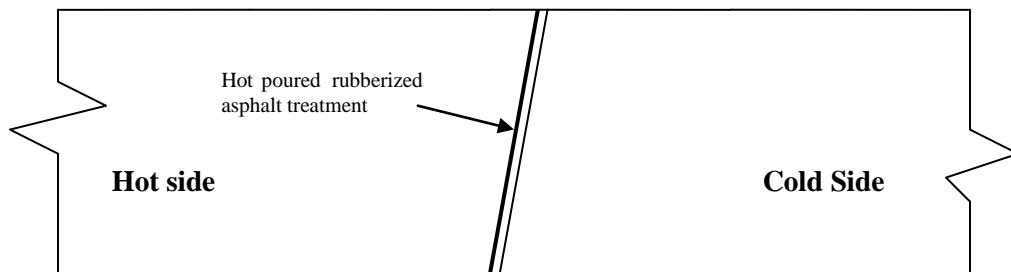


FIGURE 4.06-3: Butt Joint with Hot Poured Rubberized Asphalt Treatment

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 D 6690, 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 and 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 three 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 Section 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. All Contractor sampling, inspection and test reports shall be reviewed and signed by the QCM prior to submittal to the Engineer. The QCPs shall also include the name and qualifications of any outside testing laboratory performing any QC functions on behalf of the Contractor.

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 Section 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 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 one (1) mat core and one (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 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 sub-article 4.06.03-10.

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

- Mixtures shall not be placed when the air or sub base 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. Obtaining Bituminous Concrete Cores: This Section describes the methodology and sampling frequency the Contractor shall use to obtain pavement cores.

Coring shall be performed on each lift specified to a thickness of one and one-half (1 ½) inches or more within 5 days of placement. The Contractor shall extract cores (4 or 6 inch diameter for S0.25, S0.375 and S0.5 mixtures 6 inch diameter for S1.0 mixtures) from locations determined

by the Engineer. The Engineer must witness the extraction, labeling of cores and filling of the core holes.

A density lot will be complete when the full designed paving width and length of the lot has been placed and shall include all longitudinal joints between the curb lines. HMA S1 mixes are excluded from the longitudinal joint density requirements.

A standard density lot is the quantity of material placed within the defined area exclusive of any structures. A combo density lot is the quantity of material placed within the defined area inclusive of structures less than or equal to 500 feet long. A bridge density lot is the quantity of material placed on a structure larger than 500 feet in length.

Prior to paving, the type and number of lot (s) shall be determined by the Engineer. The number of cores per lot shall be determined in accordance to Tables 4.06-4, 4.06-5A and 4.06-5B. Noncontiguous areas such as highway ramps may be combined to create one lot. Combined areas should be set up to target a 2000 ton lot size. The longitudinal locations of mat cores within a lot containing multiple paving passes will be determined using the total distance covered by the paver. The locations of the joint cores will be determined using the total length of longitudinal joints within the lot.

Sampling is in accordance with the following tables:

TABLE 4.06-4: Bridge Density Lot(s)

Length of Each Structure (Feet)	No. of Mat Cores	No. of Joint Cores
≤ 500'	See Table 4.06-5(A or B)	See Table 4.06-5(A or B)
501' – 1500'	3	3
1501' – 2500'	4	4
2501' and greater	5	5

All material placed on structures less than or equal to 500 feet in length shall be included as part of a standard lot as follows:

TABLE 4.06-5A: Standard and Combo Density Lot(s) ≥ 500 Tons

Lot Type	No. of Mat Cores		No. of Joint Cores		Target Lot Size (Tons)
Standard Lot / Without Bridge (s)	4		4		2000
Combo Lot / Lot With Bridge(s) ⁽¹⁾	4 plus	1 per structure (≤ 300')	4 plus	1 per structure (≤ 300')	2000
		2 per structure (301' – 500')		2 per structure (301' – 500')	

TABLE 4.06-5B: Standard and Combo Density Lot < 500 Tons

Lot Type	No. of Mat Cores		No. of Joint Cores	
Standard Lot / Without Bridge (s)	3		3	
Combo Lot / Lot With Bridge(s) ⁽¹⁾	2 plus	1 per structure	2 plus	1 per structure

Note:

⁽¹⁾ If a combo lot mat or joint core location randomly falls on a structure, the core is to be obtained on the structure in addition to the core(s) required on the structure.

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 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 one foot from the edge of a paver pass. If a random number locates a core less than one foot from any edge, the location will be adjusted by the Engineer so that the outer edge of the core is one 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 4.06-5).

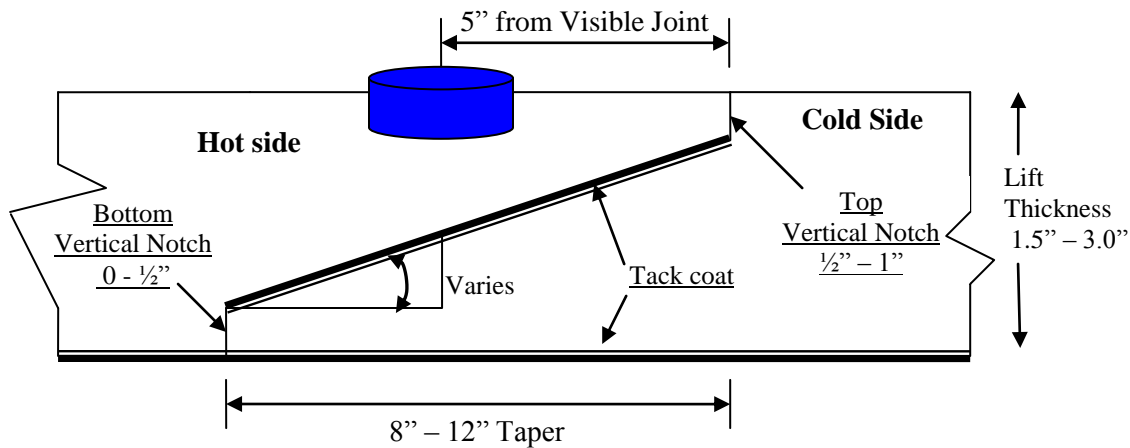


FIGURE 4.06-5: Notched Wedge Joint Cores

When Method II or Method III Butt Joint is utilized, 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. A mat core from the second lot and first sub-lot shall be labeled "M2 - 1" (Figure 4.06-4). 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 a security seal. The security seal's identification number must be documented on the MAT-109. Central Lab personnel will break the security seal and take possession of the cores.

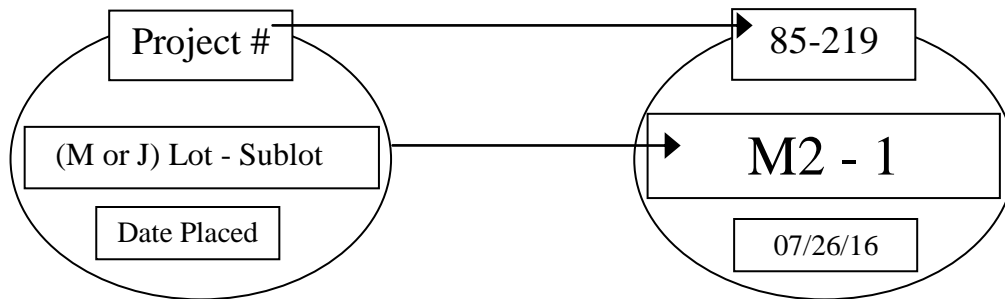


FIGURE 4.06-4: Labeling of Cores

Each core hole shall be filled within four 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.

11. Acceptance Sampling and Testing: Sampling and testing shall be performed at a frequency not less than the minimum frequency specified in Section M.04 and sub-article 4.06.03-10.

Sampling shall be performed in accordance with ASTM D 3665, 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 Section 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 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 7 calendar days of the notification of the test results. No request for dispute resolution will be allowed unless the Contractor provides quality control results within the timeframe described in sub-article 4.06.03-9 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 set of core samples per disputed lot. The core samples must be extracted no later than 14 calendar days from the date of Engineer's authorization.

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. All such cores shall be extracted and the core hole filled using the procedure outlined in Article 4.06.03. The dispute resolution results shall be added to the original results and averaged for determining the final in-place density value.

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 compaction.

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 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*: The quantity of bituminous concrete measured for payment will be determined by the documented net weight in tons accepted by the Engineer in accordance with this specification and Section M.04.

2. Adjustments: Adjustments may be applied to bituminous concrete quantities and will be measured for payment using the following formulas:

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

Actual Area = [(Measured Length (ft)) x (Avg. of width measurements (ft))]

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 (in.) of the lift being placed.

Tons 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:

Tons Adjusted for Thickness (T_T) = A x t_{adj} x 0.0575 = (-) Tons

Where: A = Area = {[L x (Designed width + tolerance (lift thickness)/12)] / 9}

t_{adj} = Adjusted thickness = [(Dt + tolerance) - 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:

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

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

- d) **Mixture Adjustment:** The quantity of bituminous concrete representing the production lot at the Plant will be adjusted as follow:

- i. Non-PWL Production Lot (less than 3500 tons):

The adjustment values in Table 4.06-6 and 4.06-7 shall 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 using tables and the following formulas:

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

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

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

AdjAV_i = Adjustment value from Table 4.06-7 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

$$\text{Percent Adjustment for Asphalt Binder} = \text{AdjPB}_t = [(\text{AdjPB}_1 + \text{AdjPB}_2 + \text{AdjPB}_i + \dots + \text{AdjPB}_n) / n]$$

Where: AdjPB_t = Total percent asphalt 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 shall be calculated based on PWL for AV, VMA and PB test results. The lot will be considered as being normally distributed and all applicable equations in AASHTO R9 and AASHTO R42 Appendix X4 will apply.

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

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

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

Lots with PWL less than 50% in any of the three 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:

$$\text{Tons Adjusted for Superpave Design (T}_{SD}) = [(0.5\text{AdjAV}_t + 0.25\text{AdjPB}_t + 0.25\text{AdjVMA}_t) / 100] \times \text{Tons}$$

iii. Partial Lots:

Lots with less than 4 sublots 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.d.i.

Lots with 4 or more sublots will be calculated as indicated in 4.06.04-2.d.ii.

- e) **Density Adjustment:** The quantity of bituminous concrete measured for payment in a lift of pavement specified to be 1½ inches or greater may be adjusted for density. Separate density adjustments will be made for each lot and will not be combined to establish one density adjustment. 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) = $[(P_{AM} \times .50) + (P_{AJ} \times .50)] / 100$ X Density Lot Tons

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

P_{AM} = Mat density percent adjustment from Table 4.06-9

P_{AJ} = Joint density percent adjustment from Table 4.06-10

TABLE 4.06-9: Adjustment Values for Pavement Mat density

Average Core Result Percent Mat Density	Percent Adjustment (Bridge and Non-Bridge) ⁽¹⁾⁽²⁾
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)

TABLE 4.06-10: Adjustment Values for Pavement Joint Density

Average Core Result Percent Joint Density	Percent Adjustment (Bridge and Non-Bridge) ⁽¹⁾⁽²⁾
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)

⁽¹⁾ ACRPD = Average Core Result Percent Density

⁽²⁾ All Percent Adjustments to be rounded to the second decimal place. For example, 1.667 is to be rounded to 1.67.

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

The quantity of material used for the installation of temporary transitions shall 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 Article 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 Article 4.06.03.

- a. Container Method- Material furnished in a container will be measured to the nearest ½ 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 ½ 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:

$$\text{Tack Coat (gallons at } 60^{\circ}\text{F)} = \frac{\text{Measured Weight (pounds)}}{\text{Weight per gallon at } 60^{\circ}\text{F}}$$

$$\text{Tack Coat (gallons at } 60^{\circ}\text{F)} = \frac{0.996 \times \text{Measured Weight (pounds)}}{\text{Weight per gallon at } 77^{\circ}\text{F}}$$

ii. Measured by automated metering system on the delivery vehicle:

Tack Coat (gallons at 60°F) = Factor (from Table 4.06-11) multiplied by the measured gallons.

TABLE 4.06-11: Factor to Convert Volume of Tack Coat to 60°F

Tack Coat Application Temperature (°F)	Factor	Tack Coat Application Temperature (°F)	Factor
75	0.996	120	0.985
80	0.995	125	0.984
85	0.994	130	0.983
90	0.993	135	0.982
95	0.991	140	0.980
100	0.990	145	0.979
105	0.989	150	0.978
110	0.988	155	0.977
115	0.986	160	0.976

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: The adjustment will be calculated using the formulas shown below if all of the measured adjustments in Article 4.06.04 are not equal to zero. A positive or negative adjustment will be applied to monies due the Contractor.

Production Lot: $[T_T + T_A + T_W + T_{SD}] \times \text{Unit Price} = \text{Est. (P)}$

Density Lot: $T_D \times \text{Unit Price} = \text{Est. (D)}$

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

T_* = Total tons of each adjustment calculated in Article 4.06.04

Est. () = Pay Unit represented in dollars representing incentive or disincentive.

The Bituminous Concrete Adjustment Cost item if included in the bid proposal or estimate is not to be altered by the Contractor.

3. Transitions for Roadway Surface: The installation of permanent transitions shall be paid under the appropriate item used in the formation of the transition. The quantity of material used for the installation of temporary transitions shall 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 Article 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 a "Material Transfer Vehicle".

<u>Pay Item*</u>	<u>Pay Unit*</u>
HMA S*	ton
PMA S*	ton
Bituminous Concrete Adjustment Cost	est.
Material for Tack Coat	gal.
Material Transfer Vehicle	ton

*For contracts administered by the State of Connecticut, Department of Administrative Services, the pay items and pay units are as shown in contract award price schedule.

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 component 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.04.03-6.

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 Section M.01.

2. Fine Aggregate:

All fine aggregate shall meet the requirements listed in Section 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 and was found acceptable for the material

shipped, and, that the binder is free of contamination from any residual material, along with two (2) copies of the bill of lading.

iv. The blending or combining of PG binders in one 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 grade 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 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 PP 71. Only suppliers that have an approved "Quality Control Plan for Emulsified Asphalt" formatted in accordance with AASHTO PP 71 and 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 conform to 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 conform to 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 ½ 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 for approval to 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 sub articles M.04.01-1 through 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-pound sample of the RAP to be incorporated into the recycled mixture.
 - 2. A 25-pound 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 conform 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 Materials Certificate to the Engineer stating that the CRCG complies with all the applicable requirements in this specification.

8. Joint Seal Material:

- a. Requirements: Joint seal material must meet the requirements of ASTM D 6690 – Type 2. The Contractor shall submit a Material Certificate in accordance with Article 1.06.07 certifying that the joint seal material meets the requirements of this specification.

9. Recycled Asphalt Shingles (RAS)

- a. Requirements: 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 Materials Certificate to the Engineer stating that the RAS complies with all the applicable requirements in this specification.

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 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 one silo at a time. Simultaneous discharge of multiple silos for the same Project is not permitted.

<u>Type of silo cylinder</u>	<u>Maximum storage time for all classes (hr)</u>	
	HMA	WMA/PMA
Open Surge	4	Mfg Recommendations*
Unheated – Non-insulated	8	Mfg Recommendations*
Unheated – Insulated	18	Mfg Recommendations*
Heated – No inert gas	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 three years after the completion of the project.

For batch Plants, the Plant ticket shall be produced for each batch and maintained by the vendor for a period of three 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 ticket 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 AASHTO 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. Plant Laboratory: The Contractor shall maintain a laboratory at the production facility to test bituminous concrete mixtures during production. The laboratory shall have a minimum of 300 square feet, 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 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 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 supplies 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, 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, and/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. .
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**

Notes: (a) Compaction Parameter 50gyration N_{des} . (b) The percent passing the #200 sieve shall not exceed the percentage of bituminous asphalt binder.		
Mix	Curb Mix	Production Tolerances from JMF target
Grade of PG Binder content %	PG 64S-22 6.5 - 9.0	0.4
Sieve Size		
# 200	3.0 – 8.0 (b)	2.0
# 50	10 - 30	4
# 30	20 - 40	5
# 8	40 - 70	6
# 4	65 - 87	7
1/4"		
3/8 "	95 - 100	8
1/2 "	100	8
3/4"		8
1"		
2"		
Additionally, the fraction of material retained between any two 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)	

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 through Table M.04.02-5. Each JMF must be submitted no less than seven (7) days prior to production and must be approved by the Engineer prior to use. All approved 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 tensile strength ratio (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. TSR specimens, and corresponding JMF shall be submitted with each test report.

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 representative samples of RAP shall be obtained. Each sample shall be split and one split sample shall be tested for binder content in accordance with AASHTO T 164 and the other in accordance 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 to 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. The RAS asphalt binder availability factor (F) used in AASHTO PP 78 shall be 0.85.

iii. Superpave Mixtures with CRCG: CRCG may be used solely in HMA S1 mixtures. One percent 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 with the JMF submittal:
- Gradation, consensus properties and specific gravities of the aggregate, RAP or RAS.
 - Average asphalt content of the RAP or RAS by AASHTO T 164.
 - Source of RAP or RAS, and percentage to be used.
 - Warm mix Technology, manufacturer's recommended additive rate and tolerances and manufacturer recommended mixing and compaction temperatures.
 - TSR test report and anti-strip manufacturer and recommended dosage rate if applicable.
 - Mixing and compaction temperature ranges for the mix with and without the warm-mix technology incorporated.
 - 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 quart cans of PG binder, with corresponding Safety Data Sheet (SDS)
- 1 - 50 lbs bag of RAP
- 2 - 50 lbs bag 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 herein, and component aggregates are maintained within the tolerances shown in Table M.04.02-2. A new JMF must be submitted to the Engineer for approval whenever a new component source is proposed.

Only one mix with one JMF will be approved for production at any one time. Switching between approved JMF mixes with different component percentages or sources of supply is prohibited.

- c. Mix Status: Each facility will have each type of mixture rated based on the results of the previous year's production. Mix Status will be provided to each bituminous concrete producer annually 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 test results with compliant VMA, and percentage of acceptance test results with compliant air voids.

The final rating assigned will be the lower of the rating obtained with Criteria A or 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. a new JMF not previously submitted.

Bituminous concrete mixtures 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 specifications requirements in Table M.04.02-2 and Table M.04.02-5 are met 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 or,

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 an “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– 2: Superpave Mixture Design Criteria

Notes: ⁽¹⁾ For all mixtures using a WMA technology, the mix temperature shall meet PG binder and WMA manufacturer's recommendations.								
Sieve	S0.25		S0.375		S0.5		S1	
	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	-	-
#4	75	90	-	75	-	-	-	-
#8	32	67	32	67	28	58	19	45
#16	-	-	-	-	-	-	-	-
#30	-	-	-	-	-	-	-	-
#50	-	-	-	-	-	-	-	-
#100	-	-	-	-	-	-	-	-
#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 / binder	0.6 – 1.2		0.6 – 1.2		0.6 – 1.2		0.6 – 1.2	
Mix Temp ⁽¹⁾	265 – 325°F		265 – 325°F		265 – 325°F		265 – 325°F	
TSR	≥ 80%		≥ 80%		≥ 80%		≥ 80%	
T-283 Stripping	Minimal, as determined by the Engineer							

TABLE M.04.02–3: Superpave Consensus Properties Requirements for Combined Aggregate

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 #4 sieve, determined at 5:1 ratio.					
Traffic Level	Design ESALs (80 kN), Millions	Coarse Aggregate Angularity ⁽¹⁾ ASTM D 5821, Minimum %	Fine Aggregate Angularity AASHTO T 304, Method A Minimum %	Flat and Elongated Particles ⁽²⁾ ASTM D 4791, Maximum %	Sand Equivalent AASHTO T 176, 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

TABLE M.04.02– 4: Superpave Traffic Levels and Design Volumetric Properties

Traffic Level	Design ESALs (million)	Number of Gyration by Superpave Gyrotory Compactor			Percent Density of Gmm from HMA/WMA specimen			Voids Filled with Asphalt (VFA) Based on Nominal mix size – inch			
		Nini	Ndes	Nmax	Nini	Ndes	Nmax	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	8	100	160	≤ 90.0	96.0	≤ 98.0	65 – 77	73 - 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	5.70
S0.25	2	5.60
S0.25	3	5.50
S0.375	1	5.70
S0.375	2	5.60
S0.375	3	5.50
S0.5	1	5.10
S0.5	2	5.00
S0.5	3	4.90
S1	1	4.60
S1	2	4.50
S1	3	4.40

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 #4 sieve, percent passing #200 sieve, binder content, air voids, Gmm and 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 & 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:

i. General:

Acceptance samples shall be obtained from the hauling vehicles and tested by the Contractor at the Plant.

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 acceptance sampling and 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.

Anytime during production that testing equipment becomes defective or inoperable, production can continue for a maximum of 1 hour. The Contractor shall obtain box sample(s) in accordance with Table M.04.03-2 to satisfy the daily acceptance testing requirement for the quantity shipped to the project. The box sample(s) shall be tested once the equipment issue has been resolved to the satisfaction of the Engineer. Production beyond 1 hour may be considered by the Engineer. Production will not be permitted beyond that day until the subject equipment issue has been resolved.

Verification testing will be performed by the Engineer in accordance with the Department's QA Program for Materials.

Should the Department be unable to verify the Contractor's acceptance test result(s) due to a failure of the Contractor to retain acceptance test specimens or supporting documentation, the Contractor shall review its quality control plan, determine the cause of the nonconformance and

respond in writing within 24 hours to the Engineer describing the corrective action taken. In addition, the Contractor must provide supporting documentation or test results to validate the subject acceptance test result(s). The Engineer may invalidate any adjustments for material corresponding to the subject acceptance test(s). Failure of the Contractor to adequately address quality control issues at a facility may result in suspension of production for Department projects at that facility.

ii. Curb Mix Acceptance Sampling and Testing Procedures:

Curb Mix shall be tested in accordance to Table M.04.03-1 by the Contractor at a frequency of one test per every 250 tons of cumulative production, regardless of the day of production.

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 set equals two six-inch molds. Molds to be compacted to 50 gyrations
⁽²⁾ Once per year or when requested by the Engineer

- a. Determination of Off-Test Status:
 - i. 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. 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.
 - ii. When multiple silos are located at one site, mixture supplied to one project is considered as coming from one source for the purpose of applying the “off test” status.
 - iii. The Engineer may cease supply from the plant when test results from three consecutive samples are not within the JMF tolerances or the test results from two consecutive samples not within the control points indicated in Table M.04.02-1 regardless of production date.

b. JMF revisions

- i. 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.
- ii. 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.

iii. Superpave Mix Acceptance:

a. 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
- a Lot spanning 30 calendar days

The acceptance sample(s) location(s) shall be selected using stratified – random sampling in accordance with ASTM D 3665 based on:

- the total daily estimated tons of production for non-PWL lots, or
- the total lot size for PWL lots.

One acceptance sample shall be obtained and tested per Sub Lot. The Engineer may direct that additional acceptance samples be obtained. For non-PWL lots, one 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 150	0, Unless requested by the Engineer
151 to 500	1
501 to 1,000	2
1,001 to 2,000	3
2,001 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 two tests)
9	AASHTO T 329	Moisture content of bituminous concrete

Notes: ⁽¹⁾ One set equals two six-inch molds. Molds to be compacted to N_{max} for PPTs and to N_{des} for production testing. The first subplot of the year will be compacted to N_{max}

⁽²⁾ Average value of one set of six-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 five (5) consecutive tests regardless of the production date (moving average), the Contractor shall immediately investigate, determine an assignable cause and correct the issue. When two 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 five (5) acceptance results.

The test specimen must be placed in an ignition oven for testing in accordance with AASHTO T 308 within thirty minutes of being obtained from the hauling vehicle and the test shall start immediately after.

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. The test results and 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.

b. Determination of Off-Test Status:

- i. Superpave mixes shall be considered “*off test*” when any Control Point Sieve, binder content, VA, VMA, or 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.
- ii. Any time the bituminous concrete mixture is considered Off-test:
 1. 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 one site, mixture supplied to one project is considered as coming from one source for the purpose of applying the “*off test*” determination.
 2. 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 to 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.

c. Cessation of Supply for Superpave Mixtures in non-PWL lots:

A mixture shall not be used on Department’s projects when it is “off test” for:

- i. four (4) consecutive tests in any combination of VA, VMA or Gmm, regardless of date of production, or,
- ii. two (2) consecutive tests in the Control Point sieves in one production shift.

As a result of cessation of supply, the mix status will be changed to PPT.

d. 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 and 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 and/or bin percentage deviates by more than 5% and/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

Notes: (1) 300°F minimum after October 15. (2) JMF tolerances shall be defined as the limits for production compliance. (3) For all mixtures with WMA technology, changes to the minimum aggregate temperature will require Engineer's approval. (4) For PMA and mixtures with WMA technology, the mix temperature shall meet manufacturer's recommendations. In addition, for all mixtures with WMA technology, the maximum mix temperature shall not exceed 325°F.(5) 0.4 for PWL lots (6) 1.3 for PWL lots (7) 1.2 for PWL lots									
	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(%)	±Tol
1.5	-	-	-	-	-	-	100	-	
1.0	-	-	-	-	-	-	90	100	
3/4	-	-	-	-	100	-	-	90	
1/2	100	-	100	-	90	100	-	-	
3/8	97	100	90	100	-	90	-	-	
#4	75	90	-	75	-	-	-	-	
#8	32	67	32	67	28	58	19	45	
#16	-	-	-	-	-	-	-	-	
#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 ⁽⁵⁾
VMA (%)	16.5		16.0		15.0		13.0		1.0 ⁽⁶⁾
VA (%)	4.0		4.0		4.0		4.0		1.0 ⁽⁷⁾
Gmm	JMF value		JMF value		JMF value		JMF value		0.030
Agg. Temp ⁽³⁾	280 – 350F		280 – 350F		280 – 350F		280 – 350F		
Mix Temp ⁽⁴⁾	265 – 325 F ⁽¹⁾		265 – 325 F ⁽¹⁾		265 – 325 F ⁽¹⁾		265 – 325 F ⁽¹⁾		
Prod. TSR	N/A		N/A		≥80%		N/A		
T-283 Stripping	N/A		N/A		Minimal as determined by the Engineer		N/A		

**TABLE M.04.03– 5:
Superpave Traffic Levels and Design Volumetric Properties**

Traffic Level	Design ESALs	Number of Gyration by Superpave Gyrotory Compactor	
	(million)	Nini	Ndes
1	< 0.3	6	50
2	0.3 to < 3.0	7	75
3	≥3.0	8	100

**TABLE M.04.03-6:
Modifications to Standard AASHTO and ASTM Test Specifications and Procedures**

AASHTO Standard Method of Test	
Reference	Modification
T 30	Section 7.2 thru 7.4 Samples are not routinely washed for production testing
T 168	<p>Samples are taken at one point in the pile. Samples from a hauling vehicle are taken from only one point instead of three as specified.</p> <p>Selection of Samples: Sampling is equally important as the testing, and the sampler shall use every precaution to obtain samples that are truly representative of the bituminous mixture.</p> <p>Box Samples: In order to enhance the rate of processing samples taken in the field by construction or maintenance personnel the samples will be tested in the order received and data processed to be determine conformance to material specifications and to prioritize inspections by laboratory personnel.</p>
T 195	Section 4.3 only one truck load of mixture is sampled. Samples are taken from opposite sides of the load.
T 209	<p>Section 7.2 The average of two bowls is used proportionally in order to satisfy minimum mass requirements.</p> <p>8.3 Omit Pycnometer method.</p>
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 manufactures 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 be certified or Interim Qualified by the New England Transportation Technician Certification Program (NETTCP) as a PG Asphalt Binder Lab Technician.</p> <p>All laboratories testing binders for the Department are required to be accredited by the AASHTO Materials Reference Laboratory (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/limitations required.</p> <p>All AASHTO M 320 references shall be replaced with AASHTO M 332.</p> <p>Once a month, one 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 two (2) BBR tests at two (2) different temperatures in accordance with AASHTO R 29.</p>

ON-THE-JOB TRAINING (OJT) WORKFORCE DEVELOPMENT PILOT

Description

To provide construction industry related job opportunities to minorities, women and economically disadvantaged individuals; and to increase the likelihood of a diverse and inclusive workforce on Connecticut Department of Transportation (ConnDOT) projects.

All contractors (existing and newcomers) will be automatically placed in the Workforce Development Pilot. Standard OJT requirements typically associated with individual projects will no longer be applied at the project level for new projects. Instead, these requirements will be applicable on an annual basis for each contractor performing work on ConnDOT projects.

The OJT Workforce Development Pilot will allow a contractor to train employees on Federal, State and privately funded projects located in Connecticut. However, contractors should give priority to training employees on ConnDOT Federal Aid funded projects.

Funding

The Department will establish an OJT fund annually from which contractors may bill the Department directly for eligible trainee hours. The funds for payment of trainee hours on federal aid projects will be allocated from the ½ of 1% provided for OJT funding, and will be based on hours trained, not to exceed a maximum of \$25,000.00 per year; per contractor.

Minorities and Women

Developing, training and upgrading of minorities, women and economically disadvantaged individuals toward journeyman level status is the primary objective of this special training provision. Accordingly, the Contractor shall make every effort to enroll minority, women and economically disadvantaged individuals as trainees to the extent that such persons are available within a reasonable area of recruitment. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training whether a member of a minority group or not.

Assigning Training Goals

The Department, through the OJT Program Coordinator, will assign training goals for a calendar year based on the contractor's past two year's activities and the contractor's anticipated upcoming year's activity with the Department. At the beginning of each year, all contractors eligible will be contacted by the Department to determine the number of trainees that will be assigned for the upcoming calendar year. At that time, the Contractor shall enter into an agreement with the Department to provide a self-imposed on-the-job training program for the calendar year. This agreement will include a specific number of annual training goals agreed to by both parties. The number of training assignments may range from one (1) to six (6) per

contractor per calendar year. Each January, a summary of the trainees required and the OJT Workforce Development Pilot package will be sent to participating contractors. The number of trainees assigned to each contractor in the summary will increase proportionately not to exceed 6, as shown in the following table. This package will also be provided to contractors as they become newly eligible for the OJT Workforce Development Pilot throughout the remainder of the year. Projects awarded after September 30 will be included in the following year's Program.

The dollar thresholds for training assignments are as follows:

\$4.5 – 8 million=	1 trainee
\$ 9 – 15 million=	2 trainees
\$16 – 23 million=	3 trainees
\$24 – 30 million=	4 trainees
\$31 – 40 million=	5 trainees
\$41 – and above=	6 trainees

Training Classifications

Preference shall be given to providing training in the following skilled work classifications. However, the classifications established are not all-inclusive:

Equipment Operators	Electricians
Laborers	Painters
Carpenters	Iron / Reinforcing Steel Workers
Concrete Finishers	Mechanics
Pipe Layers	Welders

The Department has on file common training classifications and their respective training requirements; that may be used by the contractors. Contractors shall submit new classifications for specific job functions that their employees are performing. The Department will review and recommend for acceptance the new classifications proposed by contractors, if applicable. New classifications shall meet the following requirements:

Proposed training classifications are reasonable and realistic based on the job skill classification needs, and the number of training hours specified in the training classification is consistent with common practices and provides enough time for the trainee to obtain journeyman level status.

Where feasible, 25% percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. The number of trainees shall be distributed among the work classifications on the basis of the contractor's needs and the availability of journeymen in the various classifications within a reasonable area of recruitment.

No employee shall be employed as a trainee in any classification in which they have successfully completed a training course leading to journeyman level status or in which they have been employed as a journeyman.

Records and Reports

The Contractor shall maintain enrollment in the program and submit all required reports documenting company compliance under these contract requirements. These documents and any other information shall be submitted to the OJT Program Coordinator as requested.

Upon the trainee's completion and graduation from the program, the Contractor shall provide each trainee with a certification Certificate showing the type and length of training satisfactorily completed.

Trainee Interviews

In order to determine the continued effectiveness of the OJT Program in Connecticut, the department will periodically conduct personal interviews with current trainees and may survey recent graduates of the program. This enables the OJT Program Coordinator to modify and improve the program as necessary. Trainee interviews are generally conducted at the job site to ensure that the trainees' work and training is consistent with the approved training program.

Trainee Wages

Contractors shall compensate trainees on a graduating pay scale based upon a percentage of the prevailing minimum journeyman wages (Davis-Bacon Act). Minimum pay shall be as follows:

60 percent	of the journeyman wage for the first half of the training period
75 percent	of the journeyman wage for the third quarter of the training period
90 percent	of the journeyman wage for the last quarter of the training period

In no case, will the trainee be paid less than the prevailing rate for general laborer as shown in the contract wage decision (must be approved by the Department of Labor).

Achieving or Failing to Meet Training Goals

The Contractor will be credited for each trainee currently enrolled or who becomes enrolled in the approved training program and providing they receive the required training under the specific training program. Trainees will be allowed to be transferred between projects if required by the Contractor's schedule and workload. The OJT Program Coordinator must be notified of transfers within five (5) days of the transfer or reassignments by email (Phylisha.Coles@ct.gov).

Where a contractor does not or cannot achieve its annual training goal with female or minority trainees, they must produce adequate Good Faith Efforts documentation. Good Faith Efforts are those designed to achieve equal opportunity through positive, aggressive, and continuous result-oriented measures. 23 CFR § 230.409(g) (4). Contractors should request minorities and females from unions when minorities and females are underrepresented in the contractor's workforce.

Whenever a contractor requests ConnDOT approval of someone other than a minority or female, the contractor must submit documented evidence of its Good Faith Efforts to fill that position with a minority or female. When a non-minority male is accepted, a contractor must continue to attempt to meet its remaining annual training goals with females and minorities.

Where a contractor has neither attained its goal nor submitted adequate Good Faith Efforts documentation, ConnDOT will issue a letter of non-compliance. Within thirty (30) days of receiving the letter of non-compliance, the contractor must submit a written Corrective Action Plan (CAP) outlining the steps that it will take to remedy the non-compliance. The CAP must be approved by ConnDOT. Failure to comply with the CAP may result in your firm being found non-responsive for future projects.

Measurement and Payment

Optional reimbursement will be made to the contractor for providing the required training under this special provision on ConnDOT Federal6Aid funded projects only.

Contractor will be reimbursed at \$0.80 for each hour of training given to an employee in accordance with an approved training or apprenticeship program. This reimbursement will be made even though the Contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the contractor from receiving other reimbursement.

Reimbursement for training is made annually or upon the trainees completion and not on a monthly basis. No payment shall be made to the Contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the Contractor.

Program reimbursements will be made directly to the prime contractor on an annual basis. To request reimbursement, prime contractors must complete the Voucher for OJT Workforce Development Pilot Hourly Reimbursement for each trainee in the OJT Program. This form is included in the OJT Workforce Development Pilot package and is available on the Department's web site at:

www.ct.gov/dot

The completed form must be submitted to the Office of Contract Compliance for approval. The form is due on the 15th day of January for each trainee currently enrolled and for hours worked on ConnDOT Federal6Aid funded projects only.

D.B.E. SUBCONTRACTORS AND MATERIAL SUPPLIERS OR MANUFACTURERS

January 2013

I. ABBREVIATIONS AND DEFINITIONS AS USED IN THIS SPECIAL PROVISION

A. *CTDOT* means the Connecticut Department of Transportation.

B. *USDOT* 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 consultant, second party or any other entity under Contract to do business with CTDOT or, as the context may require, with another Contractor.

F. *Disadvantaged Business Enterprise (“DBE”)* means a for profit small business concern:

1. That is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 percent of the stock 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; and
3. Certified by CTDOT under Title 49 of the Code of Federal Regulations, Part 26, (Title 49 CFR Part 23 of the Code of Federal Regulations for Participation of Disadvantaged Business Enterprise in Airport Concessions)

G. *USDOT-assisted Contract* means any Contract between CTDOT and a Contractor (at any tier) funded in whole or in part with USDOT financial assistance.

H. *Good Faith Efforts (“GFE”)* means all necessary and reasonable steps to achieve a DBE goal or other requirement which by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the program requirement.

I. *Small Business Concern* means, with respect to firms seeking to participate as DBEs in USDOT-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 in 49 CFR Part 26, Section 26.65(b).

J. *Socially and Economically Disadvantaged Individual* means any individual who is a citizen (or lawfully admitted permanent resident) of the United States and who is:

1. Any individual who CTDOT 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:
 - “Black Americans”, which includes persons having origins in any of the Black racial groups of Africa;
 - “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;
 - “Native Americans”, which includes persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians.
 - “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, or Federated States of Micronesia;
 - “Subcontinent Asian Americans”, which includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives Islands, Nepal or Sri Lanka;
 - Women;
 - Any additional groups whose members are designated as socially and economically disadvantaged by the SBA, at such time as the SBA designation becomes effective.

K. *Commercially Useful Function (“CUF”)* means the DBE is responsible for the execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved with its own forces and equipment. The DBE must be responsible for procuring, determining quantity, negotiating price, determining quality and paying for all materials (where applicable) associated with their work. The DBE must also perform at least 30% of the total cost of its contract with its own workforce.

II. ADMINISTRATIVE REQUIREMENTS

A. General Requirements

A DBE goal percentage equaling **0** percent (%) of the Contract value has been established for this Contract. This DBE goal percentage will be applied to the final Contract value to ultimately determine the required DBE goal. If additional work is required, DBE firms should be provided the appropriate opportunities to achieve the required DBE goal.

In order to receive credit toward the Contract DBE goal, the firms utilized as DBE subcontractors or suppliers must be certified as DBEs in the type of work to be counted for credit by CTDOT’s Office of Contract Compliance prior to the date of the execution of the subcontract. Neither CTDOT nor the State of Connecticut’s Unified Certification Program (UCP) makes any representation as to any DBE’s technical or financial ability to perform the work. Prime contractors are solely responsible for performing due diligence in hiring DBE subcontractors.

All DBEs shall perform a CUF for the work that is assigned to them. The Contractor shall monitor and ensure that the DBE is in compliance with this requirement. The Connecticut DBE UPC Directory of certified firms can

be found on the CTDOT website <http://www.ct.gov/dot>. The directory lists certified DBE firms with a description of services that they are certified to perform. Only work identified in this listing may be counted towards the project's DBE goal. A DBE firm may request to have services added at any time by contacting CTDOT's Office of Contract Compliance. No credit shall be counted for any DBE firm found not to be performing a CUF.

Once a Contract is awarded, all DBEs that were listed on the pre-award DBE commitment document must be utilized. The Contractor is obligated to provide the value and items of the work originally established in the pre-award documentation to the DBE firms listed in the pre-award documentation. Any modifications to the pre-award commitment must follow the procedure established in Section II-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 CTDOT's unit administering the Contract, CTDOT's Office of Contract Compliance and CTDOT's Office of Construction ("OOC"). Contact information for the designated liaison officer shall be furnished no later than the scheduled date for the pre-construction meeting.

The Contractor shall submit a bi-monthly report to the appropriate CTDOT unit administering the Contract. This report shall indicate what work has been performed to date, with the dollars paid and percentage of DBE goal completed.

Verified payments made to DBEs shall be included in this bi-monthly report. A sample form is included on the CTDOT website.

In addition, the report shall include:

1. A projected time frame of when the remaining work is to be completed for each DBE.
2. A statement by the Contractor either confirming that the approved DBEs are on schedule to meet the Contract goal, or that the Contractor is actively pursuing a GFE.
3. If retainage is specified in the Contract specifications, then a statement of certification that the subcontractors' retainage is being released in accordance with 1.08.01 (Revised or supplemented).

Failure by the Contractor to provide the required reports may result in CTDOT withholding an amount equal to one percent (1%) of the monthly estimate until the required documentation is received.

The Contractor shall receive DBE credit when a DBE, or any combination of DBEs, perform work under the Contract in accordance with this specification.

Only work actually performed by and/or services provided by DBEs which are certified for such work and/or services, as verified by CTDOT, can be counted toward the DBE goal. Supplies and equipment a DBE purchases or leases from the Contractor or its affiliate cannot be counted toward the goal.

Monitoring of the CUF will occur by CTDOT throughout the life of the project. If it is unclear that the DBE is performing the work specified in its subcontract with the prime Contractor, further review may be required. If it is determined that the DBE is not performing a CUF, then the work performed by that DBE will not be counted towards the DBE goal percentage.

B. Subcontract Requirements

The Contractor shall submit to CTDOT's OOC all requests for subcontractor approvals on the standard CLA-12 forms provided by CTDOT. The dollar amount and items of work identified on the CLA-12 form must, at minimum, equal the dollar value submitted in the pre-award commitment. CLA-12 forms can be found at <http://www.ct.gov/dot/construction> under the "Subcontractor Approval" section. All DBE subcontractors must be identified on the CLA-12 form, regardless of whether they are being utilized to meet a Contract goal percentage. A copy of the legal Contract between the Contractor and the DBE subcontractor/supplier, a copy of the Title VI Contractor Assurances and a copy of the Required Contract Provision for Federal Aid Construction Contracts (Form FHWA-1273) (Federal Highway Administration projects only) must be submitted along with a request for subcontractor approval. These attachments cannot be substituted by reference.

If retainage is specified in the Contract specifications, then the subcontract agreement must contain a prompt payment mechanism that acts in accordance with Article 1.08.01 (Revised or supplemented).

If the Contract specifications do not contain a retainage clause, the Contractor shall not include a retainage clause in any subcontract agreement, and in this case, if a Contractor does include a retainage clause, it shall be deemed unenforceable.

In addition, the following documents are to be included with the CLA-12, if applicable:

- An explanation indicating who will purchase material.
- A statement explaining any method or arrangement for utilization of the Contractor's equipment.

The subcontract must show items of work to be performed, unit prices and, if a partial item, the work involved by all parties. If the subcontract items of work or unit prices are modified, the procedure established in Section II-C must be followed.

