

**TOWN OF ANDOVER
STATE PROJECT #01-105
REHABILITATION OF BRIDGE NO. 04581
TIMES FARM ROAD OVER THE HOP RIVER**

ADDENDUM NO. 1

August 12, 2016

This addendum modifies, amends and supplements designated parts of the Contract Documents dated July 13, 2016 for the project identified as State Project No.01-105 and is hereby made a part thereof by reference and shall be as binding as though inserted in its entirety in the locations designated. It shall be the responsibility of each Bidder to notify all subcontractors and suppliers he proposes to use for the various parts of the work of any changes or modifications contained in this Addendum. No claims for additional compensation due to the lack of knowledge of the contents of this Addendum will be considered.

CONTRACT CHANGES

SCHEDULE OF PRICES

DELETE: Item #0020903A – Lead Compliance for Miscellaneous Exterior Tasks

REVISE: Item #0201020 *to* Item #0201020A

REVISE: Item #0201501 *to* Item #0201501A

ADD: Item #0603253A – Disposal of Lead Debris, QTY: 1 BBL

ADD: Item #0603444A – Lead Health Protection Program (LHPP), QTY: 1 LS

ADD: Item #0976002 – Barricade Warning Lights – High Intensity, QTY: 1920 DAYS

ADD: Item #0978002 – Traffic Drum, QTY: 20 EA

ADD: Item #0981100 – Traffic Cone, QTY: 20 EA

ADD: Item #1205209 – Type DE-9 Delineator, QTY: 2 EA

SPECIAL PROVISIONS

ADD: Notice to Contractor – Environmental Condition

DELETE: Item #0020903A – Lead Compliance for Miscellaneous Exterior Tasks

ADD: Item #0201020A – Remove and Reset Wood Fence

ADD: Item #0201501A – Reset Mailbox

ADD: Item #0603253A – Disposal of Lead Debris

ADD: Item #0603444A – Lead Health Protection Program (LHPP)

CLARIFICATION

The following are clarifications to the contract documents based on questions from prospective bidders:

Q1. Drawings do not state the finish of the rail. Please state if rail is to be anodized.

A1. The rail shall not be anodized.

Q2. Our standard alloy for both anodizing or mil finish aluminum is 6061-T6. Please verify that our standard is acceptable.

A2. The rail alloy shall be as specified in the special provisions and as stated on the plans.

**TOWN OF ANDOVER
SCHEDULE OF PRICES
FOR THE CONSTRUCTION OF
STATE PROJECT NO. 1-105, FA #6001(006)
REHABILITATION OF BRIDGE NO. 04581
TIMES FARM ROAD OVER THE HOP RIVER
IN THE
TOWN OF ANDOVER**

**DATE OF
BID OPENING:** Monday, August 22, 2016

TIME: 2:00 P.M.

NO BIDS WILL BE ACCEPTED AFTER 2:00 P.M. "NO EXCEPTIONS"

Note: The bidder shall fill in, under the column "Unit Prices Bid," the unit prices, written in figures and in words, for which he proposes to perform the various items of work called for, and under the column headed "Amounts," the total amount for each of the items at the unit price bid. After the proposal is opened and read, the quantities will be extended and totaled in accordance with the bid prices written in words and the bid will be verified or corrected.

Item Numbers	Items	Units	Approximate Quantities	Unit Prices Bid		Amounts (Figures)
				Figures	Words	
0201001	Clearing and Grubbing	L.S.	1			
0201020A	Remove and Reset Wood Fence	l.f.	60			
0201501A	Reset Mailbox	ea.	2			
0202000	Earth Excavation	c.y.	280			
0202215A	Excavation and Reuse of Existing Channel Bottom Material	s.y.	190			
0202529	Cut Bituminous Concrete Pavement	l.f.	42			
0203202	Structure Excavation - Earth (Excluding Cofferdam and Dewatering)	c.y.	200			
0204001	Cofferdam and Dewatering	l.f.	450			
0204151A	Handling Water	L.S.	1			
0209001	Formation of Subgrade	s.y.	490			
0212000	Subbase	c.y.	200			
0213100	Granular Fill	c.y.	5			
0216000	Pervious Structure Backfill	c.y.	60			
0219001	Sedimentation Control System	l.f.	340			
0406170	HMA S1	ton	140			
0406171	HMA S0.5	ton	124			
0406173	HMA S0.25	ton	9			
0406236	Material for Tack Coat	gal.	125			
0502223A	Temporary Bridge and Approaches	L.S.	1			
0503001A	Removal of Superstructure	L.S.	1			
0506020	Permanent Anchor Tieback System	ea.	8			
0509001	Welded Studs	ea.	130			
0514222	Prestressed Deck Units (4'-0" x 1'-3")	l.f.	187			
0521001	Elastomeric Bearing Pads	c.i.	2,640			
0601000	Class "A" Concrete	c.y.	65			
0601073A	Class "S" Concrete	c.f.	2			
0601097A	Variable Depth Patch	c.f.	11			
0601201	Class "F" Concrete	c.y.	16			
0602006	Deformed Steel Bars - Epoxy Coated	lb.	7,600			
0602965A	Drilling Holes and Grouting Reinforcing Bars	ea.	340			
0603253A	Disposal of Lead Debris	BBL.	1			
0603444A	Lead Health Protection Program (LHPP)	L.S.	1			
0703012	Modified Riprap	c.y.	50			
0707001	Membrane Waterproofing (Woven Glass Fabric)	s.y.	95			
0708001	Dampproofing	s.y.	42			
0713040	Permanent Steel Sheet Piling	s.f.	4,200			
0714050	Temporary Earth Retaining System	s.f.	630			
0755014	Geotextile (Separation - High Survivability)	s.y.	146			

Kindly insert here the total amount of your Bid \$ _____
It is understood that the unit prices shall govern in case of discrepancy between the unit-prices and this amount.
This bid includes Addendum(a) No(s): 1

**TOWN OF ANDOVER
SCHEDULE OF PRICES
FOR THE CONSTRUCTION OF**

**STATE PROJECT NO. 1-105, FA #6001(006)
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TIMES FARM ROAD OVER THE HOP RIVER
IN THE
TOWN OF ANDOVER**

**DATE OF
BID OPENING:** Monday, August 22, 2016

TIME: 2:00 P.M.

