



## 2016 ROAD AND BRIDGE SPECIFICATIONS DIVISION V—INCIDENTAL CONSTRUCTION

### SPECIAL PROVISION COPIED NOTES (SPCNs), SPECIAL PROVISION (SPs) and SUPPLEMENTAL SPECIFICATIONS (SSs)

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**GUIDELINES — For projects requiring exposed aggregate finish for sidewalks.**{2007-c504c00}

[cn504-000100-00](#)

**EXPOSED AGGREGATE SIDEWALK** shall be performed by surface retarder unless another method is approved by the Engineer.

Concrete for exposed aggregate finish shall conform to Section 217 of the Specifications for the class specified, except gravel shall be tan or light brown in color.

The Contractor shall provide a sample of the exposed aggregate finish for approval by the Engineer prior to beginning work. The sample shall be at least 12 inches by 12 inches and approximately 2 inches in depth. The approved sample shall be kept at the work site for comparison to completed work.

**Exposed aggregate sidewalk** will be measured and paid for in square yards, complete-in-place.

Payment will be made under:

| <b>Pay Item</b>            | <b>Pay Unit</b> |
|----------------------------|-----------------|
| Exposed aggregate sidewalk | Square yard     |

7-12-16 (SPCN)

**GUIDELINES** — For use on projects where guardrail impact attenuators will be installed or replaced in areas that are either expected to be impacted multiple times per year, have an ADT more than 25,000, or are close enough to the road to make repair difficult. Use only with permanent installation.

[cn505-000100-01](#)

**IMPACT ATTENUATOR** — This work shall consist of replacing damaged impact attenuators, or installing new, by furnishing and installing impact attenuators in accordance with Section 505 of the Specifications and as directed by the Engineer. Replacement impact attenuators shall be a Type I (Re-Directive Low-Maintenance) as designated on VDOT's MASH Provisionally Approved Products List. Impact attenuators shall be installed in accordance with the manufacturer's specifications and instructions, Standard Drawing IA-LM, and Section 505 of the Specifications.

If replacing an existing impact attenuator, the Contractor shall inspect the condition of the existing impact attenuator foundation pad for size, thickness, adequacy of reinforcement, slope, cracking, surface wear, shifting, undermining, settling, or other signs of age or deterioration which may be unsuitable for continued use. If any of these conditions are present, the Contractor shall notify the Engineer and request authorization prior to replacing the existing foundation pad.

If the existing foundation pad is suitable for continued use and existing bolt patterns are present, the Contractor shall confirm that installing new bolts will not negatively impact performance of the unit.

Anchor bolts shall be set into holes drilled with rotary impact drills of the sizes recommended by the manufacturer of the attenuator, and as approved by the Engineer. Bolt holes shall be cleaned with a bottle brush before installing the anchor bolts.

The Type I (Re-Directive Low-Maintenance) Impact Attenuator shall be bolted in place according to the attenuator manufacturer's instructions, but not before the fresh concrete foundation, if applicable, has reached 28-day strength, determined in accordance with Section 217 of the Specifications.

If a transition is required, the appropriate manufacturer's standard transition shall be used.

The work site shall be protected according to Section 512 of the Specifications and the VWAPM.

Installers and repair personnel shall be certified by the manufacturer. The Contractor shall submit two copies of the manufacturers' installation instructions to the Engineer prior to beginning work.

The Contractor shall provide one training session to VDOT personnel at a location selected by the Engineer within the VDOT District where the impact attenuators were installed, when designated as a pay item. The training sessions shall be conducted by a manufacturer's representative and cover impact attenuator maintenance and repair. The Department may add additional training sessions to be paid for at the unit price bid. Each session shall be structured

such that the personnel trained will be able to perform maintenance and repair beginning within one year of the training.

The Contractor shall provide documentation tracing the steel in the finished product back to raw material in accordance with Buy America requirements.

**Impact attenuator** will be measured in units of each and will be paid for at the Contract Each price. This price shall include furnishing and installing pad, impact attenuator, and transitions.

**Remove existing impact attenuator** will be measured and paid for as **remove existing guardrail terminal** in accordance with Section 505 of the Specifications. This price shall include removing and disposing of existing impact attenuator.

**Site Preparation** will be measured and paid for as **Guardrail terminal site preparation** in accordance with Section 505 of the Specifications.

**Maintenance and Repair Training** will be measured in units of each and will be paid for at the Contract each price.

Payment will be made under:

| <b>Pay Item</b>                 | <b>Pay Unit</b> |
|---------------------------------|-----------------|
| Impact attenuator (Type, Speed) | Each            |
| Maintenance and Repair Training | Each            |

1-24-19\_(SPCN)

**GUIDELINES** — Asphalt resurfacing projects only when there is no separate pay item for such work.  
{2007-c510am1}

[cn510-000100-00](#)

**LOCATING, REMOVING AND DISPOSING OF RECESSED PAVEMENT MARKERS AND RAISED SNOW-PLOWABLE MARKERS** —The Contractor shall locate, remove and dispose of existing recessed pavement markers and raised snow-plowable markers prior to resurfacing. The cavity left by the removal of the existing recessed pavement markers shall be cleaned of debris, filled with the approved mix for resurfacing and compacted. Locating, removing and disposing of recessed pavement markers and raised snow-plowable markers; cleaning and filling the cavity, and compacting the material placed in the cleaned cavity will not be measured for payment. The cost for performing this work shall be included in the price bid for other appropriate items of work.

10-17-10; Reissued 7-12-16 (SPCN)

**GUIDELINES** – For projects that make reference to the traffic groups listed in this SPCN.{2007-c512j00}

[cn512-000100-00](#)

**TABLE V-1, ADT GROUPS** — The Specifications are amended to include the following table:

**TABLE V-1**  
**Average Daily Traffic (ADT) Groups**

| <b>Traffic Group</b> | <b>ADT</b>  | <b>Traffic Group</b> | <b>ADT</b>    |
|----------------------|-------------|----------------------|---------------|
| I                    | 0-9         | X                    | 2,000-2,999   |
| II                   | 10-24       | XI                   | 3,000-3,999   |
| III                  | 25-49       | XII                  | 4,000-4,999   |
| IV                   | 50-99       | XIII                 | 5,000-5,999   |
| V                    | 100-249     | XIV                  | 6,000-9,999   |
| VI                   | 250-399     | XV                   | 10,000-14,999 |
| VII                  | 400-749     | XVI                  | 15,000-19,999 |
| VIII                 | 750-999     | XVII                 | 20,000-29,999 |
| IX                   | 1,000-1,999 | XVIII                | 30,000-39,999 |
|                      |             | XIX                  | 40,000 & over |

7-12-16 (SPCN)