Should a DBE subcontractor further sublet items of work assigned to it, only lower tier subcontractors who are certified as a DBE firm will be counted toward the DBE goal. If the lower tier subcontractor is a non-DBE firm, the value of the work performed by that firm will not be counted as credit toward the DBE goal.

The use of joint checks between a DBE firm and the Contractor is acceptable, provided that written approval is received from the OOC prior to the issuance of any joint check. Should it become necessary to issue a joint check between the DBE firm and the Contractor to purchase materials, the DBE firm must be responsible for negotiating the cost, determining the quality and quantity, ordering the material and installing (where applicable), and administering the payment to the supplier. The Contractor should not make payment directly to suppliers.

Each subcontract the Contractor signs with a subcontractor must contain the following assurance:

"The subcontractor/supplier/manufacture 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/subcontractor/supplier/manufacture 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."

C. Modification to Pre-Award Commitment

Contractors may not terminate for convenience any DBE subcontractor or supplier that was listed on the pre-award DBE commitment without prior written approval of the OOC. This includes, but is not limited to, instances

in which a Contractor seeks to perform work originally designated for a DBE subcontractor with its own forces or those of an affiliate, a non-DBE firm, or with another DBE firm. Prior to approval, the Contractor must demonstrate to the satisfaction of the OOC, that it has good cause, as found in 49CFR Part 26.53 (f)(3), for termination of the DBE firm.

Before transmitting its request for approval to terminate pre-award DBE firms to the OOC, the Contractor must give written notice to the DBE subcontractor and include a copy to the OOC of its notice to terminate and/or substitute, and the reason for the notice.

The Contractor must provide five (5) days for the affected DBE firm to respond. This affords the DBE firm the opportunity to advise the OOC and the Contractor of any reasons why it objects to the termination of its subcontract and why the OOC should not approve the Contractor's action.

Once the Contract is awarded, should there be any amendments or modifications of the approved pre-award DBE submission other than termination of a DBE firm, the Contractor shall follow the procedure below that best meets the criteria associated with the reason for modification:

1. If the change is due to a scope of work revision or non-routine quantity revision by CTDOT, the Contractor must notify CTDOT's OOC in writing or via electronic mail that their DBE participation on the project may be impacted as soon as they are aware of the change. In this case, a release of work from the DBE firm may not be required; however the Contractor must concurrently notify the DBE firm in writing, and copy the OOC for inclusion in the project DBE file. This does not relieve the Contractor of its obligation to meet the Contract specified DBE goal, or of any other responsibility found in this specification.
2. If the change is due to a factor other than a CTDOT directive, a request for approval in writing or via electronic mail of the modification from the OOC must be submitted, along with an explanation of the change(s), prior to the commencement of work. The Contractor must also obtain a letter of release from the originally named DBE indicating their concurrence with the change, and the reason(s) for their inability to perform the work. In the event a release cannot be obtained, the Contractor must document all efforts made to obtain it.
3. In the event a DBE firm that was listed in the pre-award documents is **unable** or **unwilling** to perform the work assigned, the Contractor shall:
 - Notify the OOC Division Chief immediately and make efforts to obtain a release of work from the firm.
 - Submit documentation that will provide a basis for the change to the OOC for review and approval prior to the implementation of the change.
 - Use the DBE Directory to identify and contact firms certified to perform the type of work that was assigned to the unable or unwilling DBE firm. The Contractor should also contact CTDOT's Office of Contract Compliance for assistance in locating additional DBE firms to the extent needed to meet the contract goal.

Should a DBE subcontractor be terminated or fail to complete work on the Contract for any reason, the Contractor must make a GFE to find another DBE subcontractor to substitute for the original DBE. The DBE replacement shall be given every opportunity to perform at least the same amount of work under the Contract as the original DBE subcontractor.

If the Contractor is unable to find a DBE replacement:

- The Contractor should identify other contracting opportunities and solicit DBE firms in an effort to meet the Contract DBE goal requirement, if necessary, and provide documentation to support a GFE. (Refer to GFE in Section III.)
- The Contractor must demonstrate that the originally named DBE, who is unable or unwilling to perform the work assigned, is in default of its subcontract, or identify other issues that affected the DBE firm's ability to perform the assigned work. **The Contractor's ability to negotiate a more advantageous agreement with another subcontractor is not a valid basis for change.**

III. GOOD FAITH EFFORTS

The DBE goal is **NOT** reduced or waived for projects where the Contractor receives a Pre-Award GFE determination from the Office of Contract Compliance prior to the award of the Contract. It remains the responsibility of the Contractor to make a continuing GFE to achieve the specified Contract DBE goal. The Contractor shall pursue every available opportunity to obtain additional DBE firms and document all efforts made in such attempts.

At the completion of all Contract work, the Contractor shall submit a final report to CTDOT's unit administering the Contract indicating the work done by and the dollars paid to DBEs. Only verified payments made to DBEs performing a CUF will be counted towards the Contract goal.

Goal attainment is based on the total Contract value, which includes all construction orders created during the Contract. If the Contractor does not achieve the specified Contract goal for DBE participation or has not provided the value of work to the DBE firms originally committed to in the pre-award submission, the Contractor shall submit documentation to CTDOT's unit administering the Contract detailing the GFE made during the performance of the Contract to satisfy the goal.

A GFE should consist of the following, where applicable (CTDOT reserves the right to request additional information):

1. A detailed statement of the efforts made to replace an unable or unwilling DBE firm, and a description of any additional subcontracting opportunities that were identified and offered to DBE firms 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 from certified DBEs, including the names, addresses, and telephone numbers of each DBE firm contacted; the date of contact 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 the response from firms contacted.
3. Provide a detailed explanation for each DBE that submitted a subcontract proposal which the Contractor considered to be unacceptable stating the reason(s) for this conclusion.
4. Provide documentation, if any, to support contacts made with CTDOT requesting assistance in satisfying the specified Contract goal.

5. Provide documentation of all other efforts undertaken by the Contractor to meet the defined goal. Additional documentation of efforts made to obtain DBE firms may include but will not be limited to:
 - Negotiations held in good faith with interested DBE firms, not rejecting them without sound reasons.
 - Written notice provided to a reasonable number of specific DBE firms in sufficient time to allow effective participation.
 - Those portions of work that could be performed by readily available DBE firms.

In instances where the Contractor can adequately document or substantiate its GFE and compliance with other DBE Program requirements, the Contractor will have satisfied the DBE requirement and no administrative remedies will be imposed.

IV. PROJECT COMPLETION

At the completion of all Contract work, the Contractor shall:

1. Submit a final report to CTDOT's unit administering the Contract indicating the work done by, and the dollars paid to DBEs.
2. Submit verified payments made to all DBE subcontractors for the work that was completed.
3. Submit documentation detailing any changes to the DBE pre-award subcontractors that have not met the original DBE pre-award commitment, including copies of the Department's approvals of those changes.
4. Retain all records for a period of three (3) years following acceptance by CTDOT of the Contract and those records shall be available at reasonable times and places for inspection by authorized representatives of CTDOT 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 audit findings involving the records are resolved.

If the Contractor does not achieve the specified Contract goal for DBE participation in addition to meeting the dollar value committed to the DBE subcontractors identified in the pre-award commitment, the Contractor shall submit documentation to CTDOT's unit administering the Contract detailing the GFE made during the performance of the Contract to satisfy the goal.

V. SHORTFALLS

A. Failure to meet DBE goals

As specified in (II-A) above, attainment of the Contract DBE goal is based on the final Contract value. The Contractor is expected to achieve the amount of DBE participation originally committed to at the time of award; however, additional efforts must be made to provide opportunities to DBE firms in the event a Contract's original value is increased during the life of the Contract.

The Contractor is expected to utilize the DBE subcontractors originally committed in the DBE pre-award documentation for the work and dollar value that was originally assigned.

If a DBE is terminated or is unable or unwilling to complete its work on a Contract, the Contractor shall make a GFE to replace that DBE with another certified DBE to meet the Contract goal.

The Contractor shall immediately notify the OOC of the DBE's inability or unwillingness to perform, and provide reasonable documentation and make efforts to obtain a release of work from the firm.

If the Contractor is unable to find a DBE replacement, then the Contractor should identify other contracting opportunities and solicit DBE firms in an effort to meet the Contract DBE goal requirement, if necessary, and provide documentation to support a GFE.

When a DBE is unable or unwilling to perform, or is terminated for just cause, the Contractor shall make a GFE to find other DBE opportunities to increase DBE participation to the extent necessary to at least satisfy the Contract goal.

For any DBE pre-award subcontractor that has been released appropriately from the project, no remedy will be assessed, provided that the Contractor has met the criteria described in Section II-C.

B. Administrative Remedies for Non-Compliance:

In cases where the Contractor has failed to meet the Contract specified DBE goal or the DBE pre-award commitment, and where no GFE has been demonstrated, then one or more of the following administrative remedies will be applied:

1. A reduction in Contract payments to the Contractor as determined by CTDOT, not to exceed the shortfall amount of the **DBE goal**. The maximum shortfall will be calculated by multiplying the Contract DBE goal (adjusted by any applicable GFE) by the final Contract value, and subtracting any verified final payments made to DBE firms by the Contractor.
2. A reduction in Contract payments to the Contractor determined by CTDOT, not to exceed the shortfall amount of the **pre-award commitment**. The maximum shortfall will be calculated by subtracting any verified final payments made by the Contractor to each DBE subcontractor from the amount originally committed to that subcontractor in the pre-award commitment.
3. A reduction in Contract payments to the Contractor determined by CTDOT for any pre-award DBE subcontractor who has not obtained the dollar value of work identified in the DBE pre-award commitment and has not followed the requirements of Section II-C or for any DBE firm submitted for DBE credit that has not performed a CUF.
4. The Contractor being required to submit a written DBE Program Corrective Action Plan to CTDOT for review and approval, which is aimed at ensuring compliance on future projects.
5. The Contractor being required to attend a Non-Responsibility Meeting on the next contract where it is the apparent low bidder.
6. The Contractor being suspended from bidding on contracts for a period not to exceed six (6) months.

VI. CLASSIFICATIONS OTHER THAN SUBCONTRACTORS

A. Material Manufacturers

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 Contractor.

If the Contractor elects to utilize a DBE manufacturer to satisfy a portion of, or the entire specified DBE goal, the Contractor must provide the OOC with:

- Subcontractor Approval Form (CLA-12) indicating the firm designation,
- An executed "Affidavit for the Utilization of Material Suppliers or Manufacturers" (sample attached), and
- Substantiation of payments made to the supplier or manufacturer for materials used on the project.

B. Material Suppliers (Dealers)

Credit for DBE dealers/suppliers is limited to 60% of the value of the material to be supplied, provided such material is obtained from an approved DBE dealer/supplier.

In order for a firm to be considered a regular dealer, the firm must own, operate, or maintain a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. At least one of the following criteria must apply:

- To be a regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question.
- A person may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating or maintaining a place of business if the person both owns and operates distribution equipment for the products. Any supplementing of the regular dealers' own distribution equipment shall be by long term lease agreement, and not on an ad hoc or contract to contract basis.
- Packers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions are not regular dealers within the meaning of this paragraph.

If the Contractor elects to utilize a DBE supplier to satisfy a portion or the entire specified DBE goal, the Contractor must provide the OOC with:

- Subcontractor Approval Form (CLA-12) indicating the firm designation,
- An executed "Affidavit for the Utilization of Material Suppliers or Manufacturers" (sample attached), and
- Substantiation of payments made to the supplier or manufacturer for materials used on the project.

C. Brokering

- Brokering of work for DBE firms who have been listed by the Department as certified brokers is allowed. Credit for those firms shall be applied following the procedures in Section VI-D.
- 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.

- 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. DOT, Office of the Inspector General for prosecution under Title 18, U.S. Code, Part I, Chapter 47, Section 1020.

D. Non-Manufacturing or Non-Supplier DBE Credit

Contractors may count towards their DBE goals the following expenditures with DBEs that are not manufacturers or suppliers:

- 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 OOC to be reasonable and consistent with fees customarily allowed for similar services.
- The fees charged only for delivery of materials and supplies required on a job site when the hauler, trucker, or delivery service is a DBE, and not the manufacturer, or regular dealer of the materials and supplies, and provided that the fees are determined by the OOC to be reasonable and not excessive as compared with fees customarily allowed for similar services.
- 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 CTDOT to be reasonable and not excessive as compared with fees customarily allowed for similar services.

E. Trucking

While technically still considered a subcontractor, the rules for counting credit for DBE trucking firms are as follows:

- The DBE must own and operate at least one fully licensed, insured, and operational truck used on the Contract.
- The DBE receives credit for the total value of the transportation services it provides on the Contract using trucks it owns, insures and operates using drivers it employs.
- The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the Contract.
- The DBE may lease trucks from a non-DBE firm; however the DBE may only receive credit for any fees or commissions received for arranging transportation services provided by the non-DBE firms. Additionally, the DBE firm must demonstrate that they are in full control of the trucking operation for which they are seeking credit.

VII. Suspected DBE Fraud

In appropriate cases, CTDOT will bring to the attention of the USDOT any appearance of false, fraudulent, or dishonest conduct in connection with the DBE program, so that USDOT can take the steps, e.g. referral to the

Department of Justice for criminal prosecution, referral to USDOT Inspector General, action under suspension and debarment or Program Fraud and Civil Penalties rules provided in 49 CFR Part 31.

**CONNECTICUT DEPARTMENT OF TRANSPORTATION
(OFFICE OF CONSTRUCTION)
BUREAU OF ENGINEERING AND CONSTRUCTION**

This affidavit must be completed by the State 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 Contract No.

Federal Aid Project No.

Description of Project

I, _____, acting in behalf of _____,
(Name of person signing Affidavit) (DBE person, firm, association or corporation)

of which I am the _____ certify and affirm that _____
(Title of Person) (DBE person, firm, association or corporation)

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 Corporation)

for the provision of the materials and/or supplies sought by _____.

If a manufacturer, I operate or maintain a factory or establishment that produces, on the premises, the materials, supplies, articles or equipment required under the contract an of the general character described by the specifications.

If a supplier, I perform a commercially useful function in the supply process. As a regular dealer, I, at a minimum, own and operate the distribution equipment for bulk items. Any supplementing of my distribution equipment shall be by long-term lease agreement, and not on an ad hoc or contract-by-contract basis.

I understand that false statements made herein are punishable by Law (Sec. 53a-157), CGS, as revised).

(Name of Corporation 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) (President)

of the Corporation named in the foregoing instrument; that I have been duly authorized to affix the seal of the Corporation to such papers as require the seal; that _____, who signed said instrument on behalf of the Corporation, was then _____ of said corporation; that said instrument was duly signed for and in behalf of said Corporation by authority of its governing body and is within the scope of its corporation powers.

(Signature of Person Certifying)

(Date)

ITEM #0601201A – CLASS “F” CONCRETE

6.01 shall be amended as follows:

6.01.01 – Description: *Add the following:*

This item shall also include furnishing and installing of Hycrete X1002 in accordance with the details shown on the plans, in accordance with these specifications and as ordered by the Engineer.

M.03.01-5 – Admixtures: *Add the following:*

The Contractor shall submit a concrete mix design for approval by the Engineer that properly addresses proportions of the following materials:

Other Chemical Admixtures: Hycrete X1002 manufactured by Hycrete Inc. shall be used as concrete admixture in strict accordance with the manufacturer’s specification.

6.01.05 – Basis of Payment: *Add the following:*

The price includes all materials, equipment, tools, labor and work required to coordinate with Hycrete Inc. and design a concrete mix with Hycrete admixtures.

ITEM #0601994A – PRECAST CONCRETE BLOCK

Description: This work consists of furnishing and installing precast concrete blocks as shown on the plans.

Also included in this item are furnishing and installing geotextile and modifications to building siding and trim as shown on the plans and as ordered by the Engineer. The modifications are necessitated by the installation of precast concrete block against the building foundation, a portion of which siding and trim overlap.

Materials: The precast concrete shall meet the requirements of M.14.01-1. The concrete mix design shall be submitted to the Engineer and shall attain a minimum compressive strength ($f'c$) of 5,000 psi and a minimum electrical resistivity of 29 k Ω -cm in accordance with AASHTO T 358 at 28 days.

All reinforcing steel including dowel bar mechanical connectors shall be galvanized and meet the requirements of M.06.01.

All threaded concrete inserts, lifting fixtures, and miscellaneous hardware cast into precast concrete components shall be galvanized in accordance with ASTM A153 or ASTM B695 Grade 50.

Non-shrink grout shall meet the requirements of M.03.05.

Geotextile to be placed behind the wall shall be of the medium survivability type and shall conform to M.08.01-19.

Building siding and trim shall be of the same materials, quality, dimensions and color as the siding and trim being modified on the existing building.

Construction Methods:

Submittals: The following information shall be submitted to the Engineer for review in accordance with 1.05.02:

- Concrete mix design
- Type, size and location of lifting fixtures
- Written erection procedure, including size and placement of lifting equipment, number and locations of lift points on the block
- Non-shrink grout and written instructions from the grout manufacturer for the mixing, placing curing and finishing of the grout
- Details of grout pockets, including depth of cover of grout (not less than $\frac{3}{4}$ ")
- Installation instructions from the geotextile manufacturer
- Field measurements at the building foundation, indicating plumbness and trueness of the foundation. The measurements, along with details of the blocks to be placed against the foundation, if not square, shall be submitted to the Engineer for review. If square, submit the field measurements to confirm that no special details of the block are required.

Manufacture of Precast Concrete Blocks: Blocks are shown to be unreinforced. Should the Contractor determine that reinforcing is required for lifting and handling, he may add reinforcing accordingly. Reinforcing, if added shall have a minimum concrete cover of 2".

Concrete blocks shall be manufactured to the dimensions shown on the plans. Blocks shall be formed with perpendicular surfaces such that they may be stacked upon and adjacent to one another with no gap between units. Should a gap larger than 1/4" occur between block surfaces, one or more of the units may be rejected.

The Contractor shall determine the plumbness, trueness and orientation of the building foundation against which the block wall will be constructed. Field measurements shall be submitted, indicating if the foundation is plumb and true. Should special blocks need to be fabricated to account for irregularities in the foundation, details for the special block shall be submitted with the measurements. The blocks will be placed against preformed expansion joint filler, which may be built up, if allowed by the Engineer, to address minor irregularities in the foundation. Minor irregularities would be discrepancies of 1" or less in thickness of joint filler.

Precast concrete block surfaces shall be free of fins, bulges, and projections. For areas of newly placed concrete that are honeycombed or segregated, the Contractor shall provide a written corrective procedure for review by the Engineer prior to the work being performed. The surfaces of the precast concrete blocks to be exposed in the erected wall shall be free of defects. Airholes shall be filled and a grout clean-down finish of the exposed surface shall be performed in accordance with 6.01.03-10c. The laitance shall be removed from the top of the precast concrete blocks. The surface of the top of the top course of blocks shall be transversely raked to enhance the connection of the cast-in-place concrete cap to the top of the blocks.

Installation of Precast Concrete Blocks: Before installing precast concrete blocks, the Contractor shall modify the siding and trim on the adjacent building as shown on the plans. This modification is needed so the blocks do not bear against the siding and the so that the siding and trim is at the specified clear distance from the concrete blocks and cast-in-place concrete cap. The Contractor shall retain the existing siding, cutting it back as shown on the plans, and installing trim along the cut edges in a neat and workmanlike fashion. New trim shall match existing trim and shall be placed in straight lines. Trim and siding shall not be damaged. Should any components be damaged by the Contractor, such material shall be replaced at the Contractor's expense to the satisfaction of the Engineer.

During the setting of blocks, the Contractor shall maintain the existing roof drains which outlet to the area of the block wall. The cost of handling this water around the work area will be included in the general cost of the work.

Concrete blocks shall be set on a level bed of suitably compacted granular material. Should the Engineer determine that the existing material is not suitable, he may order the removal of material and placement of granular fill as shown on the plans. Excavation to place concrete blocks or granular fill shall not undermine adjacent foundations or masonry walls.

Concrete blocks shall be placed as shown on the plans. The block courses shall be set level and the sides of the block shall be plumb. Blocks shall be in full contact with the adjacent blocks. All material shall be cleaned from the surfaces of the blocks before placement to ensure good contact between blocks.

All fixtures or holes cast into the sections for lifting or seating shall be neatly filled with non-shrink grout before placing another block against that surface. The finished surface shall be smooth and level with the adjacent concrete. The surface preparation and mixing, placing, curing, and finishing of the non-shrink grout shall follow the written instructions provided by the manufacturer of the grout. The Contractor shall furnish the Engineer with copies of the

instructions. Grout shall attain a minimum of 2,000 psi before placing the weight of another block directly on the grouted surface.

The Contractor shall lift and place blocks carefully, so as not to impact or cause other damage to adjacent walls or other features to remain.

Before backfilling the blocks, geotextile shall be placed against the rear face of the blocks to prevent fines from washing through the joints between precast concrete blocks. Blocks may be backfilled upon completion of each course. This will also facilitate placement of the outlet for underdrain.

Compaction within three feet of the face of the precast concrete blocks 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 or damage to the precast concrete blocks. Heavy compaction equipment shall not be used to compact backfill within three feet of the wall face.

Method of Measurement: This item is measured by number of blocks completed and accepted in place. Modification of building siding and trim, and furnishing and installing geotextile will not be measured for payment.

Basis of Payment: This work will be paid for at the contract unit price each for "Precast Concrete Block", which price shall include all materials, including reinforcing, equipment, tools and labor incidental to the work described herein. This item shall also include furnishing, placing and removal of temporary scaffolding, if required.

Geotextile is included in the general cost of this item.

Granular fill, if ordered by the Engineer to be placed, will be paid for separately.

Maintenance of the existing roof drains, which outlet to the area of the precast concrete block wall, will not be paid separately, but will be included in the general cost of the work.

Furnishing and modifying building siding and trim will not be paid separately, but will be included in the cost of this item.

Pay Item

Precast Concrete Block

Pay Unit

EA.

ITEM #0817001A – 6" X 8" GRANITE STONE CURBING FOR BRIDGES

Description:

This curbing shall consist of approved granite stone, furnished in accordance with the dimensions and details shown on the plans, or as ordered, and installed to the lines and grades given and in conformity with these specifications.

Materials:

The materials for this work shall conform to the requirements of M.12.08.

Silicone joint sealant shall conform to the requirements of M.03.08-5(b)3.

Construction Methods:

Granite stone curbing shall be constructed in the location and to the dimensions shown on the plans. The stone curbing shall be accurately set, straight and true to the line and grade as required. The stone curbing shall be set in a full mortar bed where shown on the plans and full mortar end joints. As the stone curbing is being set, the anchors shall be grouted into the holes in the curbing by a method as approved by the Engineer. The concrete backing shall not be placed until the curbing and anchors have been properly placed. Care must be taken to prevent any movements of the stone curbing already in place while placing and compacting concrete backing. When required by the Engineer, the stone curbing shall be supported by such bracing and form work as may be necessary to prevent movement. Where vertical contraction joints or vertical expansion joints, or both, exist in the backing, the vertical joint of the curb shall coincide with the contraction or expansion joint.

All mortar joints shall be finished smooth and flush. These joints shall be carefully filled with cement mortar and shall be neatly pointed on the top and exposed front portions. After pointing, stone curbing shall be cleaned of all excess mortar to the satisfaction of the Engineer.

Where silicone joint sealant is indicated on the plans, joint seal shall be placed in accordance with the manufacturer's written instructions and in accordance with the plans.

Method of Measurement:

This work will be measured for payment by the actual number of feet of granite stone curbing for bridges, of the various sizes, installed and accepted. Measurement shall be made along the top arris line of the face of the curb.

Basis of Payment:

Payment for this work will be made at the contract unit price per foot for “Granite Stone Curbing for Bridges”, of the various sizes specified, complete in place, which price shall include all materials, including anchors, equipment, tools, and labor incidental thereto.

There will be no direct payment for the cost of drilling holes in stone curbing for anchors, beveling or rounding the ends of the stone curbing and pointing the joints with mortar, and sealing the longitudinal joint; but the cost of this work shall be considered as included in the general cost of the work.

Pay Item	Pay Unit
6" x 8" Granite Stone Curbing for Bridges	L.F.

ITEM #0904305A – METAL BRIDGE RAIL - FOUR RAIL

Description: Work under this item shall consist of fabricating, galvanizing, transporting and erecting a steel bridge rail system comprising anchorages, posts, tubes, plates, high strength bolts and molded pads in accordance with the plans and these specifications.

Materials: Structural steel shapes and plates shall conform to the requirements of ASTM A572 Grade 50. Structural tubing shall conform to ASTM A500, Grade B or ASTM A501.

Structural steel tubing shall meet the longitudinal Charpy V-notch toughness requirements of 15 ft.lb at 0° F. For ASTM A500, Grade B, the test samples shall be taken after forming the tubes.

Galvanizing: Tubes, end cap assemblies and post assemblies shall be hot-dip galvanized in accordance with ASTM A123. Steel items shall have a controlled content of silicon in either of the ranges 0 - 0.4% or 0.15% - 0.25%. Before galvanizing, submit mill test certificates verifying silicon content to the Engineer and the galvanizer.

Threaded rods for use as anchorages in concrete deck shall conform to ASTM A449 and shall be galvanized in accordance with ASTM A153. Nuts and washers used with these anchors shall be as described below.

The chemical anchoring material for drilling and anchoring anchor rods shall conform to M.03.07.

Rail bolts shall be ASTM A325 or A449. Nuts shall conform to ASTM A563, Grades DH, DH3, C, C3 and D. Washers shall be hardened steel commercial Type A plain wide washers and shall meet the dimensional requirements of ANSI B18.22 as identified on the plans. Round head bolts with slots or wrench flats used for attaching the rails to posts shall conform to the requirements of ASTM A325. All bolts, nuts, and washers shall be galvanized in accordance with the requirements of ASTM A153.

High strength bolts, including suitable nuts and hardened washers, shall also conform to M.06.

Preformed bearing pads shall be manufactured as a single sheet approximately 1/8 in. thick, in the required dimensions shown on the plans. Bearing pads shall be accepted based upon receipt of a Certificate of Compliance stating that the products comply with the following requirements, as applicable, including test results performed by an independent testing laboratory:

- M 251 pads – Plain or fabric-reinforced elastomeric pads conforming to AASHTO M251 meeting the elastomer properties of 50 Shore A-durometer (minimum) material, adequate for 1,000 psi design compression stress, and meeting Level I test requirements with no cracks after the compressive load test.
- Random-oriented fiber pads consisting of a fabric and rubber body made with new unvulcanized rubber and unused fabric or synthetic fibers and vulcanized with a proportion

of fiber content sufficient to maintain strength and stability. Rubber shall be polyisoprene (natural rubber) or polychloroprene (neoprene). The surface hardness shall be minimum 80±5 Shore A-durometer. The ultimate breakdown limit of the pad under compressive loading shall be no less than 7,000 psi without splits and without deformations exceeding 10% of thickness after removing the load.

Zinc rich paint for field touch up shall conform to the requirements of ASTM A780, Annex A2.

Construction Methods: Prior to the start of fabrication, the Contractor shall field verify dimensions required to fabricate bridge rail in conformance with the plans. Where applicable, the Contractor shall obtain all dimensions and locations of existing structural components.

Shop Drawings: Before fabrication and erection, the Contractor shall submit shop drawings and field measurements to the Engineer for approval in accordance with 1.05.02. Rail sections shall be supplied in continuous lengths as shown on the plans. Butt welding of short pieces of rail to form the specified continuous length of rail section will not be permitted.

Shop fabrication of the steel bridge rail system shall conform to the requirements of 6.03.03. The base plates shall be shop-welded to the posts to form the post assemblies

Components of bridge rail system shall be shipped with sufficient dunnage to protect it during transportation. Components shall be handled in a manner that will not damage the galvanized coatings. Material to be stored shall be placed on skids above the ground. It shall be kept clean and properly drained.

The anchor assemblies shall be located in accordance with the plans or as directed by the Engineer. Anchor rods at four bridge corners and within the span shall be drilled and grouted into the existing bridge deck with an approved chemical anchor at the embedment depths specified on the plans. Anchors shall be installed in accordance with the chemical anchor manufacturer's written instructions. The post assemblies shall then be placed on preformed bearing pads and secured to the anchor rods.

Rail components shall be installed with high strength bolts as shown on the plans. Procedures for the installation of high strength bolts shall conform to Section 6.03.

During installation, the Contractor shall take necessary precautions to prevent any injury or property damage from any falling materials.

Galvanized areas that have been damaged shall receive two coats of 98% zinc rich paint that conforms to the requirements of ASTM A780, Annex A2. The paint shall be applied by brush. Spray painting is not allowed.

All work shall proceed in accordance with the special provisions "Maintenance and Protection of Traffic" and "Prosecution and Progress".

Method of Measurement: The work will be measured for payment by the number of linear feet of bridge rail system installed as shown on the plans, complete and accepted, measured along the front face of the top rail.

Basis of Payment: The complete bridge rail, erected on the structure at the location specified, will be paid for at the contract unit price per linear foot for "Metal Bridge Rail – Four Rail". This price shall include obtaining field measurements, preparation and furnishing of shop drawings and field measurements, laying out and installing threaded anchor rods, fabricating, galvanizing, transporting and installing all components of the four tube bridge rail system, furnishing and placing preformed bearing pads under base plates, and all other materials, equipment, tools, and labor incidental thereto.

ITEM #0969062A – CONSTRUCTION FIELD OFFICE, MEDIUM

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 CTDOT forces and others who may be engaged to augment CTDOT 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 CTDOT 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 CTDOT and will be kept in their possession while State 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 State's CTDOT electrical inspector, must be contacted at 860-594-2240. (Do Not Call Local Town Officials)
- I. Prior to field office removal, the CTDOT Office of Information Systems (CTDOT OIS) must be notified to deactivate the communications 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.

Data Communications Facility Wiring: Contractor shall install a Category 6 568B patch panel in a central wiring location and Cat 6 cable from the patch panel to each PC station, Smart Board location, Multifunction Laser Printer/Copier/Scanner/Fax, terminating in a (Category 6 568B) wall or surface mount data jack. The central wiring location shall also house either the data circuit with appropriate power requirements or a category 5 cable run to the location of the installed data circuit. The central wiring location will be determined by the CTDOT OIS staff in coordination with the designated field office personnel as soon as the facility is in place.

For Small, Medium and Large field offices the Contractor shall run a CAT 6 LAN cable a minimum length of 25 feet for each CTDOT networked device (including but not limited to: smartboards and Multi-Function Laser Printer/Copier/Scanner/Fax) to LAN switch area leaving an additional 10 feet of cable length on each side with terminated RJ45 connectors. For an Extra-Large field office the Contractor shall run CAT 6 LAN cables from workstations, install patch panel in data circuit demark area and terminate runs with RJ45 jacks at each device location. Terminate runs to patch panel in LAN switch area. Each run / jack shall be clearly labeled with an identifying Jack Number.

The Contractor shall supply cables to connect the Wi-Fi printer to the Contractor supplied internet router and to workstations/devices as needed. These cables shall be separate from the LAN cables and data Jacks detailed above for the CTDOT network.

The number of networked devices anticipated shall be at least equal to the number of personal computer tables, Multi-Function Laser Printer/Copier/Scanner/Fax, and smartboards listed below.

The installation of a data communication circuit between the field office and the CTDOT OIS in Newington will be coordinated between the CTDOT District staff, CTDOT OIS staff and the local utility company once the Contractor supplies the field office phone numbers and anticipated installation date. The Contractor shall provide the field office telephone number(s) to the CTDOT Project Engineer within 10 calendar days after the signing of the Contract as required by Article 1.08.02. This is required to facilitate data line and computer installations.

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
Flip Phones as specified under <u>Computer Related Hardware and Software</u> .	-	-	-	-
Smart Phones as specified under <u>Computer Related Hardware and Software</u> .	-	-	-	-

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 CTDOT will supply by its own means the actual Personal Computers for the CTDOT representatives. The Contractor shall supply the Field Office Wi-Fi Connection, Wi-Fi Printer, Digital Camera(s), Flip Phones, Smart Phones, 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>

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, Flip Phones, Smart Phones, digital cameras, Projector(s) and Smart Board(s) will be reviewed by CTDOT District personnel. The Multifunction Laser Printer/Copier/Scanner/Fax will be reviewed by the CTDOT OIS. The Contractor shall not purchase the hardware, software, or services until the Administering CTDOT District 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 CTDOT. Installation will be coordinated with CTDOT District and Project personnel.

After the approval of the hardware and software, the Contractor shall contact the designated representatives of the CTDOT administering District, a minimum of 2 working days in advance of the proposed delivery or installation of the Field Office Wi-Fi Connection, Wi-Fi Printer, Digital Camera(s), Flip Phones, Smart Phones, Multifunction Laser Printer/Copier/Scanner/Fax, Video Projectors and Smart Board(s), as well as associated hardware, software, supplies, and support documentation.

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 CTDOT shall be an additional named insured on the policy. These losses shall include, but not be limited to: theft, fire, and physical damage. The CTDOT will be responsible for all maintenance costs of CTDOT owned computer hardware. In the event of loss, the Contractor shall provide replacement equipment in accordance with current CTDOT 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 CTDOT 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 CTDOT will reimburse the Contractor for replacement costs exceeding the amount of the required coverage.

Maintenance: During the occupancy by the CTDOT, 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 State 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, medium,” 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, Medium	Month

ITEM #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 "Prosecution and Progress":

Route 12 (North Main Street)

The Contractor shall maintain and protect one lane of traffic in each direction on a paved travel path not less than 11 feet in width.

Excepted therefrom will be those periods, during the allowable periods, when the Contractor is actively working, at which time the Contractor will be permitted to maintain and protect an alternating one-way traffic operation on a paved travel path not less than 12 feet in width for the installation and removal of the temporary precast concrete barrier curb.

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 allowed to close said driveways to perform the required work during those periods when the businesses are closed, unless permission is granted from the business owner to close the driveway during business hours. If a temporary closure of a residential driveway is necessary, the Contractor shall coordinate with the owner to determine the time period of the closure.

Article 9.71.03 - Construction Method is supplemented as follows:

General

The Contractor shall not store any material on-site which would present a safety hazard to motorists or pedestrians (e.g. fixed object or obstruct sight lines).

The field installation of a signing pattern shall constitute interference with existing traffic operations and shall not be allowed, except during the allowable periods.

Existing Signing

The Contractor shall maintain all existing overhead and side-mounted signs throughout the project limits during the duration of the project. The Contractor shall temporarily relocate signs and sign supports as many times as deemed necessary, and install temporary sign supports if necessary and as directed by the Engineer.

Requirements for Winter

The Contractor shall schedule a meeting with representatives from the Department including the offices of Maintenance and Traffic, and the Town/City to determine what interim traffic control measures the Contractor shall accomplish for the winter to provide safety to the 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 Multilane Roadways Secondary and Local Roadways

The Contractor will be responsible for the furnishing of all pavement markings, either temporary or permanent. The Contractor shall repaint roadways as directed by the engineer. This work will be paid for under the appropriate pavement marking items.

The Contractor is alerted that all pavement markings must be in place by the end of the work day for any roadway to be opened on that day.

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 the safe and 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. 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 so as to command respect from the motorist.

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.

If a lane reduction taper is required to shift traffic, the entire length of the taper should be installed on a tangent section of roadway so that the entire taper area can be seen by the motorist.

Any existing signs that are in conflict with the traffic control patterns shall be removed, covered, or turned so that they are not readable by oncoming traffic.

When installing a traffic control pattern, a Buffer Area should be provided and this area shall be free of equipment, workers, materials and parked vehicles.

Typical traffic control plans 19 through 25 may be used for moving operations such as line striping, pot hole patching, mowing, or sweeping when it is necessary for equipment to occupy a travel lane.

Traffic control patterns will not be required when vehicles are on an emergency patrol type activity or when a short duration stop is made and the equipment can be contained within the shoulder. Flashing lights and appropriate trafficperson shall be used when required.

Although each situation must be dealt with individually, conformity with the typical traffic control plans contained herein is required. In a situation not adequately covered by the typical traffic control plans, the Contractor must contact the Engineer for assistance prior to setting up a traffic control pattern.

PLACEMENT OF SIGNS

Signs must be placed in such a position to allow 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 TRAFFIC CONTROL PLANS

The 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 whenever possible.

The proper application of the traffic control plans and installation of traffic control devices depends on actual field conditions.

Adjustments to the traffic control plans shall be made only at the direction of the Engineer to improve the visibility of the signs and devices and to better control traffic operations. Adjustments to the traffic control plans shall be based on safety of work forces and motorists, abutting property requirements, driveways, side roads, and the vertical and horizontal curvature of the roadway.

The Engineer may require that the traffic control pattern be located significantly in advance of the work area to provide better sight line to the signing and safer traffic operations through the work zone.

Table I indicates the minimum taper length required for a lane closure based on the posted speed limit of the roadway. These taper lengths shall only be used when the recommended taper lengths shown on the traffic control plans cannot be achieved.

TABLE I – MINIMUM TAPER LENGTHS

POSTED SPEED LIMIT MILES PER HOUR	MINIMUM TAPER LENGTH IN FEET FOR A SINGLE LANE CLOSURE
30 OR LESS	180
35	250
40	320
45	540
50	600
55	660
65	780

SECTION 1. WORK ZONE SAFETY MEETINGS

- 1.a) Prior to the commencement of work, a work zone safety meeting will be conducted with representatives of 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. 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 should include:
- Review Project scope of work and time
 - Review Section 1.08, Prosecution and Progress
 - Review Section 9.70, Trafficpersons
 - Review Section 9.71, Maintenance and Protection of Traffic
 - Review Contractor's schedule and method of operations.
 - Review areas of special concern: ramps, turning roadways, medians, lane drops, etc.
 - Open discussion of work zone questions and issues
 - Discussion of review and approval process for changes in contract requirements as they relate to work zone areas

SECTION 2. GENERAL

- 2.a) If the required minimum number of signs and equipment (i.e. one High Mounted Internally Illuminated Flashing Arrow for each lane closed, two TMAs, Changeable Message Sign, etc.) are not available; the traffic control pattern shall not be installed.
- 2.b) The Contractor shall have back-up equipment (TMAs, High Mounted Internally Illuminated Flashing Arrow, Changeable Message Sign, construction signs, cones/drums, etc.) available at all times in case of mechanical failures, etc. The only exception to this is in the case of sudden equipment breakdowns in which the pattern may be installed but the Contractor must provide replacement equipment 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 loss time.
- 2.d) In cases of legitimate differences of opinion between the Contractor and the Inspection staff, the Inspection staff shall err on the side of safety. 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.

SECTION 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 work area, or end of the traffic control pattern, and proceeding back toward the advance warning signs.
- 3.c) Stopping traffic may be allowed:
 - As per the contract for such activities as blasting, steel erection, etc.
 - During paving, milling operations, etc. 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 and traffic should not travel across the longitudinal joint or difference in roadway elevation.
 - To move slow moving equipment across live traffic lanes into the work area.
- 3.d) Under certain situations when the safety of the traveling public and/or that of the workers may be compromised due to conditions such as traffic volume, speed, roadside obstructions, or sight line deficiencies, as determined by the Engineer and/or State Police, traffic may be briefly impeded while installing and/or removing the advance warning signs and the first ten traffic cones/drums only. Appropriate measures shall be taken to safely slow traffic. If required, traffic slowing techniques may be used and shall include the use of Truck Mounted Impact Attenuators (TMAs) as appropriate, for a minimum of one mile in advance of the pattern starting point. Once the advance warning signs and the first ten traffic cones/drums are installed/removed, the TMAs and sign crew shall continue to install/remove the pattern as described in Section 5 and traffic shall be allowed to resume their normal travel.
- 3.e) The Contractor must adhere to using the proper signs, placing the signs correctly, and ensuring the proper spacing of signs.
- 3.f) 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/exiting with/from the main line traffic. This shall be completed before installing the mainline pattern past the ramp or intersecting roadway.
- 3.g) Prior to installing a pattern, any conflicting existing signs shall be covered with an opaque material. Once the pattern is removed, the existing signs shall be uncovered.

- 3.h) On limited access roadways, workers are prohibited from crossing the travel lanes 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.

SECTION 4. USE OF HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

- 4.a) On limited access roadways, one Flashing Arrow shall be used for each lane that is closed. The Flashing Arrow shall be installed concurrently with the installation of the traffic control pattern and its placement shall be as shown on the traffic control plan. For multiple lane closures, one Flashing Arrow is required for each lane closed. If conditions warrant, additional Flashing Arrows should be employed (i.e.: curves, major ramps, etc.).
- 4.b) On non-limited access roadways, the use of a Flashing Arrow for lane closures is optional. The roadway geometry, sight line distance, and traffic volume should be considered in the decision to use the Flashing Arrow.
- 4.c) The Flashing Arrow shall not be used on two lane, two-way roadways for temporary alternating one-way traffic operations.
- 4.d) The Flashing Arrow board display shall be in the “arrow” mode for lane closure tapers and in the “caution” mode (four corners) for shoulder work, blocking the shoulder, or roadside work near the shoulder. The Flashing Arrow shall be in the “caution” mode when it is positioned in the closed lane.
- 4.e) The Flashing Arrow shall not be used on a multi-lane roadway to laterally shift all lanes of traffic, because unnecessary lane changing may result.