NO BIDS WILL BE ACCEPTED AFTER 2:00 P.M. "NO EXCEPTIONS"

Note: The bidder shall fill in, under the column "Unit Prices Bid," the unit prices, written in figures and in words, for which he proposes to perform the various items of work called for, and under the column headed "Amounts," the total amount for each of the items at the unit price bid. After the proposal is opened and read, the quantities will be extended and totaled in accordance with the bid prices written in words and the bid will be verified or corrected.

Item Numbers	Items	Units	Approximate Quantities	Unit Prices Bid		Amounts (Figures)
				Figures	Words	
0822001	Temporary Precast Concrete Barrier Curb	l.f.	180			
0822002	Relocated Temporary Precast Concrete Barrier Curb	l.f.	160			
0822005A	Temporary Precast Concrete Barrier Curb (Structure)	l.f.	80			
0822006A	Relocated Temporary Precast Concrete Barrier Curb (Structure)	l.f.	20			
0904936A	Metal Bridge Rail (Combination) (Extruded Post Aluminum)	l.f.	59			
0910170	Metal Beam Rail (Type R-B 350)	l.f.	300			
0910173	R-B 350 Bridge Attachment - Vertical Shaped Parapet	ea.	4			
0911924	R-B End Anchorage - Type II	ea.	4			
0912499	Remove Cable Guide Rail	l.f.	400			
0922501	Bituminous Concrete Driveway	s.y.	13			
0925201	Pavement for Railing	s.y.	74			
0944000	Furnishing and Placing Topsoil	s.y.	120			
0949000	Wood Chip Mulch	s.y.	70			
0949099	Cornus Amomum, Silky Dogwood 18" - 24' Ht. Container	ea.	14			
0949132	Sambucus Canadensis, Common Elderberry 18" - 24" Ht. Container	ea.	13			
0949226	Ilex Verticillata Common Winterberry 18" - 24" Ht. B.B.	ea.	13			
0950005	Turf Establishment	s.y.	120			
0969060A	Construction Field Office, Small	mo.	12			
0970007	Trafficperson (Uniformed Flagger)	hr.	500			
0971001A	Maintenance and Protection of Traffic	L.S.	1			
0974001A	Removal of Existing Masonry	c.y.	25			
0975004	Mobilization and Project Closeout	L.S.	1			
0976002	Barricade Warning Lights - High Intensity	Day	1,920			
0978002	Traffic Drum	ea.	20			
0980001	Construction Staking	L.S.	1			
0981100	Traffic Cone	ea.	20			
1205216	Type DE-7C Delineator	ea.	13			
1205209	Type DE-9 Delineator	ea.	2			
1212010	Temporary Plastic Pavement Marking Tape - 12" White	l.f.	22			
1220027	Construction Signs	s.f.	186			
1807012	Temporary Impact Attenuation System Type A Module 700 lb	ea.	2			
1807013	Temporary Impact Attenuation System Type A Module 1400 lb	ea.	8			
1807014	Temporary Impact Attenuation System Type A Module 2100 lb	ea.	4			
1807101	Relocation of Temporary Impact Attenuation System Type A	ea.	2			

Kindly insert here the total amount of your Bid \$ _____
It is understood that the unit prices shall govern in case of discrepancy between the unit-prices and this amount.
This bid includes Addendum(a) No(s): 1

**TOWN OF ANDOVER
SCHEDULE OF PRICES
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**STATE PROJECT NO. 1-105, FA #6001(006)
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CONTRACT TIME AND LIQUIDATED DAMAGES

Two Hundred Forty (240) calendar days will be allowed for completion of the work on this project and the liquidated damages charge to apply will be Seven Hundred Fifty Dollars and No Cents (\$750.00) per calendar day.

Note: PRIME CONTRACTOR'S REQUIREMENTS:

- A. Proposal Guaranty (Bid Bond): Except when otherwise specified, no proposal will be considered unless accompanied by a proposal guaranty in the form of a bond furnished by a surety company, satisfactory to the Engineer, in an amount equal to at least 30% of the amount of the bid, or unless the bidder has on file with the Town, an annual bid bond in the proper amount. The surety must be a corporate surety licensed to sign surety bonds in the State of Connecticut.
- B. Not less than 10% of the total Contract value shall be subcontracted to, performed by, and paid to Disadvantaged Business Enterprise(s) (DBE).
- C. If the Contractor is unable to fulfill the DBE percentage requirement, he may request an exception to the above percentage by completing and submitting to the Town, the "Application for Review of Pre-award Good Faith Efforts," as contained in the General Special Provisions.
- D. Contractors must ensure that at the time of bidding, they have an approved Affirmative Action Plan with the State of Connecticut, Department of Transportation.
- E. The low bidder is required to submit to the Town, on or before the signing of the Contract, both a Certificate of Insurance and a Workers' Compensation Certificate.
- F. Statement of Bidder's Qualifications: Each bidder is required to submit to the Town a recent sworn statement of the bidder's qualifications on the form furnished by the Town for this purpose.
- G. A Contract will not be awarded until the above requirements have been fulfilled and approved.
- H. Please be aware that the Town, prior to awarding the Contract, may require further financial and other information from the the low bidder.

Kindly insert here the total amount of your Bid \$ _____
It is understood that the unit prices shall govern in case of discrepancy between the unit-prices and this amount.
This bid includes Addendum(a) No(s): 1

NOTICE TO CONTRACTOR – ENVIRONMENTAL CONDITION

The Contractors shall be aware of the environmentally sensitive area of this project site. As part of the environmental permitting process, the Natural Diversity Data Base maps and files were reviewed. According to the records of the Connecticut Department of Energy and Environmental Protection, there are known extant populations of State Special Concern Wood Turtle (*Glyptemys insulpta*) in the vicinity of the project site. The Contractor shall adhere to the following protection strategies and best management practices for the duration of the project:

- Exclusionary practices will be required to prevent any turtle access into construction areas. These measures will need to be installed at the limits of disturbance as shown on the plans.
- Exclusionary fencing must be at least 20in tall and must be secured to and remain in contact with the ground and be regularly maintained (at least bi-weekly and after major weather events) to secure any gaps or openings at ground level that may let animal pass through.
- All staging and storage areas, outside of previously paved locations, regardless of the duration of time they will be utilized, must be reviewed to remove individuals and exclude them from re-entry.
- All construction personnel working within the turtle habitat must be apprised of the species description and the possible presence of listed species, and instructed to relocate turtles found inside work areas or notify the appropriate authorities to relocate individuals.
- Any turtles encountered within the immediate work area shall be carefully moved to an adjacent area outside of the excluded area and fencing should be inspected to identify and remove access point.
- In areas where silt fence is used for exclusion, it shall be removed as soon as the area is stable to allow for reptile and amphibian passage to resume.
- No heavy machinery or vehicles may be parked in any turtle habitat.
- Special precautions must be taken to avoid degradation of wetland habitats including any wet meadows and seasonal pools.
- The Contractor must search the work area each morning prior to any work being done.

