
COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS

for Highways and Bridges



2023 Edition

DIVISION I



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DIVISION I: GENERAL REQUIREMENTS AND COVENANTS

Section 1.00: Definition of Terms

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SECTION 1.00: DEFINITION OF TERMS

Subsection 1.01: Definition of General Terms

In order to avoid cumbersome and confusing repetition of expressions in these specifications, it is provided that whenever anything is, or is to be done, if, as, or, when, or where “contemplated, required, determined, directed, specified, authorized, ordered, given, designated, indicated, considered necessary, deemed necessary, permitted, reserved, suspended, established, approval, approved, disapproved, acceptable, unacceptable, suitable, accepted, satisfactory, unsatisfactory, sufficient, insufficient, rejected, or condemned,” it shall be understood as if the expression were followed by the words “by the Engineer” or “to the Engineer.”

Wherever in these specifications or other contract documents the following terms or pronouns in place of them are used, the intent and meaning shall be interpreted as follows:

Subsection 1.02: References, Abbreviations, Acronyms, Measurement Units and Symbols

A. References

Section and Subsection titles and headings provide reference only, not interpretation. A cross-reference to a specific Subsection of these Specifications includes all general requirements of the Section of which the Subsection is a part.

Where codes, standards, requirements or publications of public or private bodies are referred to in the Contract Documents, references shall be understood to be to the latest revision in effect on the date of opening of bids, except where otherwise indicated. Words and abbreviations which have well-known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings.

B. Abbreviations and Acronyms

Wherever the following abbreviations and acronyms are used in these specifications or on the plans, they are to be construed as the same as the respective expressions represented:

AAB	Massachusetts Architectural Access Board
AAP	AASHTO Accreditation Program
AASHTO	American Association of State Highway and Transportation Officials
ACI.....	American Concrete Institute
ADA.....	Americans with Disabilities Act
AISC	American Institute of Steel Construction
AISI.....	American Iron and Steel Institute
AMPT.....	Asphalt Mixture Performance Tester
ANSI.....	American National Standards Institute
ARGG	Asphalt Rubber Gap Graded
APA	Asphalt Pavement Analyzer
AQL	Acceptable Quality Level
ASA.....	American Standards Association
ASTM.....	American Society of Testing and Materials
ATSSA	American Traffic Safety Services Association
AWPA.....	American Wood Preservers Association

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AWWA.....	American Water Works Association
AWS.....	American Welding Society
BIN.....	Bridge Identification Number
BOL.....	Bill of Lading
CARB.....	California Air Resources Board
CFC.....	Contractor Field Completion
CMR.....	Code of Massachusetts Regulations
COA.....	Certificate of Analysis
COC.....	Certificate of Compliance
CPM.....	Critical Path Method
CQE.....	Contract Quantity Estimate
DCE.....	Diesel Construction Equipment
DEP.....	Commonwealth of Massachusetts Department of Environmental Protection
DOC.....	Diesel Oxidation Catalyst
DPF.....	Diesel Particulate Filter
DR.....	Deficiency Report
ECD.....	Emissions Control Device
EPA.....	United States Environmental Protection Agency
ESALS.....	Equivalent Single Axle Loads
EWO.....	Extra Work Order
FBU.....	Full Beneficial Use
FHWA.....	United States Department of Transportation Federal Highway Administration
FSS.....	United States General Service Administration Federal Specifications and Standards
HMA.....	Hot Mix Asphalt
IA.....	Independent Assurance
IES.....	Illumination Engineering Society
IMSA.....	International Municipal Signal Association
IRF.....	Inspection Report Form
ITE.....	Institute of Transportation Engineers
JMF.....	Job Mix Formula
LQP.....	Laboratory Qualification Program
LTMF.....	Lab Trial Mix Formula
MASH.....	AASHTO <i>Manual for Assessing Safety Hardware</i>
MEC.....	Massachusetts Electrical Code
MIL SPEC.....	Military Specifications
M.G.L.....	Massachusetts General Laws
MTV.....	Material Transfer Vehicle
MUTCD.....	<i>Manual on Uniform Traffic Control Devices for Streets and Highways</i> with the Massachusetts Amendments
NCHRP.....	National Cooperative Highway Research Program
NCR.....	Non-Conformance Report
NEC.....	National Electrical Code
NEMA.....	National Electrical Manufacturers Association
NEPCOAT.....	Northeast Protective Coating Committee

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NETTCP.....	Northeast Transportation Training and Certificate Program
NPCA.....	National Precast Concrete Association
NSBA.....	National Steel Bridge Alliance
NTP.....	Notice to Proceed
NTPEP.....	National Transportation Product Evaluation Program
OGFC.....	Open-Graded Friction Course
OSHA.....	Occupational Safety and Health Administration
PCI.....	Precast/Prestressed Concrete Institute
PCS.....	Primary Control Sieve
PGA.....	Processed Glass Aggregate
PGAB.....	Performance Graded Asphalt Binder
PPM.....	Parts per Million
PSR.....	Project Spending Report
PWL.....	Percent Within Limits
QC.....	Quality Control
QCML.....	MassDOT Qualified Construction Materials List
QLA.....	Quality Level Analysis
QSM.....	Quality System Manual
QTCE.....	MassDOT Qualified Traffic Control Equipment
RAP.....	Reclaimed Asphalt Pavement
RAS.....	Recycled Asphalt Shingles
RFI.....	Request for Information
RMS.....	MassDOT Research and Materials Section
SAE.....	Society of Automotive Engineers
SQL.....	Suspension Quality Level
SSPC.....	Society for Protective Coatings
TEA.....	Time Entitlement Analysis
TIFF.....	Tagged Image File Format
TRF.....	Test Report Form
TTCP.....	Temporary Traffic Control Plan
UL.....	Underwriters Laboratories
ULSD.....	Ultra Low Sulfur Diesel
VECP.....	Value Engineering Change Proposal
WMA.....	Warm Mix Asphalt

C. Measurement Units and Symbols

These Specifications provide measurements in U.S. Customary Units and, where needed, in the International System of Units, abbreviated as SI and commonly referred to as the metric system. Where both units are listed, U.S. Customary Units appear first, followed by SI units in parentheses.

To specify sizes, dimensions, and similar properties, the Department may use symbols for units of measurement. These symbols are defined in Table 1.02-1.

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Table 1.02-1: Measurement Symbols

U.S. Customary Units		SI Units (Metric)	
<i>Symbol</i>	<i>Unit Name</i>	<i>Symbol</i>	<i>Unit Name</i>
Length			
mil	mil (0.001 inch)	µm	micrometer
in.	inch	mm	millimeter
ft	foot	cm	centimeter
yd	yard	m	meter
mi	mile	km	kilometer
Area			
in. ²	square inch	cm ²	square centimeter
ft ²	square foot		
yd ²	square yard	m ²	square meter
mi ²	square mile	km ²	square kilometer
acre	acre	ha	hectare
Volume			
in. ³	cubic inch	mL	milliliter
qt	quart		
gal	gallon	L	liter
ft ³	cubic foot		
yd ³	cubic yard	m ³	cubic meter
MBF	thousand board feet		
Weight (Mass)			
		µg	microgram
		mg	milligram
oz	ounce	g	gram
lb	pound	kg	kilogram
ton	2,000 pounds	Mg (or tonne)	megagram
Force			
lb	pound	N	newton
kip	1,000 pounds	kN	kilonewton
Pressure, Stress			
psi	pounds per square inch	Pa	pascal
ksi	kips per square inch	kPa	kilopascal
psf	pounds per square foot	MPa	megapascal

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U.S. Customary Units		SI Units (Metric)	
<i>Symbol</i>	<i>Unit Name</i>	<i>Symbol</i>	<i>Unit Name</i>
Density			
pcf	pounds per cubic foot	kg/m ³	kilograms per cubic meter
Energy			
ft-lb	foot-pound	J	joule
Illuminance			
fc	foot candle	lx	lux
Luminous Intensity			
		cd	candela
Electric Potential			
		V	volt
		kV	kilovolt
		VAC	voltage in alternating current
		VDC	voltage in direct current
Electric Current			
		A	ampere
Frequency			
		Hz	hertz
Time			
s	second	s	second
min	minute	min	minute
h	hour	h	hour
d	day	d	day
Temperature			
°F	degree Fahrenheit	°C	degree Celsius
Speed			
mph	miles per hour	kph	kilometers per hour

Subsection 1.03: Defined Terms

Advertisement..... The notice, as required by law, inviting bids (proposals) for work to be performed or materials to be furnished.

Alteration A change or substitution in the form, character, or detail of the work done or to be done within the original scope of the Contract at unit prices stated in the Contract, which alteration makes a change in the item originally

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contracted for or a substitution from that item to a similar item at the same unit price.

Award The acceptance by the Department of a bid (proposal) contemplating the execution and delivery of a contract.

Bid..... See Proposal.

Bid, Informal

as to form..... A bid which contains a minor deficiency or deviation from what is requested by the Department.

Bid, Informal

as to substance A bid which fails to comply with the requirements of the public bidding law.

Bidder (Proposer). Any individual, firm, partnership, corporation or joint venture submitting a Proposal for the work contemplated, acting directly or through a duly authorized representative.

Bridge The term “bridge” shall apply to any structure whether single or multiple span construction that spans a body of water, depression, highway or railway, and affords passage for pedestrians, or vehicles of all kinds, or any combination thereof having a total length of 20 feet or more.

In general, the “length” of a bridge is that distance measured horizontally along the centerline of roadway between extreme centerlines of bridge shoes or bearings, or when shoes or bearing are not used the distance between vertical faces of abutments, or spring lines of arches, or extreme ends of openings for multiple reinforced concrete boxes.

The “roadway width” of a bridge is the clear width measured at right angles to the longitudinal centerline of the bridge between the bottom of curbs or guard timbers or in the case of multiple height or curbs, between the bottom of the lower risers.

Commonwealth The Commonwealth of Massachusetts.

Contract..... The written agreement executed between the Party of the First Part and the Contractor setting forth the obligations of the Parties thereunder, including, but not limited to, the performance of the work, the furnishing of labor and materials, and the basis of payment.

The Contract includes the Notice to Contractors, proposal, contract form and contract bond, specifications, supplemental specifications, special provisions, general and detailed plans, any extra work orders and agreements that are required to complete the construction of the work in an acceptable manner, including authorized extensions thereof, all of which constitute one instrument.

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Contractor The Party of the Second Part to the Contract, acting directly or through an authorized lawful agent or employee.

Contract Item

(Pay Item) A specifically described unit of work for which a price is provided in the contract.

Contract Time The number of days allowed for the completion of the Contract.

In case a calendar date of completion is shown in the Proposal in lieu of the number of days, the Contract shall be completed by that date.

Culvert A structure not classified as a bridge which provides an opening under the roadway.

Day Every day shown on the calendar, Sundays and Holidays included.

Department The Massachusetts Department of Transportation.

Differ substantially

or materially When the character of the work encountered in exposing subsurface or latent physical conditions, while the work is in progress, is found to be essentially different in nature from that shown on the plans or indicated on the contract documents or from that ordinarily encountered and generally recognized as inherent in work of the character provided for in the plans and contract documents and are of such a nature as to cause an increase or decrease in the cost of performance of the work or a change in the construction methods required for the performance of the work, resulting in any increase or decrease in the cost of the work.

Engineer The Chief Engineer of the Department acting directly or through an authorized representative, such representative acting within the scope of the particular duties entrusted to them.

Extra Work Work which:

1. Was not originally anticipated and/or contained in the contract; and, therefore
2. Is determined by the Engineer to be necessary for the proper completion of the project; and
3. Bears a reasonable subsidiary relation to the full execution of the work originally described in the Contract.

Extra Work Order .. An order in writing issued by the Engineer to the Contractor prior to performing the work, setting forth the Extra Work to be done, the basis of payment and time adjustments, if any.

Invitation for Bids.. The advertisement for Proposals for all work or materials on which bids are required. Such advertisement will indicate the approximate project value, category of work and location of the work to be done and the time and place of the opening of Proposals.

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Latent Physical

Conditions Actual physical conditions at the site that were indiscernible; hidden; not visible or apparent, and which as a basis for a request for an equitable adjustment, differ substantially and materially from those shown on the plans or indicated in the contract documents.

Layout Plans Plans showing layout (locations) lines, property lines, corner markers, names of property owners, access and nonaccess (if Limited Access Highway) points, and the location of bounds.

Location Lines Lines indicating the limits of the Right-of-Way.

MassDOT The Massachusetts Department of Transportation, a body politic and corporate, under Chapter 25 of the Acts of 2009 “An Act Modernizing the Transportation Systems of the Commonwealth,” as amended.

Material Any substances specified for use in the construction of the project and its appurtenances.

Notice to Proceed ... A written communication issued by the Department to the Contractor authorizing them to proceed with the work and establishing the date of commencement of the work.

Party of the First

Part In contracts with the Department, the Party of the First Part shall be the Department.

In contracts made by a municipality with a Contractor under the provisions of Chapter 90 of the General Laws the Party of the First Part shall be the municipality (town or city) by its duly authorized officials.

In contracts made by a municipality with another party the Party of the First Part shall be the municipality (town or city) by its duly authorized officials.

Pavement

Structure The combination of sub-base, base course and surface course placed on a subgrade to support the traffic load and distribute it to the subgrade.

Plans Approved contract drawings, Department Standards, working drawings, supplemental drawings, Detail Sheets or exact reproductions thereof, which show the location, character, dimensions and details of the work to be done.

Project The specific section of highway together with all appurtenances and construction to be performed thereon under the contract.

Proposal The written offer of the Bidder, on the prescribed form, to perform the work and to furnish the labor and materials at the prices quoted.

Proposal Form The approved form on which the Department requires bids to be prepared and submitted for the work.

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- Reference**..... Where reference is made in the Contract Documents to Publications or Standards issued by Associations or Societies, the intent shall be to specify the current edition of such Publications or Standards in effect on the date of the contract advertisement, notwithstanding any reference to a particular date.
- Right-of-Way**..... That area which has been laid out or acquired for highway purposes.
- Roadway Flagger** A person who actively controls the flow of vehicular, bicycle, and pedestrian traffic into and/or through a temporary traffic control zone as authorized in 701 CMR 7.00. Requirements for Roadway Flagger training, certification, apparel, and equipment are defined in Subsection 850: Traffic Controls for Construction and Maintenance Operations.
- Slope**..... The ratio of change in part(s) horizontal (H) to one part vertical (V).
- Sieves** All sieves referred to in the Specifications shall be standard woven wire cloth sieves and shall conform to the requirements of ASTM E11.
- Special Provisions**.. The special agreements and provisions prepared for proposed work on a specific project. These special provisions shall be included within the general term specifications and shall be made a part of the Contract with the express purpose that they shall prevail over all other specifications.
- Specifications** The directions, provisions and requirements contained herein, designated as Standard Specifications, together with all written agreements made or to be made pertaining to the method and manner of performing the work, or the quantities and qualities of materials to be furnished under the Contract.
- Subcontractor** An individual, firm, partnership or joint venture to whom the contractor with prior written approval of the Engineer sublets any part of the Contract.
- Subbase**..... The layer of material placed on the subgrade as a foundation for roadway or sidewalk.
- Subgrade**..... The plane at the bottom of the subbase.
- Substantial Completion** Either that the work required by the contract has been completed except for work having a contract price of less than one percent of the then adjusted total contract sum, or substantially all of the work has been completed and opened to public use except for minor incomplete or unsatisfactory work items that do not materially impair the usefulness of the work required by the contract. Substantial completion shall be conclusively determined by the Engineer after inspection of the work.
- Special Provisions**.. The special agreements and provisions prepared for proposed work on a specific project. The special provisions shall be included within the general term specifications and are part of the Contract.

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Specifications The directions, provisions and requirements contained or referenced herein together with all written agreements made or to be made pertaining to the method and manner of performing the work, or the quantities and qualities of materials to be furnished under the Contract.

Standard

Specifications The Standard Specifications for Highways and Bridges issued by the Department.

Supplemental

Specifications Specifications issued by the Department which amend portions of the Standard Specifications.

Traffic Officer A uniformed law enforcement officer currently employed by a state, county, municipal or district law enforcement agency and is authorized to act as a law enforcement officer as defined in MGL Chapter 6E, Section 1.

Unbalanced Bid An unrealistic bid price which is abnormally high or abnormally low for an item of work and does not reflect the actual cost of performing such item of work.

Work..... The furnishing of all labor, materials, equipment and other incidentals necessary for or convenient to the successful completion of the project and the carrying out of all the duties and obligations imposed by the contract. Work shall include in addition to work to be performed on the project location in the actual construction process, necessary shop plans, computations, ordering of materials and equipment, fabrication of material, parts and components, etc.

SECTION 2.00: PROPOSAL REQUIREMENTS AND CONDITIONS

Subsection 2.01: Proposal Forms and Plans

A. Prequalification Prior to Requesting Proposal Forms.

Subject to the requirements of M.G.L. Chapter 29, Section 8B, each prospective Bidder proposing to bid on any work, excepting the construction, reconstruction, repair or alteration of buildings, to be awarded by the Department or by a municipality under the provisions of M.G.L. Chapter 90, Section 34 must be prequalified in accordance with 720 CMR 5.00, “Prequalification of Contractors and Prospective Bidders for Statewide Engineering Field Survey Services”, if the amount of the proposal added to the value of the uncompleted work already under contract with the Department will aggregate \$50,000 or more.

For work aggregating under \$50,000, prequalification requirements shall be at the discretion of the Department.

Except for projects for which prequalification is not required under 720 CMR 5.04(2), proposals for a project shall be limited to those bidders who have been prequalified by the Prequalification Committee in the specified class of work on or before the time of bid opening.

B. Issuance of Proposal Forms and Plans.

All prospective Bidders who intend to bid on work to be awarded by the Department, may obtain the plans and specifications from the Department at the place specified in the Notice to Contractors.

For projects to be awarded under the provisions of M.G.L. Chapter 90, Section 34, bidders may obtain plans and specifications from the applicable municipality at the place specified in the Notice to Contractors.

Contractors intending to bid on any project must first obtain “Request for Proposal Forms” (R-109 Form), from the Prequalification Office, which form must be completed and submitted to the Director of Prequalification for approval. Upon approval, the official bidder shall be entitled to receive official proposal documents. Other interested parties may receive an informational copy of the plans and specifications.

Official proposal documents shall contain plans and specifications showing the location and description of the contemplated work; an itemized proposal form listing the estimates of the various quantities of work to be performed and materials to be furnished; the time in which the work must be completed; and also a Notice to Contractors and special provisions for the particular project.

The Department is not responsible for loss of or damage to the official proposal documents after they have been mailed or given to the bidder. If loss or damage occurs, the bidder may request another copy.

Modifications to any official proposal documents will be made through the Addendum process and posted on www.bidx.com and www.commbuys.com. The bidder shall take responsibility for incorporating the revised data into the proposal upon notification from the Department. The bidder must provide an e-mail address to the Department for receipt of addenda notification.

Subsection 2.02: Interpretation of Basic Estimate of Quantities

All bids will be compared on the estimate of quantities of work to be done, as shown in the Proposal.

The parties expressly agree that these quantities are being set forth as a basis for the comparison of bids only and the parties also expressly agree that the actual amount of work may not correspond therewith. The Department expressly reserves the right to adjust said quantities in accordance with actual conditions as found to exist during the course of work.

Bidders agree to submit their estimate upon the following express condition, which shall apply to and become part of every bid received: the work has been divided into items in order to enable the Bidder to bid on the different portions of the work in accordance with the Bidder's estimate of their cost, so that in the event of an increase or decrease in the quantities of any particular item of work the actual quantities executed shall be paid in accordance with the contract.

An increase or decrease in the quantity for any item shall not be regarded as cause for an increase or decrease in the contract unit prices, nor in the time allowed for the completion of the work, except as provided in Subsection 4.06: Increased or Decreased Contract Quantities, Subsection 8.10: Determination and Extension of Contract Time for Completion (Time Extensions), and Subsection 9.03: Payment for Extra Work.

Subsection 2.03: Examination of Plans, Specifications, Special Provisions, and Site of Work

The Department will prepare plans and specifications giving directions which will enable any competent mechanic or contractor to carry them out. The Bidder is expected to examine carefully the site of the proposed work, the proposal, plans, specifications, supplemental specifications, special provisions, and contract forms, before submitting a Proposal. The submission of a bid shall be considered prima facie evidence that the Bidder has made such examination of the site of the proposed work, plans, proposal, etc., and is familiar with the conditions to be encountered in performing the work and as to the requirements of the plans, specifications, supplemental specifications, special provisions, and Contract.

Subsection 2.04: Preparation of Proposals

All bidders shall use Bid Express for submittal of bids. Bidders shall subscribe to the BidExpress on-line bidding exchange by following the instructions provided at www.bidx.com or by contacting:

Info Tech Inc.
5700 SW 34th Street, Suite 1235
Gainesville, FL 32608-5371
customer.support@bidx.com

In order to submit a bid, the Bidder shall have a digital identification (ID) issued by the Department on file with Info Tech Inc. and enabled by Info Tech Inc. This Digital ID represents the firm as an individual, partnership, corporation, limited liability company, or joint venture. By entering and submitting the Digital ID the authorized parties obligate the firm to the bid. Using this digital ID shall constitute the Bidder's signature for proper execution of the Proposal.

Electronic bid files are provided through the Bid Express on-line bidding exchange at www.bidx.com. The bidder shall follow the on-line instructions and review the help screens

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provided to assure that the schedule of items is prepared properly. Bidders shall download and acknowledge any and all addenda files prior to submitting their final bid. Bids shall be submitted in accordance with the requirements of the Bid Express Web site.

At the designated time of the bid opening the Department will accept, as the official bid, the set of proposal forms generated from the electronic proposal file submitted by the bidder which includes the bid item sheets, bid bond submittal acknowledgement, addendum acknowledgement, and affidavit acknowledgement.

The Department will not be responsible for any communications or hardware breakdowns, transmission interruptions, delays, or any other problems that interfere with the receipt or withdrawal of proposals as required above either at the Bidder's transmitting location, at the Department's receiving location, or anywhere between these locations will not be considered grounds for a bid protest. The Department will not be held responsible if the bidder cannot complete and submit a bid due to failure or incomplete delivery of the files submitted via the Internet.

Subsection 2.05: Delivery of Proposals

The Bidder shall submit the proposal prior to the time set for opening of the bid.

Subsection 2.06: Proposal Guaranty Required

In order to insure the faithful fulfillment of its terms, each Proposal shall be accompanied by a bid deposit in the amount of 5 percent of the bid.

The bid deposit shall be a bid bond in a form satisfactory to the Department furnished by a surety company incorporated pursuant to Chapter 175, Section 105 of the General Laws or authorized to do business in the Commonwealth under Chapter 175, Section 106 of the General Laws and satisfactory to the Department; or cash; or a certified check drawn on a responsible bank or trust company (or a treasurer's or cashier's check issued by such bank or trust company), payable to the Massachusetts Department of Transportation.

Subsection 2.07: Withdrawal of Proposals

Prior to the designated bid opening time, the Bidder may electronically withdraw a proposal.

After the deadline for submitting bids, a bidder may submit a written request to withdraw its bid to the Department. The Department will only grant the request on a clear showing to the satisfaction of the Department that the bid amount resulted from bona fide clerical or mathematical error of a substantial nature or from other similar unforeseen circumstances. When the Department grants a request to withdraw a bid, the Department will return the bidder's bid deposit.

Subsection 2.08: Public Opening of Proposals

The total price of each compliant proposal submitted by the deadline indicated in the Notice to Contractors, will be posted on www.bidx.com forthwith after the bid submission deadline. Bids may be examined on www.bidx.com or at MassDOT after the bid submission deadline and posting of the results on www.bidx.com.

Subsection 2.09: Rejection of Proposals

Proposals which fail to meet the requirements of Subsection 2.04: Preparation of Proposals, Subsection 2.05: Delivery of Proposals, and Subsection 2.06: Proposal Guaranty Required or which are incomplete, conditional or obscure, or which contain additions not called for, alterations or irregularities of any kind, or in which errors occur, or which contain abnormally high or abnormally low prices for any class or item of work, may be declared informal, provided however that the Department may, if it deems it to be in the public interest, waive any or all informalities as to form. Informalities as to substance, however, shall not be waived.

More than one Proposal from the same Bidder, whether or not the same or different names appear on the signature page, will not be considered. Reasonable proof for believing that any Bidder is so interested in more than one Proposal for the work contemplated will cause the rejection of all Proposals made by them directly or indirectly. Any Proposals will be rejected if there is reason for believing that collusion exist among the Bidders. (See Subsection 3.01: Consideration of Proposals.)