SECTION 5. USE OF TRUCK MOUNTED IMPACT ATTENUATOR VEHICLES (TMAs)

- 5.a) For lane closures on limited access roadways, a minimum of two TMAs shall be used to install and remove traffic control patterns. If two TMAs are not available, the pattern shall not be installed.
- 5.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 should be considered in the decision to utilize the TMAs.
- 5.c) Generally, to establish the advance and transition signing, one TMA shall be placed on the shoulder and the second TMA shall be approximately 1,000 feet ahead blocking the lane. The flashing arrow board mounted on the TMA should be in the “flashing arrow” mode when taking the lane. The sign truck and workers should be immediately 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 Changeable Message Signs, signs, Flashing Arrows, and cones/drums are installed. The flashing arrow board mounted on the TMA should be in the “caution” mode when traveling in the closed lane.

- 5.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 flashing arrow board mounted on the TMA should be in the “caution” mode when in the closed lane.
- 5.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 the specification entitled “Type ‘D’ Portable Impact Attenuation System”. 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) should be placed at the beginning of the work area and shall be advanced as the paving or concrete operations proceed.
- 5.f) TMAs should be paid in accordance with how the unit is utilized. When it is used as a TMA and is in the proper location as specified, and then it should be paid at the specified hourly rate for “Type ‘D’ Portable Impact Attenuation System”. When the TMA is used as a Flashing Arrow, it should be paid at the daily rate for “High Mounted Internally Illuminated Flashing Arrow”. If a TMA is used to install and remove a pattern and then is used as a Flashing Arrow, the unit should be paid as a “Type ‘D’ Portable Impact Attenuation System” for the hours used to install and remove the pattern, typically 2 hours (1 hour to install and 1 hour to remove), and is also paid for the day as a “High Mounted Internally Illuminated Flashing Arrow”.

SECTION 6. USE OF TRAFFIC DRUMS AND TRAFFIC CONES

- 6.a) Traffic drums shall be used for taper channelization on limited-access roadways, ramps, and turning roadways and to delineate raised catch basins and other hazards.
- 6.b) 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.
- 6.c) Traffic Cones less than 42 inches in height shall not be used on limited-access roadways or on non-limited access roadways with a posted speed limit of 45 mph and above.
- 6.d) Typical spacing of traffic drums and/or cones shown on the Traffic Control Plans in the Contract are maximum spacings and may be reduced to meet actual field conditions as required.

SECTION 7. USE OF (REMOTE CONTROLLED) CHANGEABLE MESSAGE SIGNS (CMS)

- 7.a) For lane closures on limited access roadways, one CMS shall be used in advance of the traffic control pattern. Prior to installing the pattern, the CMS shall be installed and in operation, displaying the appropriate lane closure information (i.e.: Left Lane Closed - Merge Right). The CMS shall be positioned ½ - 1 mile ahead of the lane closure taper. If the nearest Exit ramp is greater than the specified ½ - 1 mile distance, than an additional CMS shall be positioned a sufficient distance ahead of the Exit ramp to alert motorists to the work and therefore offer them an opportunity to take the exit.
- 7.b) CMS should not be installed within 1000 feet of an existing CMS.
- 7.c) On non-limited access roadways, the use of CMS for lane closures is optional. The roadway geometry, sight line distance, and traffic volume should be considered in the decision to use the CMS.
- 7.d) The advance CMS is typically placed off the right shoulder, 5 feet from the edge of pavement. In areas where the CMS cannot be placed beyond the edge of pavement, it may be placed on the paved shoulder with a minimum of five (5) traffic drums placed in a taper in front of it to delineate its position. The advance CMS shall be adequately protected if it is used for a continuous duration of 36 hours or more.
- 7.e) When the CMS are no longer required, they should be removed from the clear zone and have the display screen cleared and turned 90° away from the roadway.
- 7.f) The CMS generally should not be used for generic messages (ex: Road Work Ahead, Bump Ahead, Gravel Road, etc.).
- 7.g) The CMS should be used for specific situations that need to command the motorist's attention which cannot be conveyed with standard construction signs (Examples include: Exit 34 Closed Sat/Sun - Use Exit 35, All Lanes Closed - Use Shoulder, Workers on Road - Slow Down).
- 7.h) Messages that need to be displayed for long periods of time, such as during stage construction, should be displayed with construction signs. For special signs, please coordinate with the Office of Construction and the Division of Traffic Engineering for the proper layout/dimensions required.
- 7.i) The messages that are allowed on the CMS are as follows:

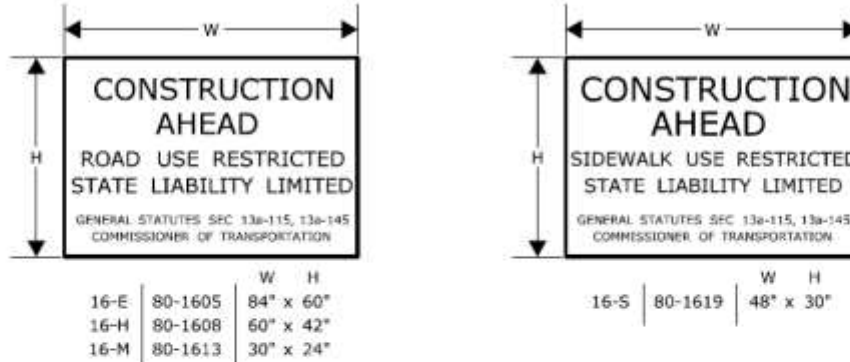
<u>Message No.</u>	<u>Frame 1</u>	<u>Frame 2</u>	<u>Message No.</u>	<u>Frame 1</u>	<u>Frame 2</u>
1	LEFT LANE CLOSED	MERGE RIGHT	9	LANES CLOSED AHEAD	REDUCE SPEED
2	2 LEFT LANES CLOSED	MERGE RIGHT	10	LANES CLOSED AHEAD	USE CAUTION
3	LEFT LANE CLOSED	REDUCE SPEED	11	WORKERS ON ROAD	REDUCE SPEED
4	2 LEFT LANES CLOSED	REDUCE SPEED	12	WORKERS ON ROAD	SLOW DOWN
5	RIGHT LANE CLOSED	MERGE LEFT	13	EXIT XX CLOSED	USE EXIT YY
6	2 RIGHT LANES CLOSED	MERGE LEFT	14	EXIT XX CLOSED USE YY	FOLLOW DETOUR
7	RIGHT LANE CLOSED	REDUCE SPEED	15	2 LANES SHIFT AHEAD	USE CAUTION
8	2 RIGHT LANES CLOSED	REDUCE SPEED	16	3 LANES SHIFT AHEAD	USE CAUTION

For any other message(s), approval must be received from the Office of Construction prior to their use. No more than two (2) displays shall be used within any message cycle.

SECTION 8. USE OF STATE POLICE OFFICERS

- 8.a) State Police may be utilized only on limited access highways and secondary roadways under their primary jurisdiction. One Officer may be used per critical sign pattern. Shoulder closures and right lane closures can generally be implemented without the presence of a State Police Officer. Likewise in areas with moderate traffic and wide, unobstructed medians, left lane closures can be implemented without State Police presence. Under some situations it may be desirable to have State Police presence, when one is available. Examples of this include: 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.
- 8.b) Once the pattern is in place, the State Police Officer should be positioned in a non-hazardous location in advance of the pattern. If traffic backs up beyond the beginning of the pattern, then the State Police Officer shall be repositioned prior to the backup to give warning to the oncoming motorists. The State Police Officer and TMA should not be in proximity to each other.
- 8.c) Other functions of the State Police Officer(s) may include:
- Assisting entering/exiting construction vehicles within the work area.
 - Enforcement of speed and other motor vehicle laws within the work area, if specifically requested by the project.
- 8.d) State Police Officers assigned to a work site are to only take direction from the Engineer.

SERIES 16 SIGNS



THE 16-S SIGN 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 TO ALLOW MOTORISTS THE OPPORTUNITY TO AVOID A WORK ZONE. SERIES 16 SIGNS SHALL BE INSTALLED ON ANY MAJOR INTERSECTING ROADWAYS THAT APPROACH THE WORK ZONE. ON LIMITED-ACCESS HIGHWAYS, THESE SIGNS SHALL BE LOCATED IN ADVANCE OF THE NEAREST UPSTREAM EXIT RAMP AND ON ANY ENTRANCE RAMP PRIOR TO OR WITHIN THE WORK ZONE LIMITS.

THE LOCATION OF SERIES 16 SIGNS CAN BE FOUND ELSEWHERE IN THE PLANS OR INSTALLED AS DIRECTED BY THE ENGINEER.

SIGNS 16-E AND 16-H SHALL BE POST-MOUNTED.

SIGN 16-E SHALL BE USED ON ALL EXPRESSWAYS.

SIGN 16-H SHALL BE USED ON ALL RAMP, OTHER STATE ROADWAYS, AND MAJOR TOWN/CITY ROADWAYS.

SIGN 16-M SHALL BE USED ON OTHER TOWN ROADWAYS.

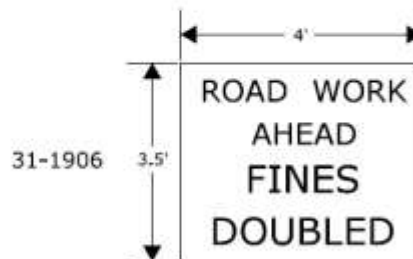
REGULATORY SIGN "ROAD WORK AHEAD, FINES DOUBLED"

THE REGULATORY SIGN "ROAD WORK AHEAD FINES DOUBLED" SHALL BE INSTALLED FOR ALL WORK ZONES THAT OCCUR ON ANY STATE HIGHWAY IN CONNECTICUT WHERE THERE ARE WORKERS ON THE HIGHWAY OR WHEN THERE IS OTHER THAN EXISTING TRAFFIC OPERATIONS.

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.

"END ROAD WORK" SIGN

THE LAST SIGN IN THE PATTERN MUST BE THE "END ROAD WORK" SIGN.



SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN
REQUIRED SIGNS

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED *Charles S. Hartow* Charles S. Hartow
2012.09.05 11:35:43-0400
PRINCIPAL ENGINEER

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 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. IF THIS PLAN REMAINS IN CONTINUOUS OPERATION FOR MORE THAN 36 HOURS, THEN TRAFFIC DRUMS SHALL BE USED IN PLACE OF TRAFFIC CONES.
5. ANY LEGAL SPEED LIMIT 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 36 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 < 40 MPH).
8. IF THIS PLAN IS TO REMAIN IN OPERATION DURING THE HOURS OF DARKNESS, INSTALL BARRICADE WARNING LIGHTS - HIGH INTENSITY ON ALL POST-MOUNTED DIAMOND SIGNS IN THE ADVANCE WARNING AREA.
9. A CHANGEABLE MESSAGE SIGN SHALL BE INSTALLED ONE HALF 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' (55m)
35	250' (75m)
40	320' (100m)
45	540' (165m)
50	600' (180m)
55	660' (200m)
65	780' (240m)

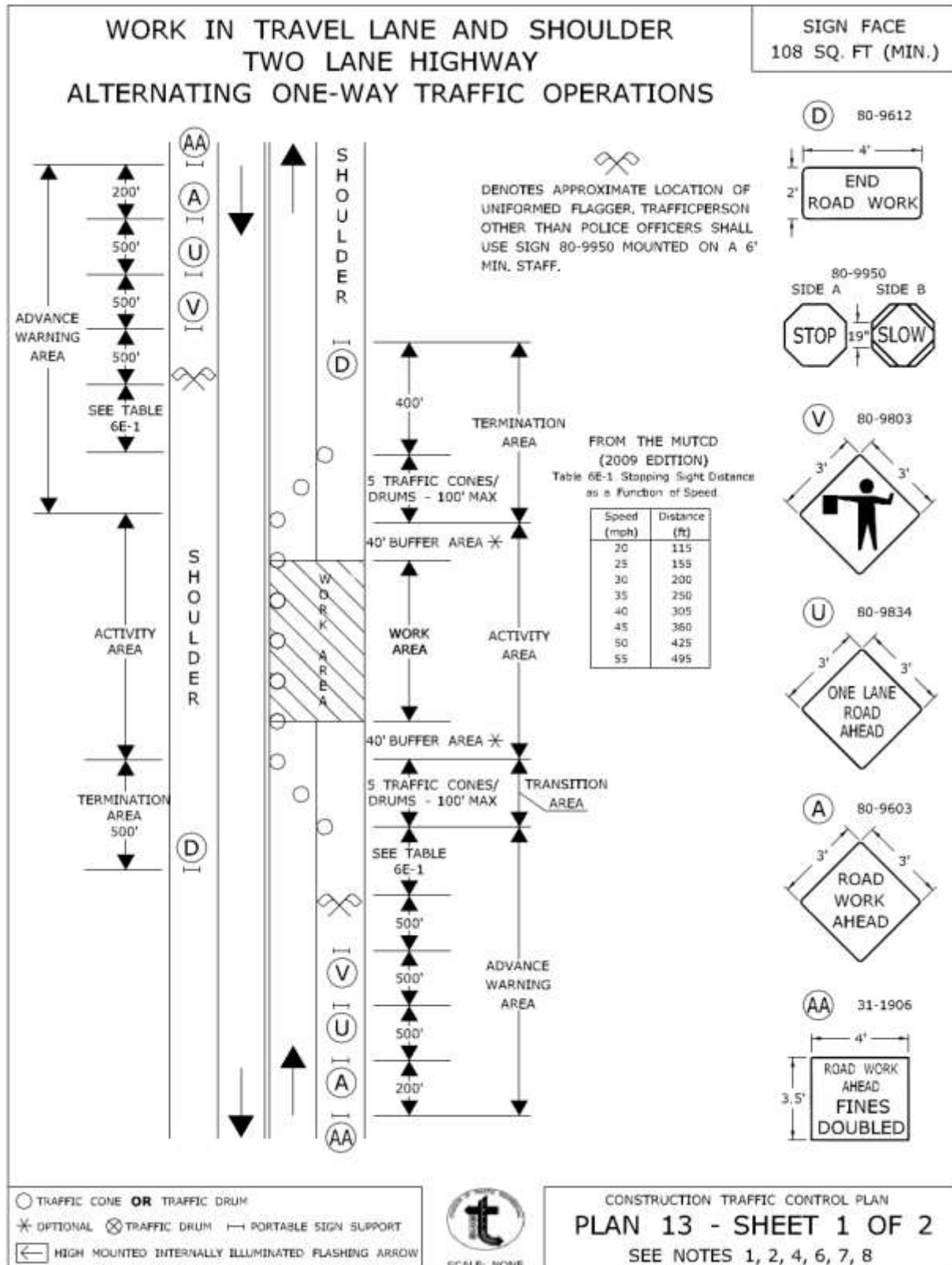
METRIC CONVERSION CHART (1" = 25mm)

ENGLISH	METRIC	ENGLISH	METRIC	ENGLISH	METRIC
12"	300mm	42"	1050mm	72"	1800mm
18"	450mm	48"	1200mm	78"	1950mm
24"	600mm	54"	1350mm	84"	2100mm
30"	750mm	60"	1500mm	90"	2250mm
36"	900mm	66"	1650mm	96"	2400mm



SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN
NOTES



WORK IN TRAVEL LANE AND SHOULDER TWO LANE HIGHWAY ALTERNATING ONE-WAY TRAFFIC OPERATIONS

SIGN FACE
108 SQ. FT. (MIN.)

HAND SIGNAL METHODS TO BE USED BY UNIFORMED FLAGGERS

THE FOLLOWING METHODS FROM SECTION 6E.07, FLAGGER PROCEDURES, IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," SHALL BE USED BY UNIFORMED FLAGGERS WHEN DIRECTING TRAFFIC THROUGH A WORK AREA. THE STOP/SLOW SIGN PADDLE (SIGN NO. 80-9950) SHOWN ON THE TRAFFIC STANDARD SHEET TR-1220 01 ENTITLED, "SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS" SHALL BE USED.

A. TO STOP TRAFFIC

TO STOP ROAD USERS, THE FLAGGER SHALL FACE ROAD USERS AND AIM THE STOP PADDLE FACE TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. THE FREE ARM SHALL BE HELD WITH THE PALM OF THE HAND ABOVE SHOULDER LEVEL TOWARD APPROACHING TRAFFIC.



B. TO DIRECT TRAFFIC TO PROCEED

TO DIRECT STOPPED ROAD USERS TO PROCEED, THE FLAGGER SHALL FACE ROAD USERS WITH THE SLOW PADDLE FACE AIMED TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. THE FLAGGER SHALL MOTION WITH THE FREE HAND FOR ROAD USERS TO PROCEED.



C. TO ALERT OR SLOW TRAFFIC

TO ALERT OR SLOW TRAFFIC, THE FLAGGER SHALL FACE ROAD USERS WITH THE SLOW PADDLE FACE AIMED TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. TO FURTHER ALERT OR SLOW TRAFFIC, THE FLAGGER HOLDING THE SLOW PADDLE FACE TOWARD ROAD USERS MAY MOTION UP AND DOWN WITH THE FREE HAND, PALM DOWN.



- TRAFFIC CONE **OR** TRAFFIC DRUM
- * OPTIONAL ⊗ TRAFFIC DRUM ⇨ PORTABLE SIGN SUPPORT
- ◀ HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

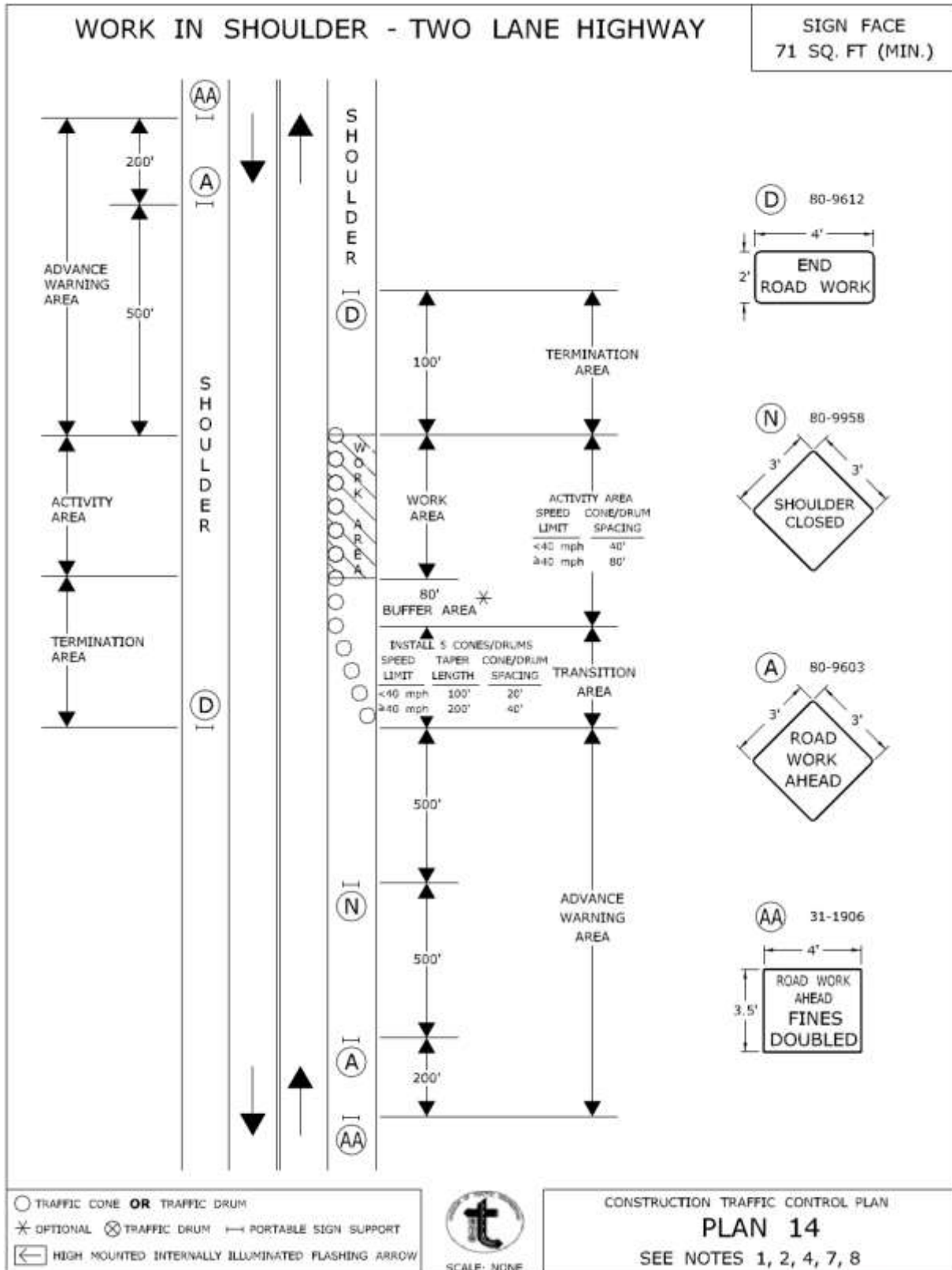


SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN
PLAN 13 - SHEET 2 OF 2
SEE NOTES 1, 2, 4, 6, 7, 8

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED Charles S. Harlow
2012.06.05 15:55:45-04'00"
PRINCIPAL ENGINEER



○ TRAFFIC CONE OR TRAFFIC DRUM ✱ OPTIONAL ⊗ TRAFFIC DRUM ⇄ PORTABLE SIGN SUPPORT

⇐ HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

SCALE: NONE

CONSTRUCTION TRAFFIC CONTROL PLAN
PLAN 14
SEE NOTES 1, 2, 4, 7, 8

Article 9.71.05 – Basis of Payment is supplemented by the following:

The contract lump sum price for “Maintenance and Protection of Traffic” shall also include temporarily relocating existing signs and sign supports as many times as deemed necessary and furnishing, installing, and removing temporary sign supports and foundations if necessary during construction of the project.

PERMITS AND/OR REQUIRED PROVISIONS

The following Permits and/or Supplemental to Form 817 and Required Provisions follow this page and are hereby made part of this Contract.

- **PERMITS AND/OR PERMIT APPLICATIONS**

DEEP Coastal Consistency Review Form

Issue Date July 15, 2015

- **SUPPLEMENTAL SPECIFICATIONS TO STANDARD SPECIFICATIONS FORM 817**

- **Construction Contracts - Required Contract Provisions (FHWA Funded Contracts)**

State of Connecticut

Department of Transportation

SUPPLEMENTAL SPECIFICATIONS

TO

THE STANDARD SPECIFICATIONS

FOR

ROADS, BRIDGES, FACILITIES

AND INCIDENTAL CONSTRUCTION

FORM 817

2016

JANUARY 2017

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As of January 2017 Supplements

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Article	Book Page #	Please make the following Corrections:
1.01.02	6	add abbreviation "AAN—American Association of Nurserymen"
1.01.02	7	add abbreviation "CTDOT—Connecticut Department of Transportation"
1.01.03	11	add abbreviations "Hz—hertz, LCD—Liquid Crystal Display, QCPFA—Quality Control Plan for Fine Aggregates"
1.01.03	12	add abbreviations "USB—Universal Serial Bus, VDC—Volts Direct Current"
1.05.02	27	in Subarticle 2a(i), change "Form" to "form" and delete "Number CON-500,"
1.05.08	36	change font to bold face for paragraph titles "Biweekly Schedules" and "Recovery Schedules"
1.05.13	39	in the first sentence of the third paragraph, delete "(CON-13),"
1.20-1.01.02	93	add abbreviation "AAN—American Association of Nurserymen"
1.20-1.01.02	94	add abbreviation "CTDOT—Connecticut Department of Transportation"
1.20-1.01.03	98	add abbreviations "Hz—hertz, LCD—Liquid Crystal Display, MLSI—Major Lump Sum Item"
1.20-1.01.03	99	add abbreviations "QCPFA—Quality Control Plan for Fine Aggregates, USB—Universal Serial Bus, VDC—Volts Direct Current"
1.20-1.09.01	180	in the first sentence of the first paragraph, delete "(System International)"
1.20-9.75.04	203	in the last sentence of the last paragraph, delete the "t" after "100%"
2.09.01	240	in two places in the second paragraph, after "precast barrier curb" insert "or curbing"
2.16.02	248	change the only sentence in subarticle 1. as follows "The crushed stone or gravel shall meet the grading requirements specified in Table M.01.02-2 for No. 3 or No. 4 coarse aggregate or a combination of both."
2.19.03	250	1. in the sentence that begins "All geotextile fences shall..." delete the word "have" 2. change the only sentence of the last paragraph as follows: "The sedimentation control systems shall be maintained purpose intended or are ordered removed from the Site at the completion authorized by the Engineer to be left in place."
4.06.04	285	under Percent Adjustment for Air Voids, change last sentence as follows: "n = number of sub lots based on Table M.04.03-2"
5.14.03	310	in Subarticle 10 add a paragraph return before the last sentence as follows: "... of the member.¶ Deviations in excess of the permissible tolerances will be cause for rejection." to separate it from item 2 as the sentence refers to both items 1 and 2, not just item 2
6.52.02	367	in the only sentence, replace the words "Gravel Fill" with "Granular Fill"
6.52.03	368	in both paragraphs, replace the words "gravel fill" with "granular fill"
6.52.04	368	in the only sentence of the third paragraph, replace the words "Gravel Fill" with "Granular Fill"
6.52.05	368	in the only sentence of the third paragraph, replace the words "Gravel Fill" with "Granular Fill"
7.01.02	370	change the only sentence in subarticle 1.(d) as follows: "Coarse aggregate shall meet the grading requirements specified in Table M.01.02-2 for No. 8 coarse aggregate."
7.06.02	404	in the second sentence of Subarticle 5, delete the word "with"
7.06.03	413	in the fourth column of Table 7.06-1, Cyclic Load Schedule for Verification Pile Load Test, delete the word "minutes" next to the entries for "Step 2, Cycle 1 0.60 SVL" and "Step 3, Cycle 2, 0.750 UPC" to show the "Hold Time (minutes)" entries of "2.5" corresponding to the subsequent fractions of the "Applied Load" in the table
7.14.04	420	change the last sentence of the Article as follows: "Sheet piling left in place solely at the Contractor's option, with the Engineer's permission, will not be measured for payment."

Article	Book Page #	Please make the following Corrections:
7.16.02	421	<i>in the last sentence in the article, change “material certificates” to “Materials Certificates”</i>
7.28.02	423	<i>change the only sentence as follows: “The crushed stone shall meet the requirements of Table M.01.02-2 for No. 3 coarse aggregate.”</i>
9.43.04, 9.43.05	462	<i>in the first sentence of each article, replace the word “million” with “m.”</i>
9.50.03	472-473	<i>1. in subarticle 2. Seeding Season change the Fall ending date to “October 31” 2. in the first sentence of subarticle 5, change “100 plants” to “60% coverage”</i>
9.50.05	473	<i>1. in the only sentence of the second paragraph, insert the word “(Type)” after “Erosion Control Matting” 2. in the Pay Item – Pay Unit table, insert the word “(Type)” after “Erosion Control Matting”</i>
9.77.02	485	<i>change the end of the last sentence of the article to read “... or the AASHTO Manual for Assessing Safety Hardware (MASH) for Category 1 Devices”</i>
10.02.02	505	<i>in the second line, replace the words “Gravel Fill” with “Granular Fill”</i>
10.10.02	511	<i>1. in the article referenced for “No. 6 Crushed Aggregate”, change “M.01.01” to “M.01.02” 2. in the only sentence of the second paragraph, replace “lb./in²” with “psi” 3. in the last sentence of the article, close the quotation marks as follows: “TRAFFIC.”</i>
10.10.03	511	<i>in the second sentence of the second paragraph of the article, close the parentheses as follows: “...4 inches)”</i>
12.01.02	535	<i>change the only sentence as follows: “Materials for this work shall meet the requirements of M.03.05, M.06.02, M.18.02 and the Contract.”</i>
12.07.02	542	<i>in the last sentence, change “FS TT-P-641 Type 1” to “ASTM A780”</i>
12.09.02	544	<i>change the end of the only sentence of the article to read “... M.07.30 for glass beads, Type 1 (smaller beads).”</i>
12.09.03	544	<i>in the only sentence of the second paragraph of the article, insert “Type 1 (smaller beads)” after the phrase “... with glass beads”</i>
12.10.03	547	<i>1. in the first sentence of the eighth paragraph in Subarticle 2, replace “Grading ‘B’ (larger beads)” with “Type 4 (larger beads)” 2. in the same sentence, replace “Grading ‘A’ (smaller beads)” with “Type 1 (smaller beads)”</i>
12.10.03	548	<i>in the only sentence of Subarticle 4. Crosswalks, replace “Grading ‘A’ (smaller beads)” with “Type 1 (smaller beads)”</i>
18.06.02	557	<i>in the first sentence, capitalize “Materials Certificate”</i>
18.07.02	559	<i>in the second sentence of the second paragraph, capitalize “Materials Certificate”</i>
M.03.01	574	<i>1. replace entire subarticle 1. Coarse Aggregate with the following: “Coarse aggregate shall conform to the requirements of M.01.” 2. replace entire subarticle 2. Fine Aggregate with the following “Fine aggregate shall conform to the requirements of M.01.”</i>
M.03.02	577	<i>in the fifth column of Table M.03.02-1 change the heading to read “Maximum Aggregate Size Required M.01 Gradation”</i>
M.04.01	583	<i>in the first sentence of the second paragraph under (b) Basis of Approval change “#4 sieve” to “No. 4 sieve”</i>
M.04.01	586	<i>in Subarticle 4. Performance Graded Asphalt Binder, 1. in (b) Neat Performance Grade (PG) Binder, i., at the end of the second sentence, capitalize “Certified Test Report” 2. in (d) Warm Mix Additive Technology, i., change “NEAUPG” to “North East Asphalt User Producer Group (NEAUPG)”</i>

Article	Book Page #	Please make the following Corrections:
M.04.01	588	<i>in Subarticle 6. Reclaimed Asphalt Pavement (RAP), (b) Basis Approval:</i> 1. <i>in paragraph i, capitalize "Materials Certificate"</i> 2. <i>in the second sentence in paragraph ii, change "material certificate" to "Materials Certificate"</i>
M.04.02	593	<i>in the third bullet under ii Superpave Mixtures with RAP, insert the word "with" between "in accordance" and "AASHTO"</i>
M.04.02	594	1. <i>in the third sentence of the third bullet in iii Superpave Mixtures with RAS, insert the word "with" between "in accordance" and "AASHTO" and capitalize "Appendix"</i> 2. <i>in the first sentence in iv Superpave Mixtures with CRCG, capitalize "Materials Certificate"</i>
M.05.01	611	<i>in Subarticle 1:</i> 1. <i>add the heading "Table M.05.01-1" to the only table in the article</i> 2. <i>correct the following typographical error: in the first row under "Square Mesh Sieves" in the Gradation table (Table M.05.01-1) change "Pass 1 1/2 inches" to "Pass 2 1/2 inches"</i>
M.05.02	612	<i>add the heading "Table M.05.02-1" to the only table in the article</i>
M.08.03	636	1. <i>in the last sentence of subarticle 1. Bedding Material, change "Article M.01.01" to "M.01.02"</i> 2. <i>change the only sentence of subarticle 2. Aggregates for Underdrain as follows: "The crushed stone shall meet the grading requirements of Table M.01.02-2 for Size No. 8 coarse aggregate."</i>
M.10.02	644	<i>in the last sentence of Subarticle 9. PLASTIC BLOCKOUTS, change "Material Certificate" to "Materials Certificate"</i>
M.12.02 M.12.04	654	1. <i>change the only sentence in subarticle 4. Special Riprap as follows: "The crushed stone shall meet the grading requirements of Table M.01.02-2 for No. 3 coarse aggregate."</i> 2. <i>in the second sentence in 12.04-1. Waterproofing Asphalt, correct typographical error: "mrrt" should be "meet"</i>
M.12.06	655	<i>delete the only sentence in the next to last paragraph of Subarticle 1. Granite Curbing, "For straight curbing,..."</i>
M.12.07	656	<i>in the only sentence of subarticle 3. Gravel Base, change "gravel fill" to "granular fill"</i>
M.12.13	657	<i>in the first sentence, change "Material Certificate, Certificate of Compliance and Certified Test Report" to "Materials Certificate and Certified Test Report"</i>
M.16.04	685	<i>in the second sentence in Subarticle (m) Fabrication, change "materials certificates" to "Materials Certificates"</i>
M.16.05	688	<i>in the second sentence in Subarticle 2.(e) Fabrication, change "materials certificates" to "Materials Certificates"</i>
M.17.01	712	<i>in the last sentence in Subarticle (c) under 4. Adhesive for Bonding, change "Material Certificates" to "Materials Certificates"</i>
N/A	730	<i>in the LIST OF STANDARD PAY ITEMS,</i> 1. <i>add "8.03, Paved Apron, s.y."</i> 2. <i>delete "8.16, Granite Slope Curbing (Size), l.f." and "8.16, Curved Granite Slope Curbing (Size), l.f."</i>
N/A	733	<i>in the LIST OF STANDARD PAY ITEMS, delete "12.16, (Width) Black Epoxy Resin Pavement Markings, l.f." and delete "12.16, Black Epoxy Resin Symbols and Legends, s.f."</i>

**SECTION 1.01
DEFINITION OF TERMS AND
PERMISSIBLE ABBREVIATIONS**

Replace Article 1.01.01 with the following:

1.01.01—Definitions: In these specifications, unless the context requires otherwise, words of the masculine gender include the feminine and the neuter, and, when the sense so indicates, words of the neuter gender may refer to any gender. Where appropriate, words in the singular form shall be deemed to include the plural, and words in the plural form to include the singular.

ADDENDUM: Contract revisions developed and incorporated into the contract after bid advertisement and before the opening of bid proposals.

AIR OPERATIONS AREA: Any paved or unpaved area of the airport used or intended to be used for the unobstructed movement of aircraft. These movements shall include landings, takeoffs, and surface maneuverings.

AWARD: The Department's acceptance in writing of the proposal of the lowest responsible bidder for the work, subject to the execution and approval by the Department of a contract therefor and the provision by the bidder of performance and payment bonds to secure the performance thereof which are acceptable to the Commissioner, and to such other conditions as may be specified by the Department or required by law.

BID: The submission of a proposal for the work contemplated.

BID ADVERTISEMENT: A public announcement soliciting bids for a contract for work to be performed or materials to be furnished.

BID MANUAL: "The State of Connecticut Department of Transportation Construction Contract Bidding and Award Manual," copies of which are available from the Department's Division of Contracts and at the following link: <http://www.ct.gov/dot/cwp/view.asp?a=2288&q=259258>

BIDDER: Any individual, firm, partnership, corporation, or combination thereof, submitting a proposal for the work contemplated, acting directly or through a duly authorized representative

CALENDAR DAY: Every day shown on the calendar, Sundays and holidays included.

CATALOG CUT (PRODUCT DATA): Document(s) with information such as manufacturer's product specifications, manufacturer's installation instructions, standard color charts, wiring diagrams showing factory-installed wiring, printed performance curves and operational range diagrams. Product data that must be specially prepared because standard printed data is not suitable shall be considered shop drawings.

CERTIFICATE OF COMPLIANCE: The formal document issued at the completion of a project by the State Building Inspector's representative. The document is often referred to informally as a "Certificate of Occupancy," "C.O.C." or "C.O."

CHANNEL: A channel shall be interpreted to mean a natural or artificial watercourse having an average width at the bottom, after excavation, of 4 feet or more.

COMMISSIONER: State of Connecticut Transportation Commissioner acting directly or through a duly-authorized representative.

CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL: This Department of Energy and Environmental Protection (DEEP) Bulletin is intended to provide information to government agencies and the public on soil erosion and sediment control.

http://www.ct.gov/deep/cwp/view.asp?a=2720&q=325660&deepNav_GID=1654%20

CONNECTICUT STORMWATER QUALITY MANUAL: This DEEP publication provides guidance on measures necessary to protect waters of the State from adverse impacts of post-construction stormwater runoff. http://www.ct.gov/deep/cwp/view.asp?a=2721&q=325704&depNav_GID=1654%20-%20download

CONSTRUCTION ORDER, CHANGE ORDER: A written order signed by the Engineer for a contractor to perform work or provide supplies stipulated therein at the price or upon the basis of payment set forth therein.

CONTRACT: The agreement covering the performance of the work and the furnishing of materials required for the construction of the Project. The Contract shall be deemed to include the "Plans," "Specifications" (*i.e.*, the Department's "Standard Specifications for Roads, Bridges, Facilities and Incidental Construction" which is in effect on the date of the Bid Advertisement), "Construction Orders," and such other provisions as may be incorporated into the agreement, in addition to the contents of the bound contract containing the schedule of prices, signature sheet, addenda, special provisions, required federal and state provisions, supplemental specifications, labor and wage schedules, permits and other such

material.

CONTRACTOR: When the word is capitalized, the party of the second part to the Contract, acting directly or through its agents or employees. When this word is not capitalized, it is to be taken in its more general sense.

CULVERT: A covered channel or a large pipe for carrying a watercourse below ground level, usually under a road or railway.

DEPARTMENT: State of Connecticut Department of Transportation.

DESIGNER: A duly-authorized representative of the Engineer, responsible for the design of the Project.

DRAINAGE DITCH: An unpaved, artificially-constructed open depression having an average width of less than 4 feet at the bottom, after excavation, constructed for the purpose of carrying off surface water.

ENGINEER: The Commissioner or Deputy Transportation Commissioner, acting directly or through a duly-authorized representative.

EXECUTION OF CONTRACT: The date of execution of the Contract by the Department is the date on which the Department's authorized signatory signs the Contract on behalf of the Department.

EQUAL: A material, device, type of equipment, or method other than what is specified in the Contract, which is a recognized equivalent in substance and function for that specified thing, taking into account quality, workmanship, economy of operation, durability, and suitability for purposes intended, provided that the proposed equivalent would not require or constitute a change in Contract work.

FIXED COSTS: Any labor, material and equipment costs directly incurred for the item or items under consideration, which are necessary for the fulfillment of Contract requirements and which remain constant regardless of the quantity of the work done.

HIGHWAY: A general term denoting a public way used for vehicular travel. When referred to in the Contract, it signifies the whole right of way reserved for or secured by the Department for use in constructing or maintaining a roadway and its appurtenances.

INSPECTOR: A duly-authorized representative of the Engineer, assigned to make inspections of the work performed and materials furnished by the Contractor.

LABORATORY: Unless another laboratory or type of laboratory is indicated, the official testing laboratory of the Department.

LIQUIDATED DAMAGES: The amount prescribed in the Contract specifications, to be paid to the State or to be deducted from any payments due or to become due the Contractor, for a specified time unit delay in completing the whole or any specified portion of the work beyond the time allowed in the Contract.

MAJOR ITEM: An individual Contract item, whose value at the time of bidding (either lump sum price or the product of its unit price multiplied by its estimated quantity) is equal to or greater than 10% of the total original Contract bid price shall be considered a Major Item.

MANAGER OF CONTRACTS: The Transportation Manager of Contracts, who is the head of the Department's Division of Contracts, and whose office is located at the headquarters of the Department at 2800 Berlin Turnpike, Newington, CT.

MATERIAL: Any substance specified in the Contract for use in the construction of the Project, including appurtenances of products that are substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the work.

MINOR ITEM: An individual Contract item that is not a Major Item.

MUNICIPALITY: City, town or county.

NOTICE TO PROCEED: A written notice issued by the Engineer to the Contractor stating the date on which the Contractor is authorized to commence and proceed with the Contract work.

PAVEMENT STRUCTURE: The combination of sub-base, base course and surface course placed on subgrade to support and distribute the traffic load.

PLANS: All drawings or reproductions of drawings supplied by the Department to the Contractor pertaining to the construction or details of the Project.

A. Standard Sheets – Standardized plans containing details approved by the Department and the

FHWA, for construction of a given type on any project, included in contracts on an as-needed basis.

PRODUCT DATA (CATALOG CUT): Document(s) with information such as manufacturer's product specifications, manufacturer's installation instructions, standard color charts, wiring diagrams showing factory-installed wiring, printed performance curves and operational range diagrams. Product data that must be specially prepared because standard printed data is not suitable shall be considered shop drawings.

PROJECT: All work included under one Department contract, notwithstanding the occasional use by the Department of multiple project numbers for the work included within one contract.

PROJECT SITE (or SITE): The space available to the Contractor, under the Contract, for performing

construction activities. The extent of the Project site is as indicated on the plans or elsewhere in the Contract.

QUALIFIED PRODUCTS LIST (QPL): A report that has been developed as a means for determining what products, suppliers, manufacturers, equipment and methodologies may be used on construction projects. This report can be located on the CT Department of Transportation Website:

<http://www.ct.gov/dot/cwp/view.asp?a=1387&q=259630>

RECLAIMED CONCRETE AGGREGATE: Reclaimed waste consisting of crushed and graded concrete removed from pavements, structures, or buildings. Metal may be acceptable only where it is contained as reinforcement within small fragments of concrete; *e.g.*, metal projecting from concrete fragments would be unacceptable. All such material trucked from beyond the limits of the Project must be accompanied by a Materials Certificate and Certified Test Report indicating that the material is environmentally acceptable and structurally sound in accordance with Section 1.06.07, unless the source of the material is a Department Project and that source is acceptable to the Engineer.

RECLAIMED MISCELLANEOUS AGGREGATE: Glass-free and clinker-free reclaimed waste, which has been crushed, graded and blended, as specified in the Contract, with natural crushed stone or gravel. Metal may be acceptable only where it is contained as reinforcement within small fragments of concrete; *e.g.*, metal projecting from concrete fragments would be unacceptable. All such material trucked from beyond the limits of the Project must be accompanied by a Materials Certificate and Certified Test Report indicating that the material is environmentally acceptable and structurally sound in accordance with Section 1.06.07, unless the source of the material is a Department Project and that source is acceptable to the Engineer.