**GUIDELINES** — Use only when requested by the Regional Traffic Engineer for projects with project-specific complex CPMS. {2007-c512hg0}

[cn512-000110-00](#)

**CONTRACTOR PROPOSED ALTERNATIVE TRAFFIC CONTROL PLANS** —

The Contractor may prepare his own Contractor Alternative Traffic Control Plan (CATCP) as an alternative to that shown in the Contract. This alternative plan must be prepared in conformance with the requirements of AASHTO; the latest approved editions of the *Manual of Uniform Traffic Control Devices (MUTCD)* and the *Virginia Work Area Protection Manual*. The Contractor must provide, as part of this alternative plan, information and explanations consistent with, and to the same level of detail, as the project-specific Traffic Control plans in the Contract prepared by VDOT or its consultants. The alternative plan must clearly demonstrate coordination with the Contractor's overall, comprehensive plan for prosecuting the work, through its various phases or stages of construction and sequencing. The plan must be supported by a detailed transportation network traffic operations analysis, consistent with the complexity of the project, using a methodology or computer software program approved by the Department. This analysis must satisfactorily demonstrate the operating conditions of the network, and particularly, the work zone given expected traffic volumes during the length of the construction schedule.

As a necessary and integral part of the plan, the Contractor shall be responsible for identifying all utilities and right of way that will be impacted by his proposed CATCP, to include but not be limited to: underground utility designations, securing any additional or supplemental permissions or permits required to construct the project and preparing all analyses, plans, summaries, specifications, special provisions, etc., necessary to secure approvals to construct the project according to his alternative plan. The analyses, plans, summaries, specifications, and special provisions shall be directly prepared by or prepared under the supervision of a Professional Engineer registered to practice civil engineering in the Commonwealth of Virginia who is trained and/or certified in traffic control analysis and design. All such documents shall be signed and sealed by the Professional Engineer.

The Department reserves the right to accept or reject any CATCP developed under the provisions of this specification. The Contractor must obtain the Engineer's written approval before beginning any work using a Contractor Alternative Traffic Control Plan for Maintenance of Traffic. The Engineer's written approval is required for all modifications to the accepted Contractor Alternative Traffic Control Plan. The Engineer will permit changes to the CATCP without proper documentation and authorization only in emergency situations where incident management is critical.

The Engineer's acceptance of the Contractor's Alternative Traffic Control Plan will not relieve the Contractor of his responsibility for all related project impacts, costs, delays, or damages, whether direct or indirect, resulting from Contractor initiated changes in the design or construction activities from those detailed in the original Contract specifications, design plans, including the Department's temporary traffic control plans or other Contract Documents and which effect a change in project work different from that shown in the plans, joint project agreements, or other project construction schedules. No additional compensation or extension of time for contract completion will be considered in

conjunction with the Contractor's decision to proceed with use of a Contractor Alternative Traffic Control Plan that is approved by the Engineer.

3-27-08; Reissued 7-12-16 (SPCN)

**GUIDELINES** — For use on projects where the construction work zone impact attenuators are expected to be impacted multiple times, are on roads with an ADT greater than 25,000, or are close enough to the road to make repair difficult. Use only for temporary installations to protect work zones.

[cn512-000120-00](#)

**SECTION 512—MAINTAINING TRAFFIC** of the Specifications is amended as follows:

**Section 512.03(i)—Impact Attenuator Service** is amended to replace the second paragraph with the following:

Only Type 1 re-directive low-maintenance impact attenuators in accordance with Section 505 shall be used on highways with posted speed limits greater than 50 mph or with an ADT greater than 25,000 vehicles per day.

7-13-16\_(SPCN)

**GUIDELINES** — For use on all projects that will require establishment of a work zone on a concrete wearing surface.

[cn512-000130-00](#)

**TEMPORARY CONTRAST MARKINGS** – Type D, Class III contrast pavement markings shall be used for all longitudinal temporary pavement markings on bridge decks and hydraulic cement concrete riding surfaces if all of the following are met:

- The road has a speed limit of 45 MPH or greater.
- The hydraulic cement concrete riding surface in question is at least 300 feet in length.
- The temporary markings are planned for at least 15 days of use.

Type D, Class III contrast markings are not required for any markings that are parallel to and within two feet of existing guardrail or other longitudinal barrier.

2-26-19 (SPCN)

**GUIDELINES** — Projects requiring police patrols as a state force item. {2007-c512i00}

[cn512-000310-00](#)

**POLICE PATROLS** — The Contractor is advised that the Department will use Police patrols in construction work zones when traffic flow problems are anticipated, to enhance the safety of both the public and construction personnel, during the life of this contract.

4-25-88c; Reissued 7-12-16 (SPCN) [formerly cn512-030100-00]

**GUIDELINES** — Plant mix schedule projects only. {2007-c515c00}

[cn515-000100-02](#)

**DISINCENTIVE FOR PLANING IN MULTIPLE LANES**

The Special Provision for **COLD PLANING (MILLING) ASPHALT CONCRETE OPERATIONS** "[SP515-000100-00](#)" dated July 12, 2016 is amended as follows:

**Section III.A.1. Regular planing and performance planing in multiple lanes** is amended to replace the first bulleted subparagraph of the fourth paragraph with the following:

- The Contractor will be limited in the case of **regular pavement planing**, whether in a single lane or multiple lane operation, to only that amount of pavement that can be paved back within 24 hours of completion of planing that roadway or portion of roadway. Single-lift operations must be restored to final elevation to satisfy this requirement. If the Contractor elects not to pave back the planed travel lanes within 24 hours from the end of the regular planing operation, or is prevented from doing so by predictable weather, the Department will assess a disincentive in the amount of **\$5,000** for each calendar day the planed travel lane surface is not paved back, including Sundays and Holidays.

**Section III.A.1. Regular planing and performance planing in multiple lanes** is amended to replace the first bulleted subparagraph of the fifth paragraph with the following:

- **Performance pavement planing** may be performed in multiple lanes across the entire widths of the lanes up 4 miles of travel lane unless otherwise stated in the Contract. Performance planed travel lane surfaces must be paved back within 96 hours from the end of the performance planing operation. Single-lift operations must be restored to final elevation to satisfy this requirement. If the Contractor elects not to pave back the planed travel lanes within 96 hours from the end of the performance planing operation, or is prevented from doing so by predictable weather, the Department will assess a disincentive in the amount of **\$5,000** for each calendar day the planed travel lane surface is not paved back, including Sundays and Holidays.

11-23-16 (SPCN)

**GUIDELINES** — Projects requiring trainees. The number of trainees must be filled-in. {2007-c518b00}

[cn518-000210-00](#)

**SECTION 518.02(a) NUMBER OF TRAINEES** is amended to replace the first sentence of the first paragraph with the following:

The number of trainees for this contract shall be **fill-in**.