In accordance with 720 CMR 5.00, Proposals may also be rejected if:

- (i) award of the contract would result in the Bidder exceeding the Aggregate Bonding Capacity established by its Surety Company, or the Bidder's Proposal exceeds its single project limit, or the Bidder was not prequalified in the specified class of work on or before the time of bid opening; or
- (ii) the Bidder is presently debarred from performing work of any kind under the provisions of M.G.L., Chapter 29, Section 29F, or any other applicable debarment provisions of the Massachusetts General Laws or any rule or regulation promulgated thereunder; or
- (iii) the Bidder is presently debarred from performing work of any kind under the laws of any state other than the Commonwealth of Massachusetts, or by any Federal agency or authority; or
- (iv) there is substantial reason to believe that the condition of the Bidder's firm is less favorable than at the time of its last Application for Prequalification; or
- (v) the Bidder does not have sufficient equipment, or sufficient assets to provide necessary equipment either through purchase or lease agreements; or
- (vi) the Bidder's performance on past or current work with the Department or other awarding authorities is or has been unsatisfactory; or
- (vii) on current projects of the Department or other public authorities the Bidder frequently fails or has failed to pay its subcontractors or material suppliers in a timely manner, or that 5 or more subcontractors or material suppliers of the Contractor for a project currently under construction have filed demands for direct payment with the project's awarding authority in accordance with M.G.L. Chapter 30, Section 39F; or
- (viii) the Bidder is not otherwise an eligible and responsible Bidder capable of performing the work.

Subsection 2.10: Disqualification of Bidders

Bidders whose Proposals have been rejected because of evidence of collusion may be subject to criminal prosecution, civil damage actions, and State and Federal administrative sanctions including debarment under applicable provisions of state and federal law.

Subsection 2.11: Determination of Lowest Bid

The lowest bid shall be determined by the Department on the basis of the total price for which the entire work will be performed, arrived at by a correct computation of all the items specified in the Proposal at their estimated quantities and the unit prices submitted therefor.

Subsection 2.12: Material Guaranty

Before any contract is awarded, the Bidder may be required to furnish without expense to the Department a complete statement of the origin, composition and manufacture of any or all materials proposed to be used in the construction of the work, together with samples, which may be subjected to the tests required by the Department to determine the quality and fitness of the material.

SECTION 3.00: AWARD AND EXECUTION OF THE CONTRACT

Subsection 3.01: Consideration of Proposals

The Department reserves the right to reject any and all bids, or any bid item, to advertise for new Proposals for the project, to waive technicalities, to waive informalities as to form, or to proceed to do the work otherwise, as may be deemed to be in the best interest of the Department.

Nothing herein shall be construed as depriving the Department of the right to reject any bid when such bid does not fully comply with the specifications for the project or the applicable public bidding laws or regulations, or the Contractor is otherwise not eligible or responsible to receive award of the contract.

A proposal will be considered irregular and will be rejected if it is determined that any of the unit prices are materially unbalanced to the detriment of the Department. The bidder will be required to justify in writing the price or prices bid for the work in question before the Department decides to award the contract or reject the bid.

Subsection 3.02: Award of Contract

Subject to the reservations in Subsection 3.01: Consideration of Proposals, the contract will be awarded to the lowest eligible and responsible Bidder.

It is anticipated that the Contract will be awarded within 30 days after the opening of bids, or, for projects requiring concurrence by the FHWA, or other Agencies, within 45 days after the opening of bids.

The successful bidder will be notified by mail or otherwise that their bid has been accepted and that they has been awarded the Contract.

No municipality may award a contract until the Department has determined that the bidder was prequalified in the specified class of work on or before the time of bid opening, and has not exceeded the Aggregate Bonding Capacity established by the bidder's surety company, and has, if applicable, a Single Project Limit in an amount equal to or in excess of the Proposal amount, and is otherwise in compliance with 720 CMR 5.00, "Prequalification of Contractors and Prospective Bidders for Statewide Engineering Field Survey Services."

Subsection 3.03: Retention of Proposal Guaranty

The two lowest Bidders shall keep their bids open for at least 30 days after the opening of bids, or, for projects requiring concurrence by the FHWA, or other Agencies, for at least 45 days after the opening of bids. The Proposal guaranties of the two lowest Bidders will be retained until after execution of the Contract, prior to which, however, either Bidder may substitute a bid bond, cash or certified check (or cashier's or treasurer's check), all as described in Subsection 2.06: Proposal Guaranty Required, for the guaranty already deposited with the Supervisor of Fiscal Management of the Department. The Department will endeavor to return the Proposal guaranties of all Bidders other than the two lowest Bidders within three days after the opening of bids.

After the bid has been kept open for the required number of days the low Bidder may withdraw their bid and request the return of their proposal guaranty, in which case the guaranty of both the two lowest Bidders will be returned and the second lowest Bidder's Proposal shall not be

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considered for award. After the bid has been kept open for the required number of days the second lowest Bidder may withdraw their bid and request the return of their proposal guaranty, in which case only the proposal guaranty of the second lowest Bidder will be returned.

Subsection 3.04: Contract Bonds Required

A Performance Bond in the full amount of the Contract will be required by the Department to ensure the faithful performance of the Contract and in accordance with Subsection 7.18: Contractor's Responsibility for the Work.

A Payment Bond in an amount of the contract price will be required to be furnished by the Contractor to the Department as security for payment by the Contractor and Subcontractors for labor, materials, rental equipment and for such other purposes as are more specifically set forth in M.G.L. Chapter 149, Section 29 and Chapter 30, Section 39A and all amendments thereto.

The payment bond referred to in Chapter 149, Section 29 and Chapter 30, Section 39A is the sole security under said sections for payment by the Contractor and Subcontractor for labor performed or furnished and materials used or employed therein; said security to remain in force until the validity of all such claims shall be established and finally determined and if determined and established as valid, all such claims shall be paid by the surety.

The Performance Bond and the Payment Bond shall be in a form satisfactory to the Department, furnished by a surety company incorporated pursuant to Chapter 175, Section 105 of the General Laws or authorized to do business in the Commonwealth under Chapter 175, Section 106 of the General Laws and satisfactory to the awarding authority. The name of the agency or agent writing these bonds shall be identified with or on the bond.

All alterations, extensions of time, extra work and any other changes authorized under these specifications, or under any part of the Contract may be made by the Department. The Contractor shall be responsible for notifying the surety or sureties regarding changes to the Contract. The Contractor shall provide evidence of revised bond.

Where the Contract utilizes additional artisans, equipment rental, materials, engineering services and specialty services to complete work assignments approved by the Engineer, the Contractor is responsible for additional bond associated with the increased value of the Contract.

Subsection 3.05: Execution of Contract

The prepared contract forms, bond forms, certificate of insurance forms, and certification of construction equipment standard compliance form are available on www.bidx.com. The successful Bidder shall execute and deliver the contract and furnish the required forms and surety to the Department within 3 days after the date of the notice of award.

The contract shall be in writing and executed in duplicate, one kept by the Department and one delivered to the Contractor. When the awarding authority is a municipality it shall be executed in triplicate, one kept by the municipality, one delivered to the Department, and one delivered to the Contractor.

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The date of the contract shall be the date of the Bidder's signature and shall be typed on all forms by the successful Bidder. The company's corporate seal should be affixed to both the contract and bonds.

The Contractor's board of directors vote will indicate who is authorized to sign and execute the contract and bonds and affix the corporate seal. The vote shall show that said vote is in full force and effect and has not been amended or rescinded. The vote of the board of directors should be dated the same date as indicated on the contract form and should bear the imprint of the company's corporate seal.

Subsection 3.06: Failure to Execute Contract

Should the successful bidder fail to execute the contract and furnish the bonds and certificate of insurance within the time stipulated, the Department may, at its option, determine that the Bidder has abandoned the Contract and thereupon the Proposal and acceptance shall be null and void. In accordance with M.G.L. Chapter 30, Section 39M, the guaranty accompanying the Proposal may be retained and collected by the Department as liquidated damages for the delay and expense caused by the abandonment of the Contract.

SECTION 4.00: SCOPE OF WORK

Subsection 4.01: Intent of the Contract

The intent of the Contract is to prescribe the complete work or improvement. The Contractor shall perform all the items of work stipulated in the Proposal in accordance with the lines, grades, typical cross sections and dimensions shown on the plans or supplemental plans, standards, or modifications of them as required by change conditions in the field, and as authorized or directed. The Contractor shall do all clearing and grubbing; make all excavations and embankments; do all shaping and surfacing; construct all drainage structures, bridges and other appurtenant structures, as indicated in the Contract; remove all obstructions from within the lines of the improvement; and shall do such additional, extra and incidental work as may be considered necessary to complete the work in a substantial and acceptable manner; and when it is so completed they shall leave the work in a neat and finished condition.

The Contractor shall do all the work and furnish all the materials, tools and appliances, except as otherwise specified, necessary or proper for performing and completing the work required by the Contract, in the manner and within the time specified. The Contractor shall complete the entire work to the satisfaction of the Engineer, and in accordance with the specifications and drawings for the work at the prices agreed upon.

All the work, labor and materials to be done and furnished under the Contract shall be done and furnished pursuant to, and in conformity with the specifications and the drawings for the work, which said specifications and drawings shall form part of the Contract. Further the Contractor shall follow the directions of the Engineer as given from time to time during the progress of the work under the terms of the Contract.

The Contract shall include grading outside the right-of-way together with the work of loaming surfaces, constructing walks, driveways, drains, and other miscellaneous work as shown on the plans and as directed.

The Contract shall include technical submittals, schedule submittals, materials COCs, payroll records and any and all other documents required by the plans and specifications to support the physical work of the contract.

The Contract shall, at the discretion of the Party of the First Part, be extended when the safety and convenience of the public necessitates the construction of access roads or approaches to existing roadways or bridges and the nature of such additional work bears a reasonable subsidiary relation to the original Contract.

Subsection 4.02: Alterations

Should it be found desirable by the Engineer to make alterations in the form, character, or detail of any of the work done or to be done, the Engineer may order such alterations to be made, defining them in writing, supplemented by drawings when in the judgment of the Engineer it is necessary, and the alterations shall be made accordingly.

The Contractor shall accept as full compensation for work performed under an alteration order the contract unit prices stipulated in the Contract for the actual quantity of work performed in an acceptable manner.

Subsection 4.03: Extra Work

The Contractor shall do any work not herein otherwise provided for when and as ordered in writing by the Engineer, such written order to contain particular reference to this Subsection and to designate the work to be done as Extra Work.

Unless specifically noted in the Extra Work Order, Extra Work will not extend the time of completion of the Contract as stipulated in Subsection 8.10: Determination and Extension of Contract Time for Completion (Time Extensions).

The determination of the Engineer shall be final upon all questions concerning the amount and value of Extra Work (except as provided in Subsection 7.16: Claims of Contractor for Compensation).

Payment for extra work will be as provided in Subsection 9.03: Payment for Extra Work.

Subsection 4.04: Changed Conditions

In accordance with Chapter 30, Section 39N of the General Laws, as amended, the following paragraph is included in its entirety:

If, during the progress of the work, the Contractor or the awarding authority discovers that the actual subsurface or latent physical conditions encountered at the site differ substantially or materially from those shown on the plans or indicated in the contract documents either the Contractor or the contracting authority may request an equitable adjustment in the contract price of the Contract applying to work affected by the differing site conditions. A request for such an adjustment shall be in writing and shall be delivered by the party making such claim to the other party as soon as possible after such conditions are discovered. Upon receipt of such a claim from a Contractor, or upon its own initiative, the contracting authority shall make an investigation of such physical conditions, and, if they differ substantially or materially from those shown on the plans or indicated in the contract documents or from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the plans and contract documents and are of such a nature as to cause an increase or decrease in the cost of performance of the work or a change in the construction methods required for the performance of the work which results in an increase or decrease in the cost of the work, the contracting authority shall make an equitable adjustment in the contract price and the Contract shall be modified in writing accordingly.

The filing, investigation and settlement of all claims made under said Chapter and Section shall be as follows:

- (a) The Contractor shall promptly, and before such conditions are disturbed notify the Engineer in writing describing in full detail the subsurface or latent physical conditions at the site which they maintain differ substantially or materially from those shown on the plans or indicated in the contract documents. The Engineer shall promptly investigate the conditions and shall promptly prepare a written report of the findings, with a copy to the Contractor. If the Engineer finds that such conditions as have been described in detail by the Contractor do exist and in fact do so differ materially or substantially, an equitable adjustment shall be made and the Contract modified in writing accordingly. No such claim of the Contractor shall be allowed unless the Contractor has given the detailed notice specified, nor shall it be allowed if such conditions are disturbed prior to their investigation by the Engineer.

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- (b) No adjustment or allowance of any kind except as provided in Subsection 8.10: Determination and Extension of Contract Time for Completion (Time Extensions) will be made to the Contractor on account of any delay or suspension of work or any portion thereof where the actual subsurface or latent physical conditions encountered at the site differ substantially and materially from those shown on the plans or indicated in the contract documents.
- (c) No claim will be approved or any adjustment or allowance made on account of encountering subsurface or latent physical conditions at the site that differ substantially and materially from those shown on the plans or indicated in the contract documents unless such conditions were in existence at the time of the award of the Contract.
- (d) Any dispute concerning a question of fact under this Subsection which is not disposed of by agreement shall be decided by the Chief Engineer.
- (e) If as provided in (a) of this Subsection an equitable adjustment is to be made or contemplated, the Contractor shall submit promptly in writing to the Engineer an itemized statement of the details and amount of work together with their estimated costs for the same and the Engineer shall require the Contractor to keep actual costs and certify the same to the Department in writing.

If the Contractor and the Department fail to agree on an equitable adjustment to be made under this Subsection, then the Contractor shall accept as full payment for the work in dispute an amount calculated using actual costs as provided in Subsection 9.03: Payment for Extra Work.

Pending final decision of any dispute hereunder unless otherwise ordered by the Chief Engineer, the Contractor shall proceed diligently with the performance of the Contract and in accordance with the Chief Engineer's decision.

The Contract shall be considered modified in writing by the processing of an Extra Work Order.

The provisions of Section 39N of Chapter 30 of the General Laws, as amended, do not apply to construction contracts entered into on behalf of a municipality under the provisions of Section 34, Chapter 90 of the General Laws.

Subsection 4.05: Validity of Extra Work

The Engineer shall be authorized to issue Extra Work Orders for such additional work outside the scope of the original Contract as in their judgment is reasonably necessary for the satisfactory completion of the project provided that the work to be done under such an Extra Work Order, either standing alone or in conjunction with any previously authorized Extra Work: Order, shall not result in a change of such magnitude as to be incompatible with the provisions of Chapter 149, Section 44J of the General Laws.

Subsection 4.06: Increased or Decreased Contract Quantities

The quantities contained in the Contract are set forth as a basis for the comparison of bids only and may not necessarily reflect the actual quantity of work to be performed. The Department reserves the right to increase, decrease or eliminate the quantity of any particular item of work.

Where the actual quantity of a pay item varies by more than 25% above or below the estimated quantity stated in the Contract, an equitable adjustment in the Contract Price for that pay item shall be negotiated upon demand of either party regardless of the cause of the variation in quantity.

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No allowances will be made for loss of anticipated overhead costs or profits suffered or claimed by the Contractor resulting directly or indirectly from such increased, decreased or eliminated quantities or from unbalanced allocation among the contract items from any other cause. It is the intention of this provision to preserve the bid basis while limiting the Contractor's risk exposure to 25% of each bid quantity.

In the case of an overrun, the contractor will be compensated at the Contract Unit Price for a quantity up to 125% of the Contract quantity. The adjusted unit price shall only be applied to that quantity above 125% of the contract quantity.

Neither party shall be required to demonstrate any change in the cost to perform the work based solely on the overrun. The original Contract unit bid price shall have no bearing on determining the adjusted unit price for an overrun. The adjusted unit price shall be based on the estimated cost of performing the added work over 125% of the bid quantity.

To assist the Engineer in the determination of an equitable adjustment for an overrun, the Contractor shall prepare a submission and accept as full payment for work or materials an amount for an equitable adjustment in the Contract Price calculated using actual costs as provided in Subsection 9.03: Payment for Extra Work.

In the case of an under-run, the unit price for the actual quantity installed, if less than 75% of the bid quantity, shall only be adjusted to account for documented increased unit costs that result solely from the decreased quantity. Actual cost to perform the under-run quantity of work shall not be used to determine payment for an under-run. The adjusted unit price for the under-run shall be the bid price plus the documented change in the unit cost of performing the work due solely to the decreased quantity. In no case shall the total payment for an under-run item exceed the total bid value for the item.

The Contractor is required to furnish itemized statements of cost and give the Department access to supporting records.

In the event that an adjusted unit price cannot be agreed upon within 30 days after being requested by either party, a unit price will be established that is deemed to be fair and equitable by the Engineer, whether higher or lower than the unit price bid. Payment will be made at that rate until agreement is reached or until the Contractor chooses to exercise their rights under Subsection 7.16: Claims of Contractor for Compensation.

Subsection 4.07: Maintenance of Detours

- A. Where the Department authorizes or directs general traffic from a travelled way to be detoured over Town or City streets, the Department will be responsible for maintenance of such detours and placing them in the equivalent condition they were in prior to general traffic being detoured over same. The Contractor shall do all work required hereunder as directed by the Engineer.
Payment for such work shall be made as specified in Subsection 9.03: Payment for Extra Work.
- B. Where a Contractor uses public roads or streets as haul roads, unless the road is properly posted for tonnage limitations, the Contractor has a legal right to use such roads or streets if their vehicles are properly registered.

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- C. Inferred or alleged overloading, causing either excessive weight beyond registered capacity, or spillage is a Police matter for the local authorities.
- D. Where a Contractor uses a private way for hauling, it is a matter between the Contractor and the owners of the private way.
- E. It shall be the Contractor's responsibility to ascertain whether haul routes are over accepted public or private ways prior to using same for hauling purposes and it is their further responsibility to ascertain if any have posted legal weight limitations or other restrictions and to abide by them.

Subsection 4.08: Removal and Disposal of Structures and Obstructions

Existing structures such as bridges, culverts or drainage pipes found within the location lines, which are to be replaced or rendered useless by new construction shall be removed by the Contractor at their own expense. When their location is such as not to interfere with the work, the removal shall not be done until the new structures replacing them are ready for traffic or other purpose for which the replaced structures are designed, or until the Engineer shall permit.

All material in the above mentioned types of existing structures requiring removal shall remain the property of the owner. The material shall be removed without damage, in sections which will permit easy handling and disposal, to locations within the limits of the project, and convenient for their subsequent removal by the owner, or as directed by the Engineer.

Material from any existing structure may be used temporarily by the Contractor during construction. Such material shall not be cut, bent, broken or otherwise damaged. All discarded material, rubbish, or debris shall be removed from the work and disposed of as directed. No foreign material or debris shall be permitted to remain or move in a waterway.

Subsection 4.09: Rights In the Use of Materials Found on the Work

The Contractor, with the prior written approval of the Engineer, may take suitable ledge, gravel, sand, loam, clay or other material from within the location lines of the project under construction and use it on the same project for other purposes than for forming embankments. If such use necessitates securing additional material for forming embankments, the Contractor shall replace at their own expense material of a satisfactory quality (Subsection 120: Excavation). The Contractor shall not excavate or remove any material which is not within the excavation as indicated by the slope stakes and grade lines without written approval. No excavated material suitable for use shall be wasted.

Nothing in the Contract shall be construed as vesting in the Contractor any right of property in the materials used after they have been attached or affixed to the work or the soil; but all such materials shall, upon being so attached or affixed, become the property of the Party of the First Part.

Subsection 4.10: Final Cleaning Up

Upon completion of the work and before acceptance and final payment, the Contractor shall remove and dispose of in an approved manner, at their own expense, from the right-of-way, construction site, dredging site and adjoining property; all temporary structures and all surplus materials and rubbish which the Contractor may have, accumulated during the prosecution of the work, and shall leave the areas in a neat and orderly condition.

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No equipment or material shall be left within any of the aforementioned areas after acceptance of the Contract without the written permission of the Engineer. The Contractor shall not abandon any material at or near the site regardless of whether or not it has any value.

SECTION 5.00: CONTROL OF WORK

Subsection 5.01: Authority of the Engineer

The Engineer shall decide all questions which may arise as to the interpretation of the plans and specifications, and they may alter, adjust and approve same when necessary; all questions which may arise as to the quality, quantity, value and acceptability of materials furnished or to be furnished and work performed or to be performed; all questions which may arise as to the progress of the work and need for and manner of correcting same, and also the need for and terms of delays and suspensions; all questions relating to the need for and terms of extra work; all questions relating to the supervision, control and direction of work on the site and the use thereof; all questions as to the acceptable fulfillment of the Contract on the part of the Contractor.

Subsection 5.02: Plans and Detail Drawings

Approved plans, profiles and sections on file in the office of the Department will show the location, details and dimensions of the highway, bridges and other work contemplated, and all work shall be in conformity therewith and with the specifications.

Contract drawings, supplemental plans and detail drawings designed by the Department are part of the complete plans. Shop drawings, detail drawings, erection drawings, catalog cuts, temporary structures and other plans designed and or submitted by the Contractor as required in the Specifications shall, upon approval by the Engineer, become part of the complete set of plans.

Drawings or plans for which the Contractor is responsible for the design, such as for, but not limited to, steel sheeting; cofferdams; sign, signal and lighting supports; temporary structures; temporary traffic control plans, erection drawings; demolition drawings; and computations submitted by the Contractor for approval shall bear the seal of a Professional Engineer of the appropriate discipline registered in Massachusetts.

Approval of shop drawings by the Engineer does not relieve the Contractor of any responsibility under the Contract for conformance to the applicable codes, standards, etc.; nor for errors in dimensions, details or quantities; nor for compliance with the details of the original approved design.

Structural steel shop drawings shall be prepared and presented in accordance with the *AASHTO/NSBA Steel Bridge Collaboration G1.3 Shop Detail Drawings Presentation Guidelines Documentation with Sample Drawings*. Structural steel shop drawings shall be reviewed and approved in accordance with the *AASHTO/NSBA Steel Bridge Collaboration G1.1 Shop Detail Drawing Review/Approval Guidelines*. If there are any conflicts between these guides and the Standard Specifications, the Standard Specifications shall govern.

The Contractor shall not receive payment for, nor be allowed to install any item or materials which require shop drawing approval until the shop drawings for that item have been approved by the Engineer.

The title block of shop drawings shall include, at a minimum, the following information: fabricator's name and address; city(ies) or town(s) where the project is located; location(s) where the material is to be used; MassDOT contract number; Federal aid project number, when applicable; MassDOT Project Number; name of the general contractor; date of drawing and date of all revisions. The title

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block for shop drawings of bridge projects shall also include: the bridge number and BIN; facility on the bridge; the feature under the bridge.

The Contractor shall submit two sets of full-scale shop drawing prints to the Engineer for approval. If corrections are required, one set of the marked-up drawings will be returned to the Contractor for revision and subsequent resubmittal. The Engineer shall make all copies of the approved shop drawings as indicated in Table 5.00-1: Number of Shop Drawing Sets Required of Subsection 5.02: Plans and Detail Drawings and will distribute the drawings. No changes shall be made to the approved drawings without the written consent of the Engineer.

Shop drawings for any fabricated steel or aluminum product will not be accepted from anyone other than approved suppliers as noted in Subsection 6.01: Source of Supply and Quality.

Within 15 days after receipt of an approved shop drawing for any item, the Contractor shall provide the Department written proof that the approved materials have been ordered.

The Contractor, upon approval of shop drawings shall submit to the Engineer a TIFF (tagged image file format) file for each of the structural shop drawing sheets. Shop drawings that will require a TIFF submission are those for all primary load carrying bridge members and all attachments to them, such as bridge beams and diaphragms, and for structural reinforcing rebars. Depending upon the bridge type, the construction documents may require TIFF submissions for additional bridge components. The TIFF files shall be in black and white at a resolution of 300 dpi (dot per inch) and group 4 or group 3 compression. Each TIFF file shall be named using the bridge BIN (Bridge Identification Number), followed by up to eight-digit description such as STGIRDER, CONCBEAM, TIMBSTRI, APPRSLAB, BRIDDECK, followed by a 3-digit sheet number. The sheet number in the TIFF files name shall correspond to the sequential number of the shop drawings. A typical TIFF file would be: 2ULSTGIRDER002. All TIFF files corresponding to the same shop drawings set shall be grouped and saved under a separate folder. The folder shall be named using the BIN and description combination. The TIFF files shall be created from the original stamped approved drawings and shall be submitted to the Department on compact discs (CD's).

The contract prices shall include the cost of furnishing all detail drawings and the TIFF files on compact discs (CD's) and the Contractor will be allowed no extra compensation therefore. The Engineer may withhold a portion of the payment until all required files have been received and accepted.