RECLAIMED WASTE: Debris from the demolition of buildings, structures, and pavements; residue from incineration and recycled glass. Acceptable material shall include concrete, bituminous concrete, glass, ceramics, brick, pavement sub-base and base courses, and clinker from resource recovery plants. Metal may be acceptable only when it is contained within large fragments of concrete. Reclaimed waste trucked from beyond the limits of the Project must be accompanied by a Materials Certificate and Certified Test Report indicating that the waste is environmentally acceptable and structurally sound in accordance with Section 1.06.07, unless the source of the material is a Department Project and that source is acceptable to the Engineer.

RENTAL RATE BLUE BOOK: As used in these specifications, refers to the current edition of the Rental Rate Equipment Watch Blue Book Services.

RIGHT-OF-WAY: A general term denoting land, property of interest therein, usually in a strip, acquired for or devoted to transportation purposes.

ROADBED: The graded portion of a highway, including portions within the top and side slopes, which have been prepared as a foundation for the pavement structure and shoulders.

ROADWAY: The portion of the highway, including shoulders, which may be used for vehicular travel within the Project limits.

SHOP DRAWINGS: Drawings, including proposed details, diagrams, schedules, procedures and other supporting data, prepared by a Contractor to supplement the Contract documents, showing all information necessary for fabrication of items for which some specific design or detail appears in the Contract.

SHOULDER: The portion of the roadway adjacent to the traveled way that can accommodate stopped vehicles for emergency use, and that provides lateral support of base and surface courses.

SPECIFICATIONS: The Department's written provisions and requirements for the performance of the Contract, contained in or incorporated by the Contract.

- A. *Standard Specifications*—A set of specifications approved by the Department for general application and repetitive use, entitled the "Standard Specifications for Roads, Bridges, Facilities and Incidental Construction" found at the following link:
<http://www.ct.gov/dot/cwp/view.asp?a=3609&q=430362>
- B. *Supplemental Specifications*—Approved additions to and revisions of the Standard Specifications.
- C. *Special Provisions*—Other Department specifications applicable to an individual project.

STATE: State of Connecticut.

SUBCONTRACTOR: Any individual, firm, partnership or corporation to which the Contractor sublets, with the approval of the Commissioner, any part or parts of the Project covered by the Contract.

SUBSTANTIAL COMPLETION: The date at which the performance of all work on the Project has been completed except minor or incidental items, final cleanup, work required under a warranty and repair of unacceptable work, and provided the Engineer has determined that:

- A. The Project is safe and convenient for use by the public, and

- B. All traffic lanes including all safety appurtenances are in their final configuration, and
- C. Failure to complete the work and repairs excepted above does not result in the deterioration of other completed work, and provided further, that the value of work remaining to be performed, and cleanup is less than 1% of the estimated final Contract amount, and
- D. If applicable, a Certificate of Compliance has been issued.

SUBSTITUTE: A replacement for a specified material, device, type of equipment, or method, which is sufficiently different in substance and function, quality, or workmanship to constitute a change in the Contract work.

SUBSTRUCTURE: All of that part of the bridge below the bearings of simple and continuous spans, skewbacks of arches and tops of footings of rigid frames, including backwalls, wingwalls and any protective railings mounted on the wingwalls.

SUB-SUBCONTRACTOR: Any individual, firm, partnership or corporation to which a subcontractor sublets, with the approval of the Commissioner, any part or parts of the Project covered by the Contract.

SUPERSTRUCTURE: The entire bridge except the substructure.

UTILITY: Any public service company and the plant of such a company or similar facilities. Such companies may consist of, but not be limited to, companies selling or controlling the sale, distribution or use of water, gas, electricity, communications systems, sewers and railroad lines. Such facilities may consist of, but not be limited to, wires, cables, ducts, pipes, manholes, transformers, poles, towers and tracks.

WORK: The provision of labor, materials or services necessary for or relating to the design and construction of the Project.

WORKING DRAWINGS: Drawings, calculations, procedures and other supporting data prepared by a Contractor, documenting the Contractor's proposed design, details, materials, construction methods and equipment for any construction for which no specific design or detail appears in the Contract.

**SECTION 1.04
SCOPE OF WORK**

Replace Section 1.04 in its entirety with the following:

**SECTION 1.04
SCOPE OF WORK**

1.04.01—Intent of Contract**1.04.02—Changes in Quantities of Pay Items, Including Elimination of Such Items****1.04.03—Changes in Quantities and Significant Changes in the Character of Work****1.04.04—Differing Site Conditions****1.04.05—Extra Work****1.04.06—Removal and Disposal of Structures on the Work Site****1.04.07—Rights in and Use of Materials Found on the Work Site**

1.04.01—Intent of Contract: The Contract directs and obliges the Contractor to perform the Project described in strict compliance with the Contract terms, including its specifications, plans, special provisions, and other Contract documents. If the Engineer revises any of those terms in writing during the life of the Contract, the Contractor must comply with said revised terms. Among other things, the Contract obliges the Contractor to perform all Project work in conformity with the lines, grades, typical cross-sections, dimensions, and other data shown on the plans and other Contract documents. The Department will pay the Contractor only for work (including materials necessary for that work, whether or not they are incorporated into that work) that the Contractor has actually performed under a Contract pay item, and only if the Engineer has accepted said work. (See 1.02.03 herein.) (The Contract as it existed when first duly executed by the Engineer is sometimes referred to herein as “the original Contract.”)

1.04.02—Changes in Quantities of Pay Items, Including Elimination of Such Items: The quantities given in the original Contract for Contract pay items are only estimates of the quantities of those items that may be required for Project completion. (The quantities for given pay items in the original Contract are sometimes referred to herein as the “estimated quantities” or “original quantities.”) A change in the original quantity of a Contract pay item (whether an increase or decrease of the quantity) shall be deemed to have occurred when the Engineer explicitly orders said change of quantity or when the change of quantity has been necessitated by a construction order or other written direction issued by the Engineer to the Contractor.

A Contract pay item shall be deemed a Major Item if the item’s lump sum priced in the original Contract, or its original quantity multiplied by its unit price in the original Contract, is equal to or greater than 10% of the original Contract’s total bid price. All other Contract items shall be deemed Minor Items.

The provisions of 1.04.03 herein shall govern changes in compensation related to a “significant change” in Contract work (as such changes are defined in 1.04.03) necessitated by a written order of the Engineer.

The provisions of 1.04.04 herein shall govern changes in compensation related to any differing site condition encountered by the Contractor that affects its performance of Contract work.

The provisions of 1.04.03 or 1.04.04 shall govern in any case in which they conflict with another provision of the Contract.

If the Engineer and the Contractor together determine that a particular change in compensation to the Contractor should be made due to a change in a Contract pay item quantity (including an item’s complete elimination), they may make that change in compensation by a written agreement to do so.

Changes in Quantities to Minor Items:

(a) Quantity Increases of More Than 25% over Original Quantity: If the actual quantity of work authorized and accepted by the Engineer under a Contract pay item exceeds the item’s original quantity by 25%, the Department will pay for the quantity in excess of 125% of the original quantity in one of the following three ways. (One-time fixed costs for which the Department has already reimbursed the Contractor in paying for 125% of the original quantity shall not be included in a calculation of the actual cost of the excess units.)

- (1) Pay for the aggregate excess units on a cost-plus basis as provided in 1.09.04.
- (2) Adjust the unit price by the increase or decrease in the unit price for the excess units, which shall be the difference between the original Contract unit price and the actual unit cost (calculated on a cost-plus basis as provided in 1.09.04) of the excess units, said difference to be calculated as of the time when work under the item was completed.

(3) Pay for the units in any other manner agreed on in writing by the Engineer and the Contractor. If, however, the aggregate payment for the units in excess of 125% is less than \$25,000 (using the original Contract unit price for the calculation) the Engineer will not adjust that unit price.

(b) Quantity Decreases of More Than 25% below Original Quantity: If the actual quantity of a Contract pay item authorized and accepted by the Engineer is less than 75% of the item's original quantity, the Engineer will not adjust the original Contract unit price for said item unless the Contractor makes a written request to the Engineer for such adjustment and the Engineer grants it in writing. If the Engineer grants such a request, the Engineer will adjust the price for each accepted unit of said item performed or provided in one of the following three ways:

- (1) Pay for the total item units actually performed or provided in the aggregate units on a cost-plus basis as provided in 1.09.04.
- (2) Adjust the unit price by any increase in the unit price for the deficit units, which shall be the difference between the original Contract unit price and the actual unit cost (calculated on a cost-plus basis as provided in 1.09.04) of the total units performed or provided, said difference to be calculated as of the time when work under the item was completed.
- (3) Pay for the item units performed or provided in any manner agreed on in writing by the Engineer and the Contractor.

In no instance however, shall the unit price paid for the number of units performed or provided, when their quantity has been decreased by more than 25% of the original quantity, be less than their original unit price; and in no instance shall the aggregate payment for such a decreased quantity of items be more than the Engineer would have paid for the performance or provision of 75% of the original quantity at the original unit price.

Regarding treatment of eliminated Contract items, refer to 1.09.05 herein.

1.04.03—Changes in Quantities and Significant Changes in the Character of Work:

- (i) The Engineer reserves the right to make, in writing, at any time during the work, such changes in quantities and such alterations in the work as are necessary to satisfactorily complete the Project. Such changes in quantities and alterations shall not invalidate the Contract nor release the surety, and the Contractor agrees to perform the work as altered.
- (ii) If the alterations or changes in quantities significantly change the character of the work under the Contract, whether such alterations or changes are in themselves significant changes to the character of the work or by affecting other work cause such other work to become significantly different in character, an adjustment, excluding anticipated profit, will be made to the Contract. The basis for the adjustment shall be agreed upon prior to the performance of the work. If a basis cannot be agreed upon, then an adjustment will be made either for or against the Contractor in such amount as the Engineer may determine to be fair and equitable.
- (iii) If the alterations or changes in quantities do not significantly change the character of the work to be performed under the Contract, the altered work will be paid for as provided elsewhere in the Contract.
- (iv) The term "significant change" shall be construed to apply only to the following circumstances:
 - (A) When the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction; or
 - (B) When a Major Item of work, as defined elsewhere in the Contract, is increased in excess of 125% or decreased below 75% of the original Contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of 125% of original Contract item quantity, or in case of a decrease below 75%, to the actual amount of work performed.

1.04.04—Differing Site Conditions:

- (i) During the progress of the work, if subsurface or latent physical conditions are encountered at the Site differing materially from those indicated in the Contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the Contract, are encountered at the Site, the party discovering such conditions shall promptly notify the other party in writing of the specific differing conditions before the Site is disturbed and before the affected work is performed.
- (ii) Upon written notification, the Engineer will investigate the conditions, and if it is determined that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the Contract, an adjustment, excluding anticipated profits, will be made and the Contract modified in writing accordingly. The Engineer will notify the Contractor of

the determination whether or not an adjustment of the Contract is warranted.

- (iii) No Contract adjustment which results in a benefit to the Contractor will be allowed unless the Contractor has provided the required written notice.
- (iv) No Contract adjustment will be allowed under this clause for any effects caused on unchanged work.

1.04.05—Extra Work: Unforeseen work made necessary by the Engineer's changes of the Contract plans or specifications, or work that is necessary for completion of the Project, but for which no price is provided in the Contract, shall be done in accordance with the requirements of the specifications and as directed by the Engineer. The Engineer shall notify the Contractor of the necessity for such extra work, stipulating its character and extent, and shall notify the Contractor as to whether the Engineer wants the Contractor to propose a unit price or, lump sum price, or to perform the extra work on a cost-plus basis in accordance with 1.09.04. The Engineer need not solicit any price for the extra work from the Contractor, but may, in any event, simply order the Contractor to perform the extra work on a cost-plus basis. If the Engineer does solicit from the Contractor a unit or lump sum price for the extra work, the Contractor must propose such a price in writing within 5 days of the Engineer's request for one.

The Contractor's price proposal shall be itemized and reasonably detailed, and shall include all known or anticipated direct and indirect costs of the work, including but not limited to, the costs of all safety and other equipment, small tools, labor, subcontractor quotes, consumables, field office overhead, home office overhead, insurance, bonding, and profit.

The character and extent of the extra work, together with the basis of compensation, shall be communicated to the Contractor by means of a construction order which, when signed by the Engineer, shall become a part of the Contract. If a Contractor objects to any portion of a construction order submitted to it, the Contractor must, within 15 days of its receipt of said order, return the order with a letter to the Department's Assistant District Engineer administering the Contract, describing specifically what portions of the order the Contractor finds objectionable, the nature of its objections, and the bases for its objections. If the Contractor does not do so, it shall be deemed to have accepted the terms of the construction order.

If the Engineer changes the scope of Contract work, the Contractor shall submit a proposed revised schedule and a cost revision proposal, which takes all such changes into account, if the Contractor believes that such revisions are warranted. If the schedule is to be revised, it will be revised in accordance with 1.08.08.

1.04.06—Removal and Disposal of Structures on the Work Site: All structures on the Project site which are not to remain on the Project site after completion of the Project shall be removed from said site and disposed of by the Contractor once it is no longer needed for the Project, and any such structure shall then become the property of the Contractor, except as otherwise required or provided by 1.10.07.

1.04.07—Rights in and Use of Materials Found on the Work Site: Upon written request of the Contractor and with the written approval of the Engineer, subject to limitations which may be set forth within such approval, any stone, gravel, sand, topsoil or any material from existing bridge substructures, buildings, or other structures, found within the limits of the Project may be excavated or removed and used by the Contractor on the Project, provided that said materials meet the requirements of the specification for such materials. Any materials excavated or removed shall not be taken off the Project site unless the Engineer in writing specifically authorizes such action. The following conditions shall govern these matters:

1. Excavation or removal of materials that would necessarily be excavated or removed in making the improvement will be paid for at the applicable Contract unit prices; and, in addition, the item for which this material is used will also be paid for at its Contract unit price. The Contractor will not be charged for such materials. The Contractor shall, without compensation, place in the embankment or elsewhere, as appropriate, sufficient suitable material to fill the space that the excavated materials would have occupied, unless otherwise directed by the Engineer.
2. The excavation or removal of materials that are not required to be excavated or removed in connection with the Contract work will not be paid for; and the Contractor will be charged for such materials at a negotiated unit price. The item for which this material is used will be paid for at its Contract unit price. The Contractor shall, without compensation, backfill with accepted material the space that the excavated materials had occupied, to the satisfaction of the Engineer, unless otherwise directed by the Engineer.

Surplus material shall be removed from the Project only with the Engineer's written permission. The Engineer may determine that such material is not surplus, and may order that it be incorporated into the Project.

SECTION 1.08
PROSECUTION AND PROGRESS

Replace Article 1.08.08 with the following:

1.08.08—Extension of Time: 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 limited to, natural catastrophes, acts of the State in either its sovereign or contractual capacity, acts of another contractor in the performance of a contract with the State, 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. Requests 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. This shall include a Critical Path Method Schedule Analysis and accompanying narrative that includes the specific dates and number of days for which the extension is sought, the basis or bases for the extension, and the schedule analysis illustrated in a graphic representation of the schedule impacts such as a bar chart or other type of graphical schedule. The critical path is a sequence of activities in a project wherein none of the activities can be delayed without affecting the final project end date.

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 solely 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 the 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 Contract time shall be deemed "Non-Compensable Delays." For delays caused by the State 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 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 State was responsible, but during which the Contractor experienced concurrent delays for which the State was not responsible.

Damages for periods of Project delay for which the State 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 Contract 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.

The Critical Path Method Schedule Analysis shall include at a minimum:

1. The manner in which the Contractor planned to construct the Project, in terms of activities, logical interrelationships of activities, work sequences, activity durations, and calendars.
2. The actual duration and sequences of the activities, based on what actually occurred on the Project.
3. The variances between the planned and actual performance of the work, listed in a chronological and cumulative manner, summing to the net total delay on the Project at the time of the request.
 - a. The causes of the variances between the planned and actual performance of the work, specifically allocating legal responsibility for each to either the Department or the Contractor.
 - b. The effects of the variances in work sequences, activity durations, manpower, and resources on the incurred costs of the affected party or parties.

4. An identification analysis of the causes of any concurrent delays on the Project.
5. Statements as to whether the time extension days sought are compensable or non-compensable, along with a specific statement of any compensation requested in connection with the time extension. Any request for a time extension that does not include a corresponding request for compensation will be assumed to be a request for a non-compensable time extension.
6. All associated analysis documents, worksheets, schedules and contemporaneous documents supporting the Critical Path Method Schedule Delay Analysis.

SECTION 1.09
MEASUREMENT AND PAYMENT

Replace Articles 1.09.04 and 1.09.05 with the following:

1.09.04—Extra and Cost-Plus Work: Extra work shall be performed only under the conditions and subject to the requirements outlined in 1.04.05. Payment for extra work may be made on any unit price or lump sum price or other basis to which the Engineer and the Contractor agree in writing, or the Engineer may order that the Contractor will be paid for the work on the cost-plus basis described in this Article.

The following sets forth the components of the cost-plus basis for making payments:

(a) Labor:

- (1) For all labor used by the Contractor for the subject work, the Department will pay the Contractor the wage rate that it actually paid for same, as shown by its certified payroll, which shall be at least the minimum rate established for the Project by the CT Department or the U.S. Department of Labor. For all foremen in direct charge of Project work, the Department will pay the Contractor the actual wage paid to the foremen as shown on the Contractor's certified payroll.
- (2) The Department will reimburse the Contractor for the actual costs paid to, or on behalf of, workers by reason of allowances, health and welfare benefits, pension fund benefits and other such benefits in connection with the subject work, when such amounts are required by a collective bargaining agreement or another employment contract generally applicable to the classes of labor employed on the Project. The Contractor shall certify all such costs in writing to the Engineer.
- (3) For property damage, liability and workmen's compensation insurance premiums, unemployment insurance contributions and social security taxes on Project cost-plus work, the Department will reimburse the Contractor for its actual Project costs. The Contractor shall provide to the Engineer documentation, satisfactory to the Engineer in form and substance, of all such costs.
- (4) The Department will also pay to the Contractor an amount equal to 20% (15% for overhead, 5% for profit) of the total sums described in **(a)** (1) through (3) above.

No part of the salary or expenses of anyone connected with the Contractor's forces above the grade of foreman, who provides general supervision of Project work, will be included in the above payment calculations, except when the Contractor's organization is entirely occupied with cost-plus work, in which case the salary of a superintendent may be included in said labor item when the nature of the pertinent Project work is such that, in the opinion of the Engineer, a superintendent was required for that work. The Engineer and the Contractor may agree in writing to the allowable rate of pay for such superintendent, or the Engineer may make payment based on such rate as he deems reasonable.

The Engineer reserves the right to determine the number and type of personnel to be employed for the cost-plus Project work.

(b) Specialized Work: When the Engineer directs the Contractor to perform specialized work requiring skills, tools and equipment substantially unlike those ordinarily used by the Contractor or its authorized Project subcontractors, the Department will pay the Contractor for the use of a specialist to perform the specialized work. For such specialized services, including materials incorporated into the Project, the Department will pay the Contractor its actual costs, plus additional compensation in accordance with subparagraph (e) below. If so requested by the Engineer, the Contractor shall obtain and submit to the Engineer, prior to performing such specialized work, a minimum of three price quotes for the work.

(c) Materials: For all materials necessary for cost-plus Project work, the Department will pay the Contractor its actual cost for such materials, including delivery charges as shown by original receipted bills, plus 15 % of the sum of said cost and charges.

In lieu of receipted bills for materials used for the Project, but which were not specifically purchased for the Project, but rather were taken from the Contractor's stock, the Contractor shall provide to the Engineer an affidavit certifying that such materials were not purchased for the Project, that the materials were taken from the Contractor's stock, that the quantity claimed to have been used on the Project was actually so used, and that the price claimed for the materials reflects their fair market value at the time of their use on the Project. The Department will pay for costs of transporting the materials to the Project site, in accordance with subparagraphs (a) and (d) hereof.

The Department will not reimburse the Contractor for any penalty or charge incurred by the Contractor due to the Contractor's late or delayed payment for the pertinent materials.

(d) Equipment: All equipment used for cost-plus Project work must, in the judgment of the Engineer, be

in good working condition and suitable for its Project purpose; and the Engineer reserves the right to determine the size and number of units of equipment to be used for such work. The manufacturer's ratings shall be the basis for all Rental Rate Blue Book classifications used for payment purposes. ("Rental Rate Blue Book" as used in these specifications refers to the current edition of the Rental Rate Equipment Watch Blue Book Services, taking into account all current Rate Adjustment Tables, and amendments thereof.)

Trucks will be classified by cubic-yard capacity.

No percentage mark-up will be added for payment purposes to amounts charged by the Contractor based on equipment rental rates.

The Department will not pay rental rates for small tools needed to complete the cost-plus Project work.

For payment purposes, estimated operating costs per hour from the Rental Rate Blue Book will apply only to the actual time during which the equipment is actively being used to perform cost-plus Project work.

For equipment that is also being used for non-cost-plus Project work, the Department will pay the applicable hourly rate only for the actual time that the equipment was assigned to cost-plus Project work. The applicable period of assignment for each piece of equipment shall start when the equipment commences to be used for cost-plus Project work ordered by the Engineer, and shall end at the time designated by the Engineer.

For equipment brought to the Site exclusively for cost-plus work, the Department will reimburse the Contractor for loading and unloading costs and costs of transporting such equipment to and from the Project site; provided, however, that payment for return transportation from the Site shall not exceed the cost of moving the equipment to the Site. If such a piece of equipment is self-propelled, and is driven to the Site under its own power, then the Department will pay only operating costs and labor costs for its transport to and from the Project site. The Department will not, however, pay for any loading, unloading and transportation costs if the equipment is used for any Project work on the Site other than cost-plus work.

- (1) Owned Equipment: The Department will pay the Contractor the applicable rental rate set forth in the Rental Rate Blue Book for any equipment (1) which the Contractor uses, with the Engineer's authorization, to perform cost-plus Project work, and (2) which is owned by the Contractor or a subsidiary, affiliate, or parent company of the Contractor (no matter how far up or down the chain of ownership from the Contractor).

The maximum hourly rate to be used in paying for Contractor-owned equipment assigned to cost-plus work shall be the applicable monthly rate in the Rental Rate Blue Book, divided by 176 (176 being the number of working hours per month).

Should the proper completion of the cost-plus Project work require equipment of a type not covered by the Rental Rate Blue Book, the Engineer will determine, and the Department will make payment to the Contractor at, a reasonable rental rate based on relevant rates prevailing in the area of the Project. If practicable, such rates shall be determined by the Engineer before the affected work is begun. If the Contractor proposes that the Engineer use a particular rate in such an instance, the Contractor must disclose to the Engineer the specific sources of, or support for, said rate.

If a piece of equipment owned by the Contractor is assigned to cost-plus Project work, but remains idle for some portion of the period of the cost-plus work, the Department will pay for that idle time at 50% of the applicable rental rate (exclusive of operating costs) in the Rental Rate Blue Book.

For payment purposes, the period of equipment usage shall be deemed to start when the Contractor begins to use the equipment for cost-plus Project work and shall be deemed to end when the equipment is released by the Engineer from use for such work. Any hours during which the equipment is used for work other than cost-plus Project work will be deducted from the pertinent payment period.

For any piece of Contractor-owned equipment assigned to cost-plus Project work, the Department will reimburse the Contractor for an aggregate minimum of 8 hours (of use time, idle time, or a combination thereof) in each 24-hour day (measured from one midnight to the following midnight) during the assignment period. No such reimbursement will be made, however, for Saturdays, Sundays and legal holidays during which the Contractor does no Project work, or for any other day on which the Engineer orders the Contractor to do no Project work. If the equipment is used to perform cost-plus Project work for more than 8 hours in a day, the Department will pay the Contractor at the applicable hourly rate computed on a monthly basis for the actual time of use; however the Department will not pay the Contractor for more than 8 hours of idle time for a piece of equipment during a given day.

The Department shall have the right to limit its aggregate Project payments for idle time for a given

piece of equipment to the replacement value of that equipment.

- (2) **Rented Equipment:** If the Engineer determines that in order to perform the cost-plus Project work the Contractor must rent certain machinery, trucks or other equipment not owned by the Contractor or a subsidiary, affiliate, or parent company of the Contractor (no matter how far up or down the chain of ownership from the Contractor), the Contractor shall provide to the Engineer in writing, in advance of such rental:

1. the specific nature of the rental(s),
2. the reasons for its need for such rental(s),
3. the anticipated or proposed rental rate(s), and
4. the estimated duration for the use of each piece of such rented equipment.

Proposed rates for such rented equipment must be based on the following:

- A daily rate per hour when the equipment is to be specifically assigned to Project work by the Engineer for a period of 7 consecutive calendar days or less.
- A weekly rate per hour when such assigned time exceeds 7 consecutive calendar days, but does not exceed 21 consecutive calendar days.
- A monthly rate per hour when such assigned time exceeds 21 consecutive calendar days.

The applicable daily, weekly, or monthly rate will be determined at the expiration of 21 calendar days or upon release of the equipment by the Engineer, whichever occurs first. Interruptions of the rental period, when equipment is used for work other than assigned cost-plus work, will not entitle the Contractor to payment at a rental rate that would be applicable to a shorter period that might arguably have been occasioned by such interruptions.

If so requested by the Engineer, the Contractor shall, prior to renting such equipment, obtain and submit to the Engineer in writing a minimum of three rate quotes for rental of the equipment.

The Department will pay the Contractor for such rental at the rate actually paid by the Contractor, provided that the given use and rental rate are acceptable to the Engineer. In order to obtain such payment, the Contractor must provide the Engineer with a copy of the original receipted bill for the rental expenses incurred.

(e) **Administrative Expense:** When extra work is performed on a cost-plus basis by a subcontractor acceptable to the Engineer, the Department will pay the Contractor an additional 7.5% for that work; such payment will be in addition to the percentage payments described in (a), (b), (c) and (d) above, as a reimbursement for the Contractor's administrative expense in connection with such work. The Engineer will approve such additional payments only if and when the Contractor provides to the Engineer receipted invoices for all relevant costs.

(f) **Miscellaneous:** The compensation provided for in (a), (b), (c), (d) and (e) above shall be deemed to be payment in full for the extra work, and shall be deemed as full compensation for same, including costs of superintendence, use of small tools, equipment for which no rental is allowed, safety equipment, consumables, field office overhead, home office overhead, bonding, other insurance, and profit. The Contractor's representative and the Engineer shall compare their respective records related to the extra work done on a cost-plus basis at the end of each day. Copies of these records shall be signed by both the Engineer and the Contractor's representative. The Engineer will then forward a copy of same to the Contractor and to any affected subcontractor in accordance with Department procedures. Upon payment of such costs by the Contractor, the Contractor shall immediately furnish the Engineer with original receipted bills covering the costs, including transportation charges, for all materials used for such work.

1.09.05—Eliminated Items: The Engineer may eliminate from the Contract any pay unit item, or any portion of Project work contained in a lump sum item by giving written notice of said elimination to the Contractor. Such elimination shall in no way invalidate the Contract.

The Engineer will make final payment to the Contractor for materials at the actual cost of the materials for eliminated pay unit items or portions of work contained in a lump sum item only under the following terms and conditions:

1. the materials were ordered by the Contractor prior to the Engineer's issuance to the Contractor of a written notice of the unit or work's elimination (as evidenced by a dated invoice from the vendor);
2. the materials conformed to all Contract requirements; and
3. the Contractor could not have cancelled its order within 2 days after the issuance of the elimination notice.

Any materials paid for by the Department on these conditions shall then be the property of the State, and the State will assume, or will reimburse the Contractor for, the actual cost of any further handling necessary to deliver said materials to a location designated by the Engineer.

If the relevant materials purchased by the Contractor are returnable to their vendor and if the Engineer so directs, the Contractor shall return the materials to the vendor, in which case the Department will reimburse the Contractor for any reasonable charges made to the Contractor by the vendor for the return of the materials, and for the actual costs to the Contractor of its handling the materials in returning them to the vendor. Such reimbursements by the Department shall be computed as though the work were being paid for on a cost-plus basis under 1.09.04.

If the Engineer determines that an elimination of a pay unit item, or portion of work contained in a lump sum item constitutes a "significant change" in the character of the Contract work, as defined under 1.04.03 necessitated by a written order of the Engineer, the terms of 1.04.03 shall govern the payment to be made in relation to the eliminated item or work.

**SECTION 1.11
CLAIMS**

Replace Section 1.11 in its entirety with the following:

**SECTION 1.11
CLAIMS**

1.11.01—General

1.11.02—Notice of Claim

1.11.03—Record Keeping

1.11.04—Claim Compensation

1.11.05—Required Claim Documentation

1.11.06—Auditing of Claims

1.11.01—General: When the Contractor files against the Department or the State a formal claim (a “formal” claim being one that seeks resolution through binding arbitration or court litigation, rather than through negotiation or mediation) under C.G.S Section 4-61 as revised (“Section 4-61”), whether as a Section 4-61 notice of claim, demand for arbitration or as a complaint in the Superior Court, the Contractor must follow the procedures and comply with the requirements set forth in this Section of the Specifications, as well as those set forth in Section 4-61. If this Section sets forth additional, more specific, or demanding requirements than does Section 4-61 in any respect, this Section shall govern the matter. While the requirements of this Section may not strictly apply to informal claims (“informal” claims being those which the Contractor seeks to resolve through negotiations with the Department, in or outside of a mediation) for additional compensation or other relief from the Department, the Contractor should understand that the Department may need and may demand (in which case the Contractor must provide), the same kinds of documentation and other substantiation that are required under this Section for formal claims. In addition, any time extension request submitted as part of a claim, must satisfy the requirements of this provision and those of 1.08.08. It is the intent of the Department to compensate the Contractor for actual increased costs caused by or arising from acts or omissions on the part of the Department that violate legal or contractual duties owed to the Contractor by the Department.

1.11.02—Notice of Claim: Whenever the Contractor intends to file a demand for arbitration or a court complaint against the Department under Section 4-61, the Contractor must first notify the Commissioner of the details of said claim, in writing via certified mail (in strict compliance with Section 4-61), and such written notice must contain all pertinent information described in 1.11.05 below.

Once a formal notice of a claim under Section 4-61 has been given to the Commissioner, the claimant may not change the claim in any way, in either concept or monetary amount, except insofar as the claim seeks damages that will continue to accrue after submission of the notice, in ways described and anticipated in that notice.

1.11.03—Record Keeping: The Contractor shall keep daily records identifying:

- (1) each aspect of the Project affected by matters related to any claim for additional compensation or relief that the Contractor has filed, intends to file, or has reason to believe that it may file against the Department;
- (2) the specific Project locations where Project work has been so affected;
- (3) the number of people working on the affected aspects of the Project at the pertinent time(s); and
- (4) the types and number of pieces of equipment on the Site at the pertinent time(s).

All events or conditions that have a potential or anticipated effect on the Project’s progress or schedule and that may result in a claim by the Contractor shall be documented contemporaneously with the event or discovery of the pertinent condition(s), or immediately thereafter. If this is not done, the Contractor may not file the related claim and may not be awarded relief upon it. Without such information, the Department and the Office of the Attorney General may not be able to adequately determine what claims have merit or to what extent they have merit, or what amounts of compensation may be warranted and supportable. Moreover, State officials involved in the analytic or negotiation process may not be able to properly substantiate and support the recommendations that they must make to their superiors, including the Attorney General, and sometimes the Governor, in the course of a settlement process.

1.11.04—Claim Compensation: If the Contractor proves entitlement for damages, payment shall be

made in accordance with the following provisions:

1. **Compensable Items:** The liability of the Department for claims will be limited to the following specifically-identified items of cost, insofar as they have not otherwise been paid for by the Department (for instance, through payment for extra work, which under 1.04.05 includes overhead and profit), and insofar as they were caused solely by the actions or omissions of the Department or its agents.

The Department will pay for direct labor expenses, direct costs for materials, and direct costs for active equipment use, plus an additional ten percent (10%) of the total amount of such direct costs as payment for home office overhead and profit.

Compensable delay-related costs: The Department will pay for any additional field office overhead and idle equipment costs for each day of Project Critical Path delay or suspension caused solely by action or inaction of the Department.

If the Critical Path delay or suspension period is less than 30 calendar days, the Department will pay an additional ten percent (10%) of the additional field office overhead costs as payment for home office overhead and profit. For delays less than 30 calendar days, idle equipment will be paid at 50% of the Rental Rate Blue Book rate.

For delays equal to or longer than 30 calendar days, the Department will pay a per diem rate, calculated as six percent (6%) of the original total Contract amount divided by the original number of days of Contract time, as payment for home office overhead and profit.

In paying for idle equipment equal to or longer than 30 calendar days, the Department will pay for actual equipment costs. Actual equipment costs shall be based upon records kept in the normal course of business and in accordance with generally-accepted accounting principles. Under no circumstances shall Blue Book or other guide or rental rates be used for this purpose (unless the Contractor had to rent the equipment from an unrelated party, in which case the actual rental charges paid by the Contractor, so long as they are reasonable, shall be reimbursed by the Department).

If the final Contract Value is greater than the original Contract Value, any delay-related costs that are compensable under this Article shall be reduced by eight percent (8%) of the difference between the final Contract Value and the original Contract Value.

Such payments for compensable delay-related costs shall be deemed to be complete and mutually-satisfactory compensation for field and home office overhead related to the period of delay or suspension.

Subcontractor costs of any kind, however, may be paid for by the Department only (a) in the context of a negotiated claims settlement or (b) if the Contractor has itself paid or legally-assumed, present unconditional liability for those subcontractor costs.

2. **Non-Compensable Items:** The Department will have no liability for the following specifically-identified non-compensable items:
 - (1) Profit in excess of that provided for herein.
 - (2) Loss of anticipated profit.
 - (3) Loss of bidding opportunities.
 - (4) Reduction of bidding capacity.
 - (5) Home office overhead in excess of that provided for herein.
 - (6) Attorney's fees, claims preparation expenses, or other costs of claims proceedings or resolution.
 - (7) Any other consequential or indirect expenses or costs, such as tort damages, or any other form of expense or damages not provided for in these Specifications or elsewhere in the Contract.

1.11.05—Required Claim Documentation: All claims shall be submitted in writing to the Commissioner, and shall be sufficient in detail to enable the Engineer to ascertain the basis and the amount of each claim, and to investigate and evaluate each claim in detail. When submitting any claim over \$50,000, the Contractor shall certify in writing, under oath and in accordance with the formalities required by the Contract, that the following are true:

1. That supporting data is accurate and complete to the Contractor's best knowledge and belief;
2. That the amount of the dispute and the dispute itself accurately reflects what the Contractor in good faith believes to be the Department's liability.

The certification shall be executed by an officer or general partner of the Contractor having overall responsibility for the conduct of the Contractor's affairs.

When submitting a claim to the Commissioner, as a minimum, the Contractor must provide the following

information for each and every claim and sub-claim asserted:

- (a) A detailed factual statement of the claim, with all dates, locations and items of work pertinent to the claim.
- (b) A statement of whether each requested additional amount of compensation or extension of time is based on provisions of the Contract or on an alleged breach of the Contract. Each supporting or breached Contract provision and a statement of the reasons why each such provision supports the claim must be specifically identified or explained.
- (c) Excerpts from manuals or other texts which are standard in the industry, if available, that support the Contractor's claim.
- (d) The details of the circumstances that gave rise to the claim.
- (e) The date(s) on which any and all events resulting in the claim occurred, and the date(s) on which conditions resulting in the claim first became evident to the Contractor.
- (f) Specific identification of any pertinent document, and detailed description of the substance of any material oral communication, relating to the substance of such claim.
- (g) The name, function, and pertinent activity of each Contractor's or subcontractor's official, or employee involved in or knowledgeable about events that give rise to, or facts that relate to, the claim.
- (h) The amount(s) of additional compensation sought and a break-down of the amount(s) into the categories specified as payable under 1.11.04 above.
- (i) The name, function, and pertinent activity of each Department official, employee or agent involved in or knowledgeable about events that give rise to, or facts that relate to, the claim.

1.11.06—Auditing of Claims: All claims filed against the Department shall be subject to audit by the Department or its agents at any time following the filing of notice of such claim. The Contractor and its subcontractors and suppliers shall cooperate fully with the inquiries and document requests of the Department's auditors. Failure of the Contractor, its subcontractors, or its suppliers to maintain and retain records that are sufficient to enable the Department or its agents to fully evaluate the claim shall constitute a waiver of any portion of such claim that cannot be verified by specific, adequate, contemporaneous records, and shall bar recovery on any formal claim or any portion of such a claim for which such verification is not produced. Without limiting the foregoing requirements, and as a minimum, the Contractor shall make available to the Department and its agents the following documents in connection with any claim that the Contractor submits:

- (1) Daily time sheets and foreman's daily reports.
- (2) Union agreements, if any.
- (3) Insurance, welfare, and benefits records.
- (4) Payroll register.
- (5) Earnings records.
- (6) Payroll tax returns.
- (7) Records of property tax payments.
- (8) Material invoices, purchase orders, and all material and supply acquisition contracts.
- (9) Materials cost distribution worksheets.
- (10) Equipment records (list of company equipment, rates, cost pools, etc.).
- (11) Vendor rental agreements.
- (12) Subcontractor and vendor subcontracts, purchase orders, and/or agreements including all change orders and modifications.
- (13) Subcontractor and vendor invoices to the Contractor, and the Contractor's certificates of payments to subcontractors and vendors.
- (14) Subcontractor payment certificates.
- (15) Canceled checks (payroll, subcontractors, and vendors).
- (16) Job cost reports.
- (17) Job payroll ledger.
- (18) General ledger, general journal (if used), and all subsidiary ledgers and journals, together with all supporting documentation pertinent to entries made in these ledgers and journals.
- (19) Cash disbursements journals.
- (20) Financial statements for all years reflecting the operations on the Project.
- (21) Income tax returns for all years reflecting the operations on the Project.

- (22) Depreciation records on all company equipment, whether such records are maintained by the company involved, its accountant, or others.
- (23) If a source other than depreciation records is used to develop costs for the Contractor's internal purposes in establishing the actual cost of owning and operating equipment, all such other source documents.
- (24) All documents which reflect the Contractor's actual profit and overhead during the years that the Project was being performed, and for each of the five years prior to the commencement of the Project.
- (25) All documents related to the preparation of the Contractor's bid, including the final calculations on which the bid was based.
- (26) All documents which relate to the claim or to any sub-claim, together with all documents that support the amount of damages as to each claim or sub-claim.
- (27) Worksheets used to prepare the claim, which indicate the cost components of each item of the claim, including but not limited to the pertinent costs of labor, benefits and insurance, materials, equipment, and subcontractors' damages, as well as all documents which establish the relevant time periods, individuals involved, and the Project hours and the rates for the individuals.

**SECTION 1.20
SUPPLEMENTED GENERAL CLAUSES FOR FACILITIES CONSTRUCTION**

**SECTION 1.20-1.01
DEFINITION OF TERMS AND
PERMISSIBLE ABBREVIATIONS FOR
FACILITIES CONSTRUCTION**

Replace Article 1.20-1.01.01 with the following:

1.20-1.01.01—Facilities Construction - Definitions: In these specifications, unless the context requires otherwise, words of the masculine gender include the feminine and the neuter, and, when the sense so indicates, words of the neuter gender may refer to any gender. Where appropriate, words in the singular form shall be deemed to include the plural, and words in the plural form to include the singular.

ADDENDUM: Contract revisions developed and incorporated into the contract after bid advertisement and before the opening of bid proposals.

AIR OPERATIONS AREA: Any paved or unpaved area of the airport used or intended to be used for the unobstructed movement of aircraft. These movements shall include landings, takeoffs, and surface maneuverings.

AWARD: The Department's acceptance in writing of the proposal of the lowest responsible bidder for the work, subject to the execution and approval by the Department of a contract therefor and the provision by the bidder of performance and payment bonds to secure the performance thereof which are acceptable to the Commissioner, and to such other conditions as may be specified by the Department or required by law.

BID: The submission of a proposal for the work contemplated.

BID ADVERTISEMENT: A public announcement soliciting bids for a contract for work to be performed or materials to be furnished.

BIDDER: Any individual, firm, partnership, corporation, or combination thereof, submitting a proposal for the work contemplated, acting directly or through a duly authorized representative

BID MANUAL: "The State of Connecticut Department of Transportation Construction Contract Bidding and Award Manual," copies of which are available from the Department's Division of Contracts and at the following link: <http://www.ct.gov/dot/cwp/view.asp?a=2288&q=259258>

CALENDAR DAY: Every day shown on the calendar, Sundays and holidays included.

CATALOG CUT (PRODUCT DATA): Document(s) with information such as manufacturer's product specifications, manufacturer's installation instructions, standard color charts, wiring diagrams showing factory-installed wiring, printed performance curves and operational range diagrams. Product data that must be specially prepared because standard printed data is not suitable shall be considered shop drawings.

CERTIFICATE OF COMPLIANCE: The formal document issued at the completion of a project by the State Building Inspector. The document is often referred to informally as a "Certificate of Occupancy," "C.O.C." or "C.O."

CHANNEL: A channel shall be interpreted to mean a natural or artificial watercourse having an average width at the bottom, after excavation, of 4 feet or more.

COMMISSIONER: State of Connecticut Transportation Commissioner acting directly or through a duly-authorized representative.

CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL: This Department of Energy and Environmental Protection (DEEP) Bulletin is intended to provide information to government agencies and the public on soil erosion and sediment control.

http://www.ct.gov/deep/cwp/view.asp?a=2720&q=325660&deepNav_GID=1654%20

CONNECTICUT STORMWATER QUALITY MANUAL: This DEEP publication provides guidance on measures necessary to protect waters of the State from adverse impacts of post-construction stormwater runoff. http://www.ct.gov/deep/cwp/view.asp?a=2721&q=325704&depNav_GID=1654%20-%20download

CONSTRUCTION ORDER, CHANGE ORDER: A written order signed by the Engineer for a contractor to perform work or provide supplies stipulated therein at the price or upon the basis of payment set forth therein.