7-12-16 (SPCN) [formerly cn518-020100-00]

**GUIDELINES** — Use on demolition projects. Fill in the Federal Structure Numbers, Demolition Numbers, or both as applicable.

[cn522-000140-00](#)

**PROTECTION OF NESTING BIRDS DURING STRUCTURE DEMOLITION —**

Active nests of migratory birds have been identified on **federal structure numbers and demolition numbers as applicable** listed in this Contract. A Time of Year Restriction (TOYR), from March 15 through August 15, applies to any activity that requires removal of any active nests or contents. The Contractor may proceed with other work activities that do not result in removal of active nests or contents.

7-10-19 (SPCN)



**cq505-000100-00**

**GUIDELINES** — For use on all contracts issued for the repair of guardrail, median barrier, impact attenuators, or guardrail-to-bridge attachments after a vehicle collision (“Hits” Contracts).

**INSPECTION OF DAMAGED GUARDRAIL FOR “HITS” CONTRACTS** — The Contractor shall inspect the locations and prepare a list of materials and quantity needed for repair for the Engineer’s review prior to commencing work. The Engineer will notify the Contractor to repair the guardrail by components or to remove and replace sections of damaged guardrail.

9-30-16 (SPCN)

**cq510-000100-01**

**GUIDELINES** — Asphalt resurfacing (2020 latex only) projects only when there is no separate pay item for such work.

**LOCATING, REMOVING AND DISPOSING OF RECESSED PAVEMENT MARKERS AND RAISED SNOW-PLOWABLE MARKERS** —The Contractor shall locate, remove and dispose of existing recessed pavement markers and raised snow-plowable markers prior to resurfacing. The cavity left by the removal of the existing recessed pavement markers shall be cleaned of debris, filled with an approved mix design for resurfacing or material found on the Department's [Approved List 78](#), and compacted. Locating, removing and disposing of recessed pavement markers and raised snow-plowable markers; cleaning and filling the cavity, and compacting the material placed in the cleaned cavity will not be measured for payment. The cost for performing this work shall be included in the price bid for other appropriate items of work.

12-5-19 (SPCN)

**cq512-000100-00**

**GUIDELINES** — Use only in projects with routes in residential areas having parked vehicles that interfere with or may be damaged by the work being performed and the Department supplies those signs and/or notices for this purpose.). {2007- [cu512000](#)}

**NOTICE TO REMOVE PARKED VEHICLES** — Unless otherwise specified elsewhere in the Contract, the Department will furnish upon request, street signs for posting or printed notices for distribution, by the Contractor that notifies residents in residential areas to remove parked vehicles from the roadway prior to the Contractor performing work.

9-21-07; Reissued 7-12-16\_(SPCN)

**cq512-000110-01**

**GUIDELINES** — Fairfax residency projects only. (Includes surface treatment, slurry/latex, and plant mix). {2007-cu512002b}

**TRAFFIC CONTROLS FOR FAIRFAX RESIDENCY** — The Contractor shall notify the Fairfax County Police Traffic Safety Division Commander at (703) 280-0500 after “No Parking” signs have been posted and notices delivered. The Contractor shall provide a copy of the notice to the Traffic Division Commander.

The Contractor shall contact the Fairfax County Police Traffic Safety Division at (703) 280-0500 to request enforcement and towing from the approved construction site. Holiday and weekend requests shall be directed through the Fairfax County Public Safety Communication Center at (703) 280-0500.

10-27-16 (SPCN)

**cq512-000120-00**

**GUIDELINES** — Use when signalized intersection control equipment will be become non-operational and traffic must continue to flow. {2007-cu512003a}

**UNIFORMED FLAGGERS** - The Contractor shall utilize off-duty uniformed police officers for control of traffic through signalized intersections during periods when the control equipment is non-operational. It is expressly understood that the work under this pay item exceeds the requirements and duties typically associated with flagger service. Off duty police officers will not be required to have VDOT flagger certification to perform this work. Police assisted flagger service will be measured and paid for in hours of in duty service. This price will be full compensation for furnishing uniform officers and all associated costs.

Payment will be made under:

| <b>Pay Item</b>    | <b>Pay Unit</b> |
|--------------------|-----------------|
| Uniformed Flaggers | Hours           |

9-29-08; Reissued 7-12-16\_(SPCN)

[cq512-000310-00](#) [formerly [cq512-030100-00](#)]

**GUIDELINES** – All projects with guardrail and impact attenuators.{2007-SS51203}

**SECTION 512—MAINTAINING TRAFFIC** is amended as follows:

**Section 512.03(h)1 Guardrail barrier service and terminal treatments** is amended to replace the last sentence with the following:

All end terminals used in conjunction with guardrail barrier service shall be from manufacturers on the Materials Division's Approved Products List No. 12 and the VDOT NCHRP 350 or MASH approved list linked in List No. 12. New Guardrail Terminals (GR-7 & GR-9) shall be permanently identified in a location readily visible for inspection that is not susceptible to damage by stamping or engraving. The identification shall include Manufacturer, Date and Site of Manufacture, and Model Number.

**Section 512.03(i) Impact Attenuator Service**, the first paragraph, is amended to replace the last sentence with the following:

New impact attenuators shall be permanently identified in a location readily visible for inspection that is not susceptible to damage by stamping or engraving. The identification shall include Manufacturer, Date and Site of Manufacture, and Model Number.

**Section 512.03(r) Truck-mounted or trailer-mounted attenuators**, the second paragraph, is amended to replace the last sentence with the following:

New truck-mounted and trailer-mounted attenuators shall be permanently identified in a location readily visible for inspection that is not susceptible to damage by stamping or engraving. The identification shall include Manufacturer, Date and Site of Manufacture, and Model Number.

3-18-16; Reissued 7-12-16\_(SPCN)

[cq512-000321-00](#) [formerly [cq512-030110-00](#)]

**GUIDELINES** – For use on all projects requiring temporary pavement markings.

**CONTRACTOR MAINTENANCE OF TEMPORARY MARKINGS** – The second, third, and fourth paragraphs of Section 512.03(k)3 of the Specifications will also apply to Sections 512.03(k)1 and 512.03(k)2 of the Specifications.

6-13-17 (SPCN)

[cq512-000410-00](#) [formerly [cq512-040100-00](#)]

**GUIDELINES** — For use on all projects paying for Maintenance of Traffic as Lump Sum by using [SP512-000110-00](#).

**FLAGGER SERVICE** — The Contractor shall provide certified flaggers in sufficient numbers and locations as necessary for control and protection of vehicular and pedestrian traffic in accordance with the VWAPM, or as directed by the Engineer. Flaggers shall use sign paddles to regulate traffic in accordance with the VWAPM. Certified flaggers shall conform to Section 105.14 of the Specifications.