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Table 5.00-1: Number of Shop Drawing Sets Required

Type of Submittal	Description	Number of Sets
Shop Drawings	Traffic: Precast Concrete Units, Signs, Supports, Castings, Signal Mechanisms, Highway Lighting, etc.	9
	Structural Steel; Metal Bridge Railings; Protective Screens; Metal Casting; Metal Plates and Machinery; Prestressed Concrete Structural Units; Noise Barrier; Elastomeric Bearings; Armored Strip Seal and Finger Joints	8
	Special Metal Pipes; Pipe Arches; Structural Plate Arches; Structural Pipes and Structural Plate Pipes	7
	Reinforcing Steel; Special Non-Traffic Precast Concrete Units (Pipes, Manholes, etc.)	6
Construction Procedures	Steel Beam Erection; Prestressed Concrete Beam Erection; Precast Concrete Arch / Frame Unit Erection; Bridge Demolition; Deck Removal and Shielding Design; Sheeting / Cofferdam Designs; Temporary Bridges; Beam or Pipe Jacking Procedure	6 (9 sets required when a railroad is involved)
	Pile Driving (Wave Equation Method); Pile Load Tests; Embankment Settlement; Sign Supports / Strain Poles	6
	Pile Capacity (Under 50 Tons); Schedules and Construction Equipment	3

Subsection 5.03: Conformity with Plans and Specifications

Attention is directed to Chapter 30, Section 39L which provides that no willful and substantial deviation from plans and specifications shall be made unless authorized in writing by the awarding authority or by the Engineer in charge of the work who is duly authorized by the awarding authority to approve such deviation. This act further provides that in order to avoid delays in the prosecution of the work, such deviation may be authorized by a written order of the awarding authority, or such Engineer as is authorized to approve such deviation, and that within 30 days thereafter such written order shall be confirmed by a certificate of the awarding authority.

All work performed and all materials furnished shall be in reasonably close conformity with the lines, grades, cross sections, dimensions, details, gradations, physical and chemical characteristics of materials and other specific requirements of the Contract. Where the terms “in conformity with,” “in agreement with,” “in compliance with” or terms of like exactness occur in these specifications they shall be construed to mean “in reasonable close conformity with.”

Where definite tolerances are specified in the Contract, such tolerances shall fix the limits of reasonably close conformity. Where tolerances are not specified in the Contract, the Engineer will determine the limits of reasonably close conformity in each individual case and their decision shall be final and conclusive and mutually accepted by all parties.

In the event the Engineer finds the materials or the finished product in which the materials are used not within reasonably close conformity with the plans and specifications but that reasonably acceptable work has been produced, the Engineer shall then make a determination if the work shall be accepted and remain in place. In this event, the Engineer will document the basis of acceptance by contract modification which will provide for an appropriate adjustment in the contract price for

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such work or materials as the Engineer deems necessary to conform to their determination based on engineering judgment, and in accordance with current construction practices.

In the event the Engineer finds the materials or the finished product in which the materials are used or the work performed are not in reasonably close conformity with the plans and specifications and have resulted in an inferior or unsatisfactory product, the work or materials shall be removed and replaced or otherwise corrected by and at the expense of the Contractor.

Materials or work that are found not to conform must not be made inaccessible prior to the resolution of the deficiencies.

Deviations from the approved plans and working drawings, that may be required by the need of construction, will be determined by the Engineer and authorized in writing.

Subsection 5.04: Order of Precedence

The Contract Amendments, Contract, Referenced Materials, and Supplementary Documents are all essential elements in defining the Work and a requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide a complete scope of work. In the event of any conflict among the Contract Documents, the order of precedence shall be as set forth below:

1. Contract Amendments (e.g. Extra Work Orders and Time Extensions)
2. Contract (in the following order):
 - a. Addenda including bid questions and responses
 - b. Special Provisions, Detail Sheets and Permits
 - c. Plans
 - d. Supplemental Specifications
 - e. Standard Specifications
3. Referenced Materials / Supplementary Documents (e.g. geotechnical data, existing bridge plans, Construction Standard Details, Engineering Directives, Standard Drawings for Signs and Supports, MUTCD, Standard Drawings for Traffic Signals and Highway Lighting, and American Standard for Nursery Stock).

In the event of conflicts, inconsistencies or discrepancies among the Contract Documents or within any of the Contract Documents, to the extent applicable, the better quality or greater quantity of work, or higher performance requirement shall be provided without change in the Contract Price.

In the event of any discrepancies in the dimensions shown on the contract plans, the order of precedence shall be as set forth below:

1. Dimensions shown on plans, unless obviously incorrect
2. Calculated dimensions
3. Scaled dimensions

The Contractor shall take no advantage of any apparent error or omission in the plans or specifications. In the event the Contractor discovers such an error or omission, the Contractor shall immediately notify the Engineer. The Engineer will then make such corrections and interpretations as may be deemed necessary for fulfilling the intent of the Contract.

Subsection 5.05: Cooperation by Contractor

The Contractor will be given three copies of full-size approved contract drawings, detail sheets and contract specifications (except Standard Specifications). The documents are to be picked up by the Contractor within 30 days of the Award of contract. Contractors requesting the documents after the 30-day period will be required to purchase the requested documents.

The Contractor shall purchase any required Standard Specifications from the Department. The Contractor may request and the Engineer may approve furnishing additional copies of contract drawings either full- or half-size at the Contractor's expense. The Contractor shall have one copy of all such information and a copy of the Standard Specifications on the work site and available for reference at all times during the prosecution of the work. The Contractor shall have on the work at all times, as their agent, a competent superintendent or foreman capable of reading and thoroughly understanding the plans and specifications and thoroughly experienced in the type of work being performed. authorized to receive orders and to act for them.

Whenever the Contractor is not present on any part of the work. if it is necessary or desirable that directions be given, such directions or orders will be given by the Engineer, and they shall be received and executed by the foreman or superintendent who is in charge of the particular work with reference to which the orders are given.

The Contractor shall provide all reasonable facilities to enable the Engineer to make necessary measurements and to inspect the workmanship and materials entering into the work. The Contractor shall cooperate in the matter of setting and preserving stakes, bench marks, etc., for controlling the work.

The Contractor shall so carry on their work under the direction of the Engineer that Public Service Corporations, or Municipal Departments may enter on the work to make changes in their structures or to place new structures and connections therewith without interference, and the Contractor shall have no claim for, or on account of any delay which may be due to result from said work of Public Service Corporations or Municipal Departments. No allowance of any kind will be made except as provided in Subsection 8.10: Determination and Extension of Contract Time for Completion (Time Extensions). Nothing contained herein shall be construed to hold the Contractor responsible for any acts or omissions by such Public Service Corporations, Municipal Departments or their Contractors.

Subsection 5.06: Adjacent Contracts

The Department reserves the right at any time to contract for and perform other or additional work on or near the work covered by the Contract. The intent of this section is to provide for the cooperation of Contractors in cases where the Department deems it expedient or necessary and in the best interest of the Commonwealth to let a separate Contract for the performance of other work on or near the same project location as the work being performed under the Contract, but it is not intended to indicate any intention on the part of the Department to let a separate Contract for any work within the scope of or necessary for the successful completion of the Contract.

When separate Contracts are let within the limits of any one project (either prior to award of Contract, or as specified in project proposal, or as specified above), each Contractor shall conduct their work so as not to interfere with or hinder the progress or completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

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Each Contractor involved shall assume all liability, financial or otherwise, in connection with their Contract and shall protect and save harmless the Department from any and all damage or claims that may arise because of inconvenience, delay, or loss experienced by them because of the presence and operations of other Contractors working within the limits of the same project. No allowance of any kind will be made except as provided in Subsection 8.10: Determination and Extension of Contract Time for Completion (Time Extensions).

The Contractor shall arrange their work and shall place and dispose of the materials being used so as not to interfere with the operations of the other Contractors within the limits of the same project. The Contractor shall join their work with that of the others in an acceptable manner and shall perform it in proper sequence to that of the others.

Subsection 5.07: Construction Survey Control

The Department will furnish the following survey work:

- A. Establishment of base lines or centerlines of construction for main roadways, ramps, service roads, side streets and other major dry land items. Reproduction of base lines and centerlines, or lines offset to them when roadway cuts and fills have been completed. Levels may be taken on the points marking these lines.
- B. General bench mark control for the project.
- C. Original grade stakes at 50' intervals.
- D. Preliminary and final surveys of pits (if borrow is paid by pit measure) and dredging areas, semifinal cross sections on ledge, peat, loam, etc.
- E. Control for structures, which shall consist of range lines on centerline of bearings or centerline of piers, face of abutments and wingwalls, horizontal and vertical control for beam seats, along with bench marks close to structures for vertical control. Structures shall include but shall not be limited to bridges, culverts, dams, buildings and walls.
- F. Control for alignment of curbing or edging on ramps and at other complicated locations.
- G. Bound points and sideline stakes.
- H. All necessary stakes for pipes and head walls, and establish all catch basin and manhole locations as to line and grade.
- I. Proposed/Relocated utility pole locations.

The Contractor shall employ qualified engineering personnel to insure adequate control and shall furnish and set stakes of the quality used by the Department for control staking. Rough stakes may be used to denote top and bottom of slopes, edge of pavement, gutter lines, etc.

The Contractor shall furnish and set, at their own expense, all remaining stakes (such as batter boards, slope stakes, pins, offset stakes, etc.) required for the construction operations and they shall be solely responsible for the accuracy of the line and grade of all features of their work.

The Contractor shall be held responsible for the preservation of all stakes and marks placed by the Engineer. If any of such stakes or marks are disturbed or destroyed by the Contractor the cost of replacing them shall be deducted from the payment for the work as stipulated in Subsection 9.05: Final Acceptance and Final Payment.

Subsection 5.08: Authority and Duties of Engineer's Assistants

The Engineer may appoint such assistants and representatives as they desire and they shall be authorized to inspect work and materials, to give directions pertaining to the work or to the safety and convenience of the public, to approve or reject materials, to make measurements of quantities and to perform such other duties as may be designated by the Engineer.

In case of any dispute arising between the Contractor and the Engineer's assistants, as to materials furnished or the manner of performing the work, the Engineer's assistants shall have the authority to reject the materials or to suspend the work until the question at issue can be referred to and decided by the Engineer:

Engineer's assistants are not authorized to revoke, alter, enlarge, relax or release any requirements of these specifications nor to issue instructions contrary to the plans and specifications.

In no case shall the Engineer's assistants act as foremen or perform other duties for the Contractor.

Subsection 5.09: Inspection of Work

All materials and each part or detail of the work shall be subject to inspection by the Engineer. The Engineer shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required to make a complete and detailed inspection, (such assistance may include furnishing labor, boats, tools, equipment, etc., at no expense to the Department).

If the Engineer so requests, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the specifications. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as extra work; but should the work so exposed or examined prove unacceptable, the uncovering or removing and the replacing of the covering or making good of the parts removed, will be at the Contractor's expense.

Any work done or materials used without authorization by the Engineer may be ordered removed and replaced at the Contractor's expense.

The Contractor shall furnish written information to the Engineer stating the original sources of supply of all materials manufactured away from the actual site of the work. In order to insure a proper time sequence for required inspection and approval this information shall be furnished at least two weeks (or as otherwise directed by the Engineer) in advance of the incorporation in the work of any such materials. The Department strongly encourages the use of recycled products. The Contractor must identify wherever recycled products are to be used.

For the purpose of observing work that affects their respective properties, inspectors for the municipalities, public agencies and the utility companies shall be permitted access to the work, but all official orders and directives to the Contractor will be issued by the Engineer.

Such inspection shall in no sense make any unit of government or political subdivision a party to this Contract and shall in no way interfere with the rights of either party hereunder.

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The inspection of the work shall not relieve the Contractor of any of their obligations to fulfill the terms of the Contract as herein prescribed by the plans and specifications.

Failure to reject any defective work or materials shall not in any way prevent later rejection when such defect is discovered, nor obligate the Department to make final acceptance.

The Contractor shall give prior notice to the Engineer when work on the various items is to be performed by them or their Subcontractors. If work is suspended on any item, prior notice shall be given to the Engineer before resumption of such work. Except in case of an unforeseen emergency, neither the Contractor nor any Subcontractor shall perform any work requiring inspection at hours other than during the normal work day without prior approval of the Engineer.

Subsection 5.10: Removal of Defective or Unauthorized Work

All defective work shall be removed, repaired or made good, notwithstanding that such work has previously been inspected and approved or estimated for payment. If the work or any part thereof shall be found defective at any time before the final acceptance of the whole work, the Contractor shall at their own expense make good such defect in a satisfactory manner.

Any work done beyond the lines and grades shown on the plans or as given, except as herein provided, or any extra work done without authority, shall be considered as unauthorized and at the expense of the Contractor. Such work will not be measured nor compensation allowed therefor. Work so done may be ordered removed at the Contractor's expense.

Upon failure of the Contractor to remove and satisfactorily dispose of any or all defective or unauthorized work, and to remedy the same after being so notified, the Engineer may withhold the estimated costs therefor from any moneys due or to become due the Contractor until the work is corrected. Upon the further failure of the Contractor to remove and satisfactorily dispose of any or all defective or unauthorized work, and to remedy the same, the Engineer may cause such defective work to be remedied, removed and replaced; and such unauthorized work to be removed, and may deduct the costs therefor from any moneys due or to become due the Contractor.

Subsection 5.11: Final Acceptance

Upon due notice from the Contractor by certified mail of presumptive completion of the entire project, the Engineer will make an inspection. If all construction provided for and contemplated by the Contract is found completed to the Engineer's satisfaction, that inspection shall constitute the final inspection and the Engineer shall in writing make acceptance of the physical work, which acceptance shall relieve the Contractor from further responsibility only with respect to the physical work. Subsequent to the final acceptance of the physical work and upon compliance with the terms of the Contract relating to submission of contractually required reports or other documents, the Engineer will recommend final acceptance of the Contract to the Board of Commissioners (see Subsection 9.05: Final Acceptance and Final Payment).

If the work or any part thereof is not acceptable to the Engineer at the time of the inspection, the Contractor will be notified in writing of the particular defects or parts to be remedied before final acceptance. If the Contractor has not arranged within a period of five days after the date of transmittal of such notice of non-acceptability, to complete the work speedily as described by the Engineer, the Engineer may without further notice and without in any way affecting the Contract make such other arrangements as may be considered necessary to insure the satisfactory

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completion of the project. The cost of so completing the work shall be deducted from any moneys due or which may become due the Contractor under the Contract.

After the Contractor has finished installing the controller and all other associated traffic signal control equipment and after the Contractor has set the signal equipment to operate as specified in the contract documents, the fine tuning, adjusting and testing period shall begin. During this period, the Contractor, under the direction of the Engineer and with the cooperation of the local community representatives, if applicable, will make necessary adjustments and tests to ensure safe and efficient operation of the equipment. This period shall not last for more than 30 days, and the contract completion date has taken this testing period into consideration. No request for final acceptance will be considered until successful completion of the testing period. The cost of electrical energy consumed by the operation of traffic signals, highway lighting or other electrical devices during the construction, fine tuning, adjustment and testing of the devices will be borne by the owner of the existing device. In the case of an installation requiring a new electrical service, the cost of electrical energy consumed will be borne by the Contractor until final acceptance.

SECTION 6.00: CONTROL OF MATERIALS

Subsection 6.01: Source of Supply and Quality

If the Engineer so desires, materials may be approved at the source of supply before delivery is started.

The Department reserves the right to require approval of the source of supply for any material to be incorporated into the work prior to delivery or manufacture.

The Engineer reserves the right to prohibit the use of materials, products or components which, in their opinion, may be supplied in a manner not reasonably consistent with contract requirements.

The determination of the Engineer shall be final upon all questions which pertain to supplier approval.

Fabricators of structural steel, miscellaneous steel and aluminum products, and producers of precast concrete and prestressed concrete must be on the Department's approved fabricators list on the date the bids are opened. Only approved fabricators will be allowed to perform work for the Department.

The Contractor shall furnish all materials required for the work specified in the Contract and said materials shall meet the requirements of the specifications for the kind of work involving their use. For any materials named or described in these specifications, an approved equivalent to that named or described in the said specifications may be furnished.

Chapter 7, Section 22, Clause 17, of the General Laws, as amended, shall apply to the purchase by the Contractor of supplies and materials to be used in the execution of this Contract.

The rules referred to require a preference in the purchase of supplies and materials, other considerations being equal, in favor first, of supplies and materials manufactured and sold within the Commonwealth, and second, of supplies and materials manufactured and sold within the United States. On Federal Aid Projects the following shall also apply:

No requirements shall be imposed and no procedure shall be enforced by any State in connection with a project which may operate to require the use or provide a price differential in favor of articles or materials produced within the State, or otherwise to prohibit, restrict or discriminate against the use of articles or materials shipped from or prepared, made or produced in any State, territory or possession of the United States.

In Contracts requiring structural steel, the Contractor shall furnish approved erection procedures to the inspector of structural materials at the source of supply or site of fabrication. The inspector shall not stamp their approval or release material for shipment until such approved procedures are received.

Materials for permanent construction shall be new, shall conform to the requirements of these specifications, and shall be approved by the Engineer.

Materials for temporary structures or supports adjacent to traveled ways, the failure of which would compromise the safety of the public or the traveled ways, need not be new but the Contractor shall be required to submit certification by a Structural Professional Engineer that the

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material meets the requirements for the intended use and shall be approved by the Engineer. Any fabrication shall conform to the requirements of these specifications.

These requirements shall not apply to gantry systems and supports as well as other mechanized systems.

If, after test(s), it is found that sources of supply which have been approved do not furnish a uniform product, or if the product from such source proves unacceptable at any time, the Contractor shall, at their own expense, take any and all steps necessary to furnish approved materials.

Where no inspection of materials is arranged for by the Department and before such materials are incorporated into the work, the Contractor shall submit to the Department for approval, three notarized copies of the Manufacturer's or Supplier's statement for each kind of material furnished, which shall certify compliance with the specifications and shall contain the following information:

1. Contract Number, City or Town, Name of Road and Federal Aid Number;
2. Name of the Contractor to which the material is supplied;
3. Kind of material supplied;
4. Quantity of material represented by the certificate;
5. Means of identifying the consignment, such as label, marking, seal number, etc.;
6. Date and method of shipment;
7. Statement to the effect that the material has been tested and found in conformity with the pertinent parts of the Contract;
8. Results of all required tests including the chemical analysis in the case of metal: or in lieu of furnishing the results a statement that results of all required tests pertinent to the certificate and not submitted shall be maintained available by the undersigned for a period of not less than three years from date of final acceptance or not less than three years from date of final payment to the State from Federal Funds (whichever period is the longest shall apply);
9. Signature of a person having legal authority to bind the supplier.

These COCs shall be delivered to the contract site at the same time that the materials are delivered and before such materials are incorporated into the work. Payment for the item in which the materials are incorporated may be withheld until these COCs are received in a form that meets the contract requirements.

If the Contractor has new materials purchased for use on a previous Department Contract which have never been used and which comply with the specifications, these materials may be furnished and used provided the Contractor submits their own sworn statement certifying that such materials were purchased for use on a previous Contract (naming and identifying such Contract) and that certificates of compliance were furnished for such materials on the previous Contract, to which reference can be made.

Any cost involved in furnishing the certificate shall be borne by the Contractor.

Subsection 6.02: Samples and Tests

The inspection and sampling of materials will be carried out, ordinarily, at the source or at the site of the Contract work in accordance with established policies and procedures of the Department; but

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the Department will not assume any obligation for the inspection and sampling of materials at the source. The responsibility of incorporating satisfactory material in the work rests entirely with the Contractor, notwithstanding any prior inspection or test.

Tests of materials will be made by the Department or under its direction in accordance with the Standards of the test as designated. The Contractor or their suppliers shall furnish such facilities as the Engineer may require for collecting and forwarding samples, and shall not make use of, nor incorporate in the work, any material represented by the samples until the required tests have been made and the material accepted. The Contractor in all cases shall furnish the required samples without charge.

Materials such as crushed stone, gravel borrow, ordinary borrow, etc., will be sampled at the source and approved for use. However, such preliminary approval by the Engineer does not relieve the Contractor of the responsibility for placing satisfactory material in the work as determined by subsequent samples taken at the source or on the project prior to the material being incorporated into the work and if the project samples test satisfactorily the material will be considered to meet the Contract requirements as to quality. If such sampling and testing reveal that the material is unsatisfactory it will then be the responsibility of the Contractor to remove it from the work or blend it with such other materials so that an acceptable material will be produced. The removal and blending of such material shall be done by the Contractor without additional compensation.

Subsection 6.03: Delivery and Storage of Materials

Materials and equipment shall be progressively delivered at the site so that there will be neither delay in the progress of the work nor an accumulation of materials that is not to be used within a reasonable time.

Materials shall be so stored as to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may again be inspected prior to their use in the work. Stored materials shall be located so as to facilitate their prompt inspection. Approved portions of the right-of-way may be used for storage purposes and for the placing of the Contractor's plant and equipment, but any additional space required therefor must be provided by the Contractor at their expense. Private property shall not be used for storage purposes without written permission of the owner or lessee, and if requested by the Engineer copies of such written permission shall be furnished to them. All storage sites shall be restored to their original condition by the Contractor at their expense. This shall not apply to the stripping and storing of topsoil, or to other materials salvaged from the work.

Subsection 6.04: Defective Materials

Materials not conforming to these specifications shall be rejected and removed from the work by the Contractor as directed. No rejected material, the defects of which have been subsequently corrected, shall be used except with the permission of the Engineer. Should the Contractor fail to remove non-conforming material within the time indicated in writing, the Engineer may withhold the estimated cost of the removal and replacement of the non-conforming material from any moneys due or to become due the Contractor. Upon further failure of the Contractor to remove and replace the nonconforming material, the Engineer shall have the authority to remove and replace the defective material, and the cost of such removal and replacement will be deducted from any moneys due or to become due the Contractor.

SECTION 7.00: LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

Subsection 7.01: Laws to be Observed

A. General.

The Contractor shall keep itself fully informed of all state and national laws and municipal ordinances and regulations in any manner affecting those engaged or employed in the work, or the materials used in the work, or in any way affecting the conduct of the work, and of all orders and decrees of bodies or tribunals, having any jurisdiction or authority over the same. If any discrepancy or inconsistency is discovered in the Contract for the work in relation to any law, ordinance, regulation, order or decree; the Contractor shall forthwith report the same to the Engineer in writing. The Contractor shall at all times observe and comply with, and shall cause all their agents and employees to observe and comply with, all existing laws, ordinances, regulations, orders and decrees.

The Contractor, if a foreign corporation, (a corporation established, organized or chartered under laws other than those of the Commonwealth) shall comply with the provisions of Sections 3 and 5 of Chapter 181 of the General Laws as amended. Section 3 provides that the State Secretary shall be appointed for the service of legal process in the case of a foreign corporation doing business in this Commonwealth. Section 5 requires every such corporation to file with the said secretary copies of its charter, certificate of incorporation, a true copy of its bylaws and other information.

The Contractor shall file with the Department with each bid, a certificate from the State Secretary stating that such corporation has complied with Sections 3 and 5 of Chapter 181 and the date of such compliance.

Other out-of-state business organizations, such as individual proprietorship, partnership, etc. shall appoint an agent in this Commonwealth for the service of legal process and furnish a copy of such appointment to the State Secretary prior to the issuance of a Contract by the Department.

It shall be the responsibility of the Contractor to observe and practice to the fullest extent practicable controls, procedures and methods lending themselves to protection of the human and natural environment.

The Contractor shall not, otherwise than as provided by law for the proper discharge of official duty, directly or indirectly, give, offer or promise anything of value to any present or former state employee, for or because of any official act performed or to be performed by such employee or person selected to be such employee. The phrase "anything of value" as used herein means any item of value, including but not limited to invitations or tickets to sporting events, social gatherings, outings or parties, or the provision of meals or lodging, or the use of vehicles of any kind, and any other item or thing of monetary value. In the event that the Contractor breaches this provision, the Department may take action against the Contractor including but not limited to the following: (a) ordering the Contractor to cease the work or any part thereof, (b) termination of the contract, (c) requiring Contractor's sureties to complete the work, and (d) suspend or terminate the Contractor's prequalification status.

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The Contractor shall at all times observe and comply with and shall cause all their agents and employees to observe and comply with all existing laws, ordinances, regulations, orders and decrees especially in their relationship to the protection of the total environment.

Executive Order 130 (Anti-Boycott Covenant)

The Contractor warrants, represents and agrees that during the time this contract is in effect, neither it nor any affiliated company, as hereafter defined, participates in or cooperates with an international boycott, as defined in Section 999 (b) (3) and (4) of the Internal Revenue Code of 1954, as amended, or engages in conduct declared to be unlawful by M.G.L. Chapter 151 E, Section 2. If there shall be a breach in the warranty, representation and agreement contained in this paragraph, then without limiting such other rights as it may have the Commonwealth shall be entitled to rescind this contract.

As used herein, an affiliated company shall be any business entity of which at least 51 % of the ownership interests are directly or indirectly owned by the Contractor or by a person or persons or business entity or entities directly or indirectly owning at least 51 % of the ownership interests of the Contractor, or which directly or indirectly owns at least 51 % of the ownership interests of the Contractor.

Executive Order No. 195

In compliance with Executive Order No. 195 of the Governor of the Commonwealth, the Governor or their designee, the Secretary of Administration and Finance, and the State Auditor or their designee shall have the right at reasonable times and upon reasonable notice to examine the books, records and other compilations of data of the contractor which pertain to the performance of the provisions and requirements of this contract.

B. Air Pollution Control.

The Contractor shall comply with the provisions of Chapter 111, as amended, of the General Laws of the Commonwealth, pertaining to and establishing the Air Pollution Control Districts in the Commonwealth. The burning of trees, brush, etc. will not be permitted. The Contractor shall provide other satisfactory, approved methods of disposal without additional compensation.