CONTRACT: The agreement covering the performance of the work and the furnishing of materials required for the construction of the Project. The Contract shall be deemed to include the "Plans," "Specifications" (*i.e.*, the Department's "Standard Specifications for Roads, Bridges, Facilities and

Incidental Construction" which is in effect on the date of the Bid Advertisement), "Construction Orders," and such other provisions as may be incorporated into the agreement, in addition to the contents of the bound contract containing the schedule of prices, signature sheet, addenda, special provisions, required federal and state provisions, supplemental specifications, labor and wage schedules, permits and other such material.

CONTRACTOR: When the word is capitalized, the party of the second part to the Contract, acting directly or through its agents or employees. When this word is not capitalized, it is to be taken in its more general sense.

CULVERT: A covered channel or a large pipe for carrying a watercourse below ground level, usually under a road or railway.

DEPARTMENT: State of Connecticut Department of Transportation.

DESIGNER: A duly-authorized representative of the Engineer, responsible for the design of the Project.

DRAINAGE DITCH: An unpaved, artificially-constructed open depression having an average width of less than 4 feet at the bottom, after excavation, constructed for the purpose of carrying off surface water.

ENGINEER: The Commissioner or Deputy Transportation Commissioner, acting directly or through a duly-authorized representative.

EXECUTION OF CONTRACT: The date of execution of the Contract by the Department is the date on which the Department's authorized signatory signs the Contract on behalf of the Department.

EQUAL: A material, device, type of equipment, or method other than what is specified in the Contract, which is a recognized equivalent in substance and function for that specified thing, taking into account warranty, performance, weight, size, visual effect, specific features and requirements indicated, quality, workmanship, economy of operation, durability, and suitability for purposes intended, provided that the proposed equivalent would not require or constitute a change in Contract work.

HIGHWAY: A general term denoting a public way used for vehicular travel. When referred to in the Contract, it signifies the whole right of way reserved for or secured by the Department for use in constructing or maintaining a roadway and its appurtenances.

INSPECTOR: A duly-authorized representative of the Engineer, assigned to make inspections of the work performed and materials furnished by the Contractor.

LABORATORY: Unless another laboratory or type of laboratory is indicated, the official testing laboratory of the Department.

LIQUIDATED DAMAGES: The amount prescribed in the Contract specifications, to be paid to the State or to be deducted from any payments due or to become due the Contractor, for a specified time unit delay in completing the whole or any specified portion of the work beyond the time allowed in the Contract.

MAJOR ITEM: An individual Contract item, whose value at the time of bidding (either lump sum price or the product of its unit price multiplied by its estimated quantity) is equal to or greater than 10% of the total original Contract bid price shall be considered a Major Item.

MAJOR LUMP SUM ITEM (MLSI): The original Contract item(s) that includes all work depicted on the Contract Plans, described in the Contract Specifications, or is otherwise required for performance and completion of the work, including mobilization and project closeout, but not including any unit price or other lump sum items listed in the Bid Proposal Form.

MANAGER OF CONTRACTS: The Transportation Manager of Contracts, who is the head of the Department's Division of Contracts, and whose office is located at the headquarters of the Department at 2800 Berlin Turnpike, Newington, CT.

MATERIAL: Any substance specified in the Contract for use in the construction of the Project, including appurtenances of products that are substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the work.

MINOR ITEM: An individual Contract item that is not a Major Item.

MUNICIPALITY: City, town or county.

NOTICE TO PROCEED: A written notice issued by the Engineer to the Contractor stating the date on which the Contractor is authorized to commence and proceed with the Contract work.

OWNER: Where used herein, it is synonymous with Department or State.

PAVEMENT STRUCTURE: The combination of sub-base, base course and surface course placed on subgrade to support and distribute the traffic load.

PLANS: All drawings or reproductions of drawings supplied by the Department to the Contractor pertaining to the construction or details of the Project.

- A. Standard Sheets – Standardized plans containing details approved by the Department and the FHWA, for construction of a given type on any project, included in contracts on an as-needed basis.

PRODUCT DATA (CATALOG CUT): Document(s) with information such as manufacturer's product specifications, manufacturer's installation instructions, standard color charts, wiring diagrams showing factory-installed wiring, printed performance curves and operational range diagrams. Product data that must be specially prepared because standard printed data is not suitable shall be considered shop drawings.

PROJECT: All work included under one Department contract, notwithstanding the occasional use by the Department of multiple project numbers for the work included within one contract.

PROJECT SITE (or SITE): The space available to the Contractor, under the Contract, for performing construction activities. The extent of the Project site is as indicated on the plans or elsewhere in the Contract.

QUALIFIED PRODUCTS LIST (QPL): A report that has been developed as a means for determining what products, suppliers, manufacturers, equipment and methodologies may be used on construction projects. This report can be located on the CT Department of Transportation Website:

<http://www.ct.gov/dot/cwp/view.asp?a=1387&q=259630>

RECLAIMED CONCRETE AGGREGATE: Reclaimed waste consisting of crushed and graded concrete removed from pavements, structures, or buildings. Metal may be acceptable only where it is contained as reinforcement within small fragments of concrete; *e.g.*, metal projecting from concrete fragments would be unacceptable. All such material trucked from beyond the limits of the Project must be accompanied by a Materials Certificate and Certified Test Report indicating that the material is environmentally acceptable and structurally sound in accordance with 1.20-1.06.07, unless the source of the material is a Department Project and that source is acceptable to the Engineer.

RECLAIMED MISCELLANEOUS AGGREGATE: Glass-free and clinker-free reclaimed waste, which has been crushed, graded and blended, as specified in the Contract, with natural crushed stone or gravel. Metal may be acceptable only where it is contained as reinforcement within small fragments of concrete; *e.g.*, metal projecting from concrete fragments would be unacceptable. All such material trucked from beyond the limits of the Project must be accompanied by a Materials Certificate and Certified Test Report indicating that the material is environmentally acceptable and structurally sound in accordance with 1.20-1.06.07, unless the source of the material is a Department Project and that source is acceptable to the Engineer.

RECLAIMED WASTE: Debris from the demolition of buildings, structures, and pavements; residue from incineration and recycled glass. Acceptable material shall include concrete, bituminous concrete, glass, ceramics, brick, pavement sub-base and base courses, and clinker from resource recovery plants. Metal may be acceptable only when it is contained within large fragments of concrete. Reclaimed waste trucked from beyond the limits of the Project must be accompanied by a Materials Certificate and Certified Test Report indicating that the waste is environmentally acceptable and structurally sound in accordance with 1.20-1.06.07, unless the source of the material is a Department Project and that source is acceptable to the Engineer.

RIGHT-OF-WAY: A general term denoting land, property of interest therein, usually in a strip, acquired for or devoted to transportation purposes.

ROADBED: The graded portion of a highway, including portions within the top and side slopes, which have been prepared as a foundation for the pavement structure and shoulders.

ROADWAY: The portion of the highway, including shoulders, which may be used for vehicular travel within the Project limits.

SHOP DRAWINGS: Drawings, including proposed details, diagrams, schedules, procedures and other supporting data, prepared by a Contractor to supplement the Contract documents, showing all information necessary for fabrication of items for which some specific design or detail appears in the Contract.

SHOULDER: The portion of the roadway adjacent to the traveled way that can accommodate stopped vehicles for emergency use, and that provides lateral support of base and surface courses.

SPECIFICATIONS: The Department's written provisions and requirements for the performance of the Contract, contained in or incorporated by the Contract.

A. *Standard Specifications*—A set of specifications approved by the Department for general application and repetitive use, entitled the "Standard Specifications for Roads, Bridges, Facilities and Incidental Construction" found at the following link:

<http://www.ct.gov/dot/cwp/view.asp?a=3609&q=430362>

B. *Supplemental Specifications*—Approved additions to and revisions of the Standard Specifications.

C. *Special Provisions*—Other Department specifications applicable to an individual project.

STATE: State of Connecticut.

SUBCONTRACTOR: Any individual, firm, partnership or corporation to which the Contractor sublets, with the approval of the Commissioner, any part or parts of the Project covered by the Contract.

SUBSTANTIAL COMPLETION: The date at which the performance of all work on the Project has been completed except minor or incidental items, final cleanup, work required under a warranty, and repair of unacceptable work, and provided the Engineer has determined that:

- A. The Project is safe and convenient for use by the public, and
- B. All traffic lanes including all safety appurtenances are in their final configuration, and
- C. Failure to complete the work and repairs excepted above does not result in the deterioration of other completed work, and provided further, that the value of work remaining to be performed, and cleanup is less than 1% of the estimated final Contract amount, and
- D. A Certificate of Compliance has been issued.

SUBSTITUTE: A replacement for a specified material, device, type of equipment, or method, which is sufficiently different in substance and function, quality, or workmanship to constitute a change in the Contract work.

SUBSTRUCTURE: All of that part of the bridge below the bearings of simple and continuous spans, skewbacks of arches and tops of footings of rigid frames, including backwalls, wingwalls and any protective railings mounted on the wingwalls.

SUB-SUBCONTRACTOR: Any individual, firm, partnership or corporation to which a subcontractor sublets, with the approval of the Commissioner, any part or parts of the Project covered by the Contract.

SUPERSTRUCTURE: The entire bridge except the substructure.

UTILITY: Any public service company and the plant of such a company or similar facilities. Such companies may consist of, but not be limited to, companies selling or controlling the sale, distribution or use of water, gas, electricity, communications systems, sewers and railroad lines. Such facilities may consist of, but not be limited to, wires, cables, ducts, pipes, manholes, transformers, poles, towers and tracks.

WORK: The provision of labor, materials or services necessary for or relating to the design and construction of the Project.

WORKING DRAWINGS: Drawings, calculations, procedures and other supporting data prepared by a Contractor, documenting the Contractor's proposed design, details, materials, construction methods and equipment for any construction for which no specific design or detail appears in the Contract.

SECTION 1.20-1.02 PROPOSAL REQUIREMENTS AND CONDITIONS FOR FACILITIES CONSTRUCTION

Replace Article 1.20-1.02.13 with the following:

1.20-1.02.13—Facilities Construction - Knowledge of Applicable Laws: Bidders shall be deemed to know and understand all federal, state and local laws, ordinances and regulations and municipal bylaws which in any manner apply to projects for which they bid; such legal requirements shall include, but not necessarily be limited to, those which apply to the conduct of the Contract work, the equipment and materials to be used on the Project, or the treatment of individuals or classes of individuals in relationship to their involvement with the Project. A Contractor's ignorance of such requirements shall not, in any internal Department proceeding or in any claims or other legal proceeding, constitute justification for the Contractor's failure to consider such requirements in formulating a bid proposal, or for the Contractor's failure to ensure that such legal requirements are met with regard to any Department project in which that Contractor participates.

The Contractor agrees that if it should be awarded the contract for any project supported at least in part by federal funding, the Contractor will not knowingly enter into any lower-tier transaction on that project with a person (including entities) who, by virtue of federal law or regulation, or by voluntary agreement, is currently ineligible to participate in such a project, unless after disclosure of such ineligibility, such participation is authorized by appropriate federal and State authorities.

The Department expects the Contractor to obey municipal laws and regulations and cooperate with municipal officials. In some instances, however, municipal laws or regulations, or the orders of municipal officials, may conflict with necessary Project activities. In most such cases, the municipality does not have the legal power to enforce its laws and regulations upon the State or upon a State project. This is because the State is protected by its sovereign immunity. If local police or other authorities should attempt to stop

the Contractor from carrying out activities that are necessary in order for the Contractor to comply with Contract requirements, the Contractor should politely inform the municipal authorities that they probably do not have jurisdiction over the State's project, and the Contractor should immediately inform the Engineer of the attempted interference with Project activities. If the municipal authorities continue to insist upon preventing the Contractor from carrying out Project activities, the Contractor should not defy the authorities, but, to the extent possible, should await directions from the Engineer.

All work to be performed by the Contractor shall comply with, as a minimum, the State Building Code as adopted pursuant to CGS 29-252, as amended; the State Fire Prevention Code as adopted pursuant to CGS 29-291a, as amended; and the Fire Safety Code as adopted pursuant to CGS 29-292, as amended.

The State Building Code, including latest Connecticut Supplements and Amendments, includes the following:

1. The 2012 International Building Code.
2. The 2012 International Plumbing Code.
3. The 2012 International Mechanical Code.
4. The 2012 International Existing Building Code.
5. The 2012 International Energy Conservation Code.
6. The 2014 NFPA 70 National Electrical Code.
7. The 2009 ICC/ANSI A117.1.

The State Fire Safety Code, including latest Connecticut Supplements and Amendments, includes the following:

1. The 2012 International Fire Code.
2. The 2012 NFPA 101 Life Safety Code.

The State Fire Prevention Code, including latest Connecticut Supplements and Amendments, includes the following:

1. The 2012 NFPA 1.

The edition of the code governing the Project shall be the code which is in effect as per the above CGS Sections on the date that the Contract is advertised for solicitation of bids.

All work to be performed by the Contractor shall comply with the 2010 Department of Justice "ADA Standards for Accessible Design."

SECTION 1.20-1.03 AWARD AND EXECUTION OF CONTRACT FOR FACILITIES CONSTRUCTION

Replace the first paragraph of Article 1.20-1.03.01 with the following:

1.20-1.03.01—Facilities Construction - Consideration of Bids: See 1.20-1.02.01.

The apparent low bidder shall submit to the Manager of Contracts a Schedule of Values within 7 calendar days after bid opening. Any other Contractor that the Department may subsequently designate as the apparent lowest bidder shall make the aforesaid submission within 7 calendar days from the date on which the Department notifies said Contractor that it has become the apparent lowest bidder. If, however, the Department deems it necessary for such a subsequently designated Contractor to make said submission within a shorter period of time, the Contractor shall make the submission within the time designated by the Department.

**SECTION 1.20-1.04
SCOPE OF WORK FOR
FACILITIES CONSTRUCTION**

Replace Section 1.20-1.04 in its entirety with the following:

**SECTION 1.20-1.04
SCOPE OF WORK FOR
FACILITIES CONSTRUCTION**

1.20-1.04.01—Facilities Construction - Intent of Contract

1.20-1.04.02—Facilities Construction - Changes in Quantities of Pay Items, Including Elimination of Such Items

1.20-1.04.03—Facilities Construction - Changes in Quantities and Significant Changes in the Character of Work

1.20-1.04.04—Facilities Construction - Differing Site Conditions

1.20-1.04.05—Facilities Construction - Extra Work

1.20-1.04.06—Facilities Construction - Removal and Disposal of Structures on the Work Site

1.20-1.04.07—Facilities Construction - Rights in and Use of Materials Found on the Work Site

1.20-1.04.01—Facilities Construction - Intent of Contract: The Contract directs and obliges the Contractor to perform the Project described in strict compliance with the Contract terms, including its specifications, plans, special provisions, and other Contract documents. If the Engineer revises any of those terms in writing during the life of the Contract, the Contractor must comply with said revised terms. Among other things, the Contract obliges the Contractor to perform all Project work in conformity with the lines, grades, typical cross-sections, dimensions, and other data shown on the plans or other Contract documents. The Department will pay the Contractor only for work (including materials necessary for that work, whether or not they are incorporated into that work) that the Contractor has actually performed under a Contract pay item, and only if the Engineer has accepted said work. (See 1.02.03 herein.) (The Contract as it existed when first duly executed by the Engineer is sometimes referred to herein as “the original Contract.”)

1.20-1.04.02—Facilities Construction - Changes in Quantities of Pay Items, Including Elimination of Such Items: The quantities given in the original Contract for Contract pay items are only estimates of the quantities of those items that may be required for Project completion. (The quantities for given pay items in the original Contract are sometimes referred to herein as the “estimated quantities” or “original quantities.”) A change in the original quantity of a Contract pay item (whether an increase or decrease of the quantity) shall be deemed to have occurred when the Engineer explicitly orders said change of quantity or when the change of quantity has been necessitated by a construction order or other written direction issued by the Engineer to the Contractor.

A Contract pay item shall be deemed a Major Item if the item’s lump sum price in the original Contract, or its original quantity multiplied by its unit price in the original Contract, is equal to or greater than 10% of the original Contract’s total bid price. All other Contract items shall be deemed Minor Items.

The provisions of 1.20-1.04.03 herein shall govern changes in compensation related to a “significant change” in Contract work, (as such changes are defined in 1.20-1.04.03) necessitated by a written order of the Engineer.

The provisions of 1.20-1.04.04 herein shall govern changes in compensation related to any differing site condition encountered by the Contractor that affects its performance of Contract work.

The provisions of 1.20-1.04.03 or 1.20-1.04.04 shall govern in any case in which they conflict with another provision of the Contract.

If the Engineer and the Contractor together determine that a particular change in compensation to the Contractor should be made due to a change in a Contract pay item quantity (including an item’s complete elimination), they may make that change in compensation by a written agreement to do so.

Changes in Quantities to Minor Items:

(a) Quantity Increases of More Than 25% over Original Quantity: If the actual quantity of work authorized and accepted by the Engineer under a Contract pay item exceeds the item’s original quantity by 25%, the Department will pay for the quantity in excess of 125% of the original quantity in one of the following three ways. (One-time fixed costs for which the Department has already reimbursed the Contractor in paying for 125% of the original quantity shall not be included in a calculation of the actual

cost of the excess units.)

- (1) Pay for the aggregate excess units on a cost-plus basis as provided in 1.20-1.09.04.
 - (2) Adjust the unit price by the increase or decrease in the unit price for the excess units, said difference to be calculated as of the time when work under the item was completed.
 - (3) Pay for the units in any other manner agreed on in writing by the Engineer and the Contractor.
- If, however, the aggregate payment for the units in excess of 125% is less than \$25,000 (using the original Contract unit price for the calculation) the Engineer will not adjust that unit price.

(b) Quantity Decreases of More Than 25% below Original Quantity: If the actual quantity of a Contract pay item authorized and accepted by the Engineer is less than 75% of the item's original quantity, the Engineer will not adjust the original Contract unit price for said item unless the Contractor makes a written request to the Engineer for such an adjustment and the Engineer grants it in writing. If the Engineer grants such a request, the Engineer will adjust the price for each accepted unit of said item performed or provided in one of the following three ways:

- (1) Pay for the total item units actually performed or provided in the aggregate units on a cost-plus basis as provided in 1.20-1.09.04.
- (2) Adjust the unit price by any increase in the unit price for the deficit units, which shall be the difference between the original Contract unit price and the actual unit cost (calculated on a cost-plus basis as provided in 1.20-1.09.04) of the total units performed or provided, said difference to be calculated as of the time when work under the item was completed.
- (3) Pay for the item units performed or provided in any manner agreed on in writing by the Engineer and the Contractor.

In no instance however, shall the unit price paid for the number of units performed or provided, when their quantity has been decreased by more than 25% of the original quantity, be less than their original unit price; and in no instance shall the aggregate payment for such a decreased quantity of items be more than the Engineer would have paid for the performance or provision of 75% of the original quantity at the original unit price.

Regarding treatment of eliminated Contract items, refer to 1.20-1.09.05 herein.

1.20-1.04.03—Facilities Construction - Changes in Quantities and Significant Changes in the Character of Work:

- (i) The Engineer reserves the right to make, in writing, at any time during the work, such changes in quantities and such alterations in the work as are necessary to satisfactorily complete the project. Such changes in quantities and alterations shall not invalidate the contract nor release the surety, and the Contractor agrees to perform the work as altered.
- (ii) If the alterations or changes in quantities significantly change the character of the work under the Contract, whether such alterations or changes are in themselves significant changes to the character of the work or by affecting other work cause such other work to become significantly different in character, an adjustment, excluding loss of anticipated profits, will be made to the Contract. The basis for the adjustment shall be agreed upon prior to the performance of the work. If a basis cannot be agreed upon, then an adjustment will be made either for or against the Contractor in such amount as the Engineer may determine to be fair and equitable.
- (iii) If the alterations or changes in quantities do not significantly change the character of the work to be performed under the Contract, the altered work will be paid for as provided elsewhere in the Contract.
- (iv) The term "significant change" shall be construed to apply only to the following circumstances:
 - (A) When the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction or
 - (B) When a Major Item of work, as defined elsewhere in the Contract, is increased in excess of 125% or decreased below 75% of the original Contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of 125% of original Contract item quantity, or in case of a decrease below 75%, to the actual amount of work performed

1.20-1.04.04—Facilities Construction - Differing Site Conditions:

- (i) During the progress of the work, if subsurface or latent physical conditions are encountered at the Site differing materially from those indicated in the Contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the Contract, are encountered at the Site, the party discovering such conditions shall promptly notify the other party in writing of the specific differing conditions

- before the Site is disturbed and before the affected work is performed.
- (ii) Upon written notification, the Engineer will investigate the conditions, and if it is determined that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the Contract, an adjustment, excluding loss of anticipated profits, will be made and the Contract modified in writing accordingly. The Engineer will notify the Contractor of his/her determination whether or not an adjustment of the Contract is warranted.
 - (iii) No Contract adjustment which results in a benefit to the Contractor will be allowed unless the Contractor has provided the required written notice.
 - (iv) No Contract adjustment will be allowed under this clause for any effects caused on unchanged work.

1.20.1.04.05—Facilities Construction - Extra Work: Unforeseen work made necessary by the Engineer's changes of the Contract plans or specifications, or work that is necessary for completion of the Project, but for which no price is provided in the Contract, shall be done in accordance with the requirements of the specifications and as directed by the Engineer. The Engineer shall notify the Contractor of the necessity for such extra work, stipulating its character and extent, and shall notify the Contractor as to whether the Engineer wants the Contractor to propose a unit price or, lump sum price, or to perform the extra work on a cost-plus basis in accordance with 1.20-1.09.04. The Engineer need not solicit any price for the extra work from the Contractor, but may, in any event, simply order the Contractor to perform the extra work on a cost-plus basis. If the Engineer does solicit from the Contractor a unit or lump sum price for the extra work, the Contractor must propose such a price in writing within 5 days of the Engineer's request for one.

The Contractor's price proposal shall be itemized and reasonably detailed, and shall include all known or anticipated direct and indirect costs of the work, including but not limited to, the costs of all safety and other equipment, small tools, labor, subcontractor quotes, consumables, field office overhead, home office overhead, insurance, bonding, and profit.

The character and extent of the extra work, together with the basis of compensation, shall be communicated to the Contractor by means of a construction order which, when signed by the Engineer, shall become a part of the Contract. If a Contractor objects to any portion of a construction order submitted to it, the Contractor must, within 15 days of its receipt of said order, return the order with a letter to the Department's Assistant District Engineer administering the Contract, describing specifically what portions of the order the Contractor finds objectionable, the nature of its objections, and the bases for its objections. If the Contractor does not do so, it shall be deemed to have accepted the terms of the construction order.

If the Engineer changes the scope of Contract work, the Contractor shall submit a proposed revised schedule and a cost revision proposal, which takes all such changes into account, if the Contractor believes that such revisions are warranted. If the schedule is to be revised, it will be revised in accordance with 1.20-1.08.08.

1.20-1.04.06—Facilities Construction - Removal and Disposal of Structures on the Work Site: All structures on the Project site which are not to remain on the Project site after completion of the Project shall be removed from said site and disposed of by the Contractor once it is no longer needed for the Project, and any such structure shall then become the property of the Contractor, except as otherwise required or provided by 1.20-1.10.07.

1.20-1.04.07—Facilities Construction - Rights in and Use of Materials Found on the Work Site: Upon written request of the Contractor and with the written approval of the Engineer, subject to limitations which may be set forth within such approval, any stone, gravel, sand, topsoil or any material from existing bridge substructures, buildings, or other structures, found within the limits of the Project may be excavated or removed and used by the Contractor on the Project, provided that said materials meet the requirements of the specification for such materials. Any materials excavated or removed shall not be taken off the Project site unless the Engineer in writing specifically authorizes such action. The following conditions shall govern these matters:

1. Excavation or removal of materials that would necessarily be excavated or removed in making the improvement will be paid for at the applicable Contract unit prices; and, in addition, the item for which this material is used will also be paid for at its Contract unit price. The Contractor will not be charged for such materials. The Contractor shall, without compensation, place in the embankment or elsewhere, as appropriate, sufficient suitable material to fill the space that the excavated materials would have occupied, unless otherwise directed by the Engineer.
2. The excavation or removal of materials that are not required to be excavated or removed in connection with the Contract work will not be paid for; and the Contractor will be charged for such

materials at a negotiated unit price. The item for which this material is used will be paid for at its Contract unit price. The Contractor shall, without compensation, backfill with accepted material the space that the excavated materials had occupied, to the satisfaction of the Engineer, unless otherwise directed by the Engineer.

Surplus material shall be removed from the Project only with the Engineer's written permission. The Engineer may determine that such material is not surplus, and may order that it be incorporated into the Project.

**SECTION 1.20-1.05
CONTROL OF THE WORK FOR
FACILITIES CONSTRUCTION**

Replace Articles 1.20-1.05.02 and 1.20-1.05.13 with the following:

1.20-1.05.02—Facilities Construction - Contractor Submittals:

1. General: Vacant

2. Submittal Preparation and Processing: Vacant

3. Transmittal of Submittals: Vacant

4. Submittal Schedule: At the Pre-Construction Meeting, the Contractor shall submit the initial submittal schedule. The initial submittal schedule will include all submittals required during the first 60 calendar days of construction, all submittals required to maintain orderly progress of the Work, and all submittal required early because of long lead time for manufacture or fabrication.

Following the Engineer's response to the initial submittal, the Contractor shall provide copies of the schedule to the Engineer, Designer, the Contractor's subcontractors, and other parties required to comply with submittal dates indicated.

The Contractor shall submit the complete submittal schedule within 60 calendar days of the Notice to Proceed.

The Contractor shall update its submittal schedule once a month and distribute and post each updated schedule in the manner described above.

The submittal schedule shall be organized in numerical order by special provision number and by CSI-formatted specification section number. The Contractor shall include (1) time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates; and (2) additional time required for making corrections or revisions to submittals noted by Designer or Engineer and additional time for handling and reviewing submittals required by those corrections. The Contractor shall coordinate submittal schedule with its subcontracts, the schedule of values, and their construction schedule.

5. Working Drawings (Delegated Design Submittals): When required by the Contract, or when ordered to do so by the Engineer, the Contractor shall prepare and submit working drawings, signed, sealed and dated by a qualified Professional Engineer licensed to practice in the State of Connecticut, for review.

There will be no direct payment for furnishing any working drawings, procedures or supporting calculations, but the cost thereof shall be considered as included in the general cost of the work.

- a. Working Drawings for Permanent Construction: The Contractor shall submit drawings to the Designer on 22 inch x 34 inch sheets with a border and title block similar to the Department standard. Each drawing shall be a separate PDF file. Drawings shall be searchable. The first drawing shall include the Contractor's designer's Professional Engineer's digital signature, meeting the requirements of Adobe's Certified Document Services (CDS), and all other drawings shall include a watermark of the Professional Engineer's stamp in a common area of the border. Calculations, procedures and other supporting data may be submitted in an 8-1/2 inch x 11 inch format and shall be in a single PDF file. The first sheet of calculations shall include the Contractor's designer's Professional Engineer's digital signature, meeting the CDS requirements. Documents shall be named "Drawings," "Calculations," or "Supporting Documentation" as applicable.

The Contractor's designer, who prepares the working drawings, 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 \$2,000,000 per error or omission. The Contractor's designer may elect to obtain a policy containing a maximum \$250,000 deductible clause, but if the Contractor's designer should obtain a policy containing such a clause, they shall be liable to the extent of at least the deductible amount. The Contractor's designer shall obtain the appropriate and proper endorsement of its Professional Liability Policy to cover the indemnification clause in this Contract, as the same relates to negligent acts, errors or omissions in the Project work performed by them. The Contractor's designer shall continue this liability insurance coverage for a period of

(i) 3 years from the date of acceptance of the work by the Engineer, as evidenced by a State of Connecticut, Department of Transportation form entitled "Certificate of Acceptance of Work," issued to the Contractor; or

(ii) 3 years after the termination of the Contract, whichever is earlier, subject to the continued commercial availability of such insurance.

The Contractor shall supply to the Assistant District Engineer a certificate of insurance in accordance with 1.20-1.03.07 at the time that the working drawings for the Project are submitted.

- b. Working Drawings for Temporary Construction: The Contractor shall submit drawings, calculations, procedures and other supporting data in a format acceptable to the Assistant District Engineer.
- c. Working Drawings for Permanent Construction: Drawings shall be submitted to the Designer on 22 inch x 34 inch sheets with a border and title block similar to the Department standard. Each drawing shall be a separate PDF file. Drawings shall be searchable. The first drawing shall include the Contractor's designer's Professional Engineer's digital signature, meeting the requirements of Adobe's Certified Document Services (CDS), and all other drawings shall include a watermark of the Professional Engineer's stamp in a common area of the border. Calculations, procedures and other supporting data may be submitted in an 8-1/2 inch x 11 inch format and shall be in a single PDF file. The first sheet of calculations shall include the Contractor's designer's Professional Engineer's digital signature, meeting the CDS requirements. Documents shall be named "Drawings," "Calculations," or "Supporting Documentation" as applicable.

6. Shop Drawings: When required by the Contract, or when ordered to do so by the Engineer, the Contractor shall prepare and submit shop drawings for review. Drawings shall be submitted on 22 inch x 34 inch sheets with an appropriate border and with a title block in the lower right-hand corner of each sheet. Each drawing shall be a separate PDF file. Drawings shall be searchable.

Shop Drawings consist of fabrication and installation drawings, roughing-in and setting drawings, schedules, patterns, templates and similar drawings, and wiring diagrams showing field-installed wiring, including power, signal, and control wiring. Standard information prepared without specific reference to the Project shall not be considered to be a Shop Drawing. Shop Drawings shall be project specific.

Shop drawings shall include the following information: Contract number, Project description, number and title of the drawing, date of drawing, revision number, name of Contractor and subcontractor submitting drawings, dimensions, identification of products, shop work manufacturing instructions, design calculations, statement of compliance with Contractual standards, notation of dimensions established by field measurement, notation of coordination requirements, relationship to adjoining construction clearly indicated, seal and signature of a professional engineer if specified, and any other information required by individual Contract provisions.

There will be no direct payment for furnishing any shop drawings, procedures or supporting calculations, but the cost thereof shall be considered as included in the general cost of the work.

7. Coordination Drawings: When required by the Contract, or when ordered to do so by the Engineer, the Contractor shall prepare and submit coordination drawings for review. Each drawing shall be a separate PDF file. Drawings shall be searchable.

The Contractor shall prepare coordination drawings according to requirements in other Contract provisions, and additionally where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.

Coordination Drawings shall include Project-specific information drawn accurately to a scale large enough to indicate and resolve conflicts. Coordination Drawings shall not be based on standard printed data. Coordination Drawings shall include the following information, as applicable: (1) use applicable plans as a basis for preparation of Coordination Drawings and prepare sections, elevations, and details as needed to describe relationship of various systems and components; (2) coordinate the addition of trade-specific information to the coordination drawings by multiple contractors in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review; (3) indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems; (4) indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation; (5) show location and size of access doors required for access to concealed dampers, valves, and other controls; (6) indicate required installation sequences; (7) indicate dimensions shown on the plans, specifically noting dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements, and (8) provide alternate sketches to the Designer indicating proposed resolution of such conflicts.

There will be no direct payment for furnishing any coordination drawings, but the cost thereof shall be considered as included in the general cost of the work.

8. Product Data: When required by the Contract, or when ordered to do so by the Engineer, the Contractor shall prepare and submit product data for review in a PDF file.

The Contractor shall provide all product data in a single submittal for each element of construction or system and shall mark each submittal with the Contract item number.

The Contractor shall mark each copy of a product data submittal to show applicable choices and options. Where product data includes information on several products that are not required, copies shall be marked to indicate the applicable information. Product data shall include the following information and confirmations to the extent applicable: manufacturer’s printed recommendations, compliance with recognized trade association standards, compliance with recognized testing agency standards, application of testing agency labels and seals, notation of coordination requirements, and any other information required by the individual Contract provisions.

There will be no direct payment for furnishing any product data, but the cost thereof shall be considered as included in the general cost of the work.

9. Product Samples: When required by the Contract, or when ordered to do so by the Engineer, the Contractor shall prepare and submit product samples for review.

Product Samples are samples submitted for review and action by the Designer, which are: (1) physically identical to the proposed product or material cured and finished as required by the Contract; or (2) submitted for review of kind, color, pattern, thickness, and texture. Samples shall be used for a final check of these characteristics with other elements, and for a comparison of the characteristics of the approved sample with those of the actual component as delivered and installed.

The following information shall be submitted with product samples to the extent applicable: Contract number; Project description; generic description of the sample (name or trade reference, type or quality or grade, and any further designation necessary to identify the items or materials); sample source; product name; manufacturer’s name; confirmation of availability; and anticipated delivery time.

In conjunction with the submission of physical product samples, a digital photograph of the sample shall be uploaded into ProjectWise.

The Designer will retain one set of the samples, transmit one set of same to the Engineer, and transmit any remaining sets of samples to the Contractor. The Engineer will retain the samples at the Project site for quality comparisons throughout the duration of the Project.

There will be no direct payment for furnishing any product samples, but the cost thereof shall be considered as included in the general cost of the work.

10. Quality Assurance Submittals: When required by the Contract, or when ordered to do so by the Engineer, the Contractor shall prepare and submit quality assurance submittals for review in a PDF file. Quality assurance submittals consist of qualification data, design data, certifications, manufacturer's instructions, manufacturer's field reports, test reports, Material Safety Data Sheets (MSDSs), and other quality assurance information required by individual Contract provisions.

Where Contract provisions require certification that a product, material, or installation complies with specified requirements, the Contractor shall submit a notarized certification from the manufacturer certifying said compliance. An officer of the manufacturer or other individual authorized to sign documents on behalf of the company shall sign the certification.

Where Contract provisions require the Contractor shall provide a certification letter on the manufacturer’s letterhead to certify that asbestos is not contained in the materials.

The manufacturer certification letter shall be formatted in the following manner:

[Addressed to:]	Commissioner of Transportation Department of Transportation P.O. Box 317546 Newington, Connecticut 06131-7546
Project Title and Number	
[We] hereby certify that all materials manufactured by [Insert Manufacturer Name] are asbestos-free.	
[Signature:]	[Name of authorized signatory] [Title]

Submittals associated with these materials will not be reviewed without the required manufacturer certification letter.

There will be no direct payment for furnishing any quality assurance submittals, but the cost thereof shall be considered as included in the general cost of the work.

11. Submittal Reviewer's Action: The Designer or Engineer will review each submittal, mark each with a uniform, self-explanatory action stamp, and return the stamped submittal promptly to the Contractor. The stamp will be marked as follows to indicate the action taken:

(a) If submittals are marked "No Exceptions Noted," the Designer or Engineer has not observed any statement or feature that appears to deviate from the Contract requirements. This disposition is contingent on being able to execute the manufacturer's written warranty in compliance with the Contract provisions.

(b) If submittals are marked "Exceptions as Noted," the considerations or changes noted by the Designer or Engineer are necessary in order for the submittal to comply with Contract requirements. This disposition is contingent on being able to execute the manufacturer's written warranty in compliance with the Contract provisions.

(c) If submittals are marked "Revise and Resubmit," the Contractor shall revise and resubmit the submittal to address the deficiencies or provide additional information requested by the Designer or Engineer

(d) If submittals are marked "Rejected," the Contractor shall prepare and submit a new submittal in accordance with the Designer's notations.

(e) If submittals are primarily for information or record purposes, the Designer will return the submittal marked "No Action Required." This disposition is contingent on being able to execute the manufacturer's written warranty in compliance with the Contract provisions.

Upon completion of the review, the submittal reviewer will notify the Contractor by e-mail that the submittal dispositions are available in ProjectWise.

The Contractor shall not proceed with the part of the Project covered by the submittal until the submittal is marked "No Exceptions Noted" or "Exceptions as Noted" by the Designer or the Engineer. The Contractor shall retain sole responsibility for compliance with all Contract requirements.

The Contractor shall print 2 color copies through ProjectWise of each submittal marked "No Exceptions Noted" or "Exceptions as Noted" to the Assistant District Engineer for use by the Engineer within 7 calendar days of the Contractor's receipt of the submittal reviewer's e-mail. The Contractor shall not perform physical work related to the submittal until the 2 copies are provided to the Assistant District Engineer.

The Contractor shall mark up one set of shop drawings and one set of working drawings and retain them as a "Record Document."

Maintenance manuals and warranties will not be returned unless they are Rejected.

1.20-1.05.13—Facilities Construction - Examining and Copying Contractor's Records: The Contractor shall permit the Department and its duly-authorized representatives to examine and copy all documents and other records of the Contractor that are relevant to charges for extra work, alleged breaches of Contract, or any formal or informal claim for additional compensation or for damages in connection with the Project.

With the exception noted below, the Contractor shall also permit the Department to examine and copy such of its documents and other records pertaining to the Project as the Department may deem necessary in order to determine whether or not the Contractor has complied with all laws, regulations and other governmental mandates, e.g., those relating to labor compliance, affirmative action programs, and equal employment opportunity. Documents and other records relating to the Project, if they were created prior to the opening of bids for the Contract, and if they are sought by the Department only for the purpose of confirming such compliance with legal requirements, shall, however, not be subject to examination by the Department pursuant to this Article without the consent of the Contractor.

The Contractor further agrees that it shall keep all documents and other records relating to the Project at least until the expiration of 3 years after the date of acceptance of the Project by the Department, as designated in a "Certificate of Acceptance of Work and Acceptance of Project" issued by the Department. If any claims are brought by the Department or the Contractor prior to that expiration, however, the Contractor shall keep all such records until the Department has given the Contractor a full and final release from all pending and potential claims regarding the Project. If the Contractor does not so keep any such records, it may not assert any formal or informal claim for compensation or damages that could have been substantiated or disproven with such records.

The Contractor shall ensure that the requirements of this provision are made applicable to its subcontractors and suppliers, for the State's benefit, by including the operative language of this Article in its Project subcontracts and purchase agreements.

**SECTION 1.20-1.08
PROSECUTION AND PROGRESS FOR
FACILITIES CONSTRUCTION**

Replace Article 1.20-1.08.08 with the following:

1.20-1.08.08—Facilities Construction - Extension of Time: 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 limited to, natural catastrophes, acts of the State in either its sovereign or contractual capacity, acts of another contractor in the performance of a contract with the State, 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. Requests 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. This shall include a Critical Path Method Schedule Analysis and accompanying narrative that includes the specific dates and number of days for which the extension is sought, the basis or bases for the extension, and the schedule analysis illustrated in a graphic representation of the schedule impacts such as a bar chart or other type of graphical schedule. The critical path is a sequence of activities in a project wherein none of the activities can be delayed without affecting the final project end date.

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 solely 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 the 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 Contract time shall be deemed "Non-Compensable Delays." For delays caused by the State 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 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) and it may not include periods of delay for which the State was responsible, but during which the Contractor experienced concurrent delays for which the State was not responsible.

Damages for periods of Project delay for which the State 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.

The Critical Path Method Schedule Analysis shall include at a minimum:

1. The manner in which the Contractor planned to construct the Project, in terms of activities, logical interrelationships of activities, work sequences, activity durations, and calendars.
2. The actual duration and sequences of the activities, based on what actually occurred on the Project.
3. The variances between the planned and actual performance of the work, listed in a chronological and cumulative manner, summing to the net total delay on the Project at the time of the request.
 - a. The causes of the variances between the planned and actual performance of the work, specifically allocating legal responsibility for each to either the Department or the Contractor.
 - b. The effects of the variances in work sequences, activity durations, manpower, and resources on the incurred costs of the affected party or parties.
4. An identification analysis of the causes of any concurrent delays on the Project.
5. Statements as to whether the time extension days sought are compensable or non-compensable,

- along with a specific statement of any compensation requested in connection with the time extension. Any request for a time extension that does not include a corresponding request for compensation will be assumed to be a request for a non-compensable time extension.
6. All associated analysis documents, worksheets, schedules and contemporaneous documents supporting the Critical Path Method Schedule Delay Analysis.

**SECTION 1.20-1.09
MEASUREMENT AND PAYMENT FOR
FACILITIES CONSTRUCTION**

In the list of Articles, add 1.20-1.09.00 as follows:

1.20-1.09.00—Facilities Construction - Unit Price Items, Lump Sum Items, Major Lump Sum Items

Add Article 1.20-1.09.00 as follows:

1.20-1.09.00—Facilities Construction - Unit Price Items, Lump Sum Items, Major Lump Sum Items: Facilities Construction projects are bid with both lump sum and unit price items which are in addition to the Major Lump Sum Item (MLSI) of the Project. These separate items will be measured for payment on a unit price or lump sum basis (whichever is applicable) for which a separate bid price is required, at the quantities indicated in the Bid Proposal Form. Each item to be measured is more specifically described in a corresponding Standard Specification or a special provision.

Standard Items are referenced by their item numbers; refer to the applicable article for the requirements for this item. Special provisions are referenced by their item number followed by an "A" suffix; refer to the special provisions for requirements for this item.

All work depicted on the Contract Plans and described in the Contract Specifications, including mobilization and project closeout, is included in the MLSI of the Project, with the exception of the unit price or other lump sum items listed in the Bid Proposal Form. Any work incidental to an item which is not specifically described or included in the item, but which is required for performance and completion of the work required under the Contract, is included in the MLSI.