Following these protection strategies will lessen the impact on these turtles. Attached is a fact sheet to educate the workers about these turtles.

No direct payment will be made for the efforts associated with complying with this Notice to Contractor, but the cost thereof shall be considered as included in the general cost of the Contract.

WILDLIFE IN CONNECTICUT

STATE SPECIES OF SPECIAL CONCERN

Wood Turtle

Glyptemys insculpta

Background

Wood turtles may be found throughout Connecticut, but they have become increasingly rare due to their complex habitat needs. Wood turtles also have become more scarce in Fairfield County due to the fragmentation of suitable habitat by urban development.

Range

Wood turtles can be found across the northeastern United States into parts of Canada. They range from Nova Scotia through New England, south into northern Virginia, and west through the Great Lakes region into Minnesota.

Description

The scientific name of the wood turtle, *Glyptemys insculpta*, refers to the deeply sculptured or chiseled pattern found on the carapace (top shell). This part of the shell is dark brown or black and may have an array of faint yellow lines radiating from the center of each chiseled, pyramid-like segment due to tannins and minerals accumulating between ridges. These segments of the carapace, as well as those of the plastron (bottom shell), are called scutes. The carapace also is keeled, with a noticeable ridge running from front to back. The plastron is yellow with large dark blotches in the outer corners of each scute. The black or dark brown head and upper limbs are contrasted by brighter pigments ranging from red and orange to a pale yellow on the throat and limb undersides. Orange hues are most typical for New England's wood turtles. The hind feet are only slightly webbed, and the tail is long and thick at the base. Adults weigh approximately 1.5 to 2.5 pounds and reach a length of 5 to 9 inches.



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Habitat and Diet

Wood turtles use aquatic and terrestrial habitats at different times of the year. Their habitats include rivers and large streams, riparian forests (adjacent to rivers), wetlands, hayfields, and other early successional habitats. Terrestrial habitat that is usually within 1,000 feet of a suitable stream or river is most likely used. Preferred stream conditions include moderate flow, sandy or gravelly bottoms, and muddy banks.

Wood turtles are omnivorous and opportunistic. They are not picky eaters and will readily consume slugs, worms, tadpoles, insects, algae, wild fruits, leaves, grass, moss, and carrion.

Life History

From late spring to early fall, wood turtles can be found roaming their aquatic or terrestrial habitats. However, once temperatures drop in autumn, the turtles retreat to rivers and large streams for hibernation. The winter

is spent underwater, often tucked away below undercut riverbanks within exposed tree roots. Dissolved oxygen is extracted from the water, allowing the turtle to remain submerged entirely until the arrival of spring. Once warmer weather sets in, the turtles will become increasingly more active, eventually leaving the water to begin foraging for food and searching for mates. Travel up or down stream is most likely, as turtles seldom stray very far from their riparian habitats.

Females nest in spring to early summer, depositing anywhere from 4 to 12 eggs into a nest dug out of soft soil, typically in sandy deposits along stream banks or other areas of loose soil. The eggs hatch in late summer or fall and the young turtles may either emerge or remain in the nest for winter hibernation. As soon as the young turtles hatch, they are on their own and receive no care from the adults.

Turtle eggs and hatchlings are heavily preyed upon by a wide variety of predators, ranging from raccoons to birds and snakes. High rates of nest predation and hatchling mortality, paired with the lengthy amount of time it takes for wood turtles to reach sexual maturity, present a challenge to maintaining sustainable populations. Wood turtles live upwards of 40 to 60 years, possibly more.

Conservation Concerns

Loss and fragmentation of habitat are the greatest threats to wood turtles. Many remaining populations in Connecticut are low in numbers and isolated from one another by human-dominated landscapes. Turtles forced to venture farther and farther from appropriate habitat

to find mates and nesting sites are more likely to be run over by cars, attacked by predators, or collected by people as pets.

Other sources of mortality include entanglements in litter and debris left behind by people, as well as strikes from mowing equipment used to maintain hayfields and other early successional habitats.

The wood turtle is imperiled throughout a large portion of its range and was placed under international trade regulatory protection through the Convention on International Trade in Endangered Species (CITES) in 1992. Wood turtles also have been included on the International Union for Conservation of Nature's (IUCN) Red List as a vulnerable species since 1996. They are listed as a species of special concern in Connecticut and protected by the Connecticut Endangered Species Act.

How You Can Help

- *Conserve riparian habitat. Maintaining a buffer strip of natural vegetation (minimum of 100 feet) along the banks of streams and rivers will protect wood turtle habitat and also help improve the water quality of the stream system. Stream banks that are manicured (cleared of natural shrubby and herbaceous vegetation) or armored by rip rap or stone walls will not be used by wood turtles or most other wildlife species.*
- *Do not litter. Wood turtles and other wildlife may accidentally ingest or become entangled in garbage and die.*
- *Leave turtles in the wild. They should never be kept as pets. Whether collected singly or for the pet trade, turtles that are removed from the wild are no longer able to be a reproducing member of a population. Every turtle removed reduces the ability of the population to maintain itself.*
- *Never release a captive turtle into the wild. It probably would not survive, may not be native to the area, and could introduce diseases to wild populations.*
- *As you drive, watch out for turtles crossing the road. Turtles found crossing roads in June and July are often pregnant females. They should **not** be collected but can be helped on their way. Without creating a traffic hazard or compromising safety, drivers are encouraged to avoid running over turtles that are crossing roads. Also, still keeping safety precautions in mind, you may elect to pick up turtles from the road and move them onto the side in the direction they are headed. Never relocate a turtle to another area that is far from where you found it.*
- *Learn more about turtles and their conservation concerns, and educate others.*
- *If you see a wood turtle, leave it in the wild, take a photograph, record the location where it was seen, and contact the Connecticut Department of Environmental Protection (DEP) Wildlife Division at dep.wildlife@ct.gov, or call 860-424-3011 to report your observation.*



ITEM #0201020A - REMOVE AND RESET WOOD FENCE

Description:

Work under this item shall consist of removing, storing and resetting the existing wood fencing as required to accommodate the construction of the bridge and site grading.