C. Prevention of Water Pollution (See Subsection 7.02: Pollution Prevention).

Attention of the Contractor's directed to Section 42 of the Massachusetts Clean Waters Act (Chapter 21 of the General Laws as amended).

D. Plant Pest Control.

The Contractor's attention is directed to the provisions of The Federal Plant Quarantine Act of 1912, as amended (7 U.S.C. 151-165 and 167); The Terminal Inspection Act of March 4, 1915, as amended (7 U.S.C. 166); Organic Act of 1944, as amended (7 U.S.C. 150aa-150jj); Cooperation with States in Administration and Enforcement of Certain Federal Laws, approved September 28, 1962 (7 U.S.C. 450).

All soil moving equipment operating in regulated areas in Massachusetts will be subject to plant quarantine regulations. In general, these regulations require the thorough cleaning of soil from equipment by the Contractor before such equipment is moved from regulated areas within

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Massachusetts to uninfested areas either within or without the Commonwealth. The cost of such cleaning shall be included in the contract prices and shall not be in addition thereto.

Complete information may be obtained from the Massachusetts Department of Agriculture, Plant Pest Control Division, 100 Cambridge Street, Boston. For interstate movement of soil moving equipment, the following should be contacted:

U.S. Department of Agriculture
Plant Pest Control Division
424 Trapelo Road
Waltham, Massachusetts 02154

E. Invasive Plants.

The Contractor shall ensure that no invasive plant species, as defined and listed by the Massachusetts Invasive Plant Advisory Group, are introduced or spread within or outside the site by construction activities either by improperly cleaned construction equipment or importation of infected materials such as borrow, compost, nursery stock, seed, or hay bales. Corrective measures, if necessary, shall be made by the Contractor as directed by the Engineer. The Contractor shall be solely responsible for all costs associated with ensuring that invasive species are not introduced or spread by construction activities and for all corrective measures required for as long as necessary to eliminate the introduced invasive plant species and prevent reestablishment of same.

F. AAB Tolerances.

All construction elements associated with sidewalks, walkways, pedestrian curb ramps and curb cuts are controlled by 521 CMR.

The Contractor is ultimately responsible for constructing all project elements in strict compliance with the current AAB/ADA rules, regulations and standards.

The AAB Rules and Regulations specify maximum slopes and minimum dimensions required for construction acceptance. There is no tolerance allowed for slopes greater than the maximum slope nor for dimensions less than the minimum dimensions.

G. Buy America Provisions.

On Federally-aid projects the Buy America Federal Regulation (23 CFR 635.410) requires that all manufacturing processes for steel and iron to be permanently incorporated in Federal-Aid Highway Construction Projects must occur in the United States. Foreign steel and iron can be used if the cost of the materials does not exceed 0.1% of the total Contract cost or \$2,500, whichever is greater. The action of applying a coating to a covered material (i.e., steel and iron) is deemed a manufacturing process subject to Buy America. Coating includes epoxy coating, galvanizing, painting and any other coating that protects or enhances the value of a material subject to requirements of Buy America.

Subsection 7.02: Pollution Prevention

I. Air Pollution Prevention.

A. Diesel Construction Equipment.

The Massachusetts Department of Transportation is a participant in the MassCleanDiesel Program established by the DEP and the purpose of this specification is to achieve documentable diesel emission reductions that result in beneficial air quality improvements to construction workers and the general public through the retrofit of diesel-powered non-road construction equipment.

The Contractor shall certify that all Contractor and Sub-Contractor diesel-powered non-road construction equipment and vehicles greater than 50 brake horsepower (hp) that will be utilized in performance of the work under this contract (hereinafter “Diesel Construction Equipment” or “DCE”) have:

- (1) engines that meet the EPA particulate matter (PM) Tier emission standards in effect for non-road diesel engines for the applicable engine power group; or
- (2) emission control technology verified by EPA or CARB for use with “non-road engines;” or
- (3) emission control technology verified by EPA or CARB for use with “on-road engines” provided that such equipment is operated with diesel fuel that has no more than 15 ppm sulfur content (i.e., ULSD fuel); or
- (4) emission control technology certified by manufacturers to meet or exceed emission reductions provided by either “on-road” or “non-road” emission control technology verified by EPA or CARB.

Emission control devices, such as oxidation catalysts or particulate filters, shall be installed on the exhaust system side of the diesel combustion engine equipment. The Contractor is responsible to insure that the emissions control technology is operated, maintained, and serviced as recommended by the manufacturer.

See Exemptions below regarding the use of rental equipment.

See Compliance section regarding minimum emission reductions that must be provided by non-verified EPA or CARB emission control devices.

For the latest up-to-date list of EPA-verified technologies, see:

<http://www.epa.gov/otaq/retrofit/verif-list.htm>.

For the latest up-to-date list of CARB verified technologies, see:

<http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm>

Exemptions

- A. Rented diesel equipment greater than 50 brake hp that will be used on site for 30 days or less over the life of the project (i.e., 30 days cumulative) are exempt from this specification. However, if the rented equipment will be used more than 30 cumulative days, then the equipment must comply with this specification. In either case, rental equipment must be included as part of the detailed records of DCE under Submittals and Reporting. Note: Any contractor owned equipment that are more than 50 brake hp that are used on site for 30 cumulative days or less over the life of the project, are not exempt from complying with this specification.

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- B. Large cranes (such as Sky cranes or Link Belt cranes) which are responsible for critical lift operations are exempt from installing Retrofit Emission Control Devices if they adversely affect equipment operation. Technical justification must be submitted to the Engineer for approval to document the impact on operations.
- C. The Engineer may create an exemption when there is a compelling emergency need to use diesel vehicles or engines that do not meet the contract conditions for emission controls. Examples include the need for rescue vehicles or other equipment to prevent or remedy harm to human beings or additional equipment required to address a catastrophic emergency such as structure collapse or imminent collapse. Once the emergency is controlled, such non-compliant equipment must be removed from the project. Meeting contract deadlines will not be considered a compelling emergency.
- D. Diesel-powered non-road construction equipment greater than 50 brake horsepower need not be equipped with either EPA or CARB verified emission control technology if the non-road construction equipment diesel engine is certified to meet the EPA particulate matter (PM) Tier emission standards in effect for non-road diesel engines for the applicable engine power group. Note: If emissions from the DCE at the start of the project meets the most current EPA PM emissions standards in effect at the time, but are superseded by newer Tier emission standards (i.e., Tier 3 emission standards replaced by Tier 4 emission standards), then the superseded DCE must be retrofitted prior to the end of the contract with emission control technology per Section (2).
- E. If an additional DCE (greater than 50 brake hp), or permanent replacement is brought on site after work has commenced, the Contractor has 15 calendar days from the time the DCE is brought on site, to install emission control technology per this specification (unless the DCE has an engine that meets the EPA particulate matter (PM) Tier emission standards in effect for non-road diesel engines for the applicable engine power group).

Submittals and Reporting

The Contractor shall fill out and return the following forms within 14 days of the date of contract Award:

Certification of Construction Equipment Standard Compliance Form
Diesel Equipment Data Sheet

These forms are available on the MassDOT website at www.mass.gov/massdot/highway/

Should the successful bidder fail to execute the said form, MassDOT may, at its option, determine the Contractor has abandoned the Contract and shall take action in accordance with Subsection 3.06: Failure to Execute Contract.

The Diesel Equipment Data Sheet is a certified list of all DCE to be utilized on the project and provide the following information for each DCE in tabular form:

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- Contractor/subcontractor name.
- Identify if owned/rented equipment.
- Equipment type.
- Equipment make, model and VIN.
- Engine model, year of manufacture and HP rating.
- Type of fuel used.
- Emission Control Device (ECD) type (DOC or DPF).
- ECD manufacturer, make and model.
- ECD EPA/CARB Verification Number or ECD performance certification provided by manufacturer(s) that the DOC or DPF meets or exceeds emission reductions when compared to an EPA or CARB verified device.
- ECD installation date.

For each piece of DCE, the Contractor shall also submit digital color pictures showing the machine and the MassDOT-issued compliance label (with inspection tag number).

The Contractor and subcontractor shall maintain detailed records of all DCE used on the project, including the duration times the DCE is used on the project site. Records shall be available for inspection by MassDOT. The Engineer shall be immediately notified of any new DCE brought into the project.

Compliance

- A. All DCE that are not exempt, must comply with these provisions whenever they are present on the project site. If a non-verified EPA or CARB emissions control device is used for compliance with this specification, then the device must provide the following minimum emission reductions:

Table 7.02-1: Minimum Emission Reductions for Non-Verified Emissions Control Devices

Diesel Oxidation Catalysts	Diesel Particulate Filters
Particulate Matter: 20% Carbon Monoxide: 40% Volatile Organic Compounds: 50%	Particulate Matter: 85%

Note: If emission reductions for a non-verified ECD appear to be questionable as determined by MassDOT, the Contractor shall provide all supporting emission test data, including test procedures, as requested by MassDOT for the ECD. If emission reductions cannot be substantiated by supporting test data, then the ECD in question must be replaced with a different ECD.

- B. Upon confirming that the Diesel Construction Equipment meets the EPA particulate matter (PM) Tier emission standards in effect for non-road diesel engines for the applicable engine power group or has the requisite pollution control technology installed, MassDOT will issue a non-transferable compliance label that will assign a compliance tracking number to the DCE.
- C. All DCE subject to this Specification shall display the compliance label in a visible location.

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- D. When leased or rented equipment which has been retrofitted by the Contractor is returned to the rental company, the Contractor will remove the Compliance label and return the label to the Engineer.
- E. Use of a DCE which has been issued a compliance label and which is found without the device is a breach of this contract and will be subject to a stipulated penalty of \$2,500 per day. See Non-compliance section below.
- F. If an emission control device which was purchased and/or utilized on or after March 1, 2005 and was in compliance with the MassDOT diesel retrofit requirements in place between March 1, 2005 and the issuance of this specification, the retrofit device will be considered in compliance with this specification. Note: If a retrofit device (i.e., DOC or DPF) used between March 1, 2005 and issuance of this specification does not have a performance certificate which shows the pollutant emission reductions being provided by the retrofit device meets or exceeds emission reductions provided by either an EPA or CARB verified “on-road” or “non-road” emission control device, then the device will be considered non-compliant with this specification.

Non-compliance

All DCE may be inspected by the Engineer or designated agent without prior notice to the Contractor. If any DCE is found to be in non-compliance, the Contractor must either remove the DCE from the project or retrofit it within 15 calendar days. Failure to comply will subject the Contractor to an Environmental Deficiency Deduction described below. A Notice of Non-Compliance will be issued by the Engineer or their agent at the time the noncompliance is identified.

If the Contractor fails to take corrective action within 15 calendar days of issuance of the Notice of Non-Compliance, a daily monetary deficiency deduction will be imposed for each calendar day the deficiency continues. The deduction will be \$2,500 per calendar day for each piece of DCE determined to be in non-compliance. The deficiency deduction is irrevocable and shall not be reimbursed. Pay estimates will be held and no payments made until all equipment is brought into compliance.

Costs

All costs associated with the installation of emission control technology are the responsibility of the Contractor and shall be considered incidental to the cost of the project. No additional compensation is provided. In addition, all DCE greater than 50 brake hp shall comply with the requirements of this specification at the start of work commencing on site. The Contractor’s compliance with this specification shall not be grounds for claims.

B. Construction Dust Control.

The Contractor shall comply with the provisions of the Massachusetts Department of Environmental Protection Code of Massachusetts Regulations (CMR) Regulations 310 CMR 7.09 “Dust, Odor, Construction and Demolition.”

The Contractor is responsible for control of dust at all times, 24 hours per day, 7 days per week. The Contractor shall treat soil at the site, haul roads, stockpiled materials and other areas disturbed by the operations with dust suppressors or other means to control dust. Dry power brooming will not

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be permitted. The Contractor shall use vacuuming, wet sweeping, regenerative air sweeping, or wet power broom sweeping. The use of sandblasting and compressed air will be permitted only with acceptable dust controls in place. Only wet cutting of concrete block, concrete and asphalt will be permitted.

Trucks and equipment leaving the site and entering public streets shall be cleaned of mud and dirt adhering to the vehicle body and wheels. Trucks and equipment arriving at and leaving the site with materials shall be loaded in a manner that will prevent the dropping of materials or debris on the streets. The contractor shall secure and cover transport equipment and loose materials to ensure that materials do not become airborne during transit. Material with high water content shall not be allowed to leak from truck cargo areas during transport over streets. Spills of materials in public areas shall be removed immediately without additional compensation.

C. Vehicle Engine Anti-Idling.

The Contractor is responsible for control of unnecessary engine idling at all times, 24 hours per day, 7 days per week.

Contractor shall perform all Work specified under this Section in compliance with the provisions of the Massachusetts DEP Code of Massachusetts Regulations (CMR) 310 CMR 7.11 “Transportation Media.”

The engines to all equipment and vehicles on or adjacent to the work site that are not being actively used in excess of five minutes shall be turned-off. Equipment and vehicles exempt from the five-minute anti-idling requirement include: cranes involved with critical lift operations, equipment and vehicles being serviced, vehicles engaged in the delivery or acceptance of equipment or material, and vehicles engaged in an operation which engine power is necessary for an associated power need.

D. Construction Noise Control.

The Contractor shall comply with the provisions of the Massachusetts DEP Code of Massachusetts Regulations (CMR) 310CMR 7.10 “Noise.”

Contractors and sub-contractors owning, leasing, or controlling equipment that is a source of sound shall not willfully, negligently, or through failure to provide necessary equipment, service, or maintenance, cause, allow, or permit excessive noise emissions.

All construction related activities which characteristically emit sound as well as construction and demolition equipment, should be fitted with and/or accommodated with equipment and/or material to suppress sound as necessary, or be operated in a manner so as to suppress sound.

II. Water Pollution Requirements.

A. General.

The Contractor shall exercise every reasonable precaution to prevent or minimize the silting of rivers, streams or water impoundments during actual construction and periods when the work may be temporarily suspended. Similar precautionary measures shall be taken with respect to temporary roads and access roads to borrow pits. This work shall also consist of temporary control measures ordered by the Engineer during the life of the Contract to control water pollution,

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through the use of berms, dikes, dams, sediment basins, crushed stone, gravel, mulches, grasses, waterways, and other erosion control devices or methods.

The temporary pollution control provisions contained herein shall be coordinated with the permanent erosion control features specified elsewhere in the Contract to the extent practical to assure economical, effective and continuous erosion control throughout the construction and post-construction period.

B. Schedule of Work.

At the preconstruction conference, the Contractor shall submit for acceptance and approval their procedure for the accomplishment of temporary erosion control work, and their schedule for the accomplishment of permanent erosion control work for all applicable phases of construction.

Since circumstances may require that certain pollution control work be done as promptly as possible, the Contractor's procedure must indicate his ability with men, equipment and material to take the necessary action.

C. Borrow Pits, Haul Roads and Disposal Areas.

Prior to entering or constructing haul roads or opening any borrow pit or waste disposal area, the Contractor shall submit their work plan for erosion control of such roads, pits or disposal areas. No work shall be started until the erosion control program and methods of operation have been accepted and are approved by the Engineer.

Wherever practicable so to do, unless objection thereto is made by the borrow pit owner, the Contractor shall save sufficient good topsoil from the excavated area and use it in establishing a vegetative cover which will blend the pit area into the surrounding landscape when the work on the project is completed. Vegetative cover will be similarly established in areas where waste material is placed. (See also 150.21: Borrow Pit Restrictions).

D. Construction Requirements.

The Engineer has the authority to limit the surface area of erodible earth material exposed by clearing and grubbing or excavation, borrow and fill operations and to direct the Contractor to provide immediate permanent or temporary pollution control measures to prevent contamination of adjacent streams or other watercourses, lakes, ponds or areas of water impoundment. Such work may involve the construction of temporary berms, dikes, dams, sediment basins, waterways, and use of temporary mulches, seeding or other control devices or methods as necessary to control erosion. All slopes shall be seeded and mulched as the earthwork proceeds to the extent considered desirable as practicable.

Where erosion is likely to be a problem, clearing and grubbing operations should be so scheduled and performed that grading operations and permanent erosion control features can follow immediately thereafter if the project conditions permit; otherwise temporary erosion control measures will be required between successive construction stages.

The Engineer will limit the area of excavation, borrow and embankment operations in progress commensurate with the Contractor's capability in keeping the finish grading, mulching, seeding and other such permanent pollution control measures current in accordance with the accepted

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schedule. Should seasonal limitations make such coordination unrealistic, temporary erosion control measures shall be taken immediately to the extent feasible and justified.

If, in the judgment of the Engineer, the surface area of erodible earth material exposed has the potential for causing water pollution, the Engineer shall direct the Contractor to cease the applicable operations until satisfactory temporary or permanent erosion control measures are taken. In the event of conflict between these requirements and pollution control laws, rules or regulations of other federal or State or local agencies, the more restrictive laws, rules or regulations shall apply.

The Contractor will be required to incorporate all permanent erosion control features into the project at the earliest practicable time, as outlined in their accepted schedule. Temporary pollution control measures will be used to correct conditions that develop during construction that were not foreseen during the design stage; that are needed prior to installation of permanent pollution control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project.

The Contractor shall take reasonable precaution to prevent grass and brush fires within the work site thereby eliminating further sources of erosion due to burned over areas.

E. Work in or Near Streams, Rivers and Impoundments.

The fording of streams with equipment shall be kept to a minimum. Where frequent stream crossings are contemplated and where fording might create sediment detrimental to fish, wildlife, water supplies or irrigation systems, temporary bridges or culverts shall be installed, the cost of which shall be absorbed by the Contractor.

Unless otherwise approved in writing by the Engineer, construction operations in rivers, streams and impoundments shall be restricted to those areas where channel changes are shown on the plans and to those areas which must be entered for the construction of temporary or permanent structures. Rivers, streams and impoundments shall be promptly cleared of all falsework, piling, debris, or other obstructions placed therein or caused by the construction operations.

Excavation from the roadway, channel changes, cofferdams, etc., shall not be deposited in or so near to rivers, streams, or impoundments that it will be washed away by high water or runoff.

When the Contractor uses water from natural sources for any of their operations, intake methods shall be such as to avoid contaminating the source of supply and maintain adequate downstream flow when the source is a stream.

Pollutants such as chemicals, fuels, lubricants, bitumens, raw sewage and other harmful waste shall not be discharged into or alongside of rivers, streams, impoundments or into natural or man-made channels leading thereto.

F. Sanitary Provisions.

The Contractor shall provide and maintain in a neat sanitary condition such accommodations for use of their employees as may be necessary to comply with the requirements of the Department of Public Health, local health officials or other authorities having jurisdiction.

Subsection 7.03: Permits and Licenses

The Contractor shall procure all required permits and licenses, pay all charges, fees and taxes and shall give all notices necessary and incidental to the due and lawful prosecution of the work. The cost thereof shall be included in the prices bid for the various items listed in the Proposal. Copies of all required permits and licenses shall be filed with the Engineer prior to the beginning of work.

For overweight vehicles in excess of 130,000 lb, the Contractor shall provide a copy of each overweight vehicle permit to the Engineer prior to arrival or delivery of the vehicle to a project site. This requirement is for all Contractors, their subcontractors, equipment suppliers and material suppliers.

The Contractor's attention is directed to the provisions of General Laws, Chapter 90, Section 9 as amended, in which it is provided that earth-moving motor vehicles which exceed certain dimensions or weight limits as specified in said Act, and which are used exclusively for building, repair and maintenance of highways, may be operated without registration for a distance not exceeding 300 yd on any way adjacent to any highway or toll road being constructed, relocated or improved provided a permit, authorizing such use, to be issued by the Commissioner of Public Works or by the Board or officer having charge of such way, has been procured by the Contractor.

Subsection 7.04: Motor Vehicles

All motor vehicles (except vehicles used solely for transporting employees to and from the project) and trailers used wholly or in part within the Commonwealth by the Contractor or any Subcontractor, or by any person directly or indirectly employed by them in the execution of the Contract, shall be registered in the Commonwealth of Massachusetts and bear Massachusetts registration plates except as stipulated in Subsection 7.03: Permits and Licenses.

Motor vehicles used solely for transporting employee(s) to and from the project shall be registered as required under General Laws, Chapter 90, Section 3, as amended.

No vehicle shall be driven on any way, as defined in Section I of Chapter 90 of the General Laws, unless such vehicle is constructed or loaded so as to prevent any of its load from dropping, sifting, leaking, or otherwise escaping therefrom, except that sand may be dropped for the purpose of securing traction or water or other substance may be sprinkled on such a way in cleaning or maintaining the same. (General Laws, Chapter 85, Section 30, as amended.)

Subsection 7.05: Insurance Requirements

A. Workmen's Compensation Insurance.

The Contractor, before commencing performance of the work required to be done under the Contract, shall provide for the payment of the compensation provided by Massachusetts General Laws, Chapter 152, as amended, to all persons to be employed by them in connection with the said performance, and they shall continue in full force and effect throughout the period required for the completion of the improvement such insurance as may be required under said chapter. The persons for whom compensation is to be provided by such insurance shall include those reserve or special police officers employed by the Contractor for the purpose of directing or maintaining traffic or other similar purposes within the site of the improvement and paid directly by them for such services; they shall not include, however, any regular police officers employed for said pm pose.

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Failure to provide and continue in force such insurance as aforesaid shall be deemed a material breach of the Contract and shall operate as an immediate termination thereof.

Such insurance shall not be canceled or otherwise terminated until ten days after written notice of cancellation or termination is given by the party proposing cancellation to the other party or until notice has been received that the employer has secured insurance from another insurance company or has otherwise insured the payment of compensation provided for by M.G.L. Chapter 152 as amended. Notice of cancellation sent to the party proposing cancellation by registered mail, postage prepaid, with a return receipt of the addressee requested, shall be sufficient notice. An affidavit of any officer, agent or employee of the insurer or of the insured, as the case may be, duly authorized for the purpose, that they have so sent such notice addressed as aforesaid, shall be prima facie evidence of the sending thereof as aforesaid. This section shall apply to the legal representatives, trustee in bankruptcy, receiver, assignee, trustee and the successor in interest of any such Contractor.

The aforesaid insurance except that required for traffic officers, shall be taken out and maintained with no compensation therefor other than that provided by the contract unit prices.

B. Public Liability Insurance.

The Contractor shall take out and maintain insurance of the following kinds and amounts in addition to any other kinds or bonds required under other provisions of the Contract, with no compensation therefor other than that provided by the contract unit prices.

1. Contractor's Public Liability and Property Damage Liability Insurance.

The Contractor shall furnish evidence to the Department that, with respect to the operations the Contractor performs, the Contractor carries regular Contractors' Public Liability Insurance providing for a limit of not less than \$1,000,000 for all damages arising out of bodily injuries to or death of one person, and subject to that limit for each person, a total limit of \$2,000,000 for all damages arising out of bodily injuries to or death of two or more persons in any one accident, and regular Contractor's Property Damage Liability Insurance providing for a limit of not less than \$1,000,000 for all damages arising out of injury to or destruction of property in any one accident, and subject to that limit per accident, a total or aggregate limit of \$2,000,000 for all damages arising out of injury to or destruction of property during the policy period.

2. Contractor's Protective Public Liability and Property Damage Liability Insurance.

The Contractor shall furnish evidence to the Department that, with respect to the operations performed for them by Subcontractors, the Contractor carries on their own behalf regular Contractor's Protective Public Liability Insurance providing for a limit of not less than \$1,000,000 for all damages arising out of bodily injuries to or death of one person, and subject to that limit for each person, a total limit of \$2,000,000 for all damages arising out of bodily injuries to or death of two or more persons in any one accident, and regular Contractor's Protective Property Damage Liability Insurance providing for a limit of not less than \$1,000,000 for all damages arising out of injury to or destruction of property in any one accident and, subject to that limit per accident a total or aggregate limit of \$2,000,000 for all damages arising out of injury or destruction of property during the policy period.

3. Railroads' Protective Liability and Property Damage Liability Insurance.

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In addition to the above, the Contractor shall furnish evidence to the Department that, with respect to the operation the Contractor or any of their Subcontractors perform, the Contractor has provided for and on behalf of the Railroad Company affected by this Contract Regular Protective Liability Insurance providing for a limit of not less than the amount named in the Special Provisions for all damages arising out of bodily injuries to or death of one person, and subject to that limit for each person, a total limit of the amount named in the Special Provisions for all damages arising out of bodily injuries to or death of two or more persons in any one accident, and Regular Protective Property Damage Liability Insurance for a limit of not less than the amount named in the Special Provisions for all damages arising out of injury to or destruction of property in any one accident and, subject to that limit per accident, a total or aggregate limit of the amount named in the Special Provisions for all damages arising out of injury to or destruction of property during the policy period.