Replace Articles 1.20-1.09.04 and 1.20-1.09.05 with the following:

1.20-1.09.04—Facilities Construction - Extra and Cost-Plus Work: Extra work shall be performed only under the conditions and subject to the requirements outlined in 1.20-1.04.05. Payment for extra work may be made on any unit price or lump sum price or other basis to which the Engineer and the Contractor agreed in writing, or the Engineer may order that the Contractor will be paid for the work on the cost-plus basis described in this Article.

The following sets forth the components of the cost-plus basis for making payments:

(a) Labor:

- (1) For all labor used by the Contractor for the subject work, the Department will pay the Contractor the wage rate that it actually paid for same, as shown by its certified payroll, which shall be at least the minimum rate established for the Project by the CT Department or the U.S. Department of Labor. For all foremen in direct charge of Project work, the Department will pay the Contractor the actual wage paid to the foremen as shown on the Contractor's certified payroll.
- (2) The Department will reimburse the Contractor for the actual costs paid to, or on behalf of, workers by reason of allowances, health and welfare benefits, pension fund benefits and other such benefits in connection with the subject work, when such amounts are required by a collective bargaining agreement or another employment contract generally applicable to the classes of labor employed on the Project. The Contractor shall certify all such costs in writing to the Engineer.
- (3) For property damage, liability and workmen's compensation insurance premiums, unemployment insurance contributions and social security taxes on Project cost-plus work, the Department will reimburse the Contractor for its actual Project costs. The Contractor shall provide to the Engineer documentation, satisfactory to the Engineer in form and substance, of all such costs.
- (4) The Department will also pay to the Contractor an amount equal to 20% (15% for overhead, 5% for profit) of the total sums described in (a) (1) through (3) above.

No part of the salary or expenses of anyone connected with the Contractor's forces above the grade of project superintendent, who provides general supervision of Project work, will be included in the above payment calculations, except when the Contractor's organization is entirely occupied with cost-plus work, in which case the salary of a superintendent may be included in said labor item when the nature of the pertinent Project work is such that, in the opinion of the Engineer, a superintendent was required for that work. The Engineer and the Contractor may agree in writing to the allowable rate of pay for such superintendent, or the Engineer may make payment based on such rate as he deems reasonable.

The Engineer reserves the right to determine the number and type of personnel to be employed for the cost-plus Project work.

(b) Specialized Work: When the Engineer directs the Contractor to perform specialized work requiring skills, tools and equipment substantially unlike those ordinarily used by the Contractor or its authorized Project subcontractors, the Department will pay the Contractor for the use of a specialist to perform the specialized work. For such specialized services, including materials incorporated into the Project, the Department will pay the Contractor its actual costs, plus additional compensation in accordance with subparagraph (e) below. If so requested by the Engineer, the Contractor shall obtain and submit to the Engineer, prior to performing such specialized work, a minimum of three price quotes for the work.

(c) Materials: For all materials necessary for cost-plus Project work, the Department will pay the Contractor its actual cost for such materials, including delivery charges as shown by original receipted bills, plus 15 % of the sum of said cost and charges.

In lieu of receipted bills for materials used for the Project, but which were not specifically purchased for the Project, but rather were taken from the Contractor's stock, the Contractor shall provide to the Engineer an affidavit certifying that such materials were not purchased for the Project, that the materials were taken from the Contractor's stock, that the quantity claimed to have been used on the Project was actually so used, and that the price claimed for the materials reflects their fair market value at the time of their use on the Project. The Department will pay for costs of transporting the materials to the Project site, in accordance with subparagraphs (a) and (d) hereof.

The Department will not reimburse the Contractor for any penalty or charge incurred by the Contractor due to the Contractor's late or delayed payment for the pertinent materials.

(d) Equipment: All equipment used for cost-plus Project work must, in the judgment of the Engineer, be in good working condition and suitable for its Project purpose; and the Engineer reserves the right to determine the size and number of units of equipment to be used for such work. The manufacturer's ratings shall be the basis for all Rental Rate Blue Book classifications used for payment purposes. ("Rental Rate Blue Book" as used in these specifications refers to the current edition of the Rental Rate Equipment Watch Blue Book Services, taking into account all current Rate Adjustment Tables, and amendments thereof.) Trucks will be classified by cubic-yard capacity.

No percentage mark-up will be added for payment purposes to amounts charged by the Contractor based on equipment rental rates.

The Department will not pay rental rates for small tools needed to complete the cost-plus Project work.

For payment purposes, estimated operating costs per hour from the Rental Rate Blue Book will apply only to the actual time during which the equipment is actively being used to perform cost-plus Project work.

For equipment that is also being used for non-cost-plus Project work, the Department will pay the applicable hourly rate only for the actual time that the equipment was assigned to cost-plus Project work. The applicable period of assignment for each piece of equipment shall start when the equipment commences to be used for cost-plus Project work ordered by the Engineer, and shall end at the time designated by the Engineer.

For equipment brought to the Site exclusively for cost-plus work, the Department will reimburse the Contractor for loading and unloading costs and costs of transporting such equipment to and from the Project site; provided, however, that payment for return transportation from the Site shall not exceed the cost of moving the equipment to the Site. If such a piece of equipment is self-propelled, and is driven to the Site under its own power, then the Department will pay only operating costs and labor costs for its transport to and from the Project site. The Department will not, however, pay for any loading, unloading and transportation costs if the equipment is used for any Project work on the Site other than cost-plus work.

(1) Owned Equipment: The Department will pay the Contractor the applicable rental rate set forth in the Rental Rate Blue Book for any equipment (1) which the Contractor uses, with the Engineer's authorization, to perform cost-plus Project work, and (2) which is owned by the Contractor or a subsidiary, affiliate, or parent company of the Contractor (no matter how far up or down the chain of ownership from the Contractor).

The maximum hourly rate to be used in paying for Contractor-owned equipment assigned to cost-plus work shall be the applicable monthly rate in the Rental Rate Blue Book, divided by 176 (176 working hours per month).

Should the proper completion of the cost-plus Project work require equipment of a type not covered by the Rental Rate Blue Book, the Engineer will determine, and the Department will make payment to the Contractor at, a reasonable rental rate based on relevant rates prevailing in the area of the Project. If practicable, such rates shall be determined by the Engineer before the affected work is begun. If the Contractor proposes that the Engineer use a particular rate in such an instance, the Contractor must disclose to the Engineer the specific sources of, or support for, said rate.

If a piece of equipment owned by the Contractor is assigned to cost-plus Project work, but remains idle for some portion of the period of the cost-plus work, the Department will pay for that idle time at 50% of the applicable rental rate (exclusive of operating costs) in the Rental Rate Blue Book.

For payment purposes, the period of equipment usage shall be deemed to start when the Contractor begins to use the equipment for cost-plus Project work and shall be deemed to end when the equipment is released by the Engineer from use for such work. Any hours during which the equipment is used for work other than cost-plus Project work will be deducted from the pertinent payment period.

For any piece of Contractor-owned equipment assigned to cost-plus Project work, the Department will reimburse the Contractor for an aggregate minimum of 8 hours (of use time, idle time, or a combination thereof) in each 24-hour day (measured from one midnight to the following midnight) during the assignment period. No such reimbursement will be made, however, for Saturdays, Sundays and legal holidays during which the Contractor does no Project work, or for any other day on which the Engineer orders the Contractor to do no Project work. If the equipment is used to perform cost-plus Project work for more than 8 hours in a day, the Department will pay the Contractor at the applicable hourly rate computed on a monthly basis for the actual time of use; however the Department will not pay the Contractor for more than 8 hours of idle time for a piece of equipment during a given day.

The Department shall have the right to limit its aggregate Project payments for idle time for a given piece of equipment to the replacement value of that equipment.

- (2) **Rented Equipment:** If the Engineer determines that in order to perform the cost-plus Project work the Contractor must rent certain machinery, trucks or other equipment not owned by the Contractor or a subsidiary, affiliate, or parent company of the Contractor (no matter how far up or down the chain of ownership from the Contractor), the Contractor shall provide to the Engineer in writing, in advance of such rental,
1. the specific nature of the rental(s),
 2. the reasons for its need for such rental(s),
 3. the anticipated or proposed rental rate(s), and
 4. the estimated duration for the use of each piece of such rented equipment.

Proposed rates for such rented equipment must be based on the following:

- A daily rate per hour when the equipment is to be specifically assigned to Project work by the Engineer for a period of 7 consecutive calendar days or less.
- A weekly rate per hour when such assigned time exceeds 7 consecutive calendar days, but does not exceed 21 consecutive calendar days.
- A monthly rate per hour when such assigned time exceeds 21 consecutive calendar days.

The applicable daily, weekly, or monthly rate will be determined at the expiration of 21 calendar days or upon release of the equipment by the Engineer, whichever occurs first. Interruptions of the rental period, when equipment is used for work other than assigned cost-plus work, will not entitle the Contractor to payment at a rental rate that would be applicable to a shorter period that might arguably have been occasioned by such interruptions.

If so requested by the Engineer, the Contractor shall, prior to renting such equipment, obtain and submit to the Engineer in writing a minimum of three rate quotes for rental of the equipment.

The Department will pay the Contractor for such rental at the rate actually paid by the Contractor, provided that the given use and rental rate are acceptable to the Engineer. In order to obtain such payment, the Contractor must provide the Engineer with a copy of the original receipted bill for the rental expenses incurred.

- (e) **Administrative Expense:** When extra work is performed on a cost-plus basis by a subcontractor acceptable to the Engineer, the Department will pay the Contractor an additional 7.5% for that work; such

payment will be in addition to the percentage payments described in (a), (b), (c) and (d) above, as a reimbursement for the Contractor's administrative expense in connection with such work. The Engineer will approve such additional payments only if and when the Contractor provides to the Engineer receipted invoices for all relevant costs.

(f) Miscellaneous: The compensation provided for in (a), (b), (c), (d) and (e) above shall be deemed to be payment in full for the extra work, and shall be deemed as full compensation for same, including costs of superintendence, use of small tools, equipment for which no rental is allowed, safety equipment, consumables, field office overhead, home office overhead, bonding, other insurance, and profit. The Contractor's representative and the Engineer shall compare their respective records related to the extra work done on a cost-plus basis at the end of each day. Copies of these records shall be signed by both the Engineer and the Contractor's representative. The Engineer will then forward a copy of same to the Contractor and to any affected subcontractor in accordance with Department procedures. Upon payment of such costs by the Contractor, the Contractor shall immediately furnish the Engineer with original receipted bills covering the costs, including transportation charges, for all materials used for such work.

1.20-1.09.05—Facilities Construction - Eliminated Items: The Engineer may eliminate from the Contract any pay unit item, or any portion of Project work contained in a lump sum item by giving written notice of said elimination to the Contractor. Such elimination shall in no way invalidate the Contract.

The Engineer will make final payment to the Contractor for materials at the actual cost of the materials for eliminated pay unit items or portions of work contained in a lump sum item only under the following terms and conditions:

1. the materials were ordered by the Contractor prior to the Engineer's issuance to the Contractor of a written notice of the unit or work's elimination (as evidenced by a dated invoice from the vendor);
2. the materials conformed to all Contract requirements; and
3. the Contractor could not have cancelled its order within 2 days after the issuance of the elimination notice.

Any materials paid for by the Department on these conditions shall then be property of the State, and the State will assume, or will reimburse the Contractor for, the actual cost of any further handling necessary to deliver said materials to a location designated by the Engineer.

If the relevant materials purchased by the Contractor are returnable to their vendor and if the Engineer so directs, the Contractor shall return the materials to the vendor, in which case the Department will reimburse the Contractor for any reasonable changes made to the Contractor by the vendor for the return of the materials, and for the actual costs to the Contractor of its handling the materials in returning them to the vendor. Such reimbursements by the Department shall be computed as though the work were being paid for on a cost-plus basis under 1.20-1.09.04.

If the Engineer determines that an elimination of a pay unit item or portion of work contained in a lump sum item constitutes a "significant change" in the character of the Contract work, as defined under 1.20-1.04.03, necessitated by a written order of the Engineer, the terms of 1.20-1.04.03 shall govern the payment to be made in relation to the eliminated item or work.

SECTION 1.20-1.11 CLAIMS FOR FACILITIES CONSTRUCTION

Replace Section 1.20-1.11 in its entirety with the following:

SECTION 1.20-1.11 CLAIMS FOR FACILITIES CONSTRUCTION

1.20-1.11.01—Facilities Construction - General

1.20-1.11.02—Facilities Construction - Notice of Claim

1.20-1.11.03—Facilities Construction - Record Keeping

1.20-1.11.04—Facilities Construction - Claim Compensation

1.20-1.11.05—Facilities Construction - Required Claim Documentation

1.20-1.11.06—Facilities Construction - Auditing of Claims

1.20-1.11.01—Facilities Construction - General: When the Contractor files against the Department or the State a formal claim (a "formal" claim being one that seeks resolution through binding arbitration or

court litigation, rather than through negotiation or mediation) under CGS Section 4-61 as revised (“Section 4-61”), whether as a Section 4-61 notice of claim, demand for arbitration or as a complaint in the Superior Court, the Contractor must follow the procedures and comply with the requirements set forth in this Section of the Specifications, as well as those set forth in Section 4-61. If this Section sets forth additional, more specific, or demanding requirements than does Section 4-61 in any respect, this Section shall govern the matter. While the requirements of this Section may not strictly apply to informal claims (“informal” claims being those which the Contractor seeks to resolve through negotiations with the Department, in or outside of a mediation) for additional compensation or other relief from the Department, the Contractor should understand that the Department may need and may demand (in which case the Contractor must provide), the same kinds of documentation and other substantiation that are required under this Section for formal claims. In addition, any time extension request submitted as part of a claim, must satisfy the requirements of this specification and those of 1.08.08. It is the intent of the Department to compensate the Contractor for actual increased costs caused by or arising from acts or omissions on the part of the Department that violate legal or contractual duties owed to the Contractor by the Department.

1.20-1.11.02—Facilities Construction - Notice of Claim: Whenever the Contractor intends to file a demand for arbitration or a court complaint against the Department under Section 4-61, the Contractor must first notify the Commissioner of the details of said claim, in writing via certified mail (in strict compliance with Section 4-61), and such written notice must contain all pertinent information described in 1.20-1.11.05 below.

Once a formal notice of a claim under Section 4-61 has been given to the Commissioner, the claimant may not change the claim in any way, in either concept or monetary amount, except insofar as the claim seeks damages that will continue to accrue after submission of the notice, in ways described and anticipated in that notice.

1.20-1.11.03—Facilities Construction - Record Keeping: The Contractor shall keep daily records identifying:

- (1) Each aspect of the Project affected by matters related to any claim for additional compensation or relief that the Contractor has filed, intends to file, or has reason to believe that it may file against the Department
- (2) The specific Project locations where Project work has been so affected
- (3) The number of people working on the affected aspects of the Project at the pertinent time(s)
- (4) The types and number of pieces of equipment on the Project site at the pertinent time(s)

All events or conditions that have a potential or anticipated effect on the Project’s progress or schedule and that may result in a claim by the Contractor shall be documented contemporaneously with the event or discovery of the pertinent condition(s), or immediately thereafter. If this is not done, the Contractor may not file the related claim and may not be awarded relief upon it. Without such information, the Department and the Office of the Attorney General may not be able to adequately determine what claims have merit or to what extent they have merit, or what amounts of compensation may be warranted and supportable. Moreover, State officials involved in the analytic or negotiation process may not be able to properly substantiate and support the recommendations that they must make to their superiors, including the Attorney General, and sometimes the Governor, in the course of a settlement process.

1.20-1.11.04—Facilities Construction - Claim Compensation: If the Contractor proves entitlement for damages, payment shall be made in accordance with the following provisions:

(a) Compensable Items: The liability of the Department for claims will be limited to the following specifically-identified items of cost, insofar as they have not otherwise been paid for by the Department (for instance, through payment for extra work, which under 1.20-1.04.05 includes overhead and profit), and insofar as they were caused solely by the actions or omissions of the Department or its agents. The Department will pay for direct labor expenses, direct costs for materials, and direct costs for active equipment use, plus an additional ten percent (10%) of the total amount of such direct costs as payment for home office overhead and profit.

Compensable delay-related costs: The Department will pay for any additional field office overhead and idle equipment costs for each day of Project Critical Path delay or suspension caused solely by action or inaction of the Department.

If the Critical Path delay or suspension period is less than 30 calendar days, the Department will pay an additional ten percent (10%) of the additional field office overhead costs as payment for home office overhead and profit. For delays less than 30 calendar days, idle equipment will be paid at 50% of the Rental Rate Blue Book rate.

For delays equal to or longer than 30 calendar days, the Department will pay a per diem rate, calculated as six percent (6%) of the original total Contract amount divided by the original number of days of Contract time, as payment for home office overhead and profit.

In paying for idle equipment equal to or longer than 30 calendar days, the Department will pay for actual equipment costs. Actual equipment costs shall be based upon records kept in the normal course of business and in accordance with generally-accepted accounting principles. Under no circumstances shall Rental Rate Blue Book or other guide or rental rates be used for this purpose (unless the Contractor had to rent the equipment from an unrelated party, in which case the actual rental charges paid by the Contractor, so long as they are reasonable, shall be reimbursed by the Department).

If the final Contract Value is greater than the original Contract Value, any delay-related costs that are compensable under this Article shall be reduced by eight percent (8%) of the difference between the final Contract Value and the original Contract Value.

Such payments for compensable delay-related costs shall be deemed to be complete and mutually-satisfactory compensation for field and home office overhead related to the period of delay or suspension.

Subcontractor costs of any kind, however, may be paid for by the Department only (a) in the context of a negotiated claims settlement or (b) if the Contractor has itself paid or legally-assumed, present unconditional liability for those subcontractor costs.

(b) Non-Compensable Items: The Department will have no liability for the following specifically-identified non-compensable items:

- (1) Profit, in excess of that provided for herein.
- (2) Loss of anticipated profit.
- (3) Loss of bidding opportunities.
- (4) Reduction of bidding capacity.
- (5) Home office overhead in excess of that provided for herein.
- (6) Attorney's fees, claims preparation expenses, or other costs of claims proceedings or resolution.
- (7) Any other consequential or indirect expenses or costs, such as tort damages, or any other form of expense or damages not provided for in these Specifications or elsewhere in the Contract.

1.20-1.11.05—Facilities Construction - Required Claim Documentation: All claims shall be submitted in writing to the Commissioner, and shall be sufficient in detail to enable the Engineer to ascertain the basis and the amount of each claim, and to investigate and evaluate each claim in detail. When submitting any claim over \$50,000, the Contractor shall certify in writing, under oath and in accordance with the formalities required by the Contract, that the following are true:

1. That supporting data is accurate and complete to the Contractor's best knowledge and belief;
2. That the amount of the dispute and the dispute itself accurately reflects what the Contractor in good faith believes to be the Department's liability.

The certification shall be executed by an officer or general partner of the Contractor having overall responsibility for the conduct of the Contractor's affairs.

When submitting a claim to the Commissioner, as a minimum, the Contractor must provide the following information for each and every claim and sub-claim asserted:

- (a) A detailed factual statement of the claim, with all dates, locations and items of work pertinent to the claim.
- (b) A statement of whether each requested additional amount of compensation or extension of time is based on provisions of the Contract or on an alleged breach of the Contract. Each supporting or breached Contract provision and a statement of the reasons why each such provision supports the claim, must be specifically identified or explained.
- (c) Excerpts from manuals or other texts which are standard in the industry, if available, that support the Contractor's claim.
- (d) The details of the circumstances that gave rise to the claim.
- (e) The date(s) on which any and all events resulting in the claim occurred, and the date(s) on which conditions resulting in the claim first became evident to the Contractor.
- (f) Specific identification of any pertinent document, and detailed description of the substance of any material oral communication, relating to the substance of such claim.
- (g) The name, function, and pertinent activity of each Contractor's or subcontractor's official, or employee involved in or knowledgeable about events that give rise to, or facts that relate to, the claim.
- (h) The amount(s) of additional compensation sought and a breakdown of the amount(s) into the categories specified as payable under 1.20-1.11.04 above.

- (i) The name, function, and pertinent activity of each Department official, employee or agent involved in or knowledgeable about events that give rise to, or facts that relate to, the claim.

1.20-1.11.06—Facilities Construction - Auditing of Claims: All claims filed against the Department shall be subject to audit by the Department or its agents at any time following the filing of notice of such claim. The Contractor and its subcontractors and suppliers shall cooperate fully with the inquiries and document requests of the Department's auditors. Failure of the Contractor, its subcontractors, or its suppliers to maintain and retain records that are sufficient to enable the Department or its agents to fully evaluate the claim shall constitute a waiver of any portion of such claim that cannot be verified by specific, adequate, contemporaneous records, and shall bar recovery on any formal claim or any portion of such a claim for which such verification is not produced. Without limiting the foregoing requirements, and as a minimum, the Contractor shall make available to the Department and its agents the following documents in connection with any claim that the Contractor submits:

- (1) Daily time sheets and project superintendent's daily reports.
- (2) Union agreements, if any.
- (3) Insurance, welfare, and benefits records.
- (4) Payroll register.
- (5) Earnings records.
- (6) Payroll tax returns.
- (7) Records of property tax payments.
- (8) Material invoices, purchase orders, and all material and supply acquisition contracts.
- (9) Materials cost distribution worksheets.
- (10) Equipment records (list of company equipment, rates, cost pools, etc.).
- (11) Vendor rental agreements
- (12) Subcontractor and vendor subcontracts, purchase orders, and/or agreements including all change orders and modifications.
- (13) Subcontractor and vendor invoices to the Contractor, and the Contractor's certificates of payments to subcontractors and vendors.
- (14) Subcontractor payment certificates.
- (15) Canceled checks (payroll, subcontractors, and vendors).
- (16) Job cost reports.
- (17) Job payroll ledger.
- (18) General ledger, general journal (if used), and all subsidiary ledgers and journals, together with all supporting documentation pertinent to entries made in these ledgers and journals.
- (19) Cash disbursements journals.
- (20) Financial statements for all years reflecting the operations on the Project.
- (21) Income tax returns for all years reflecting the operations on the Project.
- (22) Depreciation records on all company equipment, whether such records are maintained by the company involved, its accountant, or others.
- (23) If a source other than depreciation records is used to develop costs for the Contractor's internal purposes in establishing the actual cost of owning and operating equipment, all such other source documents.
- (24) All documents which reflect the Contractor's actual profit and overhead during the years that the Project was being performed, and for each of the five (5) years prior to the commencement of the Project.
- (25) All documents related to the preparation of the Contractor's bid, including the final calculations on which the bid was based.
- (26) All documents which relate to the claim or to any sub-claim, together with all documents that support the amount of damages as to each claim or sub-claim.
- (27) Worksheets used to prepare the claim, which indicate the cost components of each item of the claim, including but not limited to the pertinent costs of labor, benefits and insurance, materials, equipment, and subcontractors' damages, as well as all documents which establish the relevant time periods, individuals involved, and the Project hours and the rates for the individuals.

**SECTION 2.11
ANTI-TRACKING PAD**

In Article 2.11.02, change the first sentence as follows:

2.11.02—Materials: The crushed stone shall meet the grading requirements of M.01.02 for No. 3 stone. |

In Article 2.11.03, change the first sentence as follows:

2.11.03—Construction Methods: Clear area of anti-tracking pad of all vegetation and excavate to a maximum depth of 4 inches. Place geotextile filter fabric over the full width and length of excavated area and cover with No. 3 crushed stone to a minimum depth of 6 inches. |

**SECTION 5.04
RAILROAD PROTECTION**

Replace Section 5.04 in its entirety with the following:

**SECTION 5.04
RAILROAD PROTECTION**

5.04.01—Description: This item shall consist of securing protective services of workers such as flagmen, electric traction linemen, inspectors, track foremen, signalmen, or other such protective services deemed necessary by a railroad engaged in or affected by the Project operations of the Contractor on, over, under or adjacent to the railroad's right-of-way. This item shall also include any material or equipment incidental to or required for the provision of such required protective services. The Contractor shall secure such services as are required by the railroad, and if said services are obtained from the railroad, the Contractor shall reimburse the railroad for them, in accordance with relevant Contract terms or with the railroad's customary terms for such transactions. The Contractor must understand that the railroad may require advance payment of all or a portion of the estimated costs for the services, in which case the Contractor shall make such advance payment.

5.04.02—Vacant

5.04.03—Vacant

5.04.04—Method of Measurement: Only Project-related protective services billed by the railroad and approved by the Engineer will be measured for payment. Protective services which the Engineer did not approve or deem necessary for the proper completion of the Project will not be measured for payment.

5.04.05—Basis of Payment: The sum of money for this item shown in the bid Estimate and in the itemized bid proposal as "Estimated Cost" for this work will be considered and treated as the bid price for it, even though payment for it will be made as described below. The estimated cost figure is not to be altered in any manner by the bidder. Should the bidder alter the amount shown, the altered figures will be disregarded and the original bid price will be used as the total amount for the Contract item. The Department will pay the Contractor for "Railroad Protection" at the actual hourly rate charged to the Contractor for railroad protection services approved by the Engineer (shown in the monthly statement or receipted bills to the Contractor from the entity that provided the actual services), plus a 5% markup. This price shall include all labor, material and equipment provided by a railroad for protective services required for Project operations.

Protective services used solely for the convenience or benefit of the Contractor shall be the legal and financial responsibility of the Contractor and will not be included in this item.

Final acceptance of the Project and resolution of financial Project obligations by the Department will be contingent upon the Contractor's providing the Department with proof that each railroad involved in the Project has been reimbursed for all necessary protective services provided by the railroad or that the Contractor has made some other arrangements satisfactory to said railroad(s) for such reimbursement.

Pay Item	Pay Unit
Railroad Protection	est.

**SECTION 8.03
PAVED DITCHES AND CHANNELS**

Replace Section 8.03 in its entirety with the following:

**SECTION 8.03
PAVED DITCHES, PAVED APRONS AND
PAVED CHANNELS**

- 8.03.01—Description**
- 8.03.02—Materials**
- 8.03.03—Construction Methods**
- 8.03.04—Method of Measurement**
- 8.03.05—Basis of Payment**

8.03.01—Description: The work under this item includes placing and compacting of a bituminous concrete course on a pre-excavated foundation forming paved ditches, aprons or channels in accordance with the line, grade, compacted final thickness and typical cross-section shown on the plans.

8.03.02—Materials: The materials for this work shall meet the following requirements:
Bituminous Concrete Curb Mix shall meet the requirements of 4.06 and M.04.01.
Processed Aggregate Base shall meet the requirements of M.05.01.

8.03.03—Construction Methods: The processed aggregate base course shall be placed in a single course, 4 inches compacted thickness, in accordance with 3.04.03. The surface shall be a 2 inch course of bituminous concrete curb mix. The bituminous concrete shall be placed and thoroughly compacted with compaction equipment suitable for small areas.

8.03.04—Method of Measurement: The quantity to be measured for these items will be the surface area in square yards of paved ditch, paved apron or paved channel constructed and accepted.
Formation of Subgrade and Processed Aggregate Base will not be measured for payment.

8.03.05—Basis of Payment: This work will be paid for at the Contract unit price per square yard for "Paved Ditch," "Paved Apron" or "Paved Channel." The price shall include all materials, tools, equipment and work incidental thereto.

Excavation will be paid for in accordance with 2.06.
Bituminous Concrete Lip Curbing for Paved Channels will be paid for in accordance with 8.15.

Pay Item	Pay Unit
Paved Ditch	s.y.
Paved Apron	s.y.
Paved Channel	s.y.

**SECTION 8.11
CONCRETE CURBING**

Replace Section 8.11 in its entirety with the following:

**SECTION 8.11
CONCRETE CURBING**

8.11.01—Description: This item shall consist of concrete curbing, furnished in accordance with the dimensions and details of the plans, and installed to the lines and grades shown on the plans.

8.11.02—Materials: All concrete curbing shall be constructed with Class "F" concrete as defined in M.03.02.

Precast curbing shall meet the requirements of M.08.02-4.

Joint filler shall meet the requirements of M.03.08-2.

Base material, if required, shall meet the requirements of M.02. 01, M.02.02 or M.05.01.

8.11.03—Construction Methods: Construction methods shall meet the requirements of 6.01.03, as supplemented by the following:

1. Excavation: Excavation shall be made to the required depth, and the base upon which the curbing is to be set shall be compacted to a firm, even surface.

2. Section Lengths and Joints: All straight curbing sections shall be uniform length and a minimum of 8 feet.

Curved curb section lengths may vary with radii of curves.

When a gap of less than 8 feet is required for closure, the length of curbing may be varied, but no section less than 2 feet will be permitted.

For both precast and cast-in-place concrete curbing, a 1/2 inch joint shall be filled with joint filler at intervals of approximately 50 feet; and contraction joints shall be placed at intervals of approximately 15 feet.

3. Cast-In-Place Curbing: Forms shall be clean and founded on a moist, firm, unfrozen base and the curbing shall be constructed so that the exposed faces may be accessed before the concrete has taken final set to allow finishing. Cast-in-place curbing shall be finished in accordance with 6.01.03-10(b).

4. Precast Concrete Curbing: The Contractor shall stabilize the precast concrete curbing during installation until backfilling is complete.

Precast curbing set on a radius of 50 feet or less shall be fabricated to the required radius within the manufacturer's tolerance.

5. Backfilling: The backfill shall consist of approved material placed in 6 inch layers and each layer shall be thoroughly compacted. The final elevation of the backfill shall match the lines shown on the plans, or as ordered by the Engineer.

8.11.04—Method of Measurement: This work will be measured for payment along the top of the curb and will be the actual number of linear feet of concrete curbing completed and accepted.

8.11.05—Basis of Payment: Payment for this work will be made at the Contract unit price per linear foot for "Concrete Curbing" of the type specified, complete and accepted in place, which price shall include all excavation, materials, equipment, tools, backfilling, disposal of surplus material, and labor incidental thereto.

There will be no direct payment for furnishing, placing and compacting base material, but the cost of this work shall be considered as included in the general cost of the work.

Pay Item	Pay Unit
Concrete Curbing (Type)	l.f.

**SECTION 8.13
STONE CURBING**

Replace Section 8.13 in its entirety with the following:

**SECTION 8.13
STONE CURBING**

8.13.01—Description: This item shall consist of stone curbing, furnished in accordance with the dimensions and details of the plans, and installed to the lines and grades shown on the plans.

8.13.02—Materials: The stone curbing shall meet the requirements of M.12.06.

The mound of concrete required at all stone curbing joints shall meet the requirements of any mix design type listed in Table M.03.02-1.

Mortar shall meet the requirements of M.11.04.

Base material, if required, shall meet the requirements of M.02.01, M.02.02 or M.05.01.

8.13.03—Construction Methods:

1. Excavation: Excavation shall be made to the required depth and the base upon which the curbing is to be set shall be compacted to a firm, even surface.

2. Section Lengths and Joints: For straight curbing, approximately 80% of the stones shall be furnished in lengths of not less than 6 feet and the remaining 20% in lengths of not less than 4 feet, interspersed at random in order to allow for closures.

Curved curb section lengths may vary with radii of curves, but no section less than 2 feet will be permitted.

The space between each section of curbing shall be 1/2 inch and shall be pointed with mortar for the full depth of the curbing. At uniform intervals of approximately 50 feet, one joint shall be left unfilled

A mound of concrete, as shown on the plans, shall be placed at each joint prior to placing sections adjacent to the joint.

Break back of stone curbing shall be as shown on the plans.

The ends of the curbing at driveways and intersections shall be cut at a bevel or rounded, as directed by the Engineer.

3. Curved Stone Curbing: This shall be defined as curbing set on a radius of 100 feet or less and shall be fabricated to the required radius within the manufacturer's tolerance.

4. Backfilling: The backfill shall consist of approved material placed in 6 inch layers and each layer shall be thoroughly compacted. The final elevation of the backfill shall match the lines shown on the plans, or as ordered by the Engineer.

8.13.04—Method of Measurement: This work will be measured for payment along the top of the curb and will be the actual number of linear feet of stone curbing or curved stone curbing completed and accepted.

8.13.05—Basis of Payment: Payment for this work will be made at the Contract unit price per linear foot for "Stone Curbing" or "Curved Stone Curbing," of the type and size specified, complete and accepted in place, which price shall include all excavation, materials, equipment, tools, backfilling, disposal of surplus material and labor incidental thereto.

There will be no direct payment for furnishing, placing and compacting base material, beveling or rounding the ends of the curbing and pointing the joints with mortar, but the cost of this work shall be considered as included in the general cost of the work.

Pay Item	Pay Unit
Stone Curbing (Type-Size)	l.f.
Curved Stone Curbing	l.f.

**SECTION 8.16
GRANITE SLOPE CURBING**

Delete Section 8.16 in its entirety.

**SECTION 9.44
TOPSOIL**

Replace Articles 9.44.02, 9.44.03 and 9.44.05 with the following:

9.44.02—Material: The material shall meet the requirements of M.13

9.44.03—Construction Methods: Any material delivered to the Project, which does not meet the proper pH requirements for that soil must be amended on Site prior to final acceptance.

The areas on which topsoil is to be placed shall be graded to a reasonably true surface. Topsoil shall then be spread and shaped to the lines and grades shown on the plans, or as directed by the Engineer. The required depth to which the topsoil is to be placed is to be the depth after settlement of the material has taken place. All stones, roots, debris, sod, weeds and other undesirable material shall be removed. After shaping and grading, all trucks and other equipment shall be excluded from the finished areas to prevent excessive compaction. The Contractor shall perform such work as required to provide a friable surface for seed germination and plant growth prior to seeding.

During hauling and spreading operations, the Contractor shall immediately remove any material dumped or spilled on the shoulders or pavement.

It shall be the Contractor's responsibility to restore to the line, grade and surface all eroded areas with approved material and to keep the finished areas in acceptable condition until the completion of the construction work.

9.44.05—Basis of Payment: Payment for this work will made at the Contract unit price per square yard for "Furnishing and Placing Topsoil" which price shall include all materials, application of lime if necessary, equipment, tools, labor and work incidental thereto.

Pay Item	Pay Unit
Furnishing and Placing Topsoil	s.y.

SECTION 9.49
FURNISHING, PLANTING and MULCHING
TREES, SHRUBS, VINES and GROUND COVER PLANTS

Replace Section 9.49 in its entirety with the following:

SECTION 9.49
FURNISHING, PLANTING and MULCHING
TREES, SHRUBS, VINES and GROUND COVER PLANTS

9.49.01—Description**9.49.02—Materials****9.49.03—Construction Methods****9.49.04—Method of Measurement****9.49.05—Basis of Payment**

9.49.01—Description: The work under these items shall consist of furnishing trees, shrubs, vines and ground cover, preparation of planting areas, plant layout, planting, staking and guying, fertilizing, watering and mulching, as indicated on the plans or in the Contract. It shall also include all incidental procedures, such as the care of the living plants and the replacement of dead and unsatisfactory plants or unsatisfactory materials before final acceptance of the Contract.

9.49.02—Materials: The materials for these items shall meet the requirements of M.13.

9.49.03—Construction Methods: Construction methods shall be performed in accordance with the details shown on the landscape plans.

At the discretion of the Engineer, a pre-planting meeting may be held to discuss the source of supply, location of plantings, preparation of soil, time frame of delivery, temporary storage location, Contract specifics and any other incidental procedures relating to this item.

The Contractor is cautioned that within the limits of any project, buried cable for illumination or utilities, which may be energized may be present on Site. The requirements of 1.05.15 shall apply.

1. Planting Season: The planting seasons shall be those indicated below, as specified in the Contract or directed by the Engineer. Planting shall not be done if the ground is frozen, covered in snow, or if the soil is in an unsatisfactory condition as determined by the Engineer.

Deciduous Material

Spring: March 1st to May 31st (inclusive), except for balled and burlapped material. Balled and burlapped material may be planted any time from March 1st to June 15th (inclusive).

Fall: From October 15th until the ground freezes.

Evergreen Material

Spring: March 1st to May 31st (inclusive).

Fall: August 15th to October 31st (inclusive).

2. Delivery and Storage of Plants: The Contractor shall ensure that plants arrive to the Project location undamaged. The following care shall be taken during transport from the nursery through final planting location:

- a. Plants shall have mulch and water as necessary to keep moist and fresh at all times.
- b. Plants shall be protected against overexposure to sun, wind and freezing temperatures at all times.
- c. Bare-root plants, if not planted immediately upon receipt, shall be separated upon delivery and stored in an area where their roots are kept covered to keep air away until they are ready for planting.
- d. Balled and burlapped plants shall be stored with their earth balls covered by soil, wood chips, cloth, straw or other suitable material and kept moist until planting.
- e. Unless specified, all plants shall be stored in a shady location until planted.

3. Field Coordination: The Contractor shall submit a Source of Supply per M.13.07-4 to initiate the inspection and approval of all material. The Contractor shall review Site conditions and inform the Engineer of any conflicts. The Contractor shall coordinate planting layout with the Engineer for approval. The Contractor must notify the Engineer no less than 48 hours in advance, excluding weekends and holidays, of the completion of layout for approval. The planting layout must be approved by the Engineer prior to the commencement of work. The installation of plant material shall occur only after the completion of paving, the installation of footings or other operations which could damage the plants or alter the finished grades.

4. Planting Layout: Plant material locations and bed outlines shall be staked in the presence of the Engineer before any plant pits or beds are excavated. Labor, equipment and new, smooth stakes of approved quality are to be furnished by the Contractor for this purpose.

5. Preparation of Planting Areas: Planting areas shall be prepared by use of approved tools. All undesirable vegetation, roots or other obstructions shall be removed from the planting areas. Any unsuitable material shall be removed from the Site and disposed of by the Contractor in a manner satisfactory to the Engineer.

If backfill is required, as determined by the Engineer, it shall meet the planting soil requirements of M.13.01-2.

In planting areas, but not less than 14 day before the installation of plant material, the remaining turf grasses and unwanted vegetation may be sprayed at the Contractor's expense, unless otherwise directed by the Engineer, with Glyphosate or approved equal at the manufacturer's recommended rate.

6. Pit Excavation: Planting pits may be excavated or hand dug at the discretion of the Engineer. Suitable excavated soil may be set aside to be incorporated into the planting mix. The planting pit shall be excavated so that the horizontal dimension of the hole is twice the diameter of the root ball, container, or bare root spread, as shown on the plans. The depth of the plant pit excavation shall be 2 inches less than the distance between the bottom of the root ball, container, or bare root mass, and the location of the root flare or top of the root structure. It may be required to remove the burlap and some soil from the top of the root ball to expose the root structure. Care must be taken so that soil will not loosen from the roots inside the ball.

Any rock or underground obstruction shall be removed to the depth necessary for planting as specified, unless other locations for the planting are approved by the Engineer. If removal of obstructions results in a deeper hole than needed for planting, or if the pit is overexcavated, backfill shall be added, and must be thoroughly compacted to the proper depth prior to setting plants. If backfill is required, it shall meet the planting soil requirements of M.13.01-2.

7. Setting Plants: The Contractor shall move the plants from storage to the planting location, retying any untied burlap to prevent shifting while placing the plant into the planting pit. Carefully place the plant into the center of the pit. Ensure that the root flare or the top of the root system is 2 inches above finished grade. Correct pit depth if the plant is less than 2 inches, or more than 4 inches above finished grade. All plants shall be set plumb. Backfill with planting soil to 1/2 the depth of the planting pit and thoroughly tamp around the ball. Fill the remaining area of the pit with water. Once water has completely drained, fill the remainder of the pit with planting soil. Water the planting area, re-tamp, and add additional planting soil to correct any low spots. Saucers shall be formed outside of individual plants (exclusive of plant beds) by placing ridges of planting soil around each, or as directed by the Engineer. In addition, the following shall be completed for each respective type of plant:

- a. **Balled and Burlapped Plants (B&B):** If wire baskets are used, the Contractor shall cut all of the horizontal wires in the top 2/3 of the rootball and bend down or remove the top 1/3 of the wire basket. Remove excess soil from the top of the root ball to expose the root structure, and cut away any small feeder or girdling roots. Roots that have been wrapped around the ball within the burlap shall be straightened.
- b. **Container Grown Plants (CG):** Carefully remove the plant from the container over the prepared pits. Gently loosen the soil and straighten all roots as naturally as possible. It may be required to cut and remove excessive amounts of root mass if roots are tightly wrapped or bound.
- c. **Bare-roots Plants (BR):** Carefully spread roots as naturally as possible and place into the bottom of the pit. All broken or frayed roots shall be cleanly cut off.

8. Fertilizing: All plants shall be fertilized at the rate of 3 lb. per 100 s.f. of surface area (broadcast). The fertilizer shall be uniformly applied to the surface of the beds and worked into the upper 2 inches of soil. Individual trees shall be fertilized at the rate of 2 lb. per inch of trunk diameter, and the fertilizer shall be mixed into the upper 2 inches of soil.

A second application of fertilizer shall be applied to all plant items at the same specified rates over the wood-chip mulch at the end of the period of establishment.

9. Watering: All plants shall be watered upon setting and as many times thereafter as conditions warrant. The following is a guide for minimum requirements per application:

- Trees: 2 1/2 inch Caliper and less – 15 gal. each.
- 3 inch to 5 inch Caliper – 20 gal. each.
- 5 1/2 inch Caliper and above – 25 gal. each.

- Shrubs: 24 inches and less – 6 gal. each.
- More than 24 inches - 10 gal. each.
- Vines, Perennials, and Ornamental Grasses – 3 gal. each.
- Groundcovers and Bulbs – 2 gal. per s.f.

Water shall be applied at a controlled rate and in such a manner to ensure that the water reaches the root zone of each plant and does not run off to adjacent areas. Watering shall be applied in a manner that does not dislodge plants, erode soil or mulch, or cause damage to saucer.

The Contractor may use slow-release, drip irrigation bags for watering at the Contractor’s expense in accordance with manufacturer’s instructions.