Materials:

As required.

Construction Methods:

The fence shall be removed as needed or as directed by the Engineer to facilitate the site grading, access to the structure and installation of the metal beam rail.

When removing the fence, care shall be taken so that no damage occurs to any part of the fence being removed. Any damage resulting from the Contractor's activities shall be repaired to the satisfaction of the Engineer at no cost to the Town. All appurtenances such as posts, ties, etc. shall be removed and stored in a safe place until the fence is reset at completion of the project.

Method of Measurement:

This work will be measured for payment by the actual number of linear feet of fence removed and reset, as required.

Basis of Payment:

This work will be paid for at the contract unit price per linear foot for "Remove and Reset Wood Fence", which price shall include removing the existing fence and appurtenances, storing them and resetting them at the completion of the project. Also included under this item shall be any tools, equipment, labor, and new materials necessary for the successful completion of the work as herein described, and as directed and approved by the Engineer.

<u>Pay Item</u>	<u>Pay Unit</u>
Remove and Reset Wood Fence	l.f.

ITEM #0201501A - RESET MAILBOX

Description:

Work under this item shall consist of removing and resetting the existing mailboxes as required to accommodate the full depth roadway reconstruction and site grading, as shown on the plans.

Materials:

As required.

Construction Methods:

The mailbox shall be removed and reset as needed or as directed by the Engineer to facilitate the site grading and full depth roadway reconstruction. The Contractor shall provide a temporary mailbox or locate the removed mailbox in a temporary location so as to not disrupt mail service to the affected property, as required.

When removing the mailbox, care shall be taken so that no damage occurs to any part of the mailbox being removed. Any damage resulting from the Contractor's activities shall be repaired to the satisfaction of the Engineer at no cost to the Town or Property Owner.

Method of Measurement:

This work will be measured for payment by the actual number of mailboxes reset, as required.

Basis of Payment:

This work will be paid for at the contract unit price per each "Reset Mailbox", which price shall include resetting them at the completion of the project. Also included under this item shall be any tools, equipment, labor, and new materials necessary for the successful completion of the work as herein described, and as directed and approved by the Engineer.

<u>Pay Item</u>	<u>Pay Unit</u>
Reset Mailbox	ea.

ITEM #0603253A – DISPOSAL OF LEAD DEBRIS

Throughout this Section, make the following substitutions for all occurrences of the word(s) identified below for substitution:

Substitute “Town” for “Connecticut Department of Transportation,” “Department,” “ConnDOT,” and “State.”

Substitute “Engineer” for “Commissioner.”

Description:

Under this item the Contractor shall dispose of all debris that has been classified or identified as hazardous by the Connecticut Department of Transportation (ConnDOT, Department). This debris is the collected by-product of the removal of paint containing lead, removal of lead based products, and chemical solvents used to remove paint. ConnDOT will sample and test the debris in accordance with the criteria required by the Department’s Division of Environmental Compliance.

The Contractor shall conform to the latest requirements of the Hazardous Waste Management Regulations prepared by the D.E.P.’s Hazardous Management Section, subject to regulations of Section 22a-449 of the Connecticut General Statutes.

Disposal of the debris after testing shall be in strict conformance with all Federal E.P.A. and D.E.P. regulations for hazardous materials.

Materials:

The debris must be offered for transportation and transported in compliance with the Code of Federal Regulations, Title 49, Chapter 1, Part 173, Subparts A, B, C, and D and Paragraph 178.128. Transport vehicles (hopper or dump type) must be free from leaks and discharge openings must be securely closed during transportation. All storage containers (roll offs or drums) shall have a protective liner and removal lid. These containers shall not have any indentations or damage that would allow seepage of the contained material.

Construction Methods:

Prior to generation, the City Engineer shall obtain a temporary E.P.A. ID number from ConnDOT’s Division of Environmental Compliance (Telephone number 594-2067 or 597-3344).

The disposal of the debris classified as hazardous shall be completed within 90 calendar days from the date on which it began to be accumulated in the lined containers. Storage of containers shall be in accordance with current Department procedures.

A licensed hazardous waste transporter and a licensed hazardous waste treatment/disposal facility must be secured from lists available from the D.E.P. and approved by the Department's Division of Environmental Compliance.

The Contractor shall label the disposal containers with a 6-inch square, yellow, weatherproof, hazardous waste sticker in accordance with U.S. DOT regulations. Stickers are available through the City Engineer. Additional labels or stenciling shall indicate "Abrasive Blast and/or Construction Paint Residue."

All necessary forms, including the "Uniform Hazardous Waste Manifest" obtained from the Hazardous Waste Management Section of D.E.P. must be filled out, approved and signed by the City Engineer, and appropriate copies returned to the Department's Division of Environmental Compliance.

When all necessary procedures have been completed, then the hazardous waste shall be shipped to the hazardous waste disposal facility. Any spillage of debris during disposal operation i.e. loading, transport and unloading shall be cleaned up in accordance with the Code of Federal Regulations, Title 40, Chapter 1, Part 265, Subparts C and D, at the Contractor's expense.

The Contractor is liable for any fines, costs or remediation costs incurred as a result of their failure to be in compliance with this special provision and all Federal, State, and Local laws.

Method of Measurement:

This item will be measured for payment by the contract unit price per 55-gallon barrel of hazardous lead waste. Barrels that have been partially filled because of weight limitations will be measured as a partial unit dependent upon actual volume in barrel. Material may be disposed of in larger containers, with a conversion factor of 0.273 CY to 55-gallon barrel. Materials incidental to the construction, which become contaminated due to the lead debris removal, such as but not limited to, gloves, coveralls, tarps and filters shall be disposed of in accordance with this specification. These incidental materials shall be kept separate from the blast debris. These materials will not be measured for payment, but will be included in the general cost of the work.