4. Asbestos Liability Insurance.

In addition to the above, when items for asbestos testing or removal are contained in the bid items for the project, the Contractor shall furnish evidence to the Department that, with respect to the work the Contractor or any of their Subcontractors perform, the Contractor carries on behalf of itself Asbestos Liability Insurance providing for a limit of not less than \$1,000,000 for all damages arising out of bodily injuries to or death of one person, and subject to that limit for each person, a total or aggregate limit of \$2,000,000 for all damages arising out of bodily injuries to or death of two or more persons in any one asbestos related incident.

C. General.

1. The insurance requirements hereinbefore stipulated shall cover all damage to property whether above or below the ground, shall apply to the entire project, except that such insurance as may be required for the protection of a railroad shall apply only to that portion of the project which is in the immediate vicinity of the railroad property.
2. All insurance policies shall contain suitable stipulations providing for blasting operations if and when required.
3. If any part of the work is sublet, similar insurance to that required of the Contractor shall be provided by or in behalf of the Subcontractors to cover their operations, in accordance with the herein before provisions of "A. Compensation Insurance," and "B.1, Contractor's Public Liability and Property Damage Liability Insurance," with the same minimum limits as required of the Contractor, or such lower minimum limits as the Engineer may approve.
4. All insurance required of the Contractor shall be carried until all work required to be performed under the terms of the Contract or Subcontracts has been satisfactorily completed. In the case of the Contractor, this shall be evidenced by the written acceptance of the physical work by the Chief Engineer.
5. Before the commencement of the performance of the Contract or of any Subcontract the Contractor shall furnish the Department two complete copies of the policies they have provided for and in behalf of the Railroad and they shall file with the Department suitable insurer's certifications showing, for each policy of all required insurance, the following; the name and address of the insurer and of the insured, the policy period, the details of coverage including limits of liability, the rates and cost of such insurance, and a statement that each policy is endorsed to provide that the insurance company shall notify all insured

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parties and the Department by registered mail at least 30 days in advance of termination or any change in the policy.

6. Insurers shall be licensed and registered in accordance with Massachusetts General Laws. Policies shall indemnify against loss with no deductible amount. Policies shall not contain any provision for Contractor self-insurance.

Subsection 7.06: Patented Devices, Materials and Processes.

It is mutually understood and agreed that, without exception, contract prices are to include all royalties and costs arising from patents, trademarks and copyrights in any way involved in the work. It is the intent that whenever the contractor is required or desires to use any design, device, material or process covered by letters patent or copyright, the right for such use shall be provided for by suitable legal agreement with the patentee or owners. A copy of this agreement shall be filed with the Engineer; however, whether or not such agreement is made or filed as noted, the contractor and the surety in all cases shall indemnify and save harmless the Department from any and all claims for infringement by reason of the use of any such patented design, device, material or process to be involved under the contract. The Contractor and the surety shall indemnify the Department for any cost, expenses and damages which it may be obliged to pay, by reason of any such infringement, at any time during the prosecution or after the completion of the work.

Subsection 7.07: Restoration of Surfaces Opened by Permit

The Contractor shall not allow any party to make an opening in the highway for any purpose except upon the direction of the Engineer and the presentation of a duly authorized permit. The holder of such a permit shall be considered in the same class as a Contractor on an adjacent project, and the provisions of Subsection 5.05: Cooperation by Contractor and Subsection 5.06: Adjacent Contracts shall apply.

Subsection 7.08: Federal Participation (Applicable only to Contracts where the cost of any portion thereof is paid out of Federal Funds).

Attention is directed to the provisions of the Federal Highway Act of November 9, 1921 (42 U.S. Statutes at large, page 212) as modified and as extended, and 72 U.S. Statutes at large 885, U.S. Code Title 23, and any other provisions of law, or amendments thereto whereby such Federal Participation is authorized, and any regulations properly and lawfully promulgated thereunder, under which the United States shall aid the individual states in the construction of highways. When the United States Government is to pay any portion of the cost of the project the above act of Congress provides that the construction work and labor in each State shall be done in accordance with the laws of that state and applicable Federal Laws. The work embraced in this Contract will therefore be subject to such inspection by the Federal Highway Administration as may be necessary to meet the above requirements. Such inspection shall however, in no sense make the United States Government a party to this Contract, and will in no way interfere with the rights of either party hereunder.

Subsection 7.09: Public Safety and Convenience

The Contractor shall at all times, until written acceptance of the physical work by the Chief Engineer, be responsible for the protection of the work and shall take all precautions for preventing injuries to persons or damage to property on or about the project. If the Contractor constructs

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temporary bridges or provides temporary crossings of streams, their responsibility for accidents shall include the roadway and sidewalk approaches as well as the structures of such crossings.

Where the Contract involves dredging, excavation or other construction work in navigable waters, the work shall be so conducted as to cause no unnecessary obstruction to the free passage of vessels.

The decision for routing traffic through or around the work and provisions for the control of same will be made by the Engineer. Whenever it is deemed advisable, special detours will be provided for truck or bus traffic. On major projects and projects in urban areas traffic patterns and schedules will be studied in the design stage and included in the Special Provisions.

Subject to the approval of the Engineer, the Contractor shall schedule the temporary or permanent closing of highways to travel only after consultation with the Police Chief and Fire Chief of the municipality or municipalities concerned. The temporary closing of highways shall be kept to a minimum.

The Contractor shall provide to the Engineer and to the police and fire departments of each affected municipality a contact list of contractor personnel who can be notified in the event of an emergency. The list shall have the names and telephone numbers of personnel available 24 hours a day, 7 days a week for the duration of the field work. The list shall be kept current, and shall include secondary contacts as needed to ensure that an authorized person is available at all times to mobilize crews as required to respond to emergencies. If contacted directly by emergency response personnel, the Contractor shall immediately notify the Engineer.

When a road or portion thereof is under construction and is closed to through traffic and when detours around the work are provided on existing city or town ways, the Contractor shall maintain such city or town ways as required in Subsection 4.07: Maintenance of Detours and be compensated as specified in Subsection 4.07: Maintenance of Detours.

The safety and convenience of the travelling public takes precedence over the convenience of the Contractor.

Where the construction impacts the traveled way, traffic flow shall be maintained in accordance with the approved traffic management plan.

At any time during operations when a traffic delay occurs resulting in conditions which, as determined by the Engineer, significantly impede traffic or create a hazard to public safety, the Engineer will suspend the work and order the roadway opened to full available capacity. The Contractor shall immediately cease operations affecting traffic and provide a safe travel way.

No additional compensation will be paid for suspending the work. The sole allowance for any such suspension is an extension of time as provided by Subsection 8.10: Determination and Extension of Contract Time for Completion (Time Extensions).

If significant, unexpected traffic delays are recurring, the Contractor may be required to modify the work hours and the traffic management plan.

When grading operations are in progress, each level of excavation or fill shall be graded as near as practicable to an even surface so as to provide a satisfactory passageway for the use of traffic.

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The Contractor shall maintain all temporary roadways in a manner which will provide reasonably safe and convenient travel. When temporary roadways outside the project limits are abandoned, the surfaces shall be removed and all fill graded to a smooth, neat, natural appearance, free from water pockets and as directed by the Engineer.

Abandoned temporary or existing roads beyond the limits of the main roadway slopes, but within the project limits, shall be excavated, graded, loamed and seeded as directed to present a neat, natural appearance and provide for proper drainage. Compensation for this work will be included under the respective items of work involved.

Snow removal on detours or present traveled ways will not be required of the Contractor.

The Contractor, as directed, shall at all times so conduct the work that the abutters shall have reasonable access to their property. When public or private property is isolated by the closure of a road, the Contractor shall be responsible for providing such reasonably safe means of access to a public way as the Engineer deems essential and the Contractor shall be compensated for all such work directed by the Engineer at the contract unit prices for the type of work and materials involved. When it is necessary to leave materials and equipment upon the highway they shall be placed so as to cause the least possible obstruction to drainage, pedestrians and other travel.

When the work in any way affects the operation, management, maintenance, business or traffic on any railroad, such work shall be carried on in a manner satisfactory to the said railroad; but all orders, directions or instructions to the Contractor relative to work under the Contract will be issued only by the Engineer of the Department. The Contractor shall use all possible vigilance in order effectively to guard against all accidents or damages on the railroad due to their work, and the Contractor shall at all times during the progress of the work so manage and execute the same as to cause the least possible interference with the operation, management, business or traffic of the railroad.

Work is restricted to a normal 8-hour day, 5-day week, with the Prime Contractor and all Subcontractors working on the same shift. No work shall be done on Saturdays, Sundays, holidays, or the day before or after a holiday without prior approval of the Engineer.

Trenches shall not be opened in traveled ways until all materials and equipment required for the work are at the site and available for immediate use. When work is not in progress trenches in areas subject to public travel shall be covered with steel plates capable of safely sustaining an HS20 Loading with 33% impact. The work at each trench shall be practically continuous, with the placing of conduit and piping, backfilling and patching of the surface closely following each preceding operation.

At the end of each working day where trenches in areas of public travel are covered with steel plates, each edge of such plates shall either be beveled or protected by a ramp with a slope of 2 ft horizontally to 1 in. vertically. Temporary patching material for the ramps shall meet the requirements of Section 472 Hot Mix Asphalt for Miscellaneous Work. The cost of necessary patching materials, and their maintenance and removal, will be considered incidental to the item involved, with no separate payment.

Pending installation of castings, all structures in travel ways or deemed hazardous by the Engineer shall be protected with suitable covers (steel plates or equal) capable of withstanding a 36.5-ton

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truckload with impact. The cost of covers or plates will be considered incidental to the item involved with no separate payment.

Subsection 7.10: Barricades and Warning Signs

The Department may furnish, erect and maintain regulatory, warning and guide signs, traffic control signals, markings, safety lighting and any other traffic devices as it deems necessary for the safe flow of traffic during construction.

Highways wholly or partly closed to traffic shall be protected by suitable barricades, barrier fences, traffic signs and other traffic devices, furnished and erected by the Contractor at locations shown on the plans, or as directed, and the Contractor shall be compensated therefor in accordance with the contract unit prices for the items of work involved.

The Contractor shall, at their own expense, provide and erect, acceptable or as directed, barricades, barrier fences, traffic signs, and all other traffic devices, not covered in their Contract as a payment item, to protect the work from traffic, pedestrians, or animals. The Contractor shall at his own expense provide sufficient temporary lighting such as flares, lanterns, or other approved illuminated traffic signs and devices, not covered in their Contract as a payment item, to afford adequate protection to the travelling public. The Contractor shall also at their own expense furnish a sufficient number of watchmen at all times to protect the work.

All barricades, barrier fences, traffic signs and other traffic devices must conform with the Department's Manual on Uniform Traffic Control Devices.

The Contractor shall be held responsible for all damage to the work due to any failure of barricades, barriers, warning signs or lights to properly protect the work from traffic, pedestrians or other causes.

Subsection 7.11: Traffic Officers and Railroad Flagging Service

The Contractor shall provide such police officers as the Engineer deems necessary for the direction and control of traffic within the site. Such officers shall wear regulation policemen's uniforms and reflectorized safety vests meeting the requirements of ANSI 107, Class 3. They may be reserve, special, or regular officers not subject to the control of the Contractor.

Compensation for the services of said police officers will be paid by the Contractor to their employers, subject to all rules and regulations, ordinances, or by-laws in effect in the city or town in which the work is being performed. The Department shall pay the same hourly rate as the municipality in which they are working pays its police for similar work on the municipality's projects as set by the municipality's collective bargaining agreement. The Department shall not pay any administrative charges charged by the municipality in association with the police costs. The Department will pay the Contractor for all police officers approved by the Department. Within two weeks from the issuance of payment by the Department for police costs, the Contractor shall submit proof that payment has been made to the police department. Failure of the Contractor to provide proof of payment within the two-week period will result in the following: (a) the removal of the prior payment from the subsequent estimate; and (b) all future payments will be made on a reimbursement basis, based upon the receipt of a cancelled check.

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If any of the work required to be done by the Contractor may obstruct the tracks of a railroad or in any way endanger the operation of its trains, and the services of a flagger or flaggers or other railroad employees are required by the Chief Engineer of the railroad company and personnel are assigned by that Chief Engineer for the protection of the property and traffic of the Railroad against hazards, the cost of all such flagging services will be paid by the Contractor to their employers, subject to the rules and regulations of the railroad company. The Department will only pay the Contractor for the costs of flaggers in the same manner as described above for police officers. The Department shall not pay any administrative charges associated with the costs of flaggers charged by the railroad nor shall the Department pay charges for debit accounts if such accounts are required by the railroad.

Subsection 7.12: Use of Explosives

When the use of explosives is necessary for the prosecution of the work, the Contractor shall exercise the utmost care not to endanger life and property including new work and whenever directed, the number and size of the charges shall be reduced. The Contractor shall be responsible for all damage resulting from the use of explosives. All explosives shall be stored in a secure manner in conformance with all the State laws and regulations, as well as any local requirements; and all such storage places shall be marked “Dangerous – Explosives.”

The Contractor shall be required to conform to the regulations of the Massachusetts Department of Public Safety concerning storage, handling and use of explosives.

Prior to start of the blasting, the Contractor shall give at least a 24-hour notice and a schedule of their operations thereof to the operating official, company, or companies, leasing, owning or responsible for pipes, conduits, poles, wires, railroad tracks, or any other public or private utility which may be endangered by the blasting in order that a representative of said owner or lessee may be present at the site. The Contractor shall take proper precaution to prevent injury to said properties during all blasting operations.

Subsection 7.13: Protection and Restoration of Property

The Contractor shall, at their own expense, preserve and protect from injury all property either public or private along and adjacent to the proposed work, and they shall be responsible for and repair at their own expense any and all damage and injury thereto, arising out of or in consequence of any act of omission, neglect or misconduct in the execution of the work, or in consequence of the non-execution thereof by the Contractor or their employees or Subcontractors in the performance of the work covered by the Contract prior to completion and acceptance thereof. The Contractor shall exercise special care during their operations to avoid injury to underground structures such as water or gas mains, pipes, conduits, manholes, catch basins, etc.

The Contractor shall maintain all drainage systems in the project areas to provide continual drainage of the travelways and construction area. All pipes and structures installed as part of this Contract shall be left in a clean and operable condition at the completion of the work.

Written notice shall be given by the Contractor to all public service corporations or officials owning or having charge of public or private utilities of their intention to commence operations affecting such utilities at least 48 hours (exclusive of Saturdays, Sundays and legal holidays) in advance of the start of such operations in accordance with Chapter 82, Section 40 of the General Laws, as amended, and the Contractor shall at the same time file a copy of said notice with the Engineer.

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Although the plans may indicate the approximate location of existing subsurface utilities in the vicinity of the work, the accuracy and completeness of the information is not guaranteed by the Department. The Contractor shall notify Massachusetts DIG SAFE and procure a Dig Safe Number for each location prior to disturbing existing ground in any way. Contact the Dig Safe Call Center by dialing 811 or 1-888-344-7233 or online at www.digsafe.com. The Contractor shall make an investigation in order to assure that no damage to existing structures, drainage lines, traffic signal conduits, etcetera, will occur. Live services shall not be interrupted until new services have been provided. All abandoned services shall be plugged or otherwise made secure.

The Contractor shall receive no extra compensation for such work unless said compensation is authorized in writing by the Engineer, as specified under Subsection 4.03: Extra Work for Extra Work, (except test pits as directed to be made in order to locate existing underground structures).

If the Contractor wishes to have any utilities temporarily relocated for their convenience other than contemplated by the Department, they shall make the necessary arrangement with the owners and make reimbursement for the cost thereof at their own expense.

Land monuments and property marks shall be carefully protected and if necessary to remove the same, the Contractor shall do so only at the Engineer's direction and after an authorized agent has witnessed or otherwise referenced their location. The Contractor shall not injure or remove trees or shrubs without proper authority. Insofar as possible the Contractor shall confine their movements and operations to the area within the limits of the location and the area outside the scope of the work shall not be disturbed except as directed.

The Contractor's attention is directed to Chapter 231 of the Acts of 1977 which stipulates that, surveyors of highways, road commissioners, or any other person; agency, or authority responsible for road or highway repairs shall notify the Massachusetts Bay Transportation Authority not later than forty-eight hours prior to the repair, construction or reconstruction of any road or highway used by said Authority in the operation of regular route service if such repairs, construction or reconstruction shall prohibit the operation of regular route service by the Authority over such road or highway.

The Contractor shall adhere to all requirements established by Occupational Safety and Health Administration and take all necessary precautions for the protection of personnel and equipment. The bidders attention is directed to the Code of Federal Regulations Part 1926 - *Safety and Health Regulations for Construction*, Subpart CC, 1926.1408 *Power line safety (up to 350 kV)--equipment operations* which establishes the minimum clearance between the lines and any part of the crane or load. If the voltage is unknown the minimum clearance is 20 ft. If the line is known to be rated 50 KV or below the minimum clearance is 10 ft. For higher voltages consult the above referenced subsection. For protection of personnel and equipment, the Contractor should be aware of this regulation especially during paving operations using dump trucks.

Subsection 7.14: Responsibility for Damage Claims

The Contractor shall indemnify, defend, and save harmless the Commonwealth, the Department, the Municipality, and all of its offices, agents, and employees from and against all claims, damages, losses, and expenses, including attorney's fees, for or on account of any injuries to persons or damages to property arising out of or in consequence of the acts of the Contractor in the performance of the work covered under the contract or failure to comply with the terms and

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conditions of said contract, and is caused in whole or in part by any negligent act or omission of the Contractor, any subcontractor, anyone indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

The Contractor will be held responsible for any and all claims for damage to underground structures such as, but not restricted to, water or gas mains, pipes, conduits, manholes or catch basins, due to their operation or to the operations of any of their Subcontractors.

The Contractor's attention is directed to the provisions of General Laws, Chapter 30, Section 39H as amended. In accordance therewith, the Commonwealth agrees to indemnify the Contractor against loss by reason of the liability to pay damages to others for entry upon any land included within the boundaries of the area within which the work is to be performed as set forth in the construction Contract and the plans and specifications applying to such Contract or any approved changes thereof or for damage sustained upon any lands adjoining said land by reason of the flowage or drainage of water thereto or therefrom. In any case wherein such damages result from the failure of the Commonwealth to take an interest or easement in such adjoining area, provided that the Commonwealth acting by an authorized representative thereof has issued a notice in writing to the Contractor prior to the making of an entry upon such premises directing or permitting them to proceed with their Contract and to make such entry upon the premises for the purpose of performing the work required by said Contract, or any approved alteration thereof, and provided, further, that the Contractor has given notice in writing to the contracting authority within 15 days after receiving notice of any claim to come in and settle the same and upon the commencement of any action against them to come in and defend said action, but in no event shall any such damage claim be compromised or adjusted without the written consent of the Commonwealth. The provisions of this section shall in no way relieve the Contractor from any liability for damage to property of others caused by their negligence or that of their employees nor shall they be construed to require the Commonwealth to indemnify the Contractor against any loss resulting from such acts of negligence.

Subsection 7.15: Claims Against Contractors for Payment of Labor, Materials and Other Purposes

The Contractor shall pay all bills for labor, materials, rental of equipment and for such other purposes as are more specially set forth in Chapter 149, Section 29 and Chapter 30, Section 39A, General Laws, and all amendments thereto. It is understood that the Payment Bond required by Subsection 3.04, Paragraph B, is the sole security for petitions brought pursuant to said sections. The Contractor and Party of the First Part shall also comply with the provisions of Chapter 30, Section 39F and G.

Chapter 149, Section 29, of the General Laws as amended reads as follows: Officers or agents contracting in behalf of the Commonwealth or in behalf of any county, city, town, district or other political subdivision of the Commonwealth or other public instrumentality for the construction, reconstruction, alteration, remodeling, repair or demolition of public buildings or other public works when the amount of the Contract in the case of the Commonwealth is more than five thousand dollars, and in any other case is more than two thousand dollars, shall obtain security by bond in an amount not less than one half of the total contract price, for payment by the Contractor and Subcontractors for labor performed or furnished and materials used or employed therein,

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including lumber so employed which is not incorporated therein and is not wholly or necessarily consumed or made so worthless as to lose its identity, but only to the extent of its purchase price less its fair salvage value, and including also any material specially fabricated at the order of the Contractor or Subcontractor for use as a component part of said public building or other public work so as to be unsuitable for use elsewhere, even though such material has not been delivered and incorporated into the public building or public work, but only to the extent of its purchase price less its fair salvage value and only to the extent that such specially fabricated material is in conformity with the Contract, plans and specifications or any changes therein duly made; for payment of transportation charges for materials used or employed therein which are consigned to the Contractor or to a Subcontractor who has a direct contractual relationship with the Contractor; for payment by such Contractor and Subcontractors of any sums due for the rental or hire of vehicles, steam shovels, rollers propelled by steam or other power, concrete mixers, tools and other appliances and equipment employed in such construction, reconstruction, alteration, remodeling, repair or demolition; for payment of transportation charges directly related to such rental or hire; and for payment by such Contractor and Subcontractors of any sums due trustees or other persons authorized to collect such payments from the Contractor or Subcontractors, based upon the labor performed or furnished as aforesaid, for health and welfare plans, supplementary unemployment benefit plans and other fringe benefits which are payable in cash and provided for in collective bargaining agreements between organized labor and the Contractor or Subcontractors; provided, that any such trustees or other persons authorized to collect such payments for health and welfare plans, supplementary unemployment benefit plans and other fringe benefits shall, subject to the following provisions, be entitled to the benefit of the security only in an amount based upon labor performed or furnished as aforesaid for a maximum of two hundred and forty consecutive calendar days.

In order to obtain the benefit of such bond for any amount claimed, due and unpaid at any time, any claimant having a contractual relationship with the Contractor principal furnishing the bond, who has not been paid in full or any amount claimed due for the labor, materials, equipment, appliances or transportation included in the paragraph (1) coverage within sixty-five days after the due date for same, shall have the right to enforce any such claim (a) by filing a petition in equity within one year after the day on which such claimant last performed the labor or furnished the labor, materials, equipment, appliances or transportation included in the claim and (b) by prosecuting the claim thereafter by trial in the superior court to final adjudication and execution for the sums justly due the claimant as provided in this section.

Any claimant having a contractual relationship with a Subcontractor performing labor or both performing labor and furnishing materials pursuant to a Contract with the general Contractor but no contractual relationship with the Contractor principal furnishing the bond shall have the right to enforce any such claim as provided in subparagraphs (a) and (b) of paragraph (2) only if such claimant gives written notice to the Contractor principal within sixty-five days after the day on which the claimant last performed the labor or furnished the labor, materials, equipment, appliances or transportation included in the paragraphs (1) coverage, stating with substantial accuracy the amount claimed, the name of the party for whom such labor was performed or such labor, materials, equipment, appliances or transportation were furnished; provided, that any such claimant shall have the right to enforce any part of a claim covering specially fabricated material included in the paragraph (1) coverage only if such claimant has given the Contractor principal written notice of the placement of the order and the amount thereof not later than twenty days

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after receiving the final approval in writing for the use of the material. The notices provided for in this paragraph (3) shall be served by mailing the same by registered or certified mail postage prepaid in an envelope addressed to the Contractor principal at any place at which the Contractor principal maintains an office or conducts their business, or at the Contractor principal's residence, or in any manner in which civil process may be served.

Upon motion of any party, the court shall advance for speedy trial a petition to enforce a claim pursuant to this section. Sections fifty-nine and fifty-nine B of Chapter two hundred thirty-one shall apply to petitions to enforce claims pursuant to this section. The court shall enter an interlocutory decree upon which execution shall issue for any part of a claim found due pursuant to said Sections fifty-nine or fifty-nine B and shall, upon motion of any party, advance for speedy trial the petition to enforce the remainder of the claim. Any party aggrieved by such interlocutory decree shall have the right to appeal therefrom as from a final decree. The court shall not consolidate for trial the petition of any claimant under this section with the petition of one or more other claimants on the same bond, unless the court finds that a substantial portion of the evidence of the same events during the course of construction (other than the fact that the claims sought to be consolidated arise under the same general Contract) is applicable to the petitions sought to be consolidated, and that such consolidation will prevent unnecessary duplication of evidence.

The court shall not dismiss any petition on the ground that it was filed before the sixty-fifth day after the day the claimant last performed the labor or furnished the labor, materials, equipment, appliances or transportation included in the claim, nor shall the court dismiss any petition on the ground that a claim involves more than one Contract with the same party and that the one year period has elapsed as to any one Contract; provided, that the court shall not enter a decree upon any claim or part thereof prior to the seventieth day after the day the claimant last performed the labor or furnished the labor, materials, equipment, appliances or transportation included in the claim.

A decree in favor of any claimant under this section shall include reasonable legal fees based upon the time spent and the results accomplished as approved by the court and such legal fees shall not in any event be less than published rate of any recommended fee schedule of a state-wide bar association or of a bar association in which the office of counsel for claimant is located, whichever is higher.

Any person employing persons on any public works hereinbefore referred to shall post conspicuously, at such place or places as will provide reasonable opportunity for all employees to read the same, a correct copy of this section. The Department shall enforce this paragraph. (Refers to the Department of Labor and Industries).

In conformity with the requirements of Chapter 30, Section 39F of the General Laws, as amended, the following is quoted from Chapter 30, Section 39F.