Overhead hydro-seeder spray nozzles shall not be used as watering devices.

10. Guying and Staking: Immediately after planting, trees shall be guyed or staked as shown on the plans. Guy wires, hose and tree support stakes shall be removed after the initial establishment period.

11. Pruning: As directed by the Engineer, plants shall be pruned before or immediately after planting. No leader shall be cut unless directed by the Engineer. Broken, or badly bruised branches, sucker growth, etc., shall be removed with clean cuts.

12. Spraying: Spraying with antidesiccant shall be at the Contractor's discretion and as approved by the Engineer, at the Contractor’s expense.

13. Mulching: After installation of the plantings, the type of mulch specified in the Contract shall be hand placed and spread to a depth of 4 inches and raked to an even surface over all saucer areas for individual trees and shrubs and over the entire area of shrub beds and elsewhere as directed.

14. Repair: Repair of existing grass areas damaged by the Contractor in the progress of the work shall be the responsibility of the Contractor, who shall restore the disturbed areas to their original condition at the Contractor’s expense.

15. One-Year Establishment Period: All plant material shall be subject to a One-Year Establishment Period. During this time, the Contractor shall use currently accepted horticultural practices to keep all plant material installed in a healthy, vigorous growing condition at the date of final acceptance. The date of final acceptance shall be 1 full calendar year following the satisfactory completion of the planting activities as confirmed by the Engineer.

An inspection will be held 1 year from the date of installation with the Contractor, Engineer, and Landscape Designer to determine the acceptability of the plant establishment. An inventory of losses and rejected materials will be made and corrective and necessary clean up measures will be determined at the plant inspection.

9.49.04—Method of Measurement:

1. Planting: The quantity for which payment will be made will be the number of each size and kind of plant counted in place, planted and accepted.

2. Mulching: This work will be measured for payment by the number of square yards surface measurement of the specified thickness for the area on which the type of mulch specified in the plans has been completed and accepted.

9.49.05—Basis of Payment:

1. Planting: Payment for this work will be made at the Contract unit price each for the kind and size of plant and method of planting, as the case may be, completed and accepted in place.

2. Mulching: This work will be paid for at the Contract unit price per square yard for mulch complete in place.

3. The unit prices shall include all materials, equipment, tools, labor, transportation, operations and all work incidental thereto, including the removal of guy wires, hose and tree support stakes after the initial establishment period, except that payment for excavation of solid ledge rock, concrete pavement and boulders 1/2 cubic yard in volume or greater will be made under 9.51, "Rock Excavation for Planting."

Pay Item	Pay Unit
(Plant Name) (Caliper)	ea.
(Plant Name) (Height)	ea.
(Plant Name) (Size)	ea.
(Vine Name) (Size)	ea.
(Ground Cover Name) (Size)	ea.
Wood Chip Mulch	s.y.
Gravel Mulch	s.y.

**SECTION 12.04
SIGN PANEL OVERLAY**

Replace Section 12.04 in its entirety as follows:

**SECTION 12.04
SIGN-PANEL OVERLAY**

12.04.01—Description: Work under this item shall consist of furnishing and installing a plywood overlay of the type specified to cover an existing sign where shown on the plans or where directed by the Engineer.

12.04.02—Materials: Plywood shall have a minimum thickness of 1/4 inch and shall be exterior grade A-C as designated by APA.

The wood preservative shall be of a type that will have no adverse effect on paint adhesion and will not cause future paint discoloration.

Primer shall meet the requirements of A-A-2336.

The enamel paint to be used for the finish coat shall be as specified in Article M.18.08.

Copy shall meet the requirements contained in M.18.09 or M.18.10 of the Contract.

12.04.03—Construction Methods: The plywood overlay shall completely cover the existing sign, including the exit crown panel. The plywood sheets shall be joined together to form a single overlay by means of 1 inch x 4 inches construction grade fir wood battens securely fastened to adjoining panels with 1 inch galvanized wood screws. The battens shall be fastened to the Grade C back face of the overlay.

Before assembly and before painting, all wood shall be treated with a coat of wood preservative on all surfaces.

The entire overlay surface shall be painted with 1 coat of primer and 1 coat of enamel.

The plywood shall remain in place for the duration of the Project.

All work fabricating and clamping the plywood sign-panel overlay shall be done to ensure that no damage occurs to the existing sign.

12.04.04—Method of Measurement: Sign-panel overlay of the type specified will be measured for payment by the actual number of square feet installed and accepted.

12.04.05—Basis of Payment: This work will be paid for at the Contract unit price per square foot for "Sign Panel Overlay," of the type specified complete in place, which price shall include all materials, equipment, tools and labor incidental thereto.

Pay Item	Pay Unit
Sign Panel Overlay—Plain	s.f.
Sign Panel Overlay—with Copy	s.f.

**SECTION 12.14
PREFORMED BLACK LINE MASK PAVEMENT MARKING TAPE**

Replace Article 12.14.05 with the following:

12.14.05—Basis of Payment: This work shall be paid for at the Contract unit price per linear foot for “Preformed Black Line Mask Pavement Marking Tape” of the width specified. This price shall be for all the work required by this Section including the cleaning and preparing of the pavement surface, installation and removal, and all materials, equipment, tools and labor incidental thereto.

Any masking tape which is no longer effective, in the opinion of the Engineer, shall be replaced by the Contractor, at its own expense.

Removed masking tape shall become the property of the Contractor and shall be removed from the Project. Any damage to the underlying markings caused by the Contractor’s operations shall be repaired by the Contractor, at its own expense.

Pay Item	Pay Unit
(Width) Preformed Black Line Mask Pavement Marking Tape	l.f.

SECTION 12.16
BLACK EPOXY RESIN PAVEMENT MARKINGS
BLACK EPOXY RESIN SYMBOLS AND LEGENDS

Delete Section 12.16 in its entirety.

**SECTION M.01
GRADATION OF AGGREGATE**

Replace Section M.01 in its entirety with the following:

**SECTION M.01
AGGREGATES**

- M.01.01—General**
- M.01.02—Coarse Aggregates**
- M.01.03—Fine Aggregates**
- M.01.04—Portland Cement Concrete (PCC) Aggregates**
- M.01.05—Bituminous Concrete Aggregates**

M.01.01—General:

Each source of aggregate must be qualified for use by the Engineer as indicated in 1.06.01. Material from a qualified source is still subject to Project-level testing and may be subject to rejection as indicated in 1.06.04.

Aggregates must not have expansive or reactive properties. Aggregates reclaimed from pavements or structures may only be used where specifically allowed in the specifications.

Aggregate stockpiles must be located on smooth, hard, sloped/well-drained areas. Each source and gradation of aggregate must have an individual stockpile or bin. Stockpiles must be managed to minimize segregation and contamination with foreign materials.

M.01.02—Coarse Aggregates:

Coarse aggregate must be uniform in consistency and only contain clean, hard, tough, durable fragments meeting the criteria in Table M.01.02-1.

TABLE M.01.02-1: Coarse Aggregate Criteria by Pit/Quarry Source

Item	Title	AASHTO Test Methods	Criteria
1	Material Passing No. 200 Sieve	T 11	1% maximum.
2	Loss on Abrasion	T 96	40% maximum
3	Soundness by Magnesium Sulfate	T 104	10% maximum @ 5 cycles

Standard sizes of coarse aggregate for applications other than bituminous concrete must meet the gradation requirements listed in Table M.01.02-2 as determined by AASHTO T 27.

TABLE M.01.02-2: Gradation of Standard Sizes of Coarse Aggregate

Square Mesh Sieves	Percent Passing by Weight					
	No. 3	No. 4	No. 6	No. 67	No. 8	No. 9
2 1/2 inches	100					
2 inches	90-100	100				
1 1/2 inches	35-70	90-100				
1 inch	0-15	20-55	100	100		
3/4 inch		0-15	90-100	90-100		
1/2 inch	0-5		20-55		100	
3/8 inch		0-5	0-15	20-55	85-100	100
No. 4			0-5	0-10	10-30	85-100
No. 8				0-5	0-10	10-40
No. 16					0-5	0-10
No. 50						0-5

M.01.03—Fine Aggregates:

Fine aggregate must consist of clean, hard, durable, tough, uncoated particles free from lumps, meeting the requirements listed in Table M.01.03-1.

TABLE M.01.03-1: Fine Aggregate Requirements

Item	Property	AASHTO Test	Criteria
1	Grading		
	Portland Cement Concrete	T 11 T 27	3% maximum passing No. 200 sieve Table M.01.04-1
	Bituminous Concrete	T 27	100% Passing 3/8 inch, 95% passing the No. 4 min.
2	Absorption	T 84	3% maximum
3	Plasticity limits	T 90	0 or not detectable
4	L.A. Abrasion	T 96	50% maximum (fine agg. particle size \geq No. 8)
5	Soundness by Magnesium Sulfate	T 104	15% maximum@ 5 cycles for PC Concrete 20% maximum@ 5 cycles for Bituminous Concrete
6	Clay Lumps and Friable Particles	T 112	3% maximum
7	Deleterious Material - organic or inorganic calcite, hematite, pyrrhotite, shale, clay, coal-lignite, shells, loam, mica, clinkers, or other organic matter (wood, etc.).	As determined by the Engineer	Must not contain more than 3% by mass of any individual listed constituent and not more than 5% by mass in total of all listed constituents.

Screenings and Dust must meet the requirements of Table M.01.03-2 as determined by AASHTO T 27.

TABLE M.01.03-2: Screenings and Dust Gradation

Square Mesh Sieves	Percent Passing by weight	
	Screenings	Dust
3/8 inch	100	
No. 4		100
No. 8	60-100	40-100

M.01.04—Portland Cement Concrete (PCC) Aggregates:

In addition to the requirements in M.01.01 through M.01.03, the aggregates used in Portland Cement Concrete must meet the following:

All Aggregates: Coarse and Fine aggregates must originate from the aggregate producers and locations included on the Department's Qualified Materials List (QML). The list is available on the Department website. <http://www.ct.gov/dot/site/default.asp>. The criteria for inclusion in the QML are stated within the list.

Coarse Aggregate: Coarse aggregate of a size retained on a 1 inch square opening sieve must not contain more than 8% of flat and elongated pieces when tested in accordance to ASTM D4791 at a 1:5 ratio.

Reclaimed concrete aggregates must consist of clean, durable fragments of uniform quality. Materials must be from crushing or otherwise processing of concrete structures or portions thereof. Prior to demolition or removal, concrete structures must not exhibit signs of material degradation and be inspected by the Engineer. Reclaimed aggregate must be tested separately to confirm compliance with all requirements prior to blending with virgin aggregate.

Reclaimed coarse aggregate must not contain chlorides in excess of 0.5 lb./c.y. Chloride content must be determined in accordance with AASHTO T 260, Procedure A. Regardless of chloride content, reclaimed aggregates must not be used in concrete for pre-stressed concrete members.

Fine Aggregate: Manufactured sand must be produced from washed stone screenings; stone screenings or gravel; or combinations thereof, after mechanical screening or with a process approved by the Engineer.

The fineness modulus of fine aggregate from a source must not vary more than 0.20 from the base fineness modulus of that source.

The fine aggregate must not produce a color darker than Gardner Color Standard No. 11 in accordance with AASHTO T 21.

Fine aggregates that fail to meet soundness requirements as specified in Table M.01.03-1, but meet all other requirements, may be used with the approval of the Engineer on a case-by-case basis. Typically concrete composing any surface subject to polishing or abrasion (i.e., wheel traffic or running water) will not be allowed to contain such material.

Gradation of each size aggregate must be within the ranges listed in Table M.01.04-1 as determined by AASHTO T 27.

Table M.01.04-1: Fine Aggregate Gradations

Sieve Size	3/8 inch	No. 4	No. 8	No. 16	No. 30	No. 50	No. 100
% passing	100	95-100	80-100	50-85	25-60	10-30	2-10

M.01.05—Bituminous Concrete Aggregates

In addition to the requirements in M.01.01 through M.01.03, the source of aggregates used in Bituminous Concrete must have a Quality Control Plan for Fine Aggregates (QCPFA) on file with the Engineer. The QCPFA must describe the locations and manufacturing processing methods used at the source. The QCPFA must describe how conformance to Items 1 through 7 in Table M.01.03-1 is monitored and what actions will be taken if nonconformance is observed. The QCPFA must be revised and resubmitted to the Engineer whenever the process, location, or manner of how the fine aggregate is produced or monitored changes. A source of fine aggregate may be suspended by the Engineer due to demonstrated noncompliance with the QCPFA or if consistent production of material does not meet Project specifications as determined by the Engineer.

**SECTION M.07
PAINT**

Replace Section M.07 in its entirety with the following:

**SECTION M.07
PAINT**

- M.07.01—General for All Paints and Enamels**
- M.07.02—Coating Systems for Structural Steel**
- M.07.03—Vacant**
- M.07.04—Vacant**
- M.07.05—Vacant**
- M.07.06—Vacant**
- M.07.07—Vacant**
- M.07.08—Vacant**
- M.07.09—Vacant**
- M.07.10—Vacant**
- M.07.11—Vacant**
- M.07.12—Vacant**
- M.07.13—Vacant**
- M.07.14—Vacant**
- M.07.15—Vacant**
- M.07.16—Vacant**
- M.07.17—Vacant**
- M.07.18—Vacant**
- M.07.19—Vacant**
- M.07.20—Waterborne Pavement Marking Paint**
- M.07.21—Hot-Applied Waterborne Pavement Marking Paint**
- M.07.22—Epoxy Resin Pavement Markings**
- M.07.23—Vacant**
- M.07.24—Preformed Black Line Mask Pavement Marking Tape**
- M.07.25—Vacant**
- M.07.30—Glass Beads**

M.07.01—General for All Paints and Enamels:

1. Paints and enamels shall consist of pigments of the required fineness and composition, ground in the required vehicle by a suitable grinding machine to the required fineness. All pigments, resins, oils, thinners and driers shall be free from adulterants.

2. Proportions: All proportions in formulas are by weight unless otherwise specified.

3. Fineness: All pigments, except aluminum, unless otherwise specified, shall be finely ground with 100% passing the No. 200 sieve; with no less than 97% passing the No. 325 sieve.

4. Curdling, Livering, Leveling: The paint or enamel shall not liver or curdle. The pigment shall remain in suspension in a satisfactory manner through the expected shelf life specified on the label. The enamel type paints shall level properly and not show brush marks.

5. Colors: All paints and enamels shall be matched to the Department's standard shades.

6. Time of Drying: All paints or enamels, unless otherwise specified, shall dry to full gloss in not more than 18 hours.

7. Weight per Gallon: The weight per gallon of all paints and enamels shall be determined at 77°F.

8. Shipping: All paints and enamels shall be shipped in containers plainly marked with the name, net weight and volume of paint or enamel content. The manufacturer's name, address, date and lot number shall be marked on every package.

9. Samples, Sampling, and Testing: The manufacturer shall supply a Certified Test Report per lot for any pigment, oil, resin, thinner, drier or paint. When a portion of the lot is delivered, a Material Certificate is required. Upon request by the Engineer, the manufacturer shall submit a sample.

Sampling and testing shall be performed in accordance with ASTM, Federal Standards, or by methods established by the Department.

M.07.02—Coating Systems for Structural Steel: The coating system used shall be specified in the Contract and shall be selected from the [Northeast Protective Coating Committee's](#) (NEPCOAT's) Specification Criteria for Protective Coatings qualified products list.

Color: The color of the topcoat material shall be as noted on the plans (FS 595 Color Number).

Packaging and Labeling of Coating Material: The container shall be designed to store the specific coating material. Each container of coating material shall bear a label that identifies the name of the coating manufacturer, the name of the product, the lot and batch numbers, the date of manufacture and the shelf life expiration date. The label shall also include complete specific instructions for opening the container and for mixing, thinning, and applying the coating material contained therein. If the coating material cannot be positively identified from the label on the container, it shall not be used.

Delivery: Coating material shall be furnished in the manufacturer's original sealed and undamaged container.

Control of Materials: For each coating material, a Materials Certificate shall be submitted in conformance with 1.06.07. The Material Certificate shall indicate compliance with NEPCOAT Acceptance Criteria for Protective Coatings, List A or B.

M.07.03—Vacant

M.07.04—Vacant

M.07.05—Vacant

M.07.06—Vacant

M.07.07—Vacant

M.07.08—Vacant

M.07.09—Vacant

M.07.10—Vacant

M.07.11—Vacant

M.07.12—Vacant

M.07.13—Vacant

M.07.14—Vacant

M.07.15—Vacant

M.07.16—Vacant

M.07.17—Vacant

M.07.18—Vacant

M.07.19—Vacant

M.07.20—Waterborne Pavement-Marking Paint: Pavement-marking paint shall be waterborne paint and shall be white or yellow, depending on its use, for application on bituminous concrete and Portland cement concrete pavement. This paint shall be compatible with the stripe-painting equipment to be used on the Project. All requirements shall be as specified in M.07.21, except as follows:

1. Total nonvolatile compounds shall not be less than 70% by weight.
2. Pigment shall be 50 to 60% by weight.
3. Drying time for no-pick-up shall be 15 minutes or less when tested in accordance with ASTM D711.
4. The Contractor shall provide a Materials Certificate in accordance with 1.06.07 for each portion of a batch or lot delivered to the Project site.

M.07.21—Hot-Applied Waterborne Pavement-Marking Paint: Fast-drying waterborne pavement-marking paint to be applied on bituminous concrete and Portland cement concrete pavements shall be the color specified on the plans. This paint shall be capable of being applied with stripe-painting equipment at an application temperature of 130 to 145°F and shall have good spraying characteristics. The Contractor shall provide a Materials Certificate in accordance with 1.06.07 for each portion of a batch or lot delivered to the Project site.

General: Specifications and publications that apply are as follows:

- FS TT-P-1952 - Paint, Traffic and Air Field Marking, Waterborne
- Federal Test Method Standard (FTMS) No.141 - Paint, Varnish, Lacquer and Related Materials, Methods of Inspection, Sampling and Testing

- FS No. 595 – Colors

ASTM Standards:

- D211 - Specifications for Chrome Yellow and Chrome Orange Pigments
- D476 - Classification for Dry Pigmentary for Titanium Dioxide Pigments

Detailed Requirements, Formulation and Manufacture: The paint shall be formulated and manufactured from first-grade raw materials and shall be free from defects and imperfections. The materials shall not exhibit settling or jelling after storage in the sealed containers upon receipt. The paint shall provide the proper anchorage, refraction and reflection for the finished glass spheres when applied as specified.

Composition: The composition of the paint material shall meet the requirements of any applicable Federal, State or Local regulation for products of this type and shall meet the following requirements:

1. Paint shall not contain more than 0.06% lead when tested in accordance with ASTM D3335
2. Total nonvolatile organic compounds shall be a minimum of 76% by weight
3. Pigment shall be 58 to 63% by weight when tested in accordance with ASTM D3723
4. Resin solids shall be composed of 100% acrylic emulsion polymer
5. Volatile organic compounds shall not exceed 1.25 lb./gal. excluding water when tested in accordance with ASTM D2369
6. Flash Point: Closed-cup flash point shall not be less than 145°F
7. Density: Weight per gallon shall not be less than 12.5 lb./gal. when tested in accordance with ASTM D1475

Viscosity: The consistency of the paint shall not be less than 80, nor more than 90 Krebs units when tested in accordance with ASTM D562.

Flexibility: The paint shall not show cracking or flaking when tested in accordance with ASTM D522. The panels shall be lightly buffed with steel wool and thoroughly cleaned with solvent before being used for tests.

Dry Opacity: Both white and yellow paints shall have a minimum contrast ratio of 0.96 when tested in accordance with ASTM D2805. Contrast ratio shall be determined by applying a wet film thickness of 0.005 inch to a standard hiding- power chart. After drying, the black- and- white-reflectance values shall be determined using a suitable reflectometer and the contrast ratio determined.

Bleeding: The paints shall have a minimum bleeding ratio of 0.97 when tested in accordance with FS TT-P-1952.

Abrasion Resistance: No less than 210 liters of sand shall be required to remove paint film when tested in accordance with TT-P-1952.

Color: The paint shall not discolor in sunlight and shall maintain colorfastness throughout its life. Color determination shall be made without beads, after a minimum of 24 hours. Color for yellow paint shall be a visual match for FS 595-13538. If not a visual match, the diffuse day color of the paint when tested in accordance with ASTM E1347 shall conform to the CIE Chromaticity coordinate limits as follows:

	x	y	x	y	x	y	x	y	Brightness
White	0.305	0.295	0.360	0.360	0.388	0.377	0.280	0.310	84.0 min
Yellow	0.485	0.455	0.506	0.452	0.484	0.428	0.477	0.438	50.0 min

Glass Bead Adhesion: The paint with glass beads conforming to M.07.30, applied at the rate of 6.0 lb./gal. of paint, shall require not less than 150 liters of sand to remove paint film and glass beads.

Scrub Resistance: The paint shall pass 300 cycles minimum when tested in accordance with ASTM D2486.

Drying Time: Drying time to no pick-up shall be 3 minutes or less when tested in accordance with ASTM D711.

M.07.22—Epoxy Resin Pavement Markings:

General Requirements:

Identification: Each container must be labeled with the following information: Name and address of manufacturer, production batch number, date of manufacture, grade name and/or identification number, type of material, number of gallons, Contract number, directions for mixing and application.

Certification: The Contractor shall provide a Material Certificate in accordance with 1.06.07 for each portion of a batch or lot delivered to the Site.

Detailed Requirements:

- (a) **Epoxy Resin Material:** The material shall be composed of epoxy resins and pigments only. The white and the yellow epoxy resin materials shall be composed of approved materials and be lead- and chromium-free.

- (b) **Composition:**

WHITE (percent by weight)	YELLOW (percent by weight)
20% ± 2% Titanium Dioxide (ASTM D476 Type III)	
80% ± 2% Epoxy Resins	75% ± 2% Epoxy Resins

(c) **Color:** The white material shall be the color of chip 17778 of FS No. 595 of the latest issue, when the material is placed in a type EH weatherometer for a period of 500 hours and weathered according to ASTM G152. The yellow material shall be the color of chip 13538 of the FS No. 595 of the latest issue.

(d) **Adhesion Capabilities:** When the adhesion of the material to Portland cement concrete is tested in accordance with AASHTO T 237, the failure of the system must take place in the concrete.

(e) **Abrasion Resistance:** When the abrasion resistance of the material is tested according to ASTM D4060 with a CS-17 wheel under a load of 1000 grams for 1000 cycles, the wear index shall be no greater than 82.

(f) **Hardness:** The Type D durometer hardness of the material shall be not less than 75 nor more than 90 when tested in accordance with ASTM D2240 after the material has cured for 72 hours at $73^{\circ}\text{F} \pm 3.5^{\circ}\text{F}$.

(g) **Tensile Strength:** The tensile strength of the material, when tested in accordance with ASTM D638, shall not be less than 6,000 psi after 72 hours cure at $73^{\circ}\text{F} \pm 3.5^{\circ}\text{F}$.

(h) **Compressive Strength:** The compressive strength of the material, when tested in accordance with ASTM D695, shall not be less than 12,000 psi after 72 hours cure at $73^{\circ}\text{F} \pm 3.5^{\circ}\text{F}$.

(i) **Shelf Life:** The individual components shall not require mixing prior to use when stored for a period of 12 months.

(j) **Glass Beads:** The glass beads shall meet the requirements of M.07.30.

M.07.23—Vacant

M.07.24—Preformed Black-Line Mask Pavement-Marking Tape:

General Requirements: The preformed, patterned black-line mask pavement- marking tape shall consist of a matte black, non-reflective tape in widths or sizes sufficiently large to mask the existing markings which are to be temporarily covered.

The patterned masking tape shall be pre-coated with a pressure sensitive adhesive and shall be capable of being adhered to existing markings, on bituminous concrete pavement or Portland cement concrete in accordance with the manufacturer's instructions without the use of heat, solvents or other additional adhesives, and shall be immediately ready for traffic use after application. The Contractor shall identify equipment necessary for proper application and removal, and make recommendations for application that will assure effective product performance.

The preformed, patterned black-line masking pavement-marking tape shall be suitable for use for 1 year after the date of receipt when stored in accordance with the manufacturer's recommendations.

Detailed Requirements:

(a) **Composition:** The non-reflective, patterned black-line mask pavement-marking tape shall not contain metallic foil and shall consist of a mixture of high quality polymeric materials, pigments and inorganic fillers distributed throughout its base cross-sectional area, with a matte black non-reflective top layer. The patterned surface shall have a minimum of 20% of the surface area raised and coated with non-skid particles. The channels between the raised areas shall be substantially free of particles. The film shall be pre-coated with a pressure sensitive adhesive. A non-metallic medium shall be incorporated to facilitate removal.

(b) **Skid Resistance:** The surface of the patterned, non-reflective black-line mask pavement-marking tape shall provide an initial average skid resistance value of 60 British Pendulum Number when tested in accordance with ASTM E303.

(c) **Thickness:** The patterned material, without adhesive, shall have a minimum thickness of 0.065 inch at the thickest portion of the patterned cross-section and a minimum thickness of 0.02 inch at the thinnest portion of the cross-section.

(d) **Adhesion:** The black-line mask pavement- marking tape shall adhere to the pavement and existing pavement markings under climatic and traffic conditions normally encountered in the construction work zone.

(e) **Removability:** The black-line mask pavement-marking tape shall be capable of being removed after its intended use without the use of heat, solvents, grinding, sand or water blasting.

M.07.25—Vacant

M.07.30—Glass Beads: The glass beads shall meet the requirements of AASHTO M 247, Type 1 or 4, depending on application.

**SECTION M.13
ROADSIDE DEVELOPMENT**

Replace Section M.13 in its entirety with the following:

**SECTION M.13
ROADSIDE DEVELOPMENT**

M.13.01—Topsoil and Planting Soil**M.13.02—Agricultural Ground Dolomitic Limestone****M.13.03—Fertilizer****M.13.04—Seed Mixtures****M.13.05—Mulch Materials****M.13.06—Compost****M.13.07—Plant Materials****M.13.08—Sod****M.13.09—Erosion Control Matting****M.13.01—Topsoil and Planting Soil:**

1. Topsoil: The term topsoil used herein shall mean a soil meeting the soil textural classes established by the USDA Classification System based upon the proportion of sand, silt, and clay size particles after passing a No. 10 sieve and subjected to a particle size analysis. The topsoil shall contain 5% to 20% organic matter as determined by loss on ignition of oven-dried samples dried at 221°F. The pH range of the topsoil shall be 5.5 to 7.0.

The following textural classes shall be acceptable:

1. Loamy sand, including coarse, loamy fine, and loamy very fine sand, with not more than 80% sand
2. Sandy loam, including coarse, fine and very fine sandy loam
3. Loam
4. Clay loam, with not more than 30% clay
5. Silt loam, with not more than 60% silt
6. Sandy clay loam, with not more than 30% clay

All textural classes of topsoil with greater than 80% sand content will be rejected.

The topsoil furnished by the Contractor shall be a natural, workable soil that is screened and free of subsoil, refuse, stumps, roots, brush, weeds, rocks and stones over 1 1/4 inches diameter, and any other foreign matter that would be detrimental to the proper development of plant growth.

The Contractor shall notify the Engineer of the location of the topsoil at least 15 calendar days prior to delivery. The topsoil and its source shall be inspected and approved by the Engineer before the material is delivered to the Project. Material delivered to the Project which does not meet specifications or which has become mixed with undue amounts of subsoil during any operation at the source or during placing and spreading, will be rejected and shall be replaced by the Contractor with acceptable material.

When topsoil is not furnished by the Contractor, it shall be material taken from the Site in accordance with 2.02 or furnished by the State.

2. Planting Soil: Soil Material to be used for plant backfill shall be one of the following textural classes:

1. Loamy sand, with not more than 80% sand
2. Sandy loam
3. Loam
4. Clay loam, with not more than 30% clay
5. Silt loam, with not more than 60% silt
6. Sandy clay loam, with not more than 30% clay

Planting soil shall be premixed, consisting of approximately 15 % compost, 10% peat, with topsoil and/or native soil. Planting soil shall be loose, friable, and free from refuse, stumps, roots, brush, weeds, rocks and stones 2 inches diameter. In addition, the material shall be free from any material that will prevent proper development and plant growth.

- (a) For ericaceous plants and broad-leaved evergreens requiring an acid soil, planting soil shall have a true pH of 4.5 to 5.5. If it has not, it shall be amended by the Contractor at its expense to the proper pH range by mixing with sulphur.
- (b) Planting soil for general planting of nonacid-loving plants shall have a true pH value of 5.6 to 6.5. If it has not, it shall be amended by the Contractor at its expense to the proper pH range by mixing with dolomitic limestone.

The Engineer reserves the right to draw such samples and to perform such tests as deemed necessary to ensure that these specifications are met.

The amount of sulphur or limestone required to adjust the planting soil to the proper pH range appropriate for its use (above) shall be determined by the Contractor based on the physical testing of a representative sample of the material. Testing must be documented in accordance with the Department’s “[Minimum Schedule for Acceptance Testing](#).” Limestone shall meet the requirements of M.13.02. Sulphur shall be intended for agricultural use and packaged in containers with the manufacturer’s name, chemical analysis and net weight clearly shown on the container. The Contractor shall follow the manufacturer’s recommended procedures for application of the sulphur to the soil.

M.13.02—Agricultural Ground Dolomitic Limestone: Agricultural ground dolomitic limestone shall conform to the standards of the Association of Official Agricultural Chemists (AOAC), and must comply with all existing State and Federal regulations.

The material must comply with the following gradation:

Square Mesh Sieves	Percent Passing By Weight
Pass No. 10	100
Pass No. 20	95
Pass No. 100	50
The minimum calcium carbonate equivalent shall be	90

The Engineer reserves the right to draw such samples and perform such tests as deemed necessary to assure that these specifications are met.

M.13.03—Fertilizer: Fertilizer shall be slow release and commercial grade granular 10-10-10 fertilizer. At least 40% of the nitrogen content shall be slow release, phosphorus shall be available phosphoric acid, and potassium shall be water soluble potash. The fertilizer shall be delivered to the Project in new, clean, sealed containers which bear a label fully describing the contents, the chemical analysis of each nutrient, the fertilizer grade, the net bulk, the brand, and the name and address of the manufacturer. The fertilizer and labels shall conform to all existing State and Federal regulations, and shall meet the standards of the AOAC.

The delivery of each shipment of fertilizer to the Project shall be accompanied by a properly executed and acceptable affidavit of the form shown herein. The affidavit shall be submitted to the Engineer. The Engineer reserves the right to draw such samples and perform such tests as may be deemed necessary to ensure compliance with these specifications.

Form for Affidavit - Fertilizers (Official Stationery of Supplier)

Date _____
To Whom It May Concern:
I hereby certify that I have sold and delivered _____ tons of commercial fertilizer of _____ grade. This material is designated as our batch number(s) _____ and was delivered to _____ for _____ (Contractor’s Name)
Connecticut Department of Transportation Project Number(s): _____ at _____, Connecticut. The material was delivered on _____. The labels and contents meet all State and Federal regulations. The mixture consists of: (List analyses of each major plant nutrient as percent by weight)
Signature _____ (Company Official)
Signature and Seal _____ Notary Public

Should the material fail to meet these specifications, the Contractor shall supply additional acceptable material and perform such work necessary to rectify the deficiencies without cost to the State.

M.13.04—Seed Mixtures:

(a) The grass seed mixture shall conform to the following:

<u>Species</u>	<u>Proportion By Weight Pounds</u>	<u>Minimum Purity (Percent)</u>	<u>Minimum Germination (Percent)</u>
VELVET BENTGRASS, (<u>AGROSTIS CANINA</u>) CERTIFIED VARIETY: OR EQUAL CERTIFIED VARIETY;	25	96	85
RED FESCUE (<u>FESTUCA RUBRA L. SSP. RUBRA</u>) CERTIFIED VARIETY: OR EQUAL CERTIFIED VARIETY	35	97	80
PARTRIDGE PEA (<u>CHAMAECRISTA FASCICULATA</u>) CERTIFIED VARIETY:	10	95	90
INDIAN GRASS (<u>SORGHASTRUM NUTANS</u>) CERTIFIED VARIETY:	15	95	90
CANADA WILDRYE (<u>ELYMUS CANADENSIS</u>) CERTIFIED VARIETY:	5	95	90
KENTUCKY BLUE GRASS (<u>POA PRATENSIS</u>) CERTIFIED VARIETY:	10	95	90

Under no circumstances shall annual Ryegrass, Italian Rye, or any other seed be added to the seed mixture.

(b) The "temporary" grass seed shall be perennial ryegrass (*Lolium perenne*) or an improved variety thereof, such as Manhattan, having a minimum purity of 98% and a minimum germination of 90%.

The seed mixture shall be delivered in new, clean, sealed containers. Labels and contents shall conform to all State and Federal regulations. Seed shall be subject to the testing provisions of the Association of Official Seed Analysts.

The seed shall be delivered to the Project accompanied by a properly executed affidavit for each type and shipment of seed. The affidavit shall be of the form shown herein.

Form for Affidavit - Seed (Official Stationery of Supplier)

Date _____
To Whom It May Concern:
I hereby certify that _____ pounds of seed mixture, lot of commercial fertilizer of _____ grade. This material is designated as our number _____, (Label attached) has been sold and delivered to _____ for _____ (Contractor's Name)
Connecticut Department of Transportation Project Number(s): _____
at _____, Connecticut. The material was delivered on _____. The labels and contents meet all State and Federal regulations. The mixture consists of: (List component parts, proportions, minimum purity, minimum germination)
Signature _____ (Company Official)
Signature and Seal _____ Notary Public

The Engineer reserves the right to take such samples and to make such tests as they deem necessary to ensure compliance with these specifications. The Contractor shall supply such additional acceptable material and perform such work as required to rectify any deficiencies without cost to the State.

M.13.05—Mulch Materials:

1. Wood Chips: Wood chip mulch shall be sound, green wood, and shall be 1/8 inch nominal thickness with not less than 50% of the chips having an area of not less than 1 square inch, nor more than 6 square inches. The material shall be free from rot, leaves, twigs, shavings, debris, and any material injurious to plant growth.

2. Hay: Hay shall be from properly cured grass or legume mowings, free from weeds, reeds, twigs, debris or other objectionable material. It shall be free from rot or mold, and shall have a moisture content of not more than 15% when delivered to the Project. No salt hay shall be used.

3. Wood Fiber Mulch: Wood fiber mulch or wood cellulose fiber mulch shall be material manufactured for mulching seeded areas. The material shall be produced from clean wood, uniform in texture and free of shavings, rot and mold. Wood fiber mulch shall be commercially pre-packaged bearing the brand, name and address of the manufacturer.

4 Shredded Bark Mulch: This shall consist of the outer bark of pine or hardwood trees. The material shall be aged for a minimum of 6 months and be dark brown in color, free of chunks and pieces of wood thicker than 1/4 inch, and shall not contain, in the judgement of the Engineer, an excess of fine particles. Mulch must be free of long stringy material and dyed wood chips.

M.13.06—Compost: Compost shall be a stable, humus-like organic material produced by the aerobic, biological and biochemical decomposition of source-separated organic waste, that may include, leaves and yard trimmings, food scraps, food processing residuals, manure and/or other agricultural residuals, forest residues and bark. Compost may be either commercially packaged or from a bulk source. Compost shall not be altered by the addition of materials such as sand, soil and glass. Compost shall not contain substances toxic to plants and shall contain less than 0.1% by dry weight of man-made foreign matter. Compost shall pose no objectionable odor and shall not closely resemble the raw material from which it was derived. Compost shall be suitable for use as a soil amendment or mulch and shall support the growth

of nursery stock or seeding.. All compost material must be accompanied by a Materials Certificate and Certified Test Report in accordance with 1.06.07.

Compost shall have the following properties:

1. A minimum organic content of 50% dry weight basis as determined by loss on ignition in accordance with ASTM D2974.
2. Carbon:Nitrogen ratio range of 11:1 to 25:1.
3. Carbon:Phosphorus ratio of 120:1 to 240:1.
4. A moisture content of 35 to 60% in accordance with ASTM D2974.
5. Particle size less than 1/2 inch for Planting Backfill, and 1 inch for Erosion Control in accordance with AASHTO T27.
6. The pH of compost shall be in the range of 6 to 7.8.
7. The soluble salt content of compost shall not exceed 4.0 mmhos/cm (dS/m) as determined by using a dilution of 1 part compost to 1 part distilled water.
8. The maturity or stability of the compost shall be Stable or Very Stable, meeting either of the following criteria:
 - (a) > 6 using the Solvita Compost Maturity Test, or
 - (b) < 10°C above ambient temperature (Dewar self-heating test)
9. Maximum foreign matter 1%.

M.13.07—Plant Materials: The materials for this work shall meet the following requirements:

1. General: For the most part, the latest revised version of "Standardized Plant Names," prepared by the Editorial Committee of the American Joint Committee on Horticultural Nomenclature, shall be the authority for all botanical plant names.

All plants shall be first-class representatives of their normal species or varieties in accordance with the ANSI American Standards for Nursery Stock and as specified on the plans. They shall have well-furnished branch systems together with vigorous fibrous root systems.

Plants shall be free from all insect pests, plant diseases, disfiguring knots, stubs, sun-scalds, abrasions of the bark or any other form of injury or objectionable disfigurements. All plant material shall comply with the State and Federal laws with respect to inspection for plant diseases and insect infestations.

Plants shall not be pruned before delivery and no plants shall be cut back from larger sizes to meet the sizes specified.

Plants shall be nursery grown unless otherwise specified and bear evidence of proper nursery care, including adequate transplanting and root pruning.

No plant will be considered to be nursery grown unless it has been growing in a nursery for at least 2 years and unless it has been root pruned or transplanted no more than 5 years prior to digging.

2. Balled & Burlapped (B & B) Material: Nursery-grown trees shall meet the requirements as specified in the current edition of "U.S. American Standards for Nursery Stock," or as further specified in the plans. Nursery-grown trees shall have no cuts which are not healing, no cuts over 3/4 inch diameter which have not completely calloused over and no abrasions of the bark. They must have good fibrous root systems characteristic of the kind.

Trees shall have straight trunks, well-balanced tops and a single leader or as may be characteristic of the species.

Trees in which the leader or branches have been cut back or otherwise topped or de-horned will not be accepted. The caliper of shade trees up to and including 4 inches diameter shall be measured above the root collar (or swelling at the ground) 6 inches above ground level. Caliper shall be the determining measurement in grading. Height measurements shall be given in single feet in sizes up to and including 6 feet.

Small deciduous trees shall be completely natural. Tree "clumps" shall have 3 or more main stems starting from the ground. Bush from trees shall be those with branches which start from the main trunk close to the ground.

3. Container Grown (CG): Container grown shrubs shall possess the minimum number of stems and root mass for the height or container size specified.

Vines and groundcover plants shall be well-furnished with vigorous root systems. They shall be field-grown unless otherwise specified. Plants grown in pots or bands shall have sufficient roots to retain the soil in which they are growing when such plants are removed from their containers. Such plants shall not be root-bound.

4. Inspections: All plants shall be subject to inspection by the Engineer. The Contractor shall designate its wholesale plant material source(s) of supply to the Engineer in writing at least 1 month in

advance of each planting season to facilitate an orderly and timely inspection of the items to be installed. Based on the Project schedule, material procured in the spring for fall installation must be approved before digging occurs. The Contractor shall be represented during such inspection. Inspection may be made at the nursery, on Site or via photos at the discretion of the Engineer.

All tagged samples shall be delivered to the Project for which they were sampled. All deliveries to the planting site shall be accompanied by both the vendor's invoice (designating kind, size, quantity and source(s) of supply) and Certificates of Inspection issued by Federal or State authorities or both. Such certificates shall attest to the freedom of the plant material from diseases and insect infestations. The State reserves the right to inspect all plant materials at the growing sites. Further inspections will be made when the materials are delivered to the Project site or storage area.

5. Substitutions: No change in size, kind or quality of plants from those specified will be permitted without written approval of the Engineer. The Contractor shall submit a written request for permission to make a substitution. Upon receipt of such request, the Engineer will suggest plants meeting the requirements of the Contract as to function, size and type and indicate the reduced cost to the State as the result of said substitution. In no case shall the price for substitutions exceed the bid price of those replaced.

6. Digging Plants: Plants shall be dug immediately before shipment unless otherwise approved. Special precaution shall be taken to avoid any unnecessary injury to or removal of fibrous roots. Damaged roots shall be cut off clean.

- (a) After deciduous bare-root plants are dug, their roots shall be protected from exposure to sun, wind and freezing temperatures. All bare roots of trees, shrubs and vines, unless otherwise directed, shall be puddled in a wet clay mixture which will cover and adhere to the entire root system. Bare roots shall be further protected by wrapping them in wet straw, moss, burlap or other suitable material, or by heeling them in and watering them in order to keep them fresh and viable.
- (b) B & B plants shall be lifted so as to retain as many fibrous roots as possible. Excess soil and feeder roots shall be removed prior to digging. All B & B plants must come from soil which will hold a firm ball. The State reserves the right to reject plants grown in excessively sandy or clayey soil if the plant is to be installed in a dissimilar soil type. The plants shall be wrapped with burlap, or similar approved material, and tightly laced with bio-degradable twine in such a manner as to hold the balls firm and intact. All B & B material arriving with broken or loose balls, or with manufactured balls, will be rejected.

7. Transportation and Labeling: Plants transported by open vehicles shall be covered by tarpaulins or other suitable covers securely tied to the body of the vehicle. Closed vehicles shall be adequately ventilated to prevent overheating of the plants. The heads of trees shall be tied in carefully to prevent breakage of the leaders and the branches. Trunks and branches shall be adequately supported on padding to prevent their being scraped or bruised.