Basis of Payment:

This work will be paid for at the contract unit price per 55-gallon barrel, of hazardous lead waste for "Disposal of Lead Debris." The price shall include all materials, transportation, storage containers, disposal, equipment, tools, labors, and work incidental thereto.

<u>Pay Item</u>	<u>Pay Unit</u>
Disposal of Lead Debris	bbl.

ITEM #0603444A - LEAD HEALTH PROTECTION PROGRAM (LHPP)

Throughout this Section, make the following substitutions for all occurrences of the word(s) identified below for substitution:

Substitute "Town" for "Connecticut Department of Transportation," "Department," "ConnDOT," and "State."

Substitute "Engineer" for "Commissioner."

Description:

The structure(s) on this project are coated with paint containing lead. Any work that disturbs the paint coating may expose workers to health hazards. The Contractor is fully responsible for the protection of his employees and ConnDOT project-related employees from exposure to lead under OSHA regulations. This item includes all related monitoring, protective equipment, decontamination facilities, hand-wash facilities, necessary shuttle vehicle(s), reports, and services of Certified Industrial Hygienist(s) (CIH).

At least 20 working days prior to performing any work on the structure, the Contractor shall submit to the Engineer a written site specific Lead Health Protection Program (LHPP) prepared by a CIH that covers all workers on the project (Contractor, Subcontractor and ConnDOT representatives). The CIH shall be listed by the American Board of Industrial Hygiene. The LHPP shall include procedures for medical surveillance of the contractors, subcontractors and the state project-related representatives, hazard communication procedures, employee training, protective equipment, and all other procedures that may be necessary to comply with 29 CFR Part 1926.62 pertaining to lead exposure in construction.

Typical work tasks that pose a lead exposure risk consist of, but are not limited to, welding, burning paint, flame cutting, abrasive blast cleaning, grinding, chipping, needle gun cleaning, lead burning, manual scraping and sanding, manual demolition of structures, heat gun cleaning, peening on existing structural steel, abrasive blasting debris cleanup, using lead containing mortar, abrasive blasting enclosure movement and removal, power tool cleaning, lead removal equipment cleaning, decontamination trailer cleaning, rehabilitation of existing structural steel, gouging, and rivet busting.

All projects where employee lead exposure without regard to the use of respirators, may exceed the action level, that is employee exposure to an airborne concentration of lead of 30 micrograms per cubic meter of air ($30 \mu\text{g}/\text{m}^3$) averaged over an 8-hour period (i.e. removal of paint containing lead, bearing replacement, etc.) must have a decontamination facility and hand-wash facility on site and available for use by the designated staff.

The Contractor shall comply with the requirements of the OSHA Standard for Lead in Construction, 29 CFR 1926.62 and any other applicable federal and state laws. Additional Federal Regulations that must be followed with respect to lead and this specification include, but are not limited to:

29 CFR Part 1910.1000 (a, b, c Tables Z-1-A, Z-2, and Z-3 as currently in effect).....	Air Contaminants
29 CFR Part 1926.154.....	Temporary Heating Devices
29 CFR Part 1910.20.....	Access to Employee Exposure and Medical Records
29 CFR Part 1910.120.....	Hazardous Waste Operations & Emergency Response
29 CFR Part 1910.134.....	Respiratory Protection
29 CFR Part 1910.141.....	Sanitation
29 CFR Part 1910.146.....	Permit Required Confined Spaces
29 CFR Part 1910.94.....	Abrasive Blasting
29 CFR Part 1926.16.....	Rules of Construction
29 CFR Part 1926.20.....	General Safety and Health Provisions
29 CFR Part 1926.21.....	Safety Training
29 CFR Part 1926.28.....	Personal Protective Equipment
29 CFR Part 1926.32.....	Competent Person
29 CFR Part 1926.51.....	Sanitation
29 CFR Part 1926.55.....	Gases, Vapors, Fumes, Dusts and Mists
29 CFR Part 1926.57.....	Ventilation
29 CFR Part 1926.59.....	Hazard Communication
29 CFR Part 1926.103.....	Respiratory Protection
29 CFR Part 1926.200.....	Accident Prevention Signs and Tags
29 CFR Part 1926.353.....	Ventilation and Protection in Welding, Cutting and Heating
29 CFR Part 1926.354.....	Welding, Cutting and Heating in Way of Preservative Coatings

The Contractor shall also comply with the most recent Connecticut Lead Intervention Network in Construction (CLINIC) guidelines and protocols.

FAILURE OF THE CONTRACTOR OR HIS SUBCONTRACTORS TO COMPLY WITH THE PROVISIONS OF THIS SECTION WILL AFFECT WHETHER THE CONTRACTOR OR HIS SUBCONTRACTOR WILL BE CONSIDERED A RESPONSIBLE CONTRACTOR OR SUBCONTRACTOR ON FUTURE WORK INVOLVING STRUCTURE REHABILITATION AND REMOVAL OF LEAD PAINT COATINGS ON DEPARTMENT OF TRANSPORTATION PROJECTS.

CLINIC personnel or their representatives shall be allowed access to each work site covered by the provisions of the "LHPP" and shall be furnished upon request with such information and assistance by the Contractor as is required to make a complete and detailed inspection.

Materials:

Protective Equipment: Respiratory protective equipment shall conform to 30 CFR Part 11, 29 CFR Part 1910.134, and 29 CFR Part 1926.62. Protective Clothing shall be in conformance with 29 CFR Parts 1910.132 and 1910.133. The minimum protective clothing required shall be head covering, coveralls (reusable or disposable clothing), gloves, dedicated work-boots or disposable over-boots, eye protection, hearing protection and hardhat.

Hand-Wash Facility: The number of facilities to be provided will be dictated by the site(s) and the approved by the Engineer. Each facility shall be equipped with hot and cold clean water, hand soap or similar cleansing agents and individual hand towels or sections made of cloth or paper, warm air blowers or clean individual sections of continuous cloth toweling which the workers will use to wash and dry their hands, face and any exposed skin prior to eating, drinking, smoking or applying cosmetics. Each facility shall be located as close to the work site as is physically possible. Ownership of and liability for the facility shall remain with the Contractor throughout the duration of the project. The facility shall comply with 29 CFR Part 1926.51.