“(1) Every contract awarded pursuant to sections forty-four A to L, inclusive, of chapter one hundred and forty-nine shall contain the following subparagraphs (a) through (i) and every contract awarded pursuant to section thirty-nine M of chapter thirty shall contain the following subparagraphs (a) through (h) and in each case those subparagraphs shall be binding between the general contractor and each subcontractor.

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“(a) Forthwith after the general contractor receives payment on account of a periodic estimate, the general contractor shall pay to each subcontractor the amount paid for the labor performed and the materials furnished by that subcontractor, less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the subcontractor by the general contractor.

“(b) Not later than the sixty-fifth day after each subcontractor substantially completes his work in accordance with the plans and specifications, the entire balance due under the subcontract less amounts retained by the awarding authority as the estimated cost of completing the incomplete and unsatisfactory items of work, shall be due the subcontractor; and the awarding authority shall pay that amount to the general contractor. The general contractor shall forthwith pay to the subcontractor the full amount received from the awarding authority less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the subcontractor by the general contractor.

“(c) Each payment made by the awarding authority to the general contractor pursuant to subparagraphs (a) and (b) of this paragraph for the labor performed and the materials furnished by a subcontractor shall be made to the general contractor for the account of that subcontractor; and the awarding authority shall take reasonable steps to compel the general contractor to make each such payment to each such subcontractor. If the awarding authority has received a demand for direct payment from a subcontractor for any amount which has already been included in a payment to the general contractor or which is to be included in a payment to the general contractor for payment to the subcontractor as provided in subparagraphs (a) and (b), the awarding authority shall act upon the demand as provided in this section.

“(d) If, within seventy days after the subcontractor has substantially completed the subcontract work, the subcontractor has not received from the general contractor the balance due under the subcontract including any amount due for extra labor and materials furnished to the general contractor, less any amount retained by the awarding authority as the estimated cost of completing the incomplete and unsatisfactory items of work, the subcontractor may demand direct payment of that balance from the awarding authority. The demand shall be by a sworn statement delivered to or sent by certified mail to the awarding authority, and a copy shall be delivered to or sent by certified mail to the general contractor at the same time. The demand shall contain a detailed breakdown of the balance due under the subcontract and also a statement of the status of completion of the subcontract work. Any demand made after substantial completion of the subcontract work shall be valid even if delivered or mailed prior to the seventieth day after the subcontractor has substantially completed the subcontract work. Within ten days after the subcontractor has delivered or so mailed the demand to the awarding authority and delivered or so mailed a copy to the general contractor, the general contractor may reply to the demand. The reply shall be by a sworn statement delivered to or sent by certified mail to the awarding authority and a copy shall be delivered to or sent by certified mail to the subcontractor at the same time. The reply shall contain a detailed breakdown of the balance due under the subcontract including any amount due for extra labor and materials furnished to the

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general contractor and of the amount due for each claim made by the general contractor against the subcontractor.

“(e) Within fifteen days after receipt of the demand by the awarding authority, but in no event prior to the seventieth day after substantial completion of the subcontract work, the awarding authority shall make direct payment to the subcontractor of the balance due under the subcontract including any amount due for extra labor and materials furnished to the general contractor, less any amount (i) retained by the awarding authority as the estimated cost of completing the incomplete or unsatisfactory items of work, (ii) specified in any court proceedings barring such payment, or (iii) disputed by the general contractor in the sworn reply; provided that the awarding authority shall not deduct from a direct payment any amount as provided in part (iii) if the reply is not sworn to, or for which the sworn reply does not contain the detailed breakdown required by subparagraph (d). The awarding authority shall make further direct payments to the subcontractor forthwith after the removal of the basis for deductions from direct payments made as provided in parts (i) and (ii) of this subparagraph.

“(f) The awarding authority shall forthwith deposit the amount deducted from a direct payment as provided in part (iii) of subparagraph (e) in an interest-bearing joint account in the names of the general contractor and the subcontractor in a bank in Massachusetts selected by the awarding authority or agreed upon by the general contractor and the subcontractor and shall notify the general contractor and the subcontractor of the date of the deposit and the bank receiving the deposit. The bank shall pay the amount in the account including accrued interest, as provided in an agreement between the general contractor and the subcontractor or as determined by decree of a court of competent jurisdiction.

“(g) All direct payments and all deductions from demands for direct payments deposited in an interest bearing account or accounts in a bank pursuant to subparagraph (f) shall be made out of amounts payable to the general contractor at the time of receipt of a demand for direct payment from a subcontractor and out of amounts which later become payable to the general contractor and in the order of receipt of such demands from subcontractors. All direct payments shall discharge the obligation of the awarding authority to the general contractor to the extent of such payment.

“(h) The awarding authority shall deduct from payments to a general contractor amounts which together with the deposits in interest-bearing accounts pursuant to subparagraph (f) are sufficient to satisfy all unpaid balances of demands for direct payment received from subcontractors. All such amounts shall be earmarked for such direct payments, and the subcontractors shall have a right in such deductions prior to any claims against such amounts by creditors of the general contractor.

“(i) If the subcontractor does not receive payment as provided in subparagraph (a) or if the general contractor does not submit a periodic estimate for the value of the labor or materials performed or furnished by the subcontractor and the subcontractor does not receive payment for same when due less the deductions provided for in subparagraph (a), the subcontractor may demand direct payment by following the procedure in subparagraph (d) and the general contractor may file a sworn reply as provided in that same

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subparagraph. A demand made after the first day of the month following that for which the subcontractor performed or furnished the labor and materials for which the subcontractor seeks payment shall be valid even if delivered or mailed prior to the time payment was due on a periodic estimate from the general contractor. Thereafter the awarding authority shall proceed as provided in subparagraph *(e)*, *(f)*, *(g)*, and *(h)*.”

Chapter 30, Section 39G, of the General Laws, as amended, reads as follows:

“Upon substantial completion of the work required by a contract with the commonwealth, or any agency or political subdivision thereof, for the construction, reconstruction, alteration, remodeling, repair or improvement of public ways, including bridges and other highway structures, sewers and, water mains, airports and other public works, the contractor shall present in writing to the awarding authority its certification that the work has been substantially completed. Within twenty-one days thereafter, the awarding authority shall present to the contractor either a written declaration that the work has been substantially completed or an itemized list of incomplete or unsatisfactory work items required by the contract sufficient to demonstrate that the work has not been substantially completed. The awarding authority may include with such list a notice setting forth a reasonable time, which shall not in any event be prior to the contract completion date, within which the contractor must achieve substantial completion of the work. In the event that the awarding authority fails to respond, by presentation of a written declaration or itemized list as aforesaid, to the contractor's certification within the twenty-one day period, the contractor's certification shall take effect as the awarding authority's declaration that the work has been substantially completed.

“Within sixty-five days after the effective date of a declaration of a substantial completion, the awarding authority shall prepare and forthwith send to the contractor for acceptance a substantial completion estimate for the quantity and price of the work done and all but one per cent retainage, if held by the awarding authority, on that work, including the quantity, price and all but one per cent retainage, if held by the awarding authority, for the undisputed part of each work item and extra work item in dispute but excluding the disputed part thereof, less the estimated cost of completing all incomplete and unsatisfactory work items and less the total periodic payments made to date for the work. The awarding authority also shall deduct from the substantial completion estimate an amount equal to the sum of all demands for direct payment filed by subcontractors and not yet paid to subcontractors or deposited in joint accounts pursuant to section thirty-nine F, but no contract subject to said section thirty-nine F shall contain any other provision authorizing the awarding authority to deduct any amount by virtue of claims asserted against the contract by subcontractors, material suppliers or others.

“If the awarding authority fails to prepare and send to the contractor any substantial completion estimate required by this section on or before the date herein above set forth, the awarding authority shall pay to the contractor interest on the amount which would have been due to the contractor pursuant to such substantial completion estimate at the rate of three percentage points above the rediscount rate then charged by the Federal Reserve Bank of Boston from such date to the date on which the awarding authority sends that substantial completion estimate to the contractor for acceptance or to the date of payment

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therefor, whichever occurs first. The awarding authority shall include the amount of such interest in the substantial completion estimate.

“Within fifteen days after the effective date of the declaration of substantial completion, the awarding authority shall send to the contractor by certified mail, return receipt requested, a complete list of all incomplete or unsatisfactory work items, and, unless delayed by causes beyond his control, the contractor shall complete all such work items within forty-five days after the receipt of such list or before the then contract completion date, whichever is later. If the contractor fails to complete such work within such time, the awarding authority may, subsequent to seven days' written notice to the contractor by certified mail, return receipt requested, terminate the contract and complete the incomplete or unsatisfactory work items and charge the cost of same to the contractor.

“Within thirty days after receipt by the awarding authority of a notice from the contractor stating that all of the work required by the contract has been completed, the awarding authority shall prepare and forthwith send to the contractor for acceptance a final estimate for the quantity and price of the work done and all retainage, if held by the awarding authority, on that work less all payments made to date, unless the awarding authority's inspection shows that work items required by the contract remain incomplete or unsatisfactory, or that documentation required by the contract has not been completed. If the awarding authority fails to prepare and send to the contractor the final estimate within thirty days after receipt of notice of completion, the awarding authority shall pay to the contractor interest on the amount which would have been due to the contractor pursuant to such final estimate at the rate hereinabove provided from the thirtieth day after such completion until the date on which the awarding authority sends the final estimate to the contractor for acceptance or the date of payment therefor, whichever occurs first, provided that the awarding authority's inspection shows that no work items required by the contract remain incomplete or unsatisfactory. Interest shall not be paid hereunder on amounts for which interest is required to be paid in connection with the substantial completion estimate as hereinabove provided. The awarding authority shall include the amount of the interest required to be paid hereunder in the final estimate.

“The awarding authority shall pay the amount due pursuant to any substantial completion or final estimate within thirty-five days after receipt of written acceptance for such estimate from the contractor and shall pay interest on the amount due pursuant to such estimate at the rate hereinabove provided from that thirty-fifth day to the date of payment.

“Within 15 days, 30 days in the case of the commonwealth, after receipt from the contractor, at the place designated by the awarding authority, if such place is so designated, of a periodic estimate requesting payment of the amount due for the preceding periodic estimate period, the awarding authority shall make a periodic payment to the contractor for the work performed during the preceding periodic estimate period and for the materials not incorporated in the work but delivered and suitably stored at the site, or at some location agreed upon in writing, to which the contractor has title or to which a subcontractor has title and has authorized the contractor to transfer title to the awarding authority, upon certification by the contractor that he is the lawful owner and that the materials are free from all encumbrances. The awarding authority shall include with each such payment interest on the amount due pursuant to such periodic estimate at the rate

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herein above provided from the due date. In the case of periodic payments, the contracting authority may deduct from its payment a retention based on its estimate of the fair value of its claims against the contractor, a retention for direct payments to subcontractors based on demands for same in accordance with the provisions of section thirty-nine F, and a retention to secure satisfactory performance of the contractual work not exceeding five per cent of the approved amount of any periodic payment, and the same right to retention shall apply to bonded subcontractors entitled to direct payment under section thirty-nine F of chapter thirty; provided, that a five per cent value of all items that are planted in the ground shall be deducted from the periodic payments until final acceptance.

“No periodic, substantial completion or final estimate or acceptance or payment thereof shall bar a contractor from reserving all rights to dispute the quantity and amount of, or the failure of the awarding authority to approve a quantity and amount of, all or part of any work item or extra work item.

“Substantial completion, for the purposes of this section, shall mean either that the work required by the contract has been completed except for work having a contract price of less than one per cent of the then adjusted total contract price, or substantially all of the work has been completed and opened to public use except for minor incomplete or unsatisfactory work items that do not materially impair the usefulness of the work required by the contract.”

Subsection 7.16: Claims of Contractor for Compensation

No person or corporation, other than the signer of the Contract as Contractor, now has any interest hereunder, and no claim shall be made or be valid; and neither Party of the First Part nor any member, agent or employee thereof, shall be liable for, or be held to pay, any money except as provided in Subsection 4.02: Alterations, Subsection 4.03: Extra Work, Subsection 4.04: Changed Conditions, Subsection 4.06: Increased or Decreased Contract Quantities, and Subsection 9.02: Scope of Payments of these Specifications and Clause 3 of the Contract.

All claims of the Contractor for compensation other than as provided for in the Contract on account of any act of omission or commission by the Party of the First Part or its agents must be made in writing to the Engineer within one week after the beginning of any work or the sustaining of any damage on account of such act, such written statement to contain a description of the nature of the work performed or damage sustained; and the Contractor shall, on or before the 15th day of the month succeeding that in which such work is performed or damage sustained, file with the Engineer an itemized statement of the details and amount of such work or damage and unless such statement shall be made as required, the Contractor’s claim for compensation shall be forfeited and invalidated, and they shall not be entitled to payment on account of any such work or damage. Such notice by the Contractor and the keeping of costs by the Engineer shall not in any way be construed as providing the validity of the claim. The provisions of this paragraph shall not apply to changes in quantities as provided under Subsection 4.06: Increased or Decreased Contract Quantities or to Extra Work ordered by the Engineer in writing.

On the basis of information provided in writing by their own employees, servants, or agents the Contractor will be required to certify, in writing, that the work for which they are claiming payment, other than as provided for in the Contract, is work actually performed, and the costs as shown are the amounts legally due for performing such work for which payment is claimed.

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The Engineer shall determine all questions as to the amount and value of such work, and the fact and extent of such damage and shall so notify the Contractor in writing of their determination. Such determination of the Engineer may be appealed to the Board of Contract Appeals in accordance with General Law, Chapter 16, Section 5b, as amended.

The appeal shall set forth the contract number, city or town project is in, the name and address of the Contractor, the amount of the claim (and breakdown of how amount was computed), a clear concise statement of the specific determination from which appeal is taken, including the reasons for appealing the determination and shall be signed by the Contractor.

The Commission Secretary shall record the date and time any such appeal is received, and shall keep the appeal on record. The Commission Secretary shall forward a copy of the appeal to the Hearing Examiner who shall set the matter down for hearing in accordance with rules adopted by the Commission.

Interest on judgments for contractor claims filed with the Superior Court of Massachusetts shall be calculated pursuant to the provisions of M.G.L. c. 231, §6 I from the date of the breach or demand. If the date of the breach or demand is not established, such interest shall be calculated from the date of the commencement of the action.

The acceptance by the Contractor of the final payment made under the provisions of Subsection 9.05: Final Acceptance and Final Payment shall operate as and shall be a release to the Party of the First Part and every member, agent and employee thereof, from all claim and liability to the Contractor for anything done or furnished for, or relating to, the work, or for any act or neglect of the Party of the First Part or of any person relating to or affecting the work, except the claim against the Party of the First Part for the remainder, if any there be, of the amounts kept or retained as provided in Subsection 7.15: Claims Against Contractors for Payment of Labor, Materials and Other Purposes. For claims for extensions of time see Subsection 8.10: Determination and Extension of Contract Time for Completion (Time Extensions).

Subsection 7.17: Traffic Accommodation

Any portion of the work which is in an acceptable condition for travel may be opened for traffic as directed in writing by the Engineer, but such opening for traffic shall not be construed as an acceptance of the work or part thereof, nor shall it act as a waiver of any of the provisions of these specifications or of the Contract; provided, however, that on such portions of the project as are opened for use of traffic, the Contractor shall not be required to assume any expense entailed in maintaining the roadway for traffic. The Party of the First Part will be responsible for maintenance and any damage to the work caused solely by traffic on any portion of the project which has been opened to public travel as stipulated above, and it may order the Contractor to repair or replace such damage, whereupon the Contractor shall make such repairs at contract unit prices so far as the same are applicable, or as Extra Work under the provisions of Subsection 4.03: Extra Work if there are no applicable items in the Contract. Any damage to the highway not attributable to traffic which might occur on such section, shall be repaired by the Contractor at their expense.

No hauling or other traffic shall be permitted over any portions of the work unless so authorized by the Engineer.

If the Contractor is dilatory in completing shoulders, drainage structures or other features of the work, the Engineer may order all or a portion of the project open to traffic, but in such event the

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Contractor shall not be relieved of their liability and responsibility during the period the work is so opened prior to final acceptance. The Contractor shall conduct the remainder of their construction operations so as to cause the least obstruction to traffic.

Where the new construction coincides with the present traveled way, the Engineer may order the installation of various items of work for safety and convenience of the public due to the highway being open to traffic. The Party of the First Part will be responsible for damage to the following items of work caused solely by traffic on any portion of the project which is open to public travel and on which these items of work have been ordered to be installed and partial acceptance made thereof by the Engineer under the terms and conditions stated below.

1. Guard Rail
2. Metal Bridge Railing
3. Traffic Signal Systems
4. Highway Lighting
5. Traffic Attenuators
6. Traffic Signs

If the person or persons causing the damage has been identified, the Contractor shall be responsible for recovering the cost of such repair or replacement from that person or their insurance company. No additional unit price or extra work payment will be made by the Party of the First Part unless the Contractor has been unable to recover the full repair or replacement cost from said person or their insurance company. The Party of the First Part may order the Contractor to repair or replace such damage, whereupon the Contractor shall make such repairs at contract unit prices so far as the same are applicable or as Extra Work under the provisions of Subsection 4.03: Extra Work if there are no applicable items of work in the Contract. Any damage not attributable to traffic which might occur on such traveled way shall be repaired by the Contractor at their own expense.

Subsection 7.18: Contractor's Responsibility for the Work

Until written acceptance of the physical work by the Chief Engineer, the Contractor shall assume full charge and care thereof and the Contractor shall take every necessary precaution against injury or damage to the work by action of the elements, or from any cause whatever, whether arising from the execution or the non-execution of the Contract, and especially when blasting is to be done.

The Contractor shall bear all losses resulting to them on account of the amount or the character of the work or because the nature of the land in or on which the work is done is different from what was estimated or expected, or on account of the weather elements or other causes (except as stated in Subsection 4.04: Changed Conditions).

The Contractor shall rebuild, repair, restore and make good all injuries or damages to any portion of the work occasioned by any of the above causes before the completion and written acceptance of the physical work, and shall bear the expense thereof, except damage to the work due to war, whether or not declared, civil war, insurrection, rebellion or revolution, or to any act or condition incident to any of the foregoing, to "Acts of God" (limited to hurricane, tornado, cyclone and earthquake as classified by the National Weather Service for the particular locality and for the particular season of the year, and in addition thereto, damages resulting directly from flooding from any of the aforementioned "Acts of God"). The repair of such damages shall be done by the Contractor and paid for at the respective contract unit prices for the quantity and items of work

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involved. In any case in which the estimate for replacing such work or repairing such damage caused by war, whether or not declared, civil war, insurrection, rebellion or revolution, or to any act or condition incident to the foregoing, or an “Act of God” combined with any previously authorized Extra Work results in a change of such magnitude as to be incompatible with competitive bid status, the Department reserves the right to terminate the Contract and to call for new bids and award a new Contract for such work. In the event any Contract is terminated for such reason the Department shall pay the Contractor such sum as may be due for work performed up to the date of the “Act of God”, or of damage directly due to war, whether or not declared, civil war, insurrection, rebellion or revolution, or to any act or condition incident to any of the foregoing and shall also take over and pay for any material stored at site of the work provided said material was intended to be and could have been incorporated into the work; the Department shall also take over and pay for any material which was being especially fabricated for incorporation into the work, provided, however, that as a condition precedent to the Department's liability for such material, the Contractor is legally liable therefor and the material was intended to be and could have incorporated in the work.

Issuance of an estimate on any part of the work done shall not be construed as final acceptance of any work completed up to that time.

Should the Contractor fail to take prompt action whenever conditions make it necessary, the Party of the First Part shall make emergency repairs or cause the same to be made, with the stipulation that the costs for such repairs shall be charged against the Contractor and deducted from moneys due them.

In case of suspension of work from any cause whatsoever, the Contractor shall be responsible for the project and shall take such precautions as may be necessary to prevent damage to the project, provide for normal drainage and shall erect any necessary temporary structures, signs, or other facilities at their expense. During such period of suspension of work, the Contractor shall properly and continuously maintain in an acceptable growing condition all living material in newly established plantings, seedings, and soddings furnished under their Contract, and shall take adequate precautions to protect new tree growth and other important vegetative growth against injury.

Subsection 7.19: Personal Liability of Public Officials

In carrying out any of the provisions of these specifications, or in exercising any power or authority granted to them by or within the scope of the Contract, there shall be no liability upon the Commissioner, Engineer, or their authorized representatives, either personally or as officials of the Commonwealth, it being understood that in all such matters they act solely as agents and representatives of the Commonwealth.

Subsection 7.20: No Waiver of Legal Rights

The Party of the First Part shall not be precluded or estopped by any measurement, estimate, or certificate made either before or after the physical completion and final acceptance of the work and payment therefor, from showing the true amount and character of the work performed and materials furnished by the Contractor, nor from showing that any such measurement, estimate or certificate is untrue or is incorrectly made, nor that the work or materials do not in fact conform to the Contract. The Department shall not be precluded or estopped, notwithstanding any such

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measurement, estimate, or certificate and payment in accordance therewith, from recovering from the Contractor or their sureties, or both, such damage as it may sustain by reason of their failure to comply with the terms of the Contract. Neither the acceptance by the Department, or any representative of the Department, nor any payment for any acceptance of the whole or any part of the work, nor any extension of time, nor any possession taken by the Department, shall operate as a waiver of any portion of the Contract or of any power herein reserved, or of any right to damages. A waiver of any breach of the Contract shall not be held to be a waiver of any other or subsequent breach. Any remedy provided in the Contract shall be taken and construed as cumulative, that is, in addition to each and every other remedy herein provided; and the Party of the First Part shall also be entitled as of right to a writ of injunction against any breach of the provisions of the Contract.

Subsection 7.21: Preference in Employment of Labor

In the employment of mechanics, teamsters, chauffeurs and laborers in the construction of public works by the Commonwealth, or by a county, town or district, or by persons contracting or subcontracting for such work, preference shall first be given to citizens of the Commonwealth who have been residents of the Commonwealth for at least six months at the commencement of their employment and who are veterans as defined in General Laws, Chapter 4, Section 7, Clause 43, as amended and who are qualified to perform the work to which the employment relates; and secondly to citizens of the Commonwealth, generally who have been residents of the Commonwealth for at least six months at the commencement of their employment, and if they cannot be obtained in sufficient numbers, then to citizens of the United States, and every Contract for such work shall contain a provision to this effect. Each county, town or district in the construction of public works, or persons contracting or subcontracting for such works shall give preference to veterans and citizens who are residents of such county, town or district. The Contractor's attention is hereby directed to said Section 26 of Chapter 149 of the General Laws, as amended.

The requirements in the above paragraph do not apply to any project or part thereof, financed in whole or in part with Federal Funds.

Subsection 7.22: Labor, Lodging, Board, Maximum Hours of Employment, Weekly Payment, Keeping of Payroll Records

Every employee in public work shall lodge, board and trade where and with whom they elect; and no person or their agents or employees under Contract with the Commonwealth, a county, city or town, or with a department, board, commission or officer acting therefor, for the doing of public work, shall directly or indirectly require as a condition of employment therein, that the employee shall lodge, board or trade at a particular place or with a particular person (Chapter 149, Section 25 of the General Laws).

No laborer, workman, mechanic, foreman or inspector working within this Commonwealth, in the employ of the Contractor, Subcontractor or other person doing or contracting to do the whole or a part of the work contemplated by this Contract, shall be required or permitted to work more than eight hours in any one day or more than 48 hours in any one week, or more than six days in any one week, except in cases of emergency, or in case any town subject to Section 31 of Chapter 149 of the General Laws is a party to such a Contract, more than eight hours in any one day, except as aforesaid. The Department or the Contractor or any Subcontractor may employ laborers, workmen, mechanics, foreman and inspectors for more than eight hours in any one day in the work to be done

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or under Contract when, in the opinion of the Commissioner of Labor and Industries, public necessity so requires. (Chapter 149, Section 34 of the General Laws, as amended).

Attention of Bidders is called to Section I 48 of Chapter 149 of the General Laws and amendments thereof requiring the weekly payment of employees.

Upon request of the Engineer or the Massachusetts Department of Labor and Industries, the Contractor shall furnish certified copies of any or all payrolls for the Contract, showing the name, address, and occupational classification of each employee on said works, and the hours worked by, and the wages paid to each such employee. Such payroll shall also include the rates paid for rented trucks or rental equipment of any kind used on the work. This requirement shall also apply to the work or any Subcontractor, having a Subcontract for any of the work performed on the project. Such records shall be kept in such manner as the Commissioner of Labor and Industries shall prescribe, and shall be open to inspection by the Engineer or any authorized representative of the Department of Labor and Industries at any reasonable time and as often as may be necessary.

In the case the work covered by this Contract is financed from Federal Funds, the above provisions relative to the hours of employment shall be subject to such revision and amendment as are required by the Rules and Regulations controlling the expenditures of such Federal Funds.