**Flagger Service** will be measured in hours of operation, per flagger, as required by Section 512.03(b) of the Specifications and authorized or approved by the Engineer; and will be paid for at the contract unit price per hour. This price shall include paddles and safety equipment.

| <b>Pay Item</b> | <b>Pay Unit</b> |
|-----------------|-----------------|
| Flagger Service | Hour            |

3-9-17 (SPCN)



**cq515-000100-00**

**Guidelines:** Used where planning/milling operations are planned (not including trenching widening) and thin pavement structure is suspected.

**PLANING OR MILLING PAVEMENT OF UNCERTAIN THICKNESS** – If, due to the existing thin pavement structure and depth of the planing operation (except Trench Widening), the underlying soils or foundation aggregate is exposed, the Contractor shall immediately halt his operations and contact the Engineer to determine the immediate and potential condition of the roadway or roadway shoulder. If the Engineer determines that the immediate or potential condition of the roadway or roadway shoulder is or will become unacceptable or unsafe, the Contractor shall submit a plan to pave back all sections of the roadway or roadway shoulder within 24 hours from when they were planed or milled at no additional cost to the Department. The Contractor will not be allowed to resume his operations until this plan is accepted by the Engineer, and the Contractor is prepared to execute it. If the Contractor fails to submit a plan within 24 hours of exposing underlying soils or foundation aggregates, the Engineer may conduct the remaining milling and paving for that route in accordance with Section 105.14(e) of the Specifications.

10-24-17 (SPCN)

[cq522-000100-03](#)

**Guidelines:** Use on all bridge projects.

**PROTECTION OF BAT SPECIES** — If bats are observed roosting on a structure, the Contractor shall immediately notify the Engineer and suspend work in the immediate vicinity of the bats until authorized to continue.

1-17-18 (SPCN)

**cq522-000110-00**

**Guidelines:** If asbestos reports are available, complete the table below with the appropriate data for the regulated asbestos containing material detailed in the reports as requiring abatement. Add more rows to the table as necessary.

**ABATEMENT OF ASBESTOS CONTAINING MATERIALS** - The Contractor shall abate the Asbestos Containing Materials (ACM) identified in the Abatement Table below in accordance with the Special Provision for Asbestos Removal for Road Construction Demolition Projects.

| Abatement        |                 |             |           |          |
|------------------|-----------------|-------------|-----------|----------|
| Structure Number | NESHAP Category | Description | Condition | Quantity |
|                  |                 |             |           |          |

11-5-18 (SPCN)

**GUIDELINES** — For projects requiring repair or replacement of damaged guardrail, median barrier, impact attenuators and bridge/guardrail attachments. {2007-SU505000A}

[SP505-000100-00](#)

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**REPLACEMENT OF GUARDRAIL, MEDIAN BARRIER, IMPACT ATTENUATOR, AND GUARDRAIL  
TO BRIDGE ATTACHMENTS**

August 4, 2016

**I. DESCRIPTION**

This work shall consist of repairing or replacing damaged guardrail, median barrier, impact attenuators and bridge/guardrail attachments, in accordance with this provision, the plans and as directed by the Engineer.

**II. MATERIALS**

Guardrail and guardrail components shall conform to Section 505 of the Specifications.

Impact attenuator repair shall use replacement parts from the original manufacturing company.

Sign Panels shall conform to Section 701 of the Specifications.

Guardrail Delineators shall conform to Section 702 of the Specifications.

**III. PROCEDURES**

The Engineer will preapprove all locations requiring the drilling of holes in bridge railings or fixed objects. The Contractor shall repair any spalling due to the drilling operations in concrete fixed objects or concrete bridge railings and existing holes in concrete shall be patched with materials conforming to Section 218 of the Specifications.

The Contractor shall perform work in accordance with Section 505 of the Specifications, the *Road and Bridge Standards* and the standard drawings for "Recommended Method for Attaching Guardrail to Bridge Rails" (BR-GR). The Contractor may need to modify the method of attachment due to field conditions with the approval of the Engineer.

The Contractor shall reconstruct impact attenuators in accordance with the manufacturers' recommendations.

Pay items with the designation "Install" are materials furnished by the Department for the Contractors use in repair of guardrail installations in accordance with Sections 505 and 510 of the Specifications and as directed by the Engineer. The Engineer will indicate per site the quantity and materials to be installed and the location of the materials for the Contractors use. The Contractor shall make arrangements with the Area Headquarters 48 hours prior to picking up the materials for installation. All sites designated for use of "Install" materials will be within 25 miles of an Area Headquarters.

Damaged and salvaged guardrail materials shall become the property of the Contractor and shall be disposed of in accordance with Section 106 of the Specifications, unless otherwise specified.

All unused or abandoned guardrail post holes shall be backfilled to existing ground level with approved material placed in layers not more than 4 inches in height. Each layer shall be compacted by tamping. All unused or abandoned post holes in paved shoulder shall be backfilled, compacted and sealed with a fine asphalt plant mix no larger than SM-9.5A. No measurement or payment will be made for this work all cost shall be included in other items of work.

Cracks in the shoulder as a result of driving or removing guardrail posts shall be repaired at no additional cost to the Department. In soil or aggregate stabilized shoulders, cracks and voids around the posts shall be filled with like material and thoroughly compacted. In asphalt paved or surfaced treated shoulders, cracks and voids around post shall be filled, compacted, and sealed with fine asphalt plant mix no larger than SM-9.5A. No measurement or payment will be made for this work all cost shall be included in other items of work.

The Contractor shall ensure all existing guardrail and end treatments left in place are correct and all bolts, are torqued properly and cables are taut. GR-9 end treatments with 4" channel shall not be repaired, but shall be replaced with new terminals that conform to Section 505.03 of the Specifications.

All guardrail to be removed shall start at the run off end and proceed to the run on end terminal, unless otherwise approved by the Engineer.

Guardrail installation shall start at the run on end terminal and proceed to the run off end, unless otherwise approved by the Engineer.

All guardrail that is removed during the course of the work day shall be replaced the same work day, unless otherwise approved by the Engineer.

No fixed objects, which includes but not limited to bridge parapet walls, piers, blunt ends, sign structures, shall not be left unprotected. The Contractor shall use an approved NCHRP 350 approved, temporary guardrail terminal or impact attenuator service before the end of each workday to protect traffic from the fixed object. No measurement or payment will be made for temporary guardrail terminal or impact attenuator service, all cost shall be included in other items of work. The Contractor shall plan and prosecute the work accordingly.