Each portable handwash facility shall be trailer, skid or cart-mounted and have a minimum of one (1) sink with a fresh water tank, and a holding tank. The facility shall also be equipped with hot water heater, eye wash station, storage cabinets, lights for night use, an electric or pneumatic water pump, and lead filtration system. Containers for the collection and disposal of refuse generated at the facility shall also be provided.

Each facility shall be kept in a sanitary condition and clean as defined in the most recent CLINIC and OSHA requirements. At a minimum, the facility shall be cleaned after every shift in which it is used.

Decontamination Facility: The number of facilities to be provided will be dictated by the site(s) and the approved by the Engineer. Each facility shall consist of a "clean" area where workers can remove and store clean street clothing when they arrive on site for work, shower room with hot and cold running water, soap and towels and a "dirty" area where work clothing and personal protective equipment may be stored. The showers shall be located between the two areas. The facility shall have adequate clean storage for all employees who are required to use the facility to store their non-work clothing. The facility shall be located as close to the work site as is physically possible. If the Contractor is unable to locate the decontamination facility close to specific work areas, a designated shuttle vehicle shall be provided. This vehicle shall be classified as contaminated and shall remain at the job site in the decontamination zone. This vehicle shall be operated and maintained to eliminate any possibility of cross contamination with the support zone. The vehicle shall be cleaned as defined in the most recent CLINIC or OSHA protocols. Ownership of and liability for the facility and shuttle vehicle shall remain with the Contractor throughout. The facility shall comply with 29 CFR Part 1926.51.

The walls, ceiling and floors shall be constructed of impervious material to aid in the cleaning of the facility such as, but not limited to, fiberglass and plastic.

Each decontamination facility shall have adequate floor space to accommodate the work force and a minimum ceiling height of seven feet. Windows shall be of a type that will open and close conveniently, shall be sufficient in number and size to provide adequate light and ventilation and shall be fitted with locking devices and screens. The entrance shall be secure, screened and fitted with a lock.

Each facility shall be provided with a lavatory with hot and cold running water or tepid running water and a lead filtration system. It shall also include hand soap or similar cleansing agents. Individual hand towels, paper or cloth, warm air blowers or clean individual sections of continuous cloth toweling shall be provided.

Showers shall be provided for each 10 employees of each sex or numerical fraction thereof, who are required to shower during the same shift. Body soap or other appropriate cleansing agents convenient to the shower shall be provided. Showers shall be provided with hot and cold water feeding a common discharge line. Employees using showers shall be provided with individual clean towels.

Where working clothes are provided by the employer and become wet or are washed between shifts, provision shall be made to ensure that such clothing is dry before reuse.

Each facility and shuttle vehicle shall be cleaned as required or at least once a week. The "clean" area shall be as defined in the most recent CLINIC or OSHA requirements. If wipe sampling shows that cleaning must be conducted more frequently to maintain this standard, then the frequency of cleaning must be increased. Any wastewater that is generated shall be filtered/treated to be acceptable to current state and/or local standards for discharge into the existing public wastewater system.

The Contractor shall equip each facility with an adequate and safe climate controlled system including all necessary fuel; adequate waterproof lighting fixtures and waterproof electrical outlets. All electrical circuits shall be ground fault protected. The Contractor shall also provide exterior illumination of each decontamination facility site. The minimum illumination level shall be two foot-candles for a minimum distance of ten feet on each side of the facility. The Contractor shall provide proper trash receptacle(s) and disposal.

If the decontamination facility remains in service through periods of winter weather, the Contractor shall provide snow and ice removal services for the facility site, including but not limited to, driveways, walkways, parking areas and adjacent sidewalks.

Construction Methods:

At least 20 working days prior to performing any work on the structure, the Contractor shall submit to the Engineer a written site specific Lead Health Protection Program (LHPP) prepared by a CIH that covers all workers on the project (Contractor, Subcontractor and ConnDOT representatives). The

CIH shall be listed by the American Board of Industrial Hygiene. The LHPP shall include procedures for medical surveillance of the contractors, subcontractors and the state project-related representatives, hazard communication procedures, employee training, protective equipment, and all other procedures that may be necessary to comply with the noted requirements and regulations. The submittal shall also include the following information:

- Name, address, phone number of firm providing the CIH services. Note: Subcontractor approval is required in accordance with Article 1.08.01 – “Transfer of Work or Contract.”
- Qualifications/certifications of the firm and staff to be assigned to the project.

Definitions:

"Action level" means employee exposure, without regard to the use of respirators, to an airborne concentration of lead of 30 micrograms per cubic meter of air ($30 \mu\text{g}/\text{m}^3$) averaged over an 8-hour period.

"Permissible Exposure Limit" (P.E.L.) means employee exposure to airborne concentrations of lead equal to or greater than 50 micrograms per cubic meter of air ($50 \mu\text{g}/\text{m}^3$) averaged over an eight-hour period. If an employee is exposed to lead for more than 8 hours in any work day, the permissible exposure limit, as a time weighted average (TWA) for that day, shall be reduced according to the following formula: Maximum permissible limit (measured in $\mu\text{g}/\text{m}^3$) shall be equal to $400 \div$ number of hours worked in the day.

"Employee" means all workers on the project including contractor, subcontractors and ConnDOT representatives.

"Lead" means metallic lead, all inorganic lead compounds and organic lead soaps.

"Employee Lead Exposure" is that exposure which would occur if the employee were not using a respirator.

Lead Health Protection Program:

The LHPP shall consist of written LHPP procedures and on-site inspections, occupational air sampling, wipe sampling and reporting of the procedures by a CIH. The frequency of the on-site surveillance and monitoring shall be dependent upon the type of work to be performed and shall be detailed in the written LHPP procedures.

At the outset of a given job, the IH Firm must submit all written procedures under this item. If there are changes to these procedures, they shall be resubmitted.

The written LHPP procedures shall consists of, but is not be limited to:

1. A written record of all employees involved in work tasks that pose an airborne lead exposure risk at the work site or who may on any day have an exposure exceeding the action level. Tasks where $30 \mu\text{g}/\text{m}^3$ may be exceeded include but are not limited to: welding, burning paint, flame cutting, gouging, abrasive blasting, grinding, chipping, needle gun cleaning, lead burning, manual scraping and sanding, manual demolition of structures, heat gun cleaning, peening on existing structural steel, abrasive blasting debris cleanup, using lead containing mortar, containment moving and removal, power tool cleaning, lead removal equipment cleaning, decontamination trailer cleaning, rivet busting, etc. Those working in the vicinity of these tasks may also be exposed.