Subsection 7.23: Discovery of Unanticipated Archaeological and Skeletal Remains

Should any archaeological remains be encountered during any phase of construction, the Contractor shall immediately cease all construction activities in the discovery area, secure the area and notify the Engineer. The Engineer shall immediately notify the MassDOT Environmental Services Section in Boston Headquarters Office. The MassDOT Archeologist shall inspect the remains and their context in order to evaluate the discovery.

In the event a potentially significant archaeological find is encountered, as determined by the MassDOT Archaeologist, the Contractor shall carefully protect the discovery area by placing snow fencing and/or flagging (with an approximately 30-ft buffer zone) around the find(s). The MassDOT Archaeologist shall notify the Federal Highway Administration (if the project is federally funded), the Massachusetts State Archaeologist, the Massachusetts State Historic Preservation Officer/Executive Director of the Massachusetts Historical Commission and other relevant parties (the Massachusetts Commission on Indian Affairs, Tribal Historic Preservation Officers) of the discovery and serve as the liaison on all subsequent actions. Outside the protected discovery area, construction work may continue. Construction may not resume in the discovery area until the MassDOT Archaeologist has secured all necessary regulatory approvals and given the approval to continue to the Engineer.

If skeletal remains are discovered during construction, the Contractor shall immediately cease all work in the discovery area, secure and protect the area and notify the Engineer as stipulated above. The Engineer shall immediately contact the State Medical Examiner, the police and the MassDOT Archaeologist. If the skeletal remains prove to be human and more than 100 years old, as determined by the State Medical Examiner, the MassDOT Archaeologist shall consult with the Massachusetts State Archaeologist and other relevant parties pursuant to all procedures and protocols under the Massachusetts Unmarked Burial Law (M.G.L. Chapter 38, Section 6; M.G.L. Chapter 9, Section 26A and 27C; and M.G.L. Chapter 7, Section 38A) and Section 106 of the National

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Historic Preservation Act as amended, and its implementing regulations for emergency situations and post-review discoveries [36 CFR 800.12(b)(2) or 36 CFR 800.13(b)].

SECTION 8.00: PROSECUTION AND PROGRESS

Subsection 8.01: Subletting or Assignment of Contract

The Contractor shall not sublet, sell, transfer, assign, or otherwise dispose of the Contract or any portion thereof, or of their right, title, or interest therein, without written consent of the Engineer. In case such consent is given, the Contractor will be permitted to sublet a portion thereof, but shall perform with their own organization, work amounting to not less than 50 percent of the original total Contract price, except that any items designated in the Contract as “specialty items” may be performed by Subcontract and the cost of any such specialty items so performed by Subcontracts may be deducted from the total cost computing the amount of work required to be performed by the Contractor with their own organization. No Subcontractors, or transfer of Contract, shall in any case release the Contractor of their liability under the Contract and Bonds.

The Contractor shall notify the Engineer, as soon as practicable after execution of the Contract, the name and address of each Subcontractor they intend to employ, the portion of the work which the Subcontractor is to do, and such other information the Engineer may require in order to ascertain whether the Subcontractor is reliable and able to perform the work. The Contractor shall not withhold retainage on any subcontract.

The Contractor shall direct the attention of their Subcontractors to the requirements of:

- (1) Subsection 7.05: Insurance Requirements regarding insurances, and also the Minimum Wage Rates and Health and Welfare and Pensions Fund Contributions as determined by the Commission of Labor and Industries of the Commonwealth and also to the provisions of Subsection 7.21: Preference in Employment of Labor and Subsection 7.22: Labor, Lodging, Board, Maximum Hours of Employment, Weekly Payment, Keeping of Payroll Records, and
- (2) Chapter 30, General Laws, Section 39L states: “The Commonwealth and every county, city, town, district, board, commission or other public body which, as the awarding authority, requests proposals, bids or sub-bids for any work in the construction, reconstruction, alteration, remodeling, repair or demolition of any public building or other public works (1) shall not enter into a Contract for the work with, and shall not approve as a Subcontractor furnishing labor and materials for a part of the work, a foreign corporation which has not filed with the awarding authority a certificate of the state secretary stating that such corporation has complied with requirements of section 15.03 of subdivision A of Part 15 of chapter 156D and the date of compliance, and further has filed all annual reports required by section 16.22 of subdivision B of Part 16 of said chapter 156D.”

The Contractor shall also direct the attention of their Subcontractors and of all suppliers of material to the requirements of Subsection 5.09: Inspection of Work regarding the facilities for the Engineer’s inspectors.

Subsection 8.02: Schedule of Operations

The Contractor shall submit, to and for the comments of the Engineer, a schedule of operations within ten days after the mailing of the executed Contract to the Contractor. The schedule shall show the proposed methods of construction and sequence of work and the time the Contractor proposes to complete the various items of work within the time specified in the Contract.

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If the Contractor's operations are materially affected by changes in the plans or in the quantity of the work, or if they have failed to comply with the submitted and reviewed schedule, the Contractor shall submit a revised schedule if requested by the Engineer within seven days after the date of the Engineer's request. This revised schedule shall show how the Contractor proposes to prosecute the balance of the work, so as to complete the work within the time specified in the Contract.

Subsection 8.03: Prosecution of Work

The Contractor shall commence work within 15 days after the mailing of the executed Contract to the Contractor unless otherwise ordered in writing by the Engineer, and the Contractor shall thereafter prosecute the work at such places and in such order as the Engineer may from time to time prescribe.

Should the prosecution of the work for any reason be discontinued, the Contractor shall notify the Engineer at least 24 hours in advance of resuming operations.

The contract work shall be expedited when the Engineer determines that the safety and/or the convenience of the public necessitates an earlier completion date for the performance of the work contained in the contract.

Compensation for expediting the work shall be based on the actual added cost of direct labor as applied to the overtime labor cost only. The contractor shall accept as full compensation for the actual added cost of expediting the contract work the following:

- (a) The added overtime premium portion of the direct labor costs (the premium labor cost less [minus] the regular time labor cost);
- (b) Plus the actual cost for payroll taxes associated with (a) above.
- (c) Plus an overhead additive of 10% of the total of (a) and (b) above for related overhead.
- (d) Plus any proportionate added cost for surety bond.

For work performed by a Subcontractor, the Contractor shall accept as full payment thereof an amount equal to the added cost to the Subcontractor as determined above, plus 10% of such cost.

No allowance shall be made for general superintendence as such costs shall be considered reimbursed under the overhead additive applied to direct labor. No allowance shall be made for any additional equipment, equipment operating costs, or the use of small tools and manual equipment.

Subsection 8.04: Removal or Demolition of Buildings and Land Takings

When the removal or demolition of buildings within highway location is done under other and separate Contracts the provisions of Subsection 5.06: Adjacent Contracts shall apply and it is expressly agreed between the parties that the Party of the First Part shall not be held liable for any expense to the Contractor on account of any delay or interference with their work due to removal or demolition of the buildings or on account of any failure to remove or demolish any building or because of failure to make necessary land takings, and it is further expressly agreed that no allowance of any kind will be made except as provided in Subsection 8.05: Claim for Delay or Suspension of the Work or Subsection 8.10: Determination and Extension of Contract Time for Completion (Time Extensions).

Subsection 8.05: Claim for Delay or Suspension of the Work

The Contractor hereby agrees that they shall have no claim for damages of any kind on account of any delay in commencement of the work or any delay or suspension of any portion thereof, except as hereinafter provided.

Provided, however, that if in the judgement of the Engineer it is determined that the performance of all or any major portion of the work is suspended, delayed, or interrupted for an unreasonable period of time by an act of the Department in the administration of the Contract, or by the Department's failure to act as required by the Contract within the time specified in the Contract (or if no time is specified, within a reasonable time) and without the fault or negligence of the Contractor, an adjustment shall be made by the Department for any increase in the actual cost of performance of the Contract (excluding profit and overhead) necessarily caused by the period of such suspension, delay or interruption. No adjustment shall be made if the performance by the Contractor would have been prevented by other causes even if the work had not been so suspended, delayed, or interrupted by the department.

No claims shall be allowed under this Subsection for the Department's failure to act as required by the Contract within the time specified in the Contract (or if no time is specified, within a reasonable time) for any cost incurred more than two weeks before the Contractor shall have notified the Department in writing of their claim due to the Department's failure to act.

The contractor shall submit in writing not later than 30 days after the termination of such suspension, delay or interruption the amount of the claim and breakdown of how the amount was computed in accordance with Subsection 9.03: Payment for Extra Work, Part B, except no allowance for overhead and profit shall be allowed.

Any dispute concerning whether the delay or suspension is unreasonable or any other question of fact arising under this paragraph shall be determined by the Engineer, and such determination and decision, in case any question shall arise, shall be a condition precedent to the right of the Contractor to receive any money hereunder.

The Contractor further agrees that the sole allowance for any such delay or suspension, other than as provided above, is an extension of time as provided in Subsection 8.10: Determination and Extension of Contract Time for Completion (Time Extensions).

Subsection 8.06: Limitations of Operations

The Contractor shall conduct the work at all times in such a manner and in such sequence as will assure the least interference with traffic and abutters. The Contractor shall have due regard to the location of detours and to the provisions for handling traffic. The Contractor shall not open up work to the prejudice or detriment of work already started.

Subsection 8.07: Character of Workers, Methods and Equipment

The Contractor shall at all times employ sufficient labor and equipment for prosecuting the several classes of work to full completion in the manner and time required by these specifications.

All workers shall have sufficient skill and experience to perform properly the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such

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work and in the operation of the equipment required to perform all work properly and satisfactorily.

All electrical connections, splicing, grounding, resistance tests, service connections and circuit identification shall be done by a licensed electrician holding a Massachusetts journeyman electrician's license. The Contractor shall provide to the Engineer at least 10 days prior to each work assignment the names and license qualifications of electricians.

The Contractor is responsible to ensure that all personnel, including all subcontractors, working on the project are issued and are wearing all necessary personal protective safety equipment while working within the project limits. This equipment shall include, as a minimum, a hardhat and a safety vest, regardless of the type of work being performed, and shall include floatation vests for work over or around water. Hardhats shall have a minimum rating meeting ANSI Type I Class E or G and be capable of taking a 40-lb impact; vests shall be a minimum of ANSI/ISEA 107- Class 2. The Contractor shall furnish such hardhats and vests and maintain a sufficient supply of such at the work site for the Contractor's personnel assigned to the project as well as those visiting the work site. Personal protective safety equipment for Roadway Traffic Flaggers is specified in 850.41: Roadway Flagger.

Any person employed by the Contractor or by any Subcontractor who, in the Engineer's judgment, does not perform their work in a proper and skilled manner or is intemperate or disorderly or otherwise unsatisfactory or not employed in accordance with the provisions of Subsection 7.21: Preference in Employment of Labor, shall at the written request of the Engineer, be removed forthwith by the Contractor or Subcontractor employing such person, and shall not be employed again in any portion of the work without the approval of the Engineer.

Should the Contractor fail to take the necessary action to remove such person or persons as required above, or fail to furnish suitable and sufficient personnel for the proper prosecution of the work, the Engineer may suspend the work by written notice until such orders are complied with.

All equipment which is proposed to be used on the work shall be of sufficient size and in such mechanical condition as to meet requirements of the work and to produce a satisfactory quality of work. Equipment used on any portion of the project shall be such that no injury to the roadway, adjacent property, or other highways will result from its use.

When the methods and equipment to be used by the Contractor in accomplishing the construction are not prescribed in the Contract, the Contractor is free to use any methods or equipment that they demonstrate to the satisfaction of the Engineer which will accomplish the contract work in conformity with the requirements of the Contract.

When the Contract specifies the methods and equipment by which the construction be performed, such methods and equipment shall be used unless others are authorized by the Engineer in writing. If the Contractor desires to use a method or type of equipment other than that specified in the Contract, they may request authority from the Engineer to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed to be used and an explanation of the reasons for desiring to make the change. If approval is given, it shall be in writing and it will be on the condition that the Contractor will be fully responsible for producing construction work in conformity with contract requirements. If after trial use of the substituted methods or equipment, the Engineer determines that the work produced does not meet contract

requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining construction with the specified methods and equipment. The Contractor shall remove the deficient work and replace it with work of specified quality, or take such other corrective action as the Engineer may direct. No changes will be made in basis of payment for the construction items involved nor in contract time as a result of authorizing a change in methods or equipment under these provisions.

Subsection 8.08: Preservation of Roadside Growth

In general, the Contractor shall take special precautions at all times to protect and preserve natural surroundings and roadside growth either within or adjacent to the location from damage or injury due to their operations. The Contractor shall not, except by written permission of the Engineer, remove, destroy, or trim such roadside trees or shrubs.

Any trees or landscape features carelessly scarred or damaged by the Contractor's operations shall be removed and replaced or neatly trimmed and restored as nearly as possible to the original condition as required by the Engineer. In general the Contractor shall be responsible for all damage to roadside growth due to their operations and shall, without compensation, satisfactorily repair or replace all such damage.

Subsection 8.09: Delay and Suspension of Work

The Engineer shall have the authority to delay the commencement of the work and delay or suspend any portion thereof; for such period or periods as they may deem necessary because of conditions beyond the control of the Commonwealth, or the Contractor; or beyond the control of the Commonwealth and the Contractor; for the failure of the Contractor to correct conditions unsafe for the general public; for failure to carry out provisions of the Contract; for failure to carry out orders; for causes and conditions considered unsuitable for the prosecution of the work; for acts of third persons not a party to the Contract; or for any other cause, condition, or reason deemed to be in the public interest.

Upon receipt of written order of the Engineer, the Contractor shall immediately delay the commencement of the work or delay or suspend any portion thereof in accordance with said order. No work shall be suspended or delayed without the prior written approval or order of the Engineer. The work shall be resumed when conditions so warrant or deficiencies have been corrected and the conditions of the Contract satisfied as ordered or approved in writing by the Engineer. The Contractor's attention is also directed to the requirements of Subsection 7.09: Public Safety and Convenience and Subsection 7.18: Contractor's Responsibility for the Work which shall govern during any period of temporary or partial suspension of work.

Subsection 8.10: Determination and Extension of Contract Time for Completion (Time Extensions)

A. General

It is an essential part of all contracts that contractors shall perform the Work fully, entirely and in an acceptable manner within the contract duration.

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The contract duration is based upon the requirements of public convenience and the assumption that the Contractor will prosecute the Work efficiently and with the least possible delay, in accordance with the maximum allowable working time, as specified in the Contract.

The contract duration has been carefully considered and has been established for reasons of importance to the Department. The contract duration will be enforced and it is understood that the Contractor accepted this concept at the time of the submission of the bid. The timing of the Notice to Proceed (NTP) has been taken into account in the determination of the contract duration and the timing of the issuance of the NTP shall not, by itself, be a reason for a time extension.

An extension of contract time will be granted only if entitlement to a time extension has been clearly demonstrated to the satisfaction of the Engineer by a documented time entitlement analysis (TEA), performed in accordance with the requirements of Subsection 8.02: Schedule of Operations.

B. Requests for Additional Contract Time (Time Extension)

In response to a request for a time extension, an extension of contract time may be granted for demonstrated delays resulting from only one, or, in the case of concurrent delays, a combination of the following causes:

1. Extra Work

Each extra work order (EWO) proposal shall include an evaluation of the impact of the EWO on contract time, expressed in calendar days. If there is no impact to the contract time as a result of the EWO, the EWO shall indicate this by stating that zero calendar days of additional time is being requested. The need for a time extension as a result of the EWO must be clearly demonstrated by a documented TEA performed by the Contractor in accordance with the requirements of Subsection 8.02: Schedule of Operations. A documented preliminary TEA supporting the EWO proposal shall be submitted to the Engineer as part of the EWO proposal. Also see Subsection 4.03: Extra Work and Subsection 4.05: Validity of Extra Work.

2. Department-Caused Delays

If any part of the Work is delayed or suspended by the Department, the Contractor will be granted a time extension to complete the Work or any portion of the Work only if entitlement to this time extension has been clearly demonstrated by a documented time entitlement analysis. Department-caused delays shall not include delays to or suspensions of the Work that result from the fault or negligence of the Contractor. Also see Subsection 8.05: Claim for Delay or Suspension of the Work.

3. Increased Quantities

Increased quantities of work may be considered as the basis for a time extension only if the requirements of Subsection 4.06: Increased or Decreased Contract Quantities are met. The time allowed for performance of the Work will be increased based on increased quantities only if entitlement to this time extension has been clearly demonstrated by a documented time entitlement analysis. A decrease in quantities shall also require a time entitlement analysis to determine if a deduction of contract time is warranted.

4. Delays Not Caused by Contractor Fault or Negligence

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When delays occur due to reasonable causes beyond the control and without the fault or negligence of the Contractor, including, but not restricted to: “Acts of God”; war, whether or not declared, civil war, insurrection, rebellion or revolution, or to any act or condition incident to any of the foregoing; acts of the Government; acts of the State or any political subdivision thereof; acts of other contracting parties over whose acts the Contractor has no control; fires; floods; epidemics; abnormal tides (not including Spring tides); severe coastal storms accompanied by high winds or abnormal tides; freezing of streams and harbors; abnormal time of Winter freezing or Spring thawing; interference from recreational boat traffic; use of beaches and recreational facilities for recreational purposes during the Summer season; abnormal ship docking and berthing; unanticipated use of wharves and storage sheds; strikes, except those caused by improper acts or omissions of the Contractor; extraordinary delays in delivery of materials caused by strikes, lockouts, wrecks, and/or freight embargoes; a time extension will be granted only if entitlement to a time extension has been clearly demonstrated by a documented time entitlement analysis.

An “Act of God” as used in this subsection is construed to mean an earthquake, flood, cyclone, hurricane, tornado, or other cataclysmic phenomenon of nature beyond the power of the Contractor to foresee and/or make preparations against. Additional consideration may be given to severe, abnormal flooding in local rivers and streams that has been reported as such by the National Weather Service. Rain, wind, snow, and/or other natural phenomena of normal intensity, based on National Weather Service reports, for the particular locality and for the particular season of the year in which the Work is being prosecuted, shall not be construed as an “Act of God” and no time extension will be granted for the delays resulting therefrom.

Within the scope of acts of the Government, consideration will be given to properly documented evidence that the Contractor has been delayed in obtaining any material or class of labor because of any assignment of preference ratings by the Federal Government or its agencies to defense contracts of any type.

5. Delays Caused by Public Service Corporations, Municipal Departments or Other Third Parties

If any part of the Work is delayed by public service corporations, municipal departments or other third parties, a time extension will be granted only if entitlement to a time extension has been clearly demonstrated by a documented time entitlement analysis. Also see Subsection 5.05: Cooperation by Contractor, Subsection 5.06: Adjacent Contracts, and Subsection 8.04: Removal or Demolition of Buildings and Land Takings.

C. Time Extension Determination

1. When the Contractor submits a request for a time extension, placing the Department on notice of a delay due to any of the causes listed in Subsection 8.10: Determination and Extension of Contract Time for Completion (Time Extensions), Part B, it shall be submitted in writing to the Engineer within 15 calendar days after the start of the delay. No time extension will be granted if a request for a time extension is not filed within 15 calendar days after the start of the delay.

A documented preliminary TEA supporting the request for a time extension and meeting the requirements of Subsection 8.02: Schedule of Operations shall be submitted to the Engineer no later than 30 calendar days after the start of the delay. A documented final TEA shall be submitted to the Engineer no later than 15 calendar days after the end of the delay.

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During the time between the preliminary and final TEA, the delay shall be documented in contract progress schedules submitted in accordance with the requirements of Subsection 8.02: Schedule of Operations.

2. No time extension will be granted for any delay or any suspension of the Work due to the fault of the Contractor.
3. No time extension will be granted if the request for a time extension is based on any claim that the originally established contract duration was inadequate.
4. Time extensions will only be granted for delays, including concurrent delays, to activities affecting contract milestones, the contract completion date and/or other critical path activities as demonstrated to the satisfaction of the Engineer by a detailed time entitlement analysis that clearly states the number of calendar days of extra time being requested.
5. The probable slowdown or curtailment of work during inclement weather and winter months has been taken into consideration in determining the contract duration and therefore no time extension will be granted, except as defined in Subsection 8.10: Determination and Extension of Contract Time for Completion (Time Extensions) Paragraph B.4.
6. Any work restriction related to weather, permit conditions, community accommodation, traffic or any other restriction specified in the Contract or reasonably expected for the particular locality and for the particular season of the year in which the Work is being prosecuted must be considered in the analysis of each individual time extension and shall not be considered, in itself, justification for an extension of time.
7. Any time entitlement analysis prepared for the purpose of requesting a time extension shall clearly indicate any proposed overtime hours or additional shifts that are incorporated in the schedule. The Engineer shall have final approval over the use of overtime hours and additional shifts and shall have the right to require that overtime hours and/or additional shifts be used to minimize the duration of time extensions if it is determined to be in best interest of the Department to do so.

D. Disputes

Any dispute regarding whether or not a time entitlement analysis demonstrates entitlement to a time extension, the number of days granted in a time extension or any other question of fact arising under this subsection shall be determined by the Engineer.

The Contractor may dispute a determination by the Engineer by filing a claim notice within 14 calendar days after the Contractor's request for additional time has been denied or if the Contractor does not accept the number of days granted in a time extension. The Contractor's claim notice shall include a time entitlement analysis that sufficiently explains the basis of the time-related claim. Failure to submit the required time entitlement analysis with the claim notice shall result in denial of the Contractor's claim.

Subsection 8.11: Failure to Complete Work on Time

On or before the date stated in the proposal for completion or the date to which the time of completion shall have been extended under the provisions of Subsection 8.10 the whole work shall have been performed in accordance with the terms of the Contract. The time in which the various portions and the whole of the Contract are to be performed and the work is to be completed is an essential part of the Contract.

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In case the work embraced in the contract shall not have been physically completed by the time stipulated therein (according to the foregoing requirements) the Contractor shall pay to the Department a designated sum per day for the entire period of overrun in accordance with the following Schedule of Liquidated Damages. In the event the Contract has been substantially completed and the project opened for traffic as directed in writing by the Engineer, but physical completion of the work is subject to delay because of minor uncompleted items which do not impair the usefulness of the project, the designated sum per day shall be ½ the charges shown. In addition to the daily charge, the Contractor shall pay without reimbursement the entire cost of all traffic officers, railroad flagmen and inspectors the Engineer or the Chief Engineer of the railroad determines to be necessary during the period of overrun of time.

In the event the physical work embraced in the Contract has been completed and accepted in writing by the Chief Engineer but there remains to be submitted to the Department by the Contractor any reports or other documents in accordance with the provisions of the Contract, the Contract shall not be considered satisfactorily completed within the meaning of Section 39G of Chapter 30 of the General Laws until the receipt of such reports or documents by the Department, but the designated sum per day during this interval shall be zero.

Whatever sum of money may become due and payable to the Party of the First Part by the Contractor under this Subsection may be retained out of money belonging to the Contractor in the hands and possession of the Party of the First Part. It is agreed that this Subsection shall be construed and treated by the parties to the Contract not as imposing a penalty upon said Contractor for failing fully to complete said work as agreed on or before the time specified in the Proposal, but as liquidated damages to compensate said Party of the First Part for all additional costs incurred by said Party because of the failure of the Contractor fully to complete said work on or before the date of completion specified in the Proposal.

Permitting the Contractor to continue and finish the work or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, shall in nowise operate as a waiver on the party of the Party of the First Part of any of its rights under the Contract.

Table 8.11-1: Schedule of Liquidated Damages

Project Value	Liquidated Damages (per Day)
0 to \$100,000	\$575.00
\$100,000 to \$500,000	\$850.00
\$500,000 to \$1,000,000	\$975.00
\$1,000,000 to \$2,000,000	\$1,250.00
\$2,000,000 to \$3,000,000	\$1,550.00
\$3,000,000 to \$4,000,000	\$1,800.00
\$4,000,000 to \$5,000,000	\$2,200.00
\$5,000,000 to \$10,000,000	\$2,400.00
\$10,000,000 to \$15,000,000	\$2,700.00
Over \$15,000,000	\$3,500.00

Subsection 8.12: Default Termination

If the Contractor shall be adjudged a bankrupt, or if the Contractor shall make a general assignment for the benefit of their creditors, or if a receiver of their property shall be appointed, or if the work to be done under the Contract shall be abandoned, or if the Contract or any part thereof shall be sublet without the previous written consent of the Party of the First Part, or if the Contract or any claim thereunder shall be assigned by the Contractor otherwise than as herein specified, or if at any time in the Engineer's judgment and the Engineer so certifies in writing to the Party of the First Part that the work, or any part thereof, is unnecessarily or unreasonably delayed, or that the Contractor has violated any of the provisions of the Contract, the Party of the First Part may notify the Contractor to discontinue all work, or any part thereof. Such notice shall be given to the Contractor in writing and thereupon the Contractor shall discontinue such work or such part thereof, as the Party of the First Part may designate, and the Party of the First Part shall require the surety or sureties to complete the Contract.

If the Engineer shall certify that the rate of progress is not satisfactory, the Party of the First Part may instead of notifying the Contractor to discontinue all work or any part thereof, notify them from time to time to increase the force, equipment and plant, or any of them, employed on the whole or any part of the work, stating the amount of increase required to insure the proper completion of the work. The Contractor shall provide and maintain, at no additional cost to the Department, any lights necessary to protect the work or the traveling public, for the safety of their construction forces and to insure the proper construction, inspection and prosecution of the work (See Subsection 7.09: Public Safety and Convenience and Subsection 7.10: Barricades and Warning Signs). Unless the Contractor shall, within five days after any such notice, increase their force, equipment and plant to the extent required therein, and maintain and employ the same from day to day until the completion of the work or such part thereof or until the conditions as to the rate of progress shall, in the Engineer's judgment, be fulfilled, the Party of the First Part may employ and direct the labors of such additional force, equipment and plant as may, in the Engineer's judgment, be necessary to insure the completion of the work or such part thereof within the time specified, or at the earliest possible date thereafter, and charge the expense thereof to the Contractor. Neither the notice from the Party of the First Part to the Contractor, to increase their force, equipment or plant, nor the employment of additional force, equipment or plant by the Party of the First Part shall be held to prevent a subsequent notice from the Party of the First Part to them to discontinue work under the provisions of the preceding portion of this article.

All expenses charged under this article shall be deducted and paid by the Party of the First Part out of any moneys then due or to become due the Contractor under the Contract, or any part thereof, and in such accounting the Party of the First Part shall not be held to obtain the lowest figures for the work of completing the Contract or any part thereof, or for insuring its proper completion, but all sums actually paid therefor shall be charged to the Contractor. In case the expenses so charged are less than the sum which would have been payable under the Contract if the same had been completed by the Contractor, the Contractor shall be entitled to receive the difference; and in case such expenses shall exceed the said sum, the Contractor shall pay the amount of the excess to the Party of the First Part. upon completion of the work without further demand being made therefor.

Subsection 8.13: Convenience Termination

If the Department determines that it is in the public interest to do so, it may notify the Contractor to discontinue all work, or any part thereof. Such notice shall be given to the Contractor in writing and thereupon the Contractor shall discontinue such work, or such part thereof, as the Department may designate.

If the Department notifies the Contractor to discontinue all work, or any part thereof, the Department shall pay and the Contractor shall accept, as full payment for all work and materials provided, a sum agreed to by the Contractor and the Department. If a sum cannot be agreed upon, the Contractor shall accept the sum of A. for the completed work, plus B. and C. for other costs, determined as follows:

A. For all completed work for which there are unit prices provided in the contract.

The original contract unit prices.

B. For Construction Related Costs.

Actual costs as provided in Subsection 9.03: Payment for Extra Work.

C. For Discontinuance Costs.

The reasonable and necessary costs of storage, transportation and other costs incurred for the preservation, protection or disposition of the discontinued work which are pre-approved by the Department to be determined as follows:

- (1) The actual costs for direct labor (Direct labor costs shall include the actual salary costs of laborers, equipment operators, truck drivers, steel workers and other trades persons up to and including working foremen. The costs of general superintendence shall be considered included in field and/or home office overhead.), materials (less salvage value, if any) and use of equipment (determined in accordance with Subsection 9.03: Payment for Extra Work of the Standard Specifications), plus 10% of this total for overhead (the 10% additive is inclusive of both field and home office overhead); and
- (2) The actual cost for Salary Related Costs such as Worker's Compensation and Liability Insurance, Health, Welfare and Pension benefits, Social Security deductions, and Employment Security Benefits.

No allowance shall be made for general superintendence and the use of small tools and manual equipment. General superintendence is that next level above the working foreman. The costs of general superintendence as well as use of small tools and manual equipment shall be considered included in field and/or home office overhead.

The reasonable and necessary legal costs of work discontinuance, plus an additive of 10% for overhead (the additive is inclusive of both field and home office overhead), is allowable. The legal costs for litigation and/or negotiation purposes with the Department in settlement of said discontinuances are not allowable.

Any other reasonable and necessary costs for discontinuance that are pre-approved by the Department, plus an additive of 10% for overhead (the additive is inclusive of both field and home office overhead).

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When requested by the Department, the Contractor shall furnish itemized statements of the cost of the work performed and shall give the Department (and/or the Department's Auditors) access to any and all financial and/or project records and documents, relating thereto. Unless the Contractor, when requested to do so, furnishes such itemized statements and access to any and all financial and/or project records and documents, the Contractor shall not be entitled to payment for the work for which such information is sought by the Department.

The Contractor shall not be paid and the Contractor shall not have any claim for loss of anticipated profits or for any costs or profit in addition to those stipulated above; for loss of expected reimbursement or for any increased expenses resulting directly or indirectly from the discontinuance of any or all work or from unbalanced allocation, among the contract items, of overhead expense on the part of the bidder and subsequent loss of expected reimbursement therefor or any other cause.

The Contractor shall incorporate the provisions of this section as provisions in its contracts with each of their subcontractors.

The authority of the Department under this section shall be in addition to the authority of the Engineer under other sections of these specifications.

SECTION 9.00: MEASUREMENT AND PAYMENT

Subsection 9.01: Measurement of Quantities

The quantities of the various items of work performed shall be determined for purposes of payment by the Engineer and by the Contractor for the purposes of certification(s) of work performed that are generally required by law and specifically by the provision hereof.

Upon the completion of the work and before final payment is made the Engineer will make final measurement to determine the quantities of the various items of work performed, as the basis for final settlement. All measurements shall be made according to the United States standard units of measurement.

The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the Contracts shall be selected by the Engineer.

Longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual fixtures having an area of 9 ft² or less. Transverse measurements for area computations will be the neat dimensions shown on the plans or ordered in writing by the Engineer.

Structures will be measured according to neat lines shown on the plans or as altered to fit field conditions.

All items which are measured by the foot, such as pipe, culverts, guardrail, underdrains, etc., will be measured parallel to the base or foundation upon which such structures are placed.

In computing volumes of excavation the average end area method or other methods acceptable to the Engineer will be used.

When the term “gage” refers to the measurement of wire, it will mean the wire gage specified in the AASHTO M 32M/M 32.

All materials which are specified for measurement by weight shall be weighed on standard scales furnished by and at the expense of the Contractor. Such scales shall be sealed at the expense of the Contractor as often as is necessary to insure their accuracy. A sworn weigher to be compensated by the Contractor shall weigh all materials required to be weighed as above provided. The weighing of such materials may be witnessed by the Engineer. If materials are shipped by rail or trucks, the car weights or quarry weights may be accepted, but scales shall be used as above, if so directed. Weight slips shall be provided for each shipment of material weighed. Each weight slip shall be signed by the sworn weigher. The weight slips shall be counter-signed on delivery by the Engineer and no weight slip not so countersigned shall be included for payment under the Contract.

When requested by the Contractor and approved by the Engineer in writing, material specified to be measured by the cubic yard may be weighed and such weights will be converted to cubic yards for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the Engineer and shall be agreed to by the Contractor before such method of measurement of pay quantity is used.

The term “lump sum” when used as a unit of payment will mean complete payment for the work described in the Contract.

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When a complete structure or structural unit (in effect, “lump sum” work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gage, unit weight, section dimensions, etc., such identification will be considered to be nominal weight or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.

Subsection 9.02: Scope of Payments

The Party of the First Part will pay and the Contractor shall receive and accept the compensation as herein provided, in full payment for furnishing all materials, labor, tools and equipment and for performing all work contemplated and embraced under the Contract, and for providing all required submittals, reports, Certificates of Compliance (COCs) and any other paperwork or supporting documentation required by the plans and specifications, also for all loss or damage arising out of the nature of the work, or from the action of the elements (except as specified in Subsection 7.18), or from any unforeseen difficulties or obstructions which may arise or be encountered during the prosecution of the work (except as set forth in Subsection 4.04) until its final approval by the Party of the First Part, and for all risks of every description connected with the prosecution of the work, also for all expenses incurred by or in suspension or discontinuance of the said prosecution of the work as herein specified, and for any infringement of patent, trademark or copyright, and for completing the work in an acceptable manner according to the plans and specifications.

The payment of any current estimate shall in no way constitute an acknowledgement of the acceptance of the work or in no way or degree prejudice or affect the obligation of the Contractor, at their own cost and expense, to repair, correct, renew or replace any defects and imperfections in the construction of, or in the strength of, or quality of materials used in or about the construction of the work under Contract and its appurtenances, as well as all damages due or attributable to such defects: which defects, imperfections or damages shall have been discovered on or before the final inspection and acceptance of the work.

The Engineer shall be the sole judge of such defects, imperfections, or damages and the Contractor shall be liable to the Party of the First Part for failure to correct the same as provided herein, (Also see Subsection 7.20: No Waiver of Legal Rights).

Subsection 9.03: Payment for Extra Work

A. Payment for work for which there is a unit price provided for in the Contract.

Where the Contract contains a unit price for work and the Engineer orders Extra Work for work of the same kind as other work contained in the Contract and is performed under similar physical conditions, the Contractor shall accept full and final payment at the Contract unit prices for the accepted quantities of Extra Work done.

No allowance will be made for any increased expenses or any damages whatsoever.

B. Payment for work or materials for which no price is contained in the Contract.

If the Engineer directs, the Contractor shall submit promptly in writing to the Engineer an offer to do the required work on a lump sum or unit price basis, as specified by the Engineer. The stated price, either lump sum or unit price, shall be divided so as to show that it is the sum of:

- (1) The estimated cost of direct labor, materials, and the use of equipment, plus 10 percent of this total for overhead;
- (2) Plus 13 percent of direct labor, for the actual costs of Federal Insurance Contribution Act (FICA), Federal Unemployment Tax Act (FUTA), State Unemployment Tax Act (SUTA) including workforce training and Massachusetts Employer Medical Assistance Contribution, Earned Sick Time (EST) Law (940 CMR 33.00), and Paid Family and Medical Leave (PFML) Act (458 CMR 2.00); or, as an alternative to the above 13 percent, the Contractor may elect to use actual rates for FICA, FUTA, SUTA, EST and PFML provided the actual rates are supported with verifiable documentation and shall be subject to review by Audit Operations;
- (3) Plus the actual cost of Workmen’s Compensation and Liability Insurance, Health, Welfare and Pension benefits, and such additional fringe benefits which the Contractor is required to pay as a result of Union Labor Agreements and/or is required by authorized governmental agencies;
- (4) Plus subcontractor or a Public or Private Utility costs;
- (5) Plus 10 percent of the total of (1), (2), (3) and (4);
- (6) Plus the estimated proportionate cost of surety bonds (The Contractor shall provide evidence of revised bonds according to Subsection 3.04).

Unless an agreed lump sum and/or unit price is obtained from above and is so stated in the Extra Work Order the Contractor shall accept as full payment for work or materials for which no price agreement is contained in the Contract an amount equal to the following:

- (1) The actual cost for direct labor, material (less value of salvage, if any) and use of equipment, plus 10 percent of this total for overhead;
- (2) Plus 13 percent of direct labor, for the actual costs of Federal Insurance Contribution Act (FICA), Federal Unemployment Tax Act (FUTA), State Unemployment Tax Act (SUTA), including workforce training and Massachusetts Employer Medical Assistance Contribution, Earned Sick Time (EST) Law (940 CMR 33.00), and Paid Family and Medical Leave (PFML) Act (458 CMR 2.00); or, as an alternative to the above 13 percent, the Contractor may elect to use actual rates for FICA, FUTA, SUTA, EST and PFML provided the actual rates are supported with verifiable documentation and shall be subject to review by Audit Operations;
- (3) Plus the actual cost of Workmen’s Compensation and Liability Insurance, Health, Welfare and Pension benefits, and such additional fringe benefits which the Contractor is required to pay as a result of Union Labor Agreements and/or is required by authorized governmental agencies;
- (4) Plus subcontractor or a Public or Private Utility costs;
- (5) Plus 10 percent of the total of (1), (2), (3) and (4);
- (6) Plus the estimated proportionate cost of surety bonds (The Contractor shall provide evidence of revised bonds according to Subsection 3.04).

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Costs incurred for traffic police, railroad flagging and permits will be reimbursed without markup for overhead or profit.

The Subcontractor is bound by the same criteria for the determination of an equitable adjustment as the Contractor.

No separate payment will be made for general superintendence and the use of small tools, and manual equipment. The costs of general superintendence as well as use of small tools and manual equipment will be considered included in field and/or home office overhead. General superintendence is that next level above the working foreman.

The Contractor shall, when requested by the Engineer, furnish itemized statements of the cost of the work ordered and give the Engineer access to all accounts, bills and vouchers relating thereto, and unless the Contractor shall furnish such itemized statements, access to all accounts, bills and vouchers, the Contractor shall not be entitled to payment for any items of extra work for which such information is sought by the Engineer.

C. Equipment Rates.

In the event there arises the need for determination of costs of use of equipment as part of “actual costs” or “cost of performance” or “damages” under Subsection 4.04: Changed Conditions, Subsection 7.16: Claims of Contractor for Compensation, Subsection 8.05: Claim for Delay or Suspension of the Work, Subsection 9.02: Scope of Payments, and/or Subsection 9.03: Payment for Extra Work, or under M.G.L. Chapter 30, such costs for use of equipment shall be established in accordance with the following:

- (1) “Construction equipment” as used herein means equipment in sound workable condition, either owned or controlled by the Contractor or the Subcontractor at any tier, or obtained from a commercial rental source, and furnished for use under the contract.
- (2) Allowable hourly ownership and operating costs for contractor-owned or subcontractor-owned equipment shall be determined as follows:
 - (a) Actual cost data from the Contractor’s accounting and operating records shall be used whenever such data can be determined for hourly ownership and operating costs for each piece of equipment, or groups of similar serial or series equipment. Actual costs shall be limited to booked costs of the annual accounting period or periods during which the equipment was utilized on the Contract, and will not include estimated costs not recorded and identifiable in the Contractor’s formal accounting records. The Contractor shall afford Department auditors full access to all accounting, equipment usage, and other records necessary for development or confirmation of actual hourly cost rates for each piece of equipment, or groups of similar serial or series equipment. The Contractor’s refusal to give such full access shall invalidate any request or claim for payment of the equipment costs. When costs cannot be determined from the Contractor’s records, hourly equipment cost rates may be determined under (b) and (c) below.
 - (b) When the Department ascertains that it is not practicable to determine actual equipment cost rates from the Contractor's records, hourly equipment cost rates for

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equipment owned by the Contractor may be determined by the use of rate schedules (with adjustments) supplied by EquipmentWatch Cost Recovery™.

The Contractor shall provide to the Department, in a format prescribed by the Department, sufficient descriptive ownership and operating records and documentation for each piece of equipment subject to the extra work so that the equipment rates may be determined and adjusted as follows:

- (1) Hourly equipment rates shall be the FHWA rate supplied by EquipmentWatch adjusted by application of the Rate Adjustment Tables (for machine age adjustment) plus adjustments to eliminate equipment overhead (indirect ownership) plus regional adjustments (the weekly, hourly and daily rates listed in EquipmentWatch will not be used). This rate shall be defined as 'Adjusted FHWA Rate.'
- (2) Equipment standby rates shall be the 'Adjusted FHWA Rate' as described in (1) above, minus the operating rate and reduced by 50%. Standby rates shall not include operating rates: $\text{Equipment standby rate} = (\text{Adjusted FHWA Rate} - \text{Estimated Operating Rate})/2$

The number of equipment hours to be paid for under the extra work or force account work shall be the number of hours that the equipment is actually used on a specific extra work or force account activity.

The current version of EquipmentWatch will be used in establishing equipment rates. The version applicable to specific extra work or force account work will be the version in effect as of the first day that work is performed on that force account work and that rate shall apply throughout the period during which the force account work is being performed.

In all cases, the Department reserves the right to utilize equipment rates based upon the contractor's actual equipment ownership costs, other equipment rate books and guides (i.e. Construction Equipment Ownership and Operating Expense Schedule, Region One published by the Army Corps of Engineer's) or hybrid rates determined to be reasonable by the Department.

- (c) In those cases where a 10 percent additive for overhead and profit is to be superimposed on the equipment costs as provided in Subsection 4.04: Changed Conditions, and Subsection 9.03: Payment for Extra Work, Part B, equipment cost rates determined under (a) and (b) above shall exclude any overhead costs such as equipment insurance, licenses, or taxes. The 10 percent additive shall compensate the Contractor for all overhead costs, including equipment overhead, general superintendence, small tools, manual equipment, field overhead, and central office overhead. Where the 10 percent overhead additive is not applicable, overhead items clearly related to equipment, (equipment insurance, licenses, taxes), shall be included in the equipment rates; provided, however, that such costs shall be identified and eliminated from any other direct or indirect costs or damages payable by the

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Department under the Contract. No element of profit shall be allowable in equipment cost rates for Contractor-owned equipment; it being understood that a 10 percent profit additive will be superimposed upon equipment costs when called for by the Contract.

- (3) Reasonable hourly costs of renting equipment are allowable subject to the Contractor producing adequate records supporting actual costs incurred, provided further that:
 - (a) Costs such as fuel, lubricants, and minor or running repairs incident to operating such rented equipment that are not included in the rental rate are allowable.
 - (b) Costs incidental to major repair and overhaul of rental equipment are not allowed.
 - (c) Charges for equipment leased or rented from any division, subsidiary organization under common control, or business under common ownership, ordinarily will be reimbursable to the extent that they do not exceed the actual costs of ownership and operating costs determined as in (2), above. Rental cost of equipment leased or rented from any division, subsidiary, affiliate of the Contractor under common control, or business under common ownership, that has an established practice of renting out the same or similar equipment to unaffiliated parties, shall be allowed at rates higher than actual ownership and operating costs, provided that the Contractor furnishes the Department adequate documentation, including the rental and usage records for the same or similar equipment items, demonstrating a reasonable likelihood that the equipment would have been rented out if not used on this Contract, and that the rental rates charged are consistent with rates charged to unaffiliated parties and going market rates. Rental costs under a sale and leaseback arrangement will be allowable only up to the amount the Contractor would be allowed if the Contractor retained title.
- (4) Equipment cost rates determined in (2) and (3) shall be exclusive of labor cost of equipment operators. Such costs shall be reimbursable subject to the Contractor producing adequate payroll and other records sufficient for determination of hours, pay rates, and reimbursable fringe costs as defined in Subsection 4.04: Changed Conditions and above.
- (5) Except in cases of unit price or lump sum extra work orders approved by the Department before the work is done, actual reimbursable hours of equipment usage and operator time must be adequately documented by the Department force account records or Contractor field and office records maintained during performance of the work in a manner acceptable to the Department. Failure of the Contractor to so maintain time records which adequately segregate added equipment hours caused by extra work required by the Department, or caused by other Department actions cited in the Contractor's claim for damages, from other equipment time worked on the Contract, when maintenance of such records would have been feasible, shall constitute a cardinal omission of the Contractor, invalidating any claim for equipment cost reimbursement.

The above provisions constitute an advanced agreement made in general conformance with intent of Federal Acquisition Regulation 31.105, paragraph (d)(1), said intent being to maximize clarity of understanding and minimize possible disputes with respect to determination of reimbursable actual equipment costs under this Contract.

Subsection 9.04: Partial Payments

The Engineer shall biweekly make an estimate of the total amount of the work completed from one estimate to the next. The Department may reduce payment on any or all individual pay items to account for the estimated value of documented incomplete or non-conforming work related to that pay item, including, in addition to the physical work, any submittals, Certificates of Compliance (COCs), reports or other paperwork required to support the work of the item. The Party of the First Part shall retain from said estimates an amount sufficient to cover claims which it may have against the Contractor and claims filed pursuant to Chapter 149, Section 29 and Chapter 30, Section 39A and F of the General Laws. The Party of the First Part shall pay biweekly to the Contractor while carrying on the work the balance not retained as hereinbefore provided. No such estimates or payment shall be required to be made when, in the Engineer's judgment, the work is not proceeding in accordance with the provisions of the Contract, or when in their judgment the total value of the work completed since the last estimate amounts to less than \$1,000.00.

There will be no retainage held from partial payments.

Upon presentation by the Contractor of certified copies of paid invoices, the Party of the First Part may include in the estimate, advance payments for acceptable reinforcing steel, structural steel, stone, piles, culvert pipe or other non-perishable materials purchased expressly for the work and delivered on the work or in approved storage places at the site, but which materials are not considered as erected or complete in place under the items of the Contract, and for which partial payment as specified above would not be made until such materials and items were erected or complete in place.

If it is impossible due to lack of area on the site or other valid reason, the Contractor may request in writing permission from the Engineer to store materials off the site and still have the materials paid as material on hand and the Engineer may approve payment. This request will state the reason for the request, location of proposed storage site, methods that will be employed to insure that materials is properly protected and the material will be used on the particular project, and any other information as may be deemed necessary in order to evaluate the request. No advance payment for material stored off the site will be made until written approval of the Engineer has been obtained. The amount to be included in the estimate will be determined by the Engineer up to a maximum of 100% of the value of the materials as shown by the certified copies of paid invoices. Payment will not be approved when the invoice value of such materials as determined by the Engineer, amounts to less than \$1,000.

Deductions at rates and in amounts which are equal to the payments will be made from estimates as the materials are incorporated in the work.

Payment for the materials, as aforesaid, shall not in itself constitute acceptance and any materials which do not conform to the specifications for same shall be rejected in accordance with the stipulation of Subsection 6.04: Defective Materials.

Payment for structural steel and aluminum, specifically purchased and received by fabricators for incorporation into a Department project may be requested by the Contractor and included in the current estimates in an amount not to exceed 50 percent of the contract price. Certified paid invoices and material certifications must be submitted by the contractor to the Department with the request for payment. The invoices must clearly identify the Department project for which the

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material is intended along with the material type and quantity. When payment is made, the raw material becomes the property of the Commonwealth of Massachusetts. A document transferring ownership of the raw material to the Commonwealth shall be submitted to the Department immediately after payment is made. Such payment shall in no way release the Contractor from their responsibility for condition, protection and, in case of loss, replacement of such materials or from any liability resulting in any manner from the presence of such materials wherever they may be stored. Any material not conforming to the specifications shall be rejected in accordance with the stipulation of Subsection 6.04: Defective Materials.

In instances where the raw material is not in the process of fabrication, the material shall be segregated from other material, designated as "Property of the Commonwealth of Massachusetts", and clearly marked to identify the project into which the material will be incorporated.

All material shall be inspected at the fabricator's plant by a representative of the Department prior to the submittal of invoices to ensure that all material has been received and is properly stored and segregated.

For any item for which the payment is made on a lump sum basis, (except lump sum Bridge Structures) and for which payment may be allowed if the Contractor requests partial payment on such an item, the Contractor shall submit for approval by the Engineer, a schedule of the quantities and unit prices for the major components of the item. Each component part shall be considered as including all its concomitance so that the total cost listed for the components is the contract cost for the item. The approval of the schedule by the Engineer shall not be considered as a guarantee to the Contractor that the quantities shown on the schedule are the approximate quantities actually included in the lump sum item.

The schedule is only for the purpose of estimating partial payments, and it shall not affect the contract terms in any way.

The Contractor will be required to certify, in writing, that the work for which they are being paid on the estimate in question has in fact been done.

Subsection 9.05: Final Acceptance and Final Payment

When in the opinion of the Chief Engineer the Contract has been satisfactorily completed and final acceptance has been voted by the Board of Commissioners, the Department Secretary shall inform the Contractor in writing of the date of such acceptance, upon which date the Contractor's responsibility shall cease except as provided in their bond and as provided in Subsection 7.20: No Waiver of Legal Rights.

The Engineer shall, as soon as practicable after the physical completion of the Contract, make a final estimate of the amount of work done thereunder and the value of such work. Within 65 days from and after the date the work has been accepted by the Board, the Party of the First shall forward to the Contractor a copy of the final estimate or semifinal estimate as stipulated in Chapter 30, Section 39G of the General laws, as amended together with an agreement form for their acceptance. After such acceptance has been filed with the Supervisor of Fiscal Management of the Department payments of the entire sum will be made, so found to be due thereunder after deducting therefrom all previous payments and all amounts to be kept and all amounts to be retained under the provisions of the Contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment. If the Contractor has not filed valid (as determined by the Engineer)

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written reasons for not accepting the final estimate within three months from the date the final estimate is forwarded to the Contractor, the final estimate will be considered acceptable to the Contractor and payment of the final estimate made.

The acceptance by the Contractor of the final payment shall operate as and shall be a release to the Party of the First Part and every member, agent and employee thereof, from all claims by the Contractor for anything done or furnished for, or relating to the work or for any act or neglect of the Party of the First Part or of any person relating to or affecting the work, except the claim against the Party of the First Part for the remainder if any there be, of the amounts kept or retained as provided in Subsection 7.15: Claims Against Contractors for Payment of Labor, Materials and Other Purposes.

Subsection 9.06: Prompt Payment to Subcontractors

Contractors are required to promptly pay Subcontractors under this Contract within 10 business days from the receipt of each payment the Contractor receives from the Department. Failure to comply with this requirement may result in the withholding of payment to the Contractor until such time as all payments due under this provision have been received by the Subcontractor(s) and referral to the Prequalification Committee for action which may affect the Contractor's prequalification status