No uncompleted sections of guardrail shall be left over weekends or holidays, unless otherwise approved by the Engineer. The Contractor shall plan and prosecute the work accordingly.

All aggregate and other material placed at the guardrail terminal end section shall be included in the pay item "guardrail terminal site preparation," according to Section 505 of the Specifications.

Build-up or debris under existing guardrail in areas where guardrail is to be replaced shall be removed to the original shoulder cross slope, in accordance with the contract Special Provisions.

Reset existing guardrail shall require the removal and disassembly of the existing w-beam and blockouts to redrill the post for the reassembly of the blockouts and w-beam to the required height specified. In the event the existing post or blockouts are determined non-compliance with the standard drawings or specifications new post or blockouts will be required and will be measured and paid for separately.

#### IV. MEASUREMENT AND PAYMENT

**Guardrail, Reuse Guardrail, Radial Guardrail, Median Barrier, Radial Median Barrier, Cable Barrier, Guardrail Terminal, Median Barrier Terminal and Fixed Object Attachment** will be measured and paid for in accordance with Section 505 of the Specifications.

**Remove Guardrail, Reset Guardrail and Install Guardrail** will be measured and paid for in accordance with Section 510 of the Specifications.

**Sign Panel and Guardrail Delineator** will be measured and paid for respectively in accordance with Sections 701 and 702 of the Specifications.

**Drill Hole** will be measured in units of each and will be paid for at the contract unit price per each, which unit price shall include drilling of hole, repairing spalled areas, and patching abandoned holes.

**Re-Tension Existing Cable GR.** will be measured in units of each per cable system and will be paid for at the contract unit bid price per each for the standard specified, which shall include re-tensioning the existing cable.

The items below will include removal and disposal of existing guardrail components in the unit price bid.

**Guardrail Post, Guardrail Blockout and Offset Block** will be measured in units of each for the type and standard specified and will be paid for at the contract unit price per each which price shall include furnishing and installing post, blockout and offset block and hardware.

**W Beam Terminal Connector, W Beam End Section and Terminal Connector** will be measured in units of each for the standard or type specified and will be paid for at the contract unit price per each, which shall include furnishing and placement, and mounting hardware.

**Rubrail** will be measured in units of linear feet for the type specified and will be paid for at the contract unit price per linear foot, which shall include furnishing and placement of type rubrail specified, and mounting hardware.

**Guardrail Beam and Radial Guardrail Beam** will be measured in units of linear feet for the type and standard specified and will be paid for in units of linear foot, which unit price shall include furnishing the type and standard beam specified, and mounting hardware.

**Plate** will be measured in units of each for the type and standard specified and which unit paid shall include furnishing and placing the specified plate and mounting hardware.

**Cable** will be will be measured in units of linear feet for the type and standard specified and will be paid for in units of linear foot, which unit price bid shall include furnishing the type and standard cable specified, and mounting hardware.

**Realign Post** will be measured in units of each and will be paid for at the contract bid price per each, which unit price bid shall include disconnecting and reconnecting rail and realigning the post.

**BR-GR Attachment** will be measured in units of each, for the type specified per attachment location and will be paid for at the contract unit bid price per each attachment, which shall include furnishing and installing guardrail, blockouts, connector, and hardware.

**Steel Tube** will be measured in units of each for the type and standard specified and will be paid for at the contract bid price per each, which shall include furnishing and placing of the steel tube, and excavation.

**Assembly** will be measured in units of each for the type and standard specified and will be paid for at the contract unit bid price per each, which shall include furnishing and placing the specified assembly.

**Cable Assembly & Anchor Plate** will be measured in units of each for the type and standard specified and will be paid for at the contract unit bid price, which shall include furnishing and installing the cable assembly and anchor plate for the type and standard specified, and hardware.

**End Post Caps** will be measured in units of each for the standard specified and paid for at the contract unit bid price per each, which shall include furnishing and installing end post caps, and hardware.

**Hook Bolt** will be measured in units of each for the standard specified and will be paid for at the contract unit bid price per each, which unit price bid shall include furnishing and installing hook bolts.

**Angle** will be measured in units of each for the type and standard specified and will be paid for at the contract unit bid price per each, which shall include furnishing and installing the specified angle, and hardware.

**Soil Plate** will be measured in units of each for the standard specified and will be paid for at the contract unit price per each for the standard specified, which shall include furnishing and installing the specified plate, and hardware.

**Pipe Sleeve** will be measured in units of each for the standard specified and will be paid for at the contract unit price per each for the standard specified, which shall include furnishing and installing the specified pipe sleeve, hardware and removal and disposal of existing pipe sleeve.

**Cable Anchor Bracket** will be measured in units of each for the standard specified and will be paid for at the contract unit price per each for the standard specified, which shall include furnishing and installing the specified cable anchor bracket, and hardware.

**Strut** will be measured in units of each for the standard specified and will be paid for at the contract unit price per each for the standard specified, which shall include furnishing and installing the specified strut, and hardware.

**Guardrail Extruder** will be measured in units of each for the standard specified and will be paid for at the contract unit price per each for the standard specified, which shall include furnishing and installing the specified guardrail extruder, and hardware.

**Impact Attenuator Cartridge** will be measured in units of each for the original manufacturers' replacement cartridge and will be paid for at the contract unit price per each for the original manufacturers replacement part and hardware, which shall include furnishing and installing in accordance with the manufacturers recommendations.

**Nose Section** will be measured in units of each for the original manufacturers' replacement nose section and will be paid for at the contract unit price per each for the original manufacturers' replacement part and hardware, which shall include furnishing and installing in accordance with the manufacturers recommendations.

**Diaphragm** will be measured in units of each for the original manufacturers' replacement diaphragm and will be paid for at the contract unit price per each for the original manufacturers' replacement part and hardware, which shall include furnishing and installing in accordance with the manufacturers recommendations.

**Frame** will be measured in units of each for the original manufacturers replacement frame and will be paid for at the contract unit price per each for the original manufacturers' replacement part and hardware, which shall include furnishing and installing in accordance with the manufacturers recommendations.

**Side Panel** will be measured in units of each for the original manufacturers' replacement side panel and will be paid for at the contract unit price per each for the original manufacturers' replacement part and hardware, which shall include furnishing and installing in accordance with the manufacturers recommendations.

**Sand Barrel** will be measured in units of each for the original manufacturers replacement sand barrel and will be paid for at the contract unit price per each for the original manufacturers replacement parts and hardware, which shall include furnishing and installing in accordance with the manufacturers recommendations.

**Reset Existing Guardrail** will be measured in units of linear feet and will be paid for at the contract unit price per linear foot. This price shall include removal of guardrail w-beam and blockouts, drilling new hole(s) in the existing post, reinstalling the w-beam and blockouts, with new hardware.

**Remove and Relocate Existing Guardrail (Standard)** will be measured in units of linear feet for the standard and type specified and will be paid for at the contract unit price per linear foot for the standard and type specified. This price shall include disassembly and removal of guardrail w-beam, post, blockouts, hardware, backfilling existing postholes, repairing damage to shoulders, curbing, curb backup material or concrete, transporting and storing; repairing and installing salvaged beam; and installing guardrail post, blockouts, w-beam, delineators, concrete, and new hardware.

**Reuse Existing Guardrail W-Beam (Standard)** will be measured and paid for at the contract unit price per linear foot. The price bid shall include salvaging and installing existing W-beam, transporting w-beam to the site, furnishing and installing new post, blockouts, delineators, new hardware.

Payment will be made under:

| <b>Pay Item</b>                          | <b>Pay Unit</b> |
|--|-----------------|
| (Type) Post (Standard)                   | Each            |
| Guardrail Blockout                       | Each            |
| Guardrail Beam                           | Linear Foot     |
| Radial Guardrail Beam                    | Linear Foot     |
| Cable (Standard)                         | Linear Foot     |
| Offset Block (Type)                      | Each            |
| Terminal Connector (Type or Standard)    | Each            |
| W Beam End Section (Type)                | Each            |
| Rubrail (Type)                           | Linear Foot     |
| BR-GR Attachment (Type)                  | Each            |
| Drill Hole                               | Each            |
| (Type) Plate (Standard)                  | Each            |
| Realign Post                             | Each            |
| Steel Tube (Standard)                    | Each            |
| (Type) Assembly (Standard)               | Each            |
| Cable Assembly & Anchor Plate (Standard) | Each            |
| End Post Caps (Standard)                 | Each            |
| Hook Bolt (Standard)                     | Each            |
| (Type) Angle (Standard)                  | Each            |



|  |             |
|--|-------------|
| Re-Tension Existing Cable GR. (Standard)           | Each        |
| Soil Plates (Standard)                             | Each        |
| Pipe Sleeve (Standard)                             | Each        |
| Cable Anchor Bracket (Standard)                    | Each        |
| (Type) Strut (Standard)                            | Each        |
| Guardrail Extruder (Standard)                      | Each        |
| Impact Attenuator Cartridge                        | Each        |
| Nose Section                                       | Each        |
| Diaphragm  | Each        |
| Side Panel   | Each        |
| Frame  | Each        |
| Sand Barrel  | Each        |
| Reset Existing Guardrail                           | Linear Foot |
| Remove And Relocated Existing Guardrail (Standard) | Linear Foot |
| Reuse Existing Guardrail W-Beam (Standard)         | Linear Foot |

**GUIDELINES** — Use only when requested by the Regional Traffic Engineer for projects with project-specific complex CPMS. {2007-S512KG0 Work Zone}

[SP512-000100-00](#)

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**WORK ZONE TRAFFIC CONTROL MANAGEMENT**

January 14, 2008; Reissued July 12, 2016

**I. GENERAL DESCRIPTION**

This work shall consist of providing work zone traffic control management in strict compliance with the contract, plans, specifications, the Virginia Work Area Protection Manual and the Manual on Uniform Traffic Control Devices (MUTCD), including supervision of personnel and the installation, inspection, and maintenance of all traffic control devices on the project.

**II. REQUIREMENTS**

The Contractor shall assign a traffic control supervisor (TCS) to provide work zone traffic control management for the project. If the Contractor assigns more than one TCS to provide work zone traffic control management, a weekly schedule identifying who will be in charge of providing work zone traffic control management on a daily basis shall be submitted to the VDOT Area Construction Engineer by the Contractor.

The TCS shall have a set of traffic control plans and a copy of the edition of the Virginia Work Area Protection Manual specified on the plan sheet or in the contract readily available at all times.

**A. Certification**

Prior to commencing work requiring work zone traffic control management, the Contractor shall submit to the Area Construction Engineer a valid copy of the Traffic Control Supervisor certificate (wallet size card) issued by the American Traffic Safety Services Association (ATSSA), or another similarly accredited agency or firm approved by the Department.

The Department will accept the certification by ATSSA or any approved agency or firm only if all of the following minimum requirements are met:

1. Successful completion of an Intermediate or Advanced work zone traffic control training course approved by the Department.
2. Passing a written examination given by the agency or firm on the approved work zone traffic control training course.
3. A minimum of two years full-time field experience in work zone traffic control. The experience may be verified by the Department at its discretion.

The TCS certification shall be renewed every four years by the TCS taking and passing a recertification test. The recertification test shall be taken through ATSSA or an agency or

firm approved by the Department. Recertification shall be done in the fourth year prior to the expiration date.

## **B. Duties**

The TCS's main responsibility shall be work zone traffic control management. The TCS may have other assigned duties on the project as approved in writing by the Area Construction Engineer. The following is a listing of the TCS's primary duties:

1. The TCS(s) shall personally provide work zone traffic control management and supervision services at the project site.
2. The TCS(s) shall coordinate the training of flagging and signing personnel.
3. The TCS(s) shall supervise the flagging and signing personnel.
4. The TCS(s) shall coordinate all work zone traffic control operations for the duration of the contract, including those of subcontractors, utility companies, and suppliers, to ensure that all work zone traffic control is in place and fully operational prior to the commencement of any work.

The Department recognizes that the Contractor does not have direct control over the work zone traffic control operations of the utility companies. The coordination provided by the TCS when dealing with utility companies is for the purpose of coordinating concurrent utility work zone traffic control with any other construction/maintenance work zone traffic control to avoid conflicts.

5. The TCS(s) shall perform daily reviews of work zone traffic control when work activities are underway and document in the work zone traffic control daily diary activities taking place and any deviation from the traffic control plan, length and timing and mitigation of excessive traffic queues, and instances or conflicts or problems with the work zone traffic control and corrective actions taken. In addition, the TCS(s) shall perform weekly reviews of the work zone traffic control and document in detail using Forms TE-97001 and 97002. Every other detailed weekly review shall be performed during nighttime hours or as directed by the Area Construction Engineer.

The TCS shall inspect traffic control devices in use for compliance with the ATSSA Quality Standards for Work Zone Traffic Control Devices, the Road and Bridge Specifications, and the Virginia Work Area Protection Manual. The TCS shall provide for the immediate repair, cleaning, or replacement of traffic control devices not functioning as required to ensure the safety of the motorists and construction personnel.

The traffic control devices shall be inspected by the TCS during working and nonworking hours on a schedule approved in writing by the Area Construction Engineer, but as a minimum at the beginning and end of each work day or night and once during non-working weekends and holidays, and daily on restricted days due to inclement weather or during any work shutdown.

Traffic control devices in use longer than fourteen (14) days shall be inspected by the TCS at least once every other week during nighttime periods.

6. The TCS(s) shall prepare and submit statements concerning road closures, delays, and other project activities to the District Public Affairs office as required.

7. The TCS(s) shall be responsible for notifying the VDOT project Maintenance of Traffic (MOT) Coordinator or designee, of all accidents related to the project traffic control. The time and date of notification shall be documented in the daily diary.
8. The TCS(s) assigned to the project shall attend the preconstruction conference and any other meeting which involves traffic control.
9. The TCS(s) shall be responsible for the maintenance, cleanliness, and replacement of traffic control devices of the existing traffic control plan during working and non-working hours.

**C. Documentation - Traffic Control Diary**

The TCS shall maintain a project work zone traffic control diary in a bound book. The Contractor shall provide a sufficient number of diaries for his or her use.

The TCS shall keep the work zone traffic control diary current on a daily basis, and shall sign each daily entry. Entries shall be made in ink in a format approved by the Area Construction Engineer, and there shall be no erasures or white-outs. Incorrect entries shall be struck out and then replaced with the correct entry. Photographs may be used to supplement the written text.

The work zone traffic control diary shall, at all times, be available for inspection by the VDOT Maintenance of Traffic Coordinator and a copy of the diary shall be submitted to the MOT Coordinator on a weekly basis.

The work zone traffic control diary(s) shall become the property of the Department at the completion of the project. Failure to submit the diary shall result in the withholding of final payment until the diary(s) is submitted.

**D. Availability of TCS**

Traffic control management shall be provided under the supervision and direction of the TCS on a 24-hour-per-day basis throughout the duration of the project.

The TCS shall be available on every working day—on call at all times—and available upon the Area Construction Engineer's request during normal working hours and during other than normal working hours in the case of emergency. The provisions for availability of the TCS shall also be met during times of partial or full project suspension. Contact telephone numbers for the TCS(s) shall be provided to Department project personnel, the Area Construction Engineer, the Residency Administrator, and the region Smart Traffic Center prior to the Contractor commencing work requiring work zone traffic control management.

**E. Failure to Comply**

The Area Construction Engineer may suspend all or part of the Contractor's operation(s) for failure to comply with the approved "Traffic Control Plan" or failure to correct unsafe traffic conditions within 24 hours for critical items and 72 hours for non-critical items after such notification is given to the Contractor in writing.

In the event that the Contractor does not take appropriate action to bring the deficient work zone traffic control into compliance with the approved traffic control plan or fails to correct the unsafe traffic conditions, the Department may proceed with the corrective action using its own forces, equipment, and material to maintain the project and such

costs, plus 25 percent for supervisory and administrative personnel, will be deducted from the money owed to the Contractor for the project.

The Contractor shall not be relieved of the responsibility to provide work zone traffic control safety to the traveling public when a project is under full or partial suspension. When a project is under suspension due to the Contractor's failure to comply with this section, or when the contract is under liquidated damages, the Contractor shall continue to provide work zone traffic control management and no additional measurement or payment will be made.

If suspensions or partial suspensions are requested by the Contractor, the additional work zone traffic control management costs will be at the Contractor's expense.

### III. MEASUREMENT AND PAYMENT

**Work Zone Traffic Control Management** will be paid for at the contract lump sum price. This price shall be full compensation for furnishing 24 hour services as specified, including preparing and furnishing Work Zone Traffic Control diaries.

When work zone traffic control management is paid for by the lump sum, monthly partial payments for work zone traffic control management will be made on a pro rata basis for the estimate period being vouchered for payment.

In the event the contract time is authorized to be extended according to the provisions of Section 108.04 of the Specifications, the provisions of Section 104.02 of the Specifications will not apply. The payment for this item will be compensated on a daily basis by dividing the original lump sum bid amount by the number of calendar days in the original contract time and the resultant daily dollar value assigned to this item.

Payment will be made under:

| <b>Pay Item</b>                      | <b>Pay Unit</b> |
|--------------------------------------|-----------------|
| Work Zone Traffic Control Management | Lump Sum        |

**GUIDELINES** — This SP is only to be used for non-schedule projects with simple maintenance of traffic requirements where the contractor can easily determine what he will need and accurately estimate the cost. [Example: bridge rehab(s) where traffic is simply channeled to one side until work on the opposite side is completed. Also, guardrail, or pipe rehab(s) where maintenance of traffic items are simply moved along in a continuous operation as work moves throughout the full length the project until complete.] For bridge projects, each must be specified in the contract by structure no. And as lump sum payment. For guardrail, or pipe rehab(s) projects, the route and location(s) must be specified in the contract as lump sum payment. Contact Construction Division Spec Section for guidance in other uses and modifications. Do not add expensive and/or difficult to estimate items such as temporary signalization or portable changeable message signs (pcms) as items included in this cost. Such items must be handled with separate pay items in Section 512 as appropriate. {2007-S512MG0}

[SP512-000110-00](#)

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**SECTION 512—MAINTAINING TRAFFIC – NON-SCHEDULES (LUMP SUM)**

July 12, 2016

**SECTION 512** of the Specifications is amended as follows:

**Section 512.03—Procedures** is amended to include the following:

The Contractor shall submit a plan, sequenced with his plan of operations, to the Engineer for maintenance of traffic for his review prior to commencement of work. The plan shall be designed and implemented according to the *Virginia Work Area Protection Manual*, the *MUTCD* and the Department generated project-specific temporary traffic control plan or requirements provided in the Contract. When the Department provides a sequence of construction in the Contract, the plans or estimated quantities for maintenance of traffic items are for estimating purposes only.

**Section 512.04—Measurement and Payment** is replaced with the following:

**Maintenance of traffic** including flagger service, pilot vehicles, electronic arrows, warning lights, channelizing devices, traffic barrier service, traffic barrier service guardrail terminals, impact attenuator service, construction pavement markings, construction pavement message markings, temporary pavement markers, eradication of existing pavement markings, temporary detours, aggregate material, Type III barricades, construction signs, and truck mounted attenuators will be paid for on a lump sum basis as follows:

- (a) **Per structure** wherein, the lump sum price bid shall be for providing maintenance of traffic for a single structure identified in the Contract by its structure number. No measurement will be made.
- (b) **Per route and location(s)** wherein, the lump sum price bid shall be for providing maintenance of traffic for work at a specified location on a single specified route or, specified locations grouped together on a single specified route as one lump sum item. No measurement will be made as detailed in the Contract.

The Contractor's price bid shall include, but not be limited to; providing a person to meet the basic work zone traffic control and intermediate work zone traffic control requirements of Section 105.14 of the Specifications; furnishing, placing, maintaining, replacing, relocating, adjusting,

aligning, removing, flagger service, pilot vehicles, warning lights, electronic arrow, channelizing devices, traffic barrier service, traffic barrier service guardrail terminals, impact attenuator service, construction pavement markings, construction pavement message markings, temporary pavement markers, eradication of existing pavement markings, temporary detours, aggregate material, Type III barricades, construction signs, truck mounted attenuators, and all labor, material and equipment incidental to completing this work according to the *Virginia Work Area Protection Manual* and traffic engineering guidelines and principles. Site specific adjustments to maintenance of traffic operations specified by the *Virginia Work Area Protection Manual* and the *MUTCD* such as quantity, location, or spacing of traffic control devices within construction limits or on any approaches to the project, required by the Engineer to improve traffic operation or safety shall be considered an alteration in the work according to the provisions of Section 104.02 of the Specifications.

The Contractor will be paid 30 percent of the lump sum bid price upon satisfactory installation of the required maintenance of traffic items to commence construction operations and active prosecution of the work. Contingent upon active pursuit of the work, the Contractor will receive monthly payments for maintenance of traffic based on the daily dollar amount of the bid price for maintenance of traffic until 90 percent of the unit bid price is paid. The remaining 10 percent will be paid for after all maintenance of traffic items are removed at final acceptance of the Contract.

**Additional traffic control layout detail items** that are determined and authorized by the Engineer to be necessary to ensure the safety of the traveling public and are **in addition to the number required** by the traffic control layout details in the *VWAPM*, the drawings in herein, and the Contract, will be measured and paid for as follows, therefore, the provisions of Section 104.02 will not apply:

- **Flagger service** shall include furnishing certified flagger, paddles and safety equipment. Where additional flagger service is required, as determined and authorized by the Engineer, flagger service will be measured in hours and paid for at the rate of **\$15** per hour of use.

When flagger service is used for the Contractor's convenience, such as for ingress and egress of construction equipment or materials, payment will not be made. **Note:** The required flaggers described in the two flagging conditions in Section 512.03(h) of the Specifications will not be measured as a separate pay item but will be considered incidental to the traffic control operations described.

- **Pilot vehicles** shall include furnishing vehicles, necessary warning devices, drivers, fuel and maintenance. Where additional pilot vehicles are required as determined and authorized by the Engineer, such vehicles will be measured in hours of actual use and will be paid for at the rate of **\$23** per hour of employed use.
- **Electronic arrows** shall include furnishing arrow panels, fuel, maintenance, and a truck or trailer having flashing amber warning lights for mobility of the electronic arrow. Where additional electronic arrows are required as determined and authorized by the Engineer, electronic arrows will be measured in hours of actual use and will be paid for at the rate of **\$5** per hour for each hour of employed use.
- **Warning lights** for use on sign panels or installed on traffic barrier service will not be measured for separate payment. The cost thereof shall be included in the price for other appropriate pay items. This shall include maintaining, relocating, and removing.
- **Group 1 channelizing devices** will not be measured for separate payment. The cost thereof shall be included in the price for other appropriate pay items.



- **Group 2 channelizing devices**, not designated in the Contract as a separate pay item but where additional Group 2 channelizing devices are required as determined and authorized by the Engineer, these will be measured in days and paid for at the rate of **\$1** per day per device. This price shall include furnishing and maintaining devices, removing devices when no longer required and signs. When group 2 channelizing devices are moved to a new location or are removed and re-installed at the same location, they will be measured for separate payment. However, when group 2 channelizing devices are moved within the lane or from one lane to another by simply moving the devices across the lane edge line without removal from the roadway, no additional payment will be made.
- **Traffic barrier service** will not be measured for separate payment. The cost thereof shall be included in the price for other appropriate pay items. This shall include warning lights, delineators, barrier vertical panels, fixed object attachments, patching restraint holes, fixed object attachments used on traffic barrier service in locations where existing guardrail is in place including restoring existing guardrail to its original condition, maintaining, and removing traffic barrier service when no longer required.
- **Traffic barrier service guardrail terminal** will not be measured for separate payment. The cost thereof shall be included in the price for other appropriate pay items. This shall include furnishing, installing, moving to a new location as directed or approved by the Engineer, and removing when no longer needed.
- **Impact attenuator service** will not be measured for separate payment. The cost thereof shall be included in the price for other appropriate pay items. This shall include Impact attenuators used with barrier openings for equipment access.
- **Construction pavement markings** will not be measured for separate payment. The cost thereof shall be included in the price for other appropriate pay items. This shall include furnishing marking materials, preparing the surface, adhesive, installation, maintaining, removing removable markings when no longer required, inspections, and testing.
- **Construction pavement message markings** will not be measured for separate payment. The cost thereof shall be included in the price for other appropriate pay items. This shall include marking materials, preparing the surface, adhesive, maintaining, and removing removable markings when no longer required.
- **Temporary pavement markers** will not be measured for separate payment. The cost thereof shall be included in the price for other appropriate pay items. This shall include furnishing and installing pavement markers, surface preparation, adhesive, and maintaining and replacement of lost or damaged markers and removing the pavement markers and adhesive when no longer required.
- **Aggregate material** will not be measured for separate payment. The cost thereof shall be included in the price for other appropriate pay items. This shall include preparing the grade and furnishing, placing, maintaining, and removing material as required.
- **Type III barricades** will not be measured for separate payment. The cost thereof shall be included in the price for other appropriate pay items. This shall include furnishing and placing barricades, retroreflective sheeting, maintaining, relocating to new locations and removing when no longer required.
- **Construction signs** except those already required by the Contract (which includes those signs required by the VWAPM, the drawings herein, and such signs as **“Loose Gravel”**, **“Unmarked Pavement”**, and **“Low Shoulder”** that may be required by the Engineer to



ensure the safety of the traveling public due to the nature of the Contractor's operations) when determined and authorized by the Engineer, will be measured in square feet and paid for at **\$20** per square foot. This payment, based on square footage, shall be compensation for furnishing, placing, relocating, covering, uncovering, and removing the sign(s) when no longer needed for the duration of the project; multiple payments for the same sign used more than once will not be allowed. Such extra signs will consist of either a greater number of the standard signs already listed in the applicable traffic control layout details in the VWAPM, the drawings herein, and the Contract, or other signs included in the VWAPM but not originally considered applicable for use on this Contract.

- **Truck mounted attenuators**, not designated in the Contract as a separate pay item but where additional Truck Mounted Attenuators are required as determined and authorized by the Engineer, these will be measured in hours of actual use required, and will be paid for at