For this purpose, a daily sign in/out log provided by CLINIC which identifies persons by name, affiliation, and work task for all employees who were at the site during the reporting period must be maintained at the work site and submitted monthly to ConnDOT.

All workers exposed to airborne lead at or above the Action Level on any day will be required to participate in the medical surveillance program. The IH firm shall determine levels of airborne exposure by breathing zone air sampling for airborne lead exposure over a full representative shift. In addition, all workers except those specifically exempted from the comprehensive medical surveillance program who do have or may be anticipated to have lead exposure will be enrolled in the comprehensive medical surveillance program. Those who are exempted from the comprehensive medical surveillance program will be enrolled in the limited medical surveillance program and will be listed with justification for their exemption by the site CIH and the list will be submitted to ConnDOT within five working days of the decision to exempt.

2. Procedures for instituting a medical surveillance program in accordance with 29 CFR Part 1926.62(j) except as noted herein. Frequency of medical examination shall conform to Part 1926.62(j) except where additional testing is specified. Medical surveillance will consist of, but not be limited to, an entry/annual testing protocol, an exit testing protocol, interval and comprehensive examination testing as indicated based upon exposure and prior blood lead level and Zinc Protophyrin levels.
3. An entry/annual testing protocol shall apply to all workers covered under this specification and shall include the following:
 - A) Complete medical and occupational exposure history focused on lead.
 - B) Complete medical examination by a physician trained or experienced in occupational medicine. The records from a previous complete medical examination (conducted within three months) which meets the requirements of Part 1926.62(j) are acceptable in place of another complete medical examination provided that the previous medical examination was conducted by a physician trained or experienced in occupational medicine, utilized appropriate CLINIC protocol and forms and includes vital signs.

- C) Lab testing to include complete blood count (CBC), chemistry screen, blood lead level, Zinc Protoporphyrin level, spirometry and urinalysis including microscopic examination. Other laboratory work or testing dictated by sound medical practice shall be included. Subsequent testing shall include a blood lead and Zinc Protoporphyrin level monthly for the first four months after the Entry/Annual exam and at month 6. If the blood lead level remains less than 25 µg/dl for all previous months and at month 6, testing shall be conducted at three-month intervals, and there shall be an exit test for blood lead and Zinc Protoporphyrin level. For projects lasting longer than one-month exit tests must be done on the employee's last day of employment on the project.

If, at any time during testing, a blood lead level of 25 µg/dl or greater is detected, those workers with blood lead levels greater than 25 µg/dl shall be monitored with blood lead and Zinc Protoporphyrin levels monthly until the blood lead level is less than 25 µg/dl. These workers must also be given one-on-one intervention training by an Industrial Hygienist (IH) on the job. Material discussed should include a determination of how the worker may have gotten the elevated level including specific tasks or practices and what must be done to prevent future excessive exposure. The IH shall report the results of such determination as part of the monthly compliance report.

- D) Other medical and/or other testing as required.

4. The Medical Removal requirements shall be as follows:

Blood Lead Level for Removal from Lead Exposure = 30 µg/dl

The reasons for the elevated blood lead level will be investigated by the IH and the worker and a plan of action for reducing exposures will be developed and followed.

This will include:

- A) Determination of the reasons for the elevated blood lead level will be made by the IH in consultation with the worker.
- B) Development of a plan of action for reducing the exposures.
- C) Implementation of the plan.

Should the employee's blood lead level not decrease to below 30 µg/dl on subsequent testing, the employee can be moved to a non-lead exposed job or removed from the exposure at the employer's expense if the doctor so determines based on medical finding. Medical removal protection shall conform at a minimum to 29 CFR Part 1926.62(k) with the exception that medical removal may be required at 30 µg/dl. ConnDOT will not pay for any and all costs associated with the medical removal of an employee.

Employees removed for medical protection may return to their former job status as specified in Part 1926.62(k) with the exception that 2 (two) consecutive test results taken at least 1 week apart indicate a level below 25 µg/dl.

5. Intervention. For any employee with a blood lead level at or above 30 µg/dl the IH Firm shall be immediately informed by the responsible clinic or medical facility and shall be responsible for determining the cause of the elevated lead level and instituting additional protective and hygiene measures against lead exposure at the job site. A written statement of these determinations shall be included with the monthly compliance report.
6. Procedures for Employee Notification. Within five (5) working days of receipt of the medical surveillance results, the employer shall notify all tested employees in writing of the results of their tests. Also, the employee shall be immediately notified by the employer (within 24 hours of receipt of results) of the blood lead levels which require removal from lead exposure.
7. Employee's exposure should be assessed in accordance with OSHA Part 1926.62(d) and the current CLINIC guidelines for air and wipe sampling. Airborne lead samples shall be analyzed by a laboratory accredited by the AIHA for the analysis of lead in air. Wipe and chip samples may alternatively be analyzed by a laboratory meeting the proficiency requirement of the ELPAT program. The results of all testing shall be reported as part of the monthly compliance report.
8. The CIH shall determine and recommend the implementation of intervention measures based on the airborne lead exposure, wipe sampling, blood lead levels and the observation of work practices. The determination and recommendations should not rely solely on airborne exposure levels (See Parts 1926.62 (h) & (j)).
9. Procedures for the selection of appropriate respiratory equipment and protective clothing for the particular work task shall be developed in conformance with 29 CFR Part 1926.62. The minimum respiratory protective equipment required shall conform to 29 CFR Part 1926.62 for particular work tasks unless a higher level protection is required by the Project IH Firm. If a higher level of protection is recommended, the CIH shall provide written justification of its need. The CIH will assure that proper testing, training, cleaning/storage or replacement and disposal of the utilized articles will be in accordance with 29 CFR Parts 1926.62 (f) & (g), especially 29 CFR Parts 1926.62 (g)(2)(ii-viii). The IH Firm shall monitor the selection and use of respiratory equipment and protective clothing during on-site surveillance and monitoring inspections. The IH Firm will conduct weekly inspections and the CIH will certify that the respirators are being cleaned properly.
10. Procedures for conducting employee training on lead hazards in accordance with 29 CFR Part 1926.62 (1). This training will cover a minimum of, but not limited to, those topics specified in 29 CFR Parts 1926.62 (1)(2)(i-viii) and the Lead Standard 29 CFR Part 1926.62. Employees must be given access to 29 CFR Part 1926.62 and its appendices and all relevant materials. The procedures shall define the site personnel requiring training, the frequency of training, maintenance and training records and qualifications required of the instructor performing the training. In addition, a blood lead level > 25 µg/dl will trigger a special retraining session where

the IH works with the individual to determine the cause of the elevation and another session where the IH discusses with the individual the result of that determination and the protective measures instituted. Training shall be provided on-site.