Legible labels shall be attached to all separate plants, boxes, bundles, bales or other plant containers, indicating the name, size, and quantity of units in each container and other information necessary for inspection.

8. Delivery: Notice of delivery of plants shall be given to the Engineer by the Contractor at least 48 hours in advance of the anticipated delivery date, unless otherwise authorized. The Engineer shall be furnished a legible copy of the invoice for each shipment showing kind, sizes and quantities of materials.

All plant materials which are delivered in such a stage as to reasonably endanger their survival will not be accepted.

All plant materials shall be produced in a latitude north of Washington, D.C. and in a longitude east of the Mississippi River.

(a) **Spring Dug:** All deciduous plants shall be received with buds unopened and intact; evergreen plants with the new growth retarded.

(b) **Fall Dug:** Deciduous plants shall not be dug before the plants have hardened off.

9. Water: Water shall be free from oil, acid, alkalis, salts and any other substances harmful to plants. Water from streams shall not be used unless authorized by the Engineer.

10. Peat: Peat shall be commercially packaged peat from sedge, sphagnum or reed sources. Material shall be in such physical condition that it may be rudded through a 1/2 inch mesh screen, and may be readily mixed with soil material. It shall be free from sticks, roots, stones and other objectionable material. It shall be delivered to the Project in clean, new, sealed containers bearing the brand, net bulk, and name and address of the packer. The material shall have an acidity that falls in the pH range of 3.0 to 7.0. It shall have a minimum organic content of 90% and a minimum water-absorbing capacity of 1000%.

11. Miscellaneous:

- (a) Anchor stakes for guying trees shall be of sound hardwood with a minimum length of 2 feet and minimum diameter of 2 inches at the smaller end. Stakes made from lumber shall measure no less than 2 inches x 2 inches throughout their lengths. Trees over 3 1/2 inch caliper shall require either stakes or dead-men for support as approved by the Engineer. The type of stake used shall be uniform throughout the Site.
- (b) Tree support posts shall be sawed posts cut to a uniform square cross-section of 2 inches x 2 inches throughout their lengths. They shall be cut from sound, hard, clean, straight wood free from crooks, 8 feet long for major trees and 4 - 5 feet long for minor trees or as approved by the Engineer.
- (c) Hose for protecting the bark of major and minor trees from guy wires shall be of good quality rubber or plastic hose acceptable to the Engineer, with a minimum inside diameter of 3/8 inch and a maximum inside diameter of 3/4 inch.
- (d) Wire shall be pliable, new, annealed, galvanized, 12-gage, for staking support and 10-gage for guying to trees. Alternate staking and guying systems shall be submitted to the Engineer for approval.
- (e) Flags shall be white cotton cloth or white plastic ribbon, 2 inches wide and 18 inches long. Gauze is not acceptable.
- (f) Anti-desiccant shall be an emulsion such as will provide a film over plant surfaces, permeable enough to permit transpiration. Anti-desiccant shall be delivered in containers of the manufacturer and shall be mixed according to the manufacturer's instructions.

M.13.08—Sod: Sod shall be living sod procured from areas where the soil is reasonably fertile and from areas similar in the degree of moisture to the area to be planted. It shall be cut or stripped, by approved methods, from turf areas relatively free of large stones, roots or other materials which might be detrimental to the sodding operation or to future maintenance. The sod shall contain a sufficient proportion of pasture grasses to ensure a good mat of roots and a reasonably dense turf unless Type No. 1, which is a superior quality, is specified on the plans.

Any growth more than 3 inches high shall be mowed to a height of 3 inches not more than 5 days before the sod is lifted.

Sources of sod shall be made known to the Engineer at least 5 days before cutting and shall be approved before mowing. The sod shall be cut into squares or rectangular portions which shall be 12 inches wide and may vary in length, but must be of a size which will permit them to be lifted without breaking. The sod shall be sufficiently moist so the soil will adhere firmly to the roots when it is handled and may require watering before lifting. Field grown sod shall be cut to a minimum depth of 1 1/2 to 2 inches. Where Type No. 1 Sod is specified, it shall be cut to a minimum depth of 1 to 1 1/2 inches.

Type No. 1 Sod shall be obtained from inspected and approved commercial sod farm sources of supply and shall be free from noxious weeds, insect infestations, and fungus and bacterial diseases.

M.13.09—Erosion Control Matting: Erosion control matting shall be from the Department's [Qualified Products List](#). Staples shall meet the Manufacturer's requirements. Material which shows signs of degradation shall not be used and shall be removed from the Project.

**SECTION M.18
SIGNING**

Replace Section M.18 in its entirety with the following:

**SECTION M.18
SIGNING**

M.18.01—Vacant

M.18.02—Anchor Bolts

M.18.03—Vacant

M.18.04—Vacant

M.18.05—Vacant

M.18.06—Vacant

M.18.07—Delineators

M.18.08—Paint for Sign Panel Overlay

M.18.09—Retroreflective Sheeting

M.18.10—Demountable Copy

M.18.11—Sign Panels-Extruded Aluminum

M.18.12—Panel Bolt Assemblies and Post Clip Assemblies

M.18.13—Sign Face—Sheet Aluminum

M.18.14—Metal Sign Posts

M.18.15—Sign-Mounting Bolts

M.18.01—Vacant

M.18.02—Anchor Bolts: Anchor bolts shall meet the requirements of ASTM A449.

Leveling nuts and nuts for anchor bolt assemblies shall meet the requirements of ASTM A563, Grade DH. Leveling nuts and anchor bolt assemblies shall be hot-dip galvanized in accordance with the requirements of ASTM A153, Class C. Leveling nuts shall be tapped oversize, after galvanizing, in accordance with ASTM A563, Section 7.5.1, and shall be provided with a lubricant in accordance with the requirements of ASTM A325.

The Pedestal grout leveling template shall meet the requirements of ASTM A36 and shall be a minimum of 1/2 inch thick.

M.18.03—Vacant

M.18.04—Vacant

M.18.05—Vacant

M.18.06—Vacant

M.18.07—Delineators

1. Reflectors: Reflective sheeting shall meet the requirements of M.18.09 and be the type, color and shape indicated on the plans. Backplate or sign blank material shall be an aluminum alloy of the type, shape and thickness indicated on the plans.

2. Metal Delineator Posts:

The "Standard Metal Delineator Posts" shall be made of ASTM A36 structural steel. The posts shall be fabricated to the dimensions and weight shown on the plans. After delineator mounting holes have been made, the posts shall be galvanized in accordance with ASTM A123.

3. Bridge Rail Mounting Brackets:

The bracket shall be made of 0.125 inch Aluminum Alloy 6061-T6 fabricated to the dimensions shown on the plans and shall be fastened to the metal bridge rail with 2 each 3/8 inch diameter x 5/8 inch long cadmium plated steel box head self-tapping screws. Fasteners shall meet the requirements indicated on the plans.

M.18.08—Paint for Sign Panel Overlay: The paint to be used for the finished coat shall be an extremely durable, highest quality, semi-gloss green enamel for use on plywood and metal signs and shall be resistant to air, sun and water.

It shall consist of pigments of the required fineness and composition ground in the required vehicle by a

suitable grinding machine to the required fineness. All pigments, resins, oils, thinners and driers used shall be of the best quality, free from adulterants of any kind, and shall comply with the following requirements:

Enamel Composition	Min.	Max.
Pigment, %	40	-
Vehicle, %	-	60
Volatile matter in vehicle, % by weight	-	55
Coarse particles and skins retained on No. 325 screen, based on pigment, %	-	0.5
Viscosity, Krebs units at 77°F	65	75
Weight per gallon, pounds	10.5	-
Fineness of grind (North Standard)	5	-

Pigment Composition	Min.	Max.
Chrome green, %	57	-
Extender pigment, %	-	43

The chrome green shall be Imperial A 4464 Velvet Green or approved equal.

The extender pigments shall consist of any of the following or combination thereof: magnesium silicate, barium sulfate, or diatomaceous silica. A ratio of 50% magnesium silicate and 50% diatomaceous silica has been found to produce the desired semi-gloss.

Vehicle—The vehicle shall contain not less than 45% solids by weight and shall be composed of a long oil soya modified alkyd resin solution or solutions, petroleum solvent thinners and driers. Rosin or rosin derivatives shall not be present. The alkyd resin solution or solutions shall conform to FS TT-R-266, Type I, Class A of latest issue.

Specular Gloss—The enamel shall be flowed on a tin panel and allowed to dry for 24 hours before measuring. The specular gloss at 60 degree angle of incident, ASTM D523 shall be between 35 and 45.

Setting and Drying Time—This enamel shall set to touch in less than 5 hours. It shall dry hard and tough in not more than 24 hours.

Flash Point—Not below 86°F as tested in accordance with ASTM D93.

Water Resistance—The enamel shall be flowed on a tin panel and allowed to dry for 48 hours. After being immersed for 18 hours in distilled water, it shall show no blistering or wrinkles upon removal and shall show no dulling or change in color after 2 hours recovery.

Skinning—This enamel shall not skin over within 48 hours in a 3/4 filled, closed container. Small amounts of anti-skinning agents, wetting agents, suspension agents, and anti-drier absorption agents may be added at the discretion of the manufacturer.

Working Properties—The enamel shall be well ground, shall not settle in the container, and shall be capable of being broken up with a paddle to a smooth uniform enamel of good brushing consistency, and shall have good flowing, covering and leveling properties.

M.18.09—Retroreflective Sheeting: The manufacturer and type of retroreflective sheeting materials shall be listed on the Department's Qualified Product List for the application intended.

M.18.10—Demountable Copy: The materials for this work shall meet the following:

1. Vacant
2. Type IV Retroreflective Sheeting:

Demountable cutout letters, digits, border, corner radii and copy accessories shall consist of adhesive coated retroreflective sheeting permanently adhered to flat aluminum backing. The retroreflective sheeting shall conform to M.18.09. The design of letters and accessories shall conform to FHWA Standards for use on "National System of Interstate and Defense" highways.

Aluminum backing shall be a minimum of 0.040 inch thick aluminum sheet of 3003-H14 alloy.

Aluminum sheeting shall be properly treated according to sheeting manufacturer's specifications.

The demountable copy shall be fastened to the sign panel with aluminum rivets. Rivets shall be of the pull through type and of the size and number designated by the demountable copy manufacturer.

3. Non-Reflective Plastic Sheeting:

Description: Demountable cutout letters, digits, border, corner radii and copy accessories shall consist of adhesive-coated, non-reflective plastic sheeting permanently adhered to flat aluminum backing.

The material shall consist of a flexible, pigmented, plastic film completely pre-coated with a solvent or heat-activated, tack-free adhesive. The adhesive shall be protected by a treated paper liner, which shall be removable without soaking in water or other solvents. The non-reflective plastic sheeting shall conform to the following:

Property Requirements:

A. Thickness: The thickness of the plastic film with adhesive shall be a minimum of 0.003 inch and a maximum of 0.004 inch.

B. Film: The unapplied or applied film shall be readily processed with, and insure adequate adhesion of, process inks recommended by the manufacturer.

(1) Flexibility: The material shall be sufficiently flexible to permit application over and conform to moderately contoured surfaces.

(2) Gloss: The film shall have an initial 60-degree gloss value of 35 (minimum), when tested in accordance with ASTM D523, measuring at least 3 portions of the film to obtain uniformity.

C. Adhesive: The pre-coated adhesive shall form a durable bond to smooth, clean, corrosion and weather-resistant surfaces, shall be of uniform thickness, non-corrosive to applied surfaces and shall have no staining affect on the film.

D. Adhesion: The material, applied according to Paragraph J "Preparation of Test Panels," shall have sufficient bond to prevent removal from the panel in 1 piece without the aid of a physical tool.

E. Exterior Exposure: The material shall withstand 3 years' vertical, south-facing exterior exposure at a site acceptable to the Engineer, showing no appreciable discoloration, cracking, crazing, blistering, delamination, or loss of adhesion. A slight amount of chalking is permissible. The film shall not support fungus growth.

F. Dimensional Stability: The material shall show no more than 0.02 inch shrinkage in any direction from edge of the panel when prepared in accordance with Paragraph J after being subjected to a temperature of 149°F for 48 hours.

G. Heat Resistance: The material, applied according to Paragraph J, shall be heat-resistant enough to retain adhesion after 1 week at 149°F.

H. Solvent and Chemical Resistance: The material, when prepared in accordance with Paragraph J, shall withstand immersion in the following liquids at 70-90°F, showing no appreciable decrease in adhesion, color or general appearance:

Liquids	Time/Hours
Reference Fuel (MIL-F-8799A) (15 parts xylol – 85 parts mineral spirits by weight)	1
Distilled Water	24
SAE #20 Motor Oil	24

I. Opacity: When applied, the material shall be sufficiently opaque to hide a contrasting black printed legend and white surface.

J. Preparation of Test Panels: Test panels shall be prepared using a 6.5 inch x 6.5 inch piece of the plastic film, applied to a clean 6.0 inch x 6.0 inch aluminum panel, premasked or as recommended by the manufacturer, trimmed evenly at the edge of the panel, and aged for 48 hours at 70 - 90°F.

K. Shelf-Life Storage: The material shall withstand 1 year's shelf life when stored in a clean area free from exposure to excessive heat, moisture and direct sunlight.

L. General Characteristics and Packaging: The plastic film shall be furnished in rolls, cut sheets or characters, as may be specified. The film, as supplied, shall be free from ragged edges, streaks, blisters, foreign matter or other surface imperfections which would make it unsuitable for the intended usage, and shall be readily cut with scissors, knife, blade, shears or other production tools. Complete and detailed instructions for mounting the plastic film shall be supplied with each package of material.

M. Quality Assurance: For the non-reflective plastic sheeting a Certified Test Report in accordance with 1.06.07 shall be submitted.

M.18.11—Sign Panels-Extruded Aluminum: Sign panels (extruded aluminum) shall be of the butt type, alloy 6063-T6 ASTM B221. Several extruded sections shall be joined with panel nuts, bolts, and washers to achieve the desired sign size. The extruded aluminum panels shall be of 6 inch and 12 inch heights to achieve sign panel vertical dimensions in increments of 6 inches; however, no more than one 6 inch panel shall be used on any sign. The weight and section properties of the 6 inch and 12 inch extruded panels shall be as indicated on the plans.

On the vertical axis (the 6 inch or 12 inch dimension), the panel face shall be in the same plane within 0.015 inch in any 6 inches. Extruded sections shall be mounted horizontally, and the panel faces shall be flush after the erection of the sign is complete.

Cleaning: Extruded aluminum sign panels shall be thoroughly cleaned and degreased by total immersion in an alkaline solution which is controlled and titrated to the solution manufacturer's recommendations. Immersion time shall be sufficient to completely remove all grease, dirt or other contaminants. After cleaning, the panels shall be thoroughly rinsed with clear running water.

Pretreatment: Sign panels shall be treated with a light, tightly adherent chromate conversion coating, free of any powdery residue, ranging in color from a silvery iridescent to a pale yellow, conforming with ASTM B449, Class 2, 10-35 mg/s.f., with 25 mg/s.f. as the optimum coating weight.

M.18.12—Panel Bolt Assemblies and Post Clip Assemblies:

Panel Bolt Assembly: Aluminum hex head bolt, hex nut and washer shall be as shown on the plans and shall be used to unite several panels sections to conform to the designed sign size. Nuts shall be drawn tight. Bolt holes may be drilled or blanked to finished size.

Thread fit for bolts shall conform to class 2-A fit of American Standard Association.

Post Clip Assembly: Aluminum post clips square head bolt, lock nut and washer shall be as shown on the plans.

The shank of the post clip bolts shall fit tightly against the sign support flange after nuts have been tightened. The clip bolts shall be torqued to 20 ft-lb. when using dry, clean, unlubricated threads.

M.18.13—Sign Face—Sheet Aluminum: Sheet aluminum sign blanks shall be constructed of sheet aluminum, alloy 6061 T6 or alloy 5052 H38. Sheet aluminum sign blanks shall meet the requirements of ASTM B209. They shall be degreased and etched in accordance with the recommendations of the sheeting manufacturer or treated with a light, tightly adherent chromate conversion coating, free of any powdery residue, ranging in color from silvery iridescent to a pale yellow, meeting the requirements of ASTM B449, Class 2 10-35 mg/s.f. with 25 mg/s.f. as the optimum coating. The thickness shall be as specified on the plans.

M.18.14—Metal Sign Posts: Metal sign posts, square tubular supports and parapet-mounted sign supports shall conform to the requirements on the plans. The size, shape and mass of posts and supports shall be as specified in the plans.

After fabrication of the posts and supports, including hole punching or drilling, they shall be galvanized in accordance with ASTM A123 unless otherwise noted on the plans.

M.18.15—Sign-Mounting Bolts: Bolts used for sign-mounting shall be stainless steel and meet the requirements of ASTM F593, Group 1 or 2 (Alloy Types 304 or 316). Locking nuts shall be stainless steel and shall meet the requirements of ASTM F594, Group 1 or 2 (Alloy Types 304 or 316). Washers shall also be stainless steel and shall meet the requirements of ASTM A240 (Alloy Types 304 or 316).

**Construction Contracts - Required Contract Provisions
(FHWA Funded Contracts)**

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- EXHIBIT F – Federal Wage Rates (Attached at the end)
- EXHIBIT G - State Wage Rates (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

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.”

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 816), 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:

- i. "Commission" means the Commission on Human Rights and Opportunities;
- ii. "Contract" and "contract" include any extension or modification of the Contract or contract;
- iii. "Contractor" and "contractor" include any successors or assigns of the Contractor or contractor;
- iv. "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.
- v. "good faith" means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations;
- vi. "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;
- vii. "marital status" means being single, married as recognized by the State of Connecticut, widowed, separated or divorced;
- viii. "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;

- ix. "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
- x. "public works contract" means any agreement between any individual, firm or corporation and the State or any political subdivision of the State other than a municipality for construction, rehabilitation, conversion, extension, demolition or repair of a public building, highway or other changes or improvements in real property, or which is financed in whole or in part by the State, including, but not limited to, matching expenditures, grants, loans, insurance or guarantees.

For purposes of this Section, the terms "Contract" and "contract" do not include a contract where each contractor is (1) a political subdivision of the State, including, but not limited to, a municipality, (2) a quasi-public agency, as defined in Conn. Gen. Stat. Section 1-120, (3) any other state, including but not limited to any federally recognized Indian tribal governments, as defined in Conn. Gen. Stat. Section 1-267, (4) the federal government, (5) a foreign government, or (6) an agency of a subdivision, agency, state or government described in the immediately preceding enumerated items (1), (2), (3), (4) or (5).

- (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, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such Contractor that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the State of Connecticut; and the Contractor further agrees to take affirmative action to insure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by 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.”

The Nondiscrimination Certifications can be found at the Office of Policy and Management website.

<http://www.ct.gov/opm/cwp/view.asp?a=2982&Q=390928>

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

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

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 contacting 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.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR
APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL
ACCESS ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

EXHIBIT B**TITLE VI CONTRACTOR ASSURANCES**

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 shall comply with the regulations relative to nondiscrimination in federally assisted programs of the United States Department of Transportation (hereinafter, "USDOT"), Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the "Regulations"), 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, shall not discriminate on the grounds of race, color, national origin, sex, age, or disability in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor shall not participate either directly or indirectly in the discrimination prohibited by Subsection 5 of the Regulations, including employment practices when the Contract covers a program set forth in Appendix B of the Regulations.

3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:**

In all solicitations either by competitive 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 shall be notified by the Contractor of the Contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, national origin, sex, age, or disability.

4. **Information and Reports:** The Contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Connecticut Department of Transportation (ConnDOT) or the Funding Agency (FHWA, FTA and FAA) to be pertinent to ascertain compliance with such Regulations, orders, 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 shall so certify to ConnDOT or the Funding Agency, as appropriate, and shall set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance:** In the event of the Contractor's noncompliance with the nondiscrimination provisions of this Contract, the ConnDOT shall impose such sanctions as it or the Funding Agency may determine to be appropriate, including, but not limited to:

- A. Withholding contract payments until the Contractor is in-compliance; and/or
- B. Cancellation, termination, or suspension of the Contract, in whole or in part.

6. **Incorporation of Provisions:** The Contractor shall include the provisions of paragraphs 1 through 5 in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The Contractor shall take such action with respect to any subcontract or procurement as the ConnDOT or the Funding Agency may -direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the Contractor may request the ConnDOT to enter into such litigation to protect the interests of the Funding Agency, and, in addition, the Contractor may request the United States to enter into such litigation to protect the interests of the United States

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 or 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 Contractor's 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 workforce, 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	Old Lyme	Old Saybrook	Preston
Sprague	Stonington	Waterford	

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 (l)(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(g)(2), as amended by P.A. 10-1, 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/seec. 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 fund-raising activities for a candidate committee, exploratory committee, political committee or party committee, including, but not limited to, forwarding tickets to potential contributors, receiving contributions for transmission to any such committee or bundling contributions, (C) serving as chairperson, treasurer or deputy treasurer of any such committee, or (D) establishing a political committee for the sole purpose of soliciting or receiving contributions for any committee. Solicit does not include: (i) making a contribution that is otherwise permitted by Chapter 155 of the Connecticut General Statutes; (ii) informing any person of a position taken by a candidate for public office or a public official, (iii) notifying the person of any activities of, or contact information for, any candidate for public office; or (iv) serving as a member in any party committee or as an officer of such committee that is not otherwise prohibited in this section.

“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 here for final executed contract only. Refer to NTC – Federal Wage Determinations)

EXHIBIT G

(state wages will be inserted here)

Project: Retaining Wall Failure Remediation On Route 12

**Minimum Rates and Classifications
for Heavy/Highway Construction**

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

ID#: H 24042

By virtue of the authority vested in the Labor Commissioner under provisions of Section 31-53 of the General Statutes of Connecticut, as amended, the following are declared to be the prevailing rates and welfare payments and will apply only where the contract is advertised for bid within 20 days of the date on which the rates are established. Any contractor or subcontractor not obligated by agreement to pay to the welfare and pension fund shall pay this amount to each employee as part of his/her hourly wages.

Project Number:

Project Town: Norwich

FAP Number: 0012(140)

State Number: 103-269

Project: Retaining Wall Failure Remediation On Route 12

CLASSIFICATION

Hourly Rate

Benefits

01) Asbestos/Toxic Waste Removal Laborers: Asbestos removal and encapsulation (except its removal from mechanical systems which are not to be scrapped), toxic waste removers, blasters. **See Laborers Group 5 and 7**

1) Boilermaker	33.79	34% + 8.96
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1a) Bricklayer, Cement Masons, Cement Finishers, Plasterers, Stone Masons	33.48	30.21
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2) Carpenters, Piledrivermen	32.60	25.34
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As of: Thursday, September 28, 2017

Project: Retaining Wall Failure Remediation On Route 12

2a) Diver Tenders	32.60	25.34
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3) Divers	41.06	25.34
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03a) Millwrights	33.14	25.74
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4) Painters: (Bridge Construction) Brush, Roller, Blasting (Sand, Water, etc.), Spray	48.55	20.45
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4a) Painters: Brush and Roller	32.72	20.45
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4b) Painters: Spray Only	35.72	20.45
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4c) Painters: Steel Only	34.72	20.45
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Project: Retaining Wall Failure Remediation On Route 12

4d) Painters: Blast and Spray 35.72 20.45

4e) Painters: Tanks, Tower and Swing 34.72 20.45

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) 39.15 25.17+3% of gross wage

6) Ironworkers: Ornamental, Reinforcing, Structural, and Precast Concrete Erection 35.47 33.39 + 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) 41.62 30.36

---LABORERS----

8) Group 1: Laborer (Unskilled), Common or General, acetylene burner, concrete specialist 29.25 19.50

Project: Retaining Wall Failure Remediation On Route 12

9) Group 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators, powdermen	29.50	19.50
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10) Group 3: Pipelayers	29.75	19.50
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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	29.75	19.50
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12) Group 5: Toxic waste removal (non-mechanical systems)	31.25	19.50
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13) Group 6: Blasters	31.00	19.50
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Group 7: Asbestos/lead removal, non-mechanical systems (does not include leaded joint pipe)	30.25	19.50
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Group 8: Traffic control signalmen	16.00	19.50
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Project: Retaining Wall Failure Remediation On Route 12

Group 9: Hydraulic Drills	29.30	18.90
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---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	32.22	19.50 + a
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13b) Brakemen, Trackmen	31.28	19.50 + a
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---CLEANING, CONCRETE AND CAULKING TUNNEL---

14) Concrete Workers, Form Movers, and Strippers	31.28	19.50 + a
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15) Form Erectors	31.60	19.50 + a
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Project: Retaining Wall Failure Remediation On Route 12

---ROCK SHAFT LINING, CONCRETE, LINING OF SAME AND TUNNEL
IN FREE AIR:----

16) Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers	31.28	19.50 + a
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17) Laborers Topside, Cage Tenders, Bellman	31.17	19.50 + a
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18) Miners	32.22	19.50 + a
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---TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED
AIR: ----

18a) Blaster	38.53	19.50 + a
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19) Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders	38.34	19.50 + a
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Project: Retaining Wall Failure Remediation On Route 12

20) Change House Attendants, Powder Watchmen, Top on Iron Bolts	36.41	19.50 + a
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21) Mucking Machine Operator	39.11	19.50 + a
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---TRUCK DRIVERS---(*see note below)

Two axle trucks	29.13	22.32 + a
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Three axle trucks; two axle ready mix	29.23	22.32 + a
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Three axle ready mix	29.28	22.32 + a
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Four axle trucks, heavy duty trailer (up to 40 tons)	29.33	22.32 + a
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Project: Retaining Wall Failure Remediation On Route 12

Four axle ready-mix	29.38	22.32 + a
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Heavy duty trailer (40 tons and over)	29.58	22.32 + a
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Specialized earth moving equipment other than conventional type on-the road trucks and semi-trailer (including Euclids)	29.38	22.32 + a
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---POWER EQUIPMENT OPERATORS---		
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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. & Over, Tunnel Boring Machines. (Trade License Required)	39.30	24.05 + a
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Group 2: Cranes (100 ton rate capacity and over); Excavator over 2 cubic yards; Piledriver (\$3.00 premium when operator controls hammer); Bauer Drill/Caisson. (Trade License Required)	38.98	24.05 + a
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Group 3: Excavator/Backhoe under 2 cubic yards; 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 of operation), Rubber Tire Excavator (Drott-1085 or similar); Grader Operator; Bulldozer Fine Grade (slopes, shaping, laser or GPS, etc.). (Trade License Required)	38.24	24.05 + a
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Project: Retaining Wall Failure Remediation On Route 12

Group 4: Trenching Machines; Lighter Derrick; Concrete Finishing Machine; CMI Machine or Similar; Koehring Loader (Skooper)	37.85	24.05 + a
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Group 5: Specialty Railroad Equipment; Asphalt Paver; Asphalt Spreader; Asphalt Reclaiming Machine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24" Mandrell)	37.26	24.05 + a
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Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller.	37.26	24.05 + a
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Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	36.95	24.05 + a
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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).	36.61	24.05 + a
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Group 8: Mechanic, Grease Truck Operator, Hydroblaster, Barrier Mover, Power Stone Spreader; Welder; Work Boat under 26 ft.; Transfer Machine.	36.21	24.05 + a
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Group 9: Front End Loader (under 3 cubic yards), Skid Steer Loader regardless of attachments (Bobcat or Similar); Fork Lift, Power Chipper; Landscape Equipment (including hydroseeder).	35.78	24.05 + a
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Project: Retaining Wall Failure Remediation On Route 12

Group 10: Vibratory Hammer, Ice Machine, Diesel and Air Hammer, etc. 33.74 24.05 + a

Group 11: Conveyor, Earth Roller; Power Pavement Breaker (whiphammer), Robot Demolition Equipment. 33.74 24.05 + a

Group 12: Wellpoint Operator. 33.68 24.05 + a

Group 13: Compressor Battery Operator. 33.10 24.05 + a

Group 14: Elevator Operator; Tow Motor Operator (Solid Tire No Rough Terrain). 31.96 24.05 + a

Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator. 31.55 24.05 + a

Group 16: Maintenance Engineer/Oiler 30.90 24.05 + a

Project: Retaining Wall Failure Remediation On Route 12

Group 17: Portable asphalt plant operator; portable crusher plant operator; portable concrete plant operator.	35.21	24.05 + a
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Group 18: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (minimum for any job requiring CDL license).	32.79	24.05 + a
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**NOTE: SEE BELOW

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

20) Lineman, Cable Splicer, Technician	47.14	6.5% + 20.98
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21) Heavy Equipment Operator	42.43	6.5% + 18.84
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22) Equipment Operator, Tractor Trailer Driver, Material Men	40.07	6.5% + 18.27
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Project: Retaining Wall Failure Remediation On Route 12

23) Driver Groundmen	25.93	6.5% + 8.53
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23a) Truck Driver	35.36	6.5% + 16.88
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---LINE CONSTRUCTION---

24) Driver Groundmen	30.92	6.5% + 9.70
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25) Groundmen	22.67	6.5% + 6.20
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26) Heavy Equipment Operators	37.10	6.5% + 10.70
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27) Linemen, Cable Splicers, Dynamite Men	41.22	6.5% + 12.20
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Project: Retaining Wall Failure Remediation On Route 12

28) Material Men, Tractor Trailer Drivers, Equipment Operators

35.04

6.5% + 10.45

Project: Retaining Wall Failure Remediation On Route 12

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 state work ~~

The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.

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

It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.

The annual adjustments will be posted on the Department of Labor's Web page: www.ct.gov/dol.

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.

As of: Thursday, September 28, 2017

Project: Retaining Wall Failure Remediation On Route 12

Effective October 1, 2005 - Public Act 05-50: any person performing the work of any mechanic, laborer, or worker shall be paid prevailing wage

All Person who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.

All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)

Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.

~~Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clause (29 CFR 5.5 (a) (1) (ii)).

Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.

As of: Thursday, September 28, 2017

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.

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.

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

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

- **ASBESTOS WORKERS**

Applies all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems.

- **ASBESTOS INSULATOR**

Handle, install apply, fabricate, distribute, prepare, alter, repair, dismantle, heat and frost insulation, including penetration and fire stopping work on all penetration fire stop systems.

- **BOILERMAKERS**

Erects hydro plants, incomplete vessels, steel stacks, storage tanks for water, fuel, etc. Builds incomplete boilers, repairs heat exchanges and steam generators.

- **BRICKLAYERS, CEMENT MASONS, CEMENT FINISHERS, MARBLE MASONS, PLASTERERS, STONE MASONS, PLASTERERS. STONE MASONS, TERRAZZO WORKERS, TILE SETTERS**

Lays building materials such as brick, structural tile and concrete cinder, glass, gypsum, terra cotta block. Cuts, tools and sets marble, sets stone, finishes concrete, applies decorative steel, aluminum and plastic tile, applies cements, sand, pigment and marble chips to floors, stairways, etc.

- **CARPENTERS, MILLWRIGHTS. PILEDRIVERMEN. LATHERS. RESILIENT FLOOR LAYERS, DOCK BUILDERS, DIKERS, DIVER TENDERS**

Constructs, erects, installs and repairs structures and fixtures of wood, plywood and wallboard. Installs, assembles, dismantles, moves industrial machinery. Drives piling into ground to provide foundations for structures such as buildings and bridges, retaining walls for earth embankments, such as cofferdams. Fastens wooden, metal or rockboard lath to walls, ceilings and partitions of buildings, acoustical tile layer, concrete form builder. Applies firestopping materials on fire resistive joint systems only. Installation of curtain/window walls only where attached to wood or metal studs. Installation of insulated material of all types whether blown, nailed or attached in other ways to walls, ceilings and floors of buildings. Assembly and installation of modular furniture/furniture systems. Free-standing furniture is not covered. This includes free standing: student chairs, study top desks, book box desks, computer furniture, dictionary stand, atlas stand, wood shelving, two-position information access station, file cabinets, storage cabinets, tables, etc.

- **CLEANING LABORER**

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

- **DELIVERY PERSONNEL**

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

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

- **ELECTRICIANS**

Install, erect, maintenance, alteration or repair of any wire, cable, conduit, etc., which generates, transforms, transmits or uses electrical energy for light, heat, power or other purposes, including the Installation or maintenance of telecommunication, LAN wiring or computer equipment, and low voltage wiring.

***License required per Connecticut General Statutes: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9.**

- **ELEVATOR CONSTRUCTORS**

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

- **FORK LIFT OPERATOR**

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

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

- **GLAZIERS**

Glazing wood and metal sash, doors, partitions, and 2 story aluminum storefronts. Installs glass windows, skylights, store fronts and display cases or surfaces such as building fronts, interior walls, ceilings and table tops and metal store fronts. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers which requires either a blended rate or equal composite workforce.

- **IRONWORKERS**

Erection, installation and placement of structural steel, precast concrete, miscellaneous iron, ornamental iron, metal curtain wall, rigging and reinforcing steel. Handling, sorting, and installation of reinforcing steel (rebar). Metal bridge rail (traffic), metal bridge handrail, and decorative security fence installation. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers which requires either a blended rate or equal composite workforce. Insulated metal and insulated composite panels are still installed by the Ironworker.

- **INSULATOR**

Installing fire stopping systems/materials for "Penetration Firestop Systems": transit to cables, electrical conduits, insulated pipes, sprinkler pipe penetrations, ductwork behind radiation, electrical cable trays, fire rated pipe penetrations, natural polypropylene, HVAC ducts, plumbing bare metal, telephone and communication wires, and boiler room ceilings. Past practice using the applicable licensed trades, Plumber, Sheet Metal, Sprinkler Fitter, and Electrician, is not inconsistent with the Insulator classification and would be permitted.

- **LABORERS**

Acetylene burners, asphalt rakers, chain saw operators, concrete and power buggy operator, concrete saw operator, fence and guard rail erector (except metal bridge rail (traffic), metal bridge handrail, and decorative security fence installation.), hand operated concrete vibrator operator, mason tenders, pipelayers (installation of storm drainage or sewage lines on the street only), pneumatic drill operator, pneumatic gas and electric drill operator, powermen and wagon drill operator, air track operator, block paver, curb setters, blasters, concrete spreaders.

- **PAINTERS**

Maintenance, preparation, cleaning, blasting (water and sand, etc.), painting or application of any protective coatings of every description on all bridges and appurtenances of highways, roadways, and railroads. Painting, decorating, hardwood finishing, paper hanging, sign writing, scenic art work and drywall hhg for any and all types of building and residential work.

- **LEAD PAINT REMOVAL**

Painter's Rate

1. Removal of lead paint from bridges.
2. Removal of lead paint as preparation of any surface to be repainted.
3. Where removal is on a Demolition project prior to reconstruction.

Laborer's Rate

1. Removal of lead paint from any surface NOT to be repainted.
2. Where removal is on a *TOTAL* Demolition project only.

- **PLUMBERS AND PIPEFITTERS**

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

- **POWER EQUIPMENT OPERATORS**

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

- **ROOFERS**

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

- **SHEETMETAL WORKERS**

Fabricate, assembles, installs and repairs sheetmetal products and equipment in such areas as ventilation, air-conditioning, warm air heating, restaurant equipment, architectural sheet metal work, sheetmetal roofing, and aluminum gutters.

Fabrication, handling, assembling, erecting, altering, repairing, etc. of coated metal material panels and composite metal material panels when used on building exteriors and interiors as soffits, fascia, louvers, partitions, wall panel siding, canopies, cornice, column covers, awnings, beam covers, cladding, sun shades, lighting troughs, spires, ornamental roofing, metal ceilings, mansards, copings, ornamental and ventilation hoods, vertical and horizontal siding panels, trim, etc.

The sheet metal classification also applies to the vast variety of coated metal material panels and composite metal material panels that have evolved over the years as an alternative to conventional ferrous and non-ferrous metals like steel, iron, tin, copper, brass, bronze, aluminum, etc. Insulated metal and insulated composite panels are still installed by the Iron Worker. Fabrication, handling, assembling, erecting, altering, repairing, etc. of architectural metal roof, standing seam roof, composite metal roof, metal and composite bathroom/toilet partitions, aluminum gutters, metal and composite lockers and shelving, kitchen equipment, and walk-in coolers.

- **SPRINKLER FITTERS**

Installation, alteration, maintenance and repair of fire protection sprinkler systems.

***License required per Connecticut General Statutes: F-1,2,3,4.**

- **TILE MARBLE AND TERRAZZO FINISHERS**

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

- **TRUCK DRIVERS**

Definitions:

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

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

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

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

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

4) “De Minimus” is a rule that recognizes that unsubstantial or insignificant periods of time which cannot as a practical administrative matter be precisely recorded for payroll purposes, may be disregarded. This rule applies only where there are uncertain and indefinite periods of time involved of a short duration and where the failure to count such time is due to consideration justified by worksite realities. For example, with respect to truck drivers on prevailing wage sites, this is typically less than 15 minutes at a time.

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

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

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

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

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

Truck Drivers are not covered in the following instances:

- Material delivery truck drivers while off “the site of the work”
- Truck Drivers traveling between a prevailing wage job and a commercial supply facility while they are off the “site of the work”
- Truck drivers whose time spent on the “site of the work” is de minimus, such as under 15 minutes at a time, merely to drop off materials or supplies, including asphalt.

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

For example:

- Material men and deliverymen are not covered under prevailing wage as long as they are not directly involved in the construction process. If, they unload the material, they would then be covered by prevailing wage for the classification they are performing work in: laborer, equipment operator, etc.
- Hauling material off site is not covered provided they are not dumping it at a location outlined above.
- Driving a truck on site and moving equipment or materials on site would be considered covered work, as this is part of the construction process.

Any questions regarding the proper classification should be directed to:

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

Statute 31-55a

Last Updated: June 02, 2008

You are here: [DOL Web Site](#) ▶ [Wage and Workplace Issues](#) ▶ Statute 31-55a

- Special Notice -

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

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

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

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

Any questions should be directed to the Contract Compliance Unit, Wage and Workplace

Standards Division, Connecticut Department of Labor, 200 Folly Brook Blvd.,
Wethersfield, CT 06109 at (860)263-6790.

[Workplace Laws](#)

Published by the Connecticut Department of Labor, Project Management Office

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.

Informational Bulletin

THE 10-HOUR OSHA CONSTRUCTION SAFETY AND HEALTH COURSE

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

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

- (10) Each employer shall affix a copy of the construction safety course completion card to the certified payroll submitted to the contracting agency in accordance with Conn. Gen. Stat. § 31-53(f) on which such employee's name first appears;
- (11) Any employee found to be in non-compliance shall be subject to removal from the worksite if such employee does not provide satisfactory proof of course completion to the Labor Commissioner by the fifteenth day after the date the employee is determined to be in noncompliance;
- (12) Any such employee who is determined to be in noncompliance may continue to work on a public building construction project for a maximum of fourteen consecutive calendar days while bringing his or her status into compliance;
- (13) The Labor Commissioner may make complaint to the prosecuting authorities regarding any employer or agent of the employer, or officer or agent of the corporation who files a false certified payroll with respect to the status of an employee who is performing manual labor on a public building construction project;
- (14) The statute provides the minimum standards required for the completion of a safety course by manual laborers on public construction contracts; any contractor can exceed these minimum requirements; and
- (15) Regulations clarifying the statute are currently in the regulatory process, and shall be posted on the CTDOL website as soon as they are adopted in final form.
- (16) Any questions regarding this statute may be directed to the Wage and Workplace Standards Division of the Connecticut Labor Department via the internet website of <http://www.ctdol.state.ct.us/wgwkstnd/wgemenu.htm>; or by telephone at (860)263-6790.

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

Sec. 31-53b. Construction safety and health course. Proof of completion required for employees on public building projects. Enforcement. Regulations. (a) Each contract entered into on or after July 1, 2007, for the construction, remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public building project by the state or any of its agents, or by an political subdivision of the state or any of its agents, where the total cost of all work to be performed by all contractors and subcontractors in connection with the contract is at least one hundred thousand dollars, shall contain a provision requiring that, not later than thirty days after the date such contract is awarded, each contractor furnish proof to the Labor Commissioner that all employees performing manual labor on or in such public building, pursuant to such contract, have completed a course of at least ten hours in duration in construction safety and health approved by the federal Occupational Safety and Health Administration or, in the case of telecommunications employees, have completed at least ten hours of training in accordance with 29 CFR 1910.268.

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

(c) Not later than January 1, 2007, the Labor Commissioner shall adopt regulations, in accordance with the provisions of chapter 54, to implement the provisions of subsections (a) and (b) of this section. Such regulations shall require that the ten-hour construction safety and health courses required under subsection (a) of this section be conducted in accordance with federal Occupational Safety and Health Administration Training Institute standards, or in accordance with 29 CFR 1910.268, as appropriate. The Labor Commissioner shall accept as sufficient proof of compliance with the provisions of subsection (a) or (b) of this section a student course completion card issued by the federal Occupational Safety and Health Administration Training Institute, or such other proof of compliance said commissioner deems appropriate, dated no earlier than five years before the commencement date of such public works project.

(d) For the purposes of this section, "public building" means a structure, paid for in whole or in part with state funds, within a roof and within exterior walls or fire walls, designed for the housing, shelter, enclosure and support or employment of people, animals or property of any kind, including, but not limited to, sewage treatment plants and water treatment plants, "Public building" does not include site work, roads or bridges, rail lines, parking lots or underground water, sewer or drainage systems including pump houses or other utility systems.

CONNECTICUT DEPARTMENT OF LABOR
WAGE AND WORKPLACE STANDARDS DIVISION

CONTRACTORS WAGE CERTIFICATION FORM

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 _____, 2004.

Notary Public

 Return to:

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