11. The Contractor shall establish and have available at the work site a written Hazard Communication Procedure in accordance with 29 CFR Part 1926.59. This written procedure shall describe how warning signs, labels, material safety data sheets and employee training will be provided. It must also contain proper work practices for working around hazardous materials. Also contained in this procedure will be a list of hazardous materials generated by a work task, i.e., lead fumes, lead dust, etc. Any training required to meet Part 1926.59 above that required of Part 1926.62 shall be provided.
12. A written Personal Hygiene Procedure which shall be available at the work site and must be in accordance with 29 CFR Part 1926.62 (e)(2)(ii)(F), Paragraph (h) Housekeeping and Paragraph (i) Hygiene Facilities and Practices of 29 CFR Part 1926.62. Workers will not be allowed to eat, drink or smoke or apply cosmetics in areas where there is a potential for lead exposure. The Contractor shall provide a climate controlled decontamination facility containing washing and shower facilities with clean hot and cold water, soap and disposable towels, which the workers will use to wash their hands and face before eating, drinking or smoking and after each working shift. In addition, portable wash units will be provided as the site dictates for use during breaks for personal hygiene. The Contractor shall provide a clean area for eating and drinking and separate clothes - changing area to reduce the chance for lead cross contamination. After employees change clothes and shower, the work clothing, shoes and protective equipment shall remain at the job site until properly cleaned or disposed of. The written plan shall also include procedures for cleaning and assuring cleanliness of these facilities.

The CIH shall include the following as part of the monthly compliance report:

- a) Certification that all requirements of the LHPP, OSHA, CLINIC guidelines and protocols including occupational air and wipe sampling, training medical surveillance, and elevated blood lead level intervention and reporting have been followed;
- b) A monthly report including:
 - 1) Results of all air and wipe sampling done during the past month reported on the forms.
 - 2) A narrative report describing progress on the job site, interpreting the sampling results and making any recommendations necessary.
 - 3) Blood lead and zinc protoporphyrin levels for all employees listed by name and Social Security Number and a listing of exempted workers by name with justification for exemption. **Copy furnished to ConnDOT shall not include employees' names or Social Security Numbers.**

- 4) Reports of the investigations made subsequent to any employees having blood lead level at or above 25 µg/dl including determination of cause and plan of action for remedy. **Copy furnished to ConnDOT shall not include employees' names or Social Security Numbers.**
- 5) The daily sign in/out log of people working on the job site for the past month.
- 6) Submission of required monthly OSHA or CLINIC reporting forms.

Projects lasting less than one year will provide a project summary report at the close of lead-related work and projects lasting more than one year will provide an annual report.

The reports will include the following:

- 1) All occupational air and wipe sampling and other pertinent data gathered.
- 2) All blood lead level and zinc protoporphyrin data generated for workers and others on the site identified by name and Social Security Number and presented in chronological order, in a format showing job title/activity for each worker, and describing activities undertaken to limit exposures when elevated blood lead levels are identified, and the results of those activities. **Copy furnished to ConnDOT shall not include employees' names or Social Security Numbers.**
- 3) A listing of all workers who were medically removed by name and Social Security Numbers and resulting actions. **Copy furnished to ConnDOT shall not include employees name or Social Security Number.**
- 4) Unusual and/or interesting findings on the bridge project that you have discovered/evaluated/identified that would be valuable to your colleagues, CLINIC, and/or ConnDOT in the management and control of lead exposure on future bridge projects.
- 5) Summarize recommendations and comments that are designed to improve the capabilities of the "LHPP" to more efficiently and effectively control blood lead levels on ConnDOT bridge work.

Method of Measurement:

The work under this item will not be measured for direct payment, but will be included in the Contract Lump Sum price.

This item will include all noted services, equipment, facilities, testing and other associated work for up to three (3) ConnDOT project representatives. LHPP services provided to any ConnDOT project representatives in excess of three (3) representatives will be measured for payment in accordance with Article 1.09.04 – “Extra and Cost-Plus Work.”

Basis of Payment:

This work will be paid for at the Contract Lump Sum price for “Lead Health Protection Program (LHPP)”, which price shall include Lead Health Protection Program, written Lead Health Protection Program Procedures, submittals, reports, employee training, transportation, protective equipment, services of IH firm, cleaning, testing, medical testing, services of medical clinics, medical services and testing, laboratory services and testing, and all materials, tools, and labor incidental thereto.

There will be no direct payment for equipment, including respiratory equipment, blast hoods, air supply hoses, compressor, HEPA vacuum system, filtration, and other associated equipment. These costs shall be considered included in the Lump Sum cost of this item.

There will be no direct payment for hand-wash facility, decontamination facility and shuttle vehicle, including all material, equipment, labor, cleaning, sampling, testing, treatment and disposal of wastewater, utilities, maintenance, services, disposal, laundry, cost of CIH to perform wipe sampling, external illumination, trash removal and snow and ice removal, and work incidental thereto. These costs shall be considered included in the Lump Sum cost of this item.

The intent of these specifications is to provide reimbursement under the Lump Sum price for only those items listed. The costs to contractors and subcontractors of having their personnel attend any training, retraining or refresher courses, receive any testing or fitting of equipment, take any personal hygiene measures, time required for dress up and dress down and of any other activity under the Lead Health Protection Program which requires or entails attendance of contractors' or subcontractors' personnel will not be paid for under this item. Any and all such costs will be considered included in the general cost of the Contract.

<u>Pay Item</u>	<u>Pay Unit</u>
Lead Health Protection Program (LHPP)	l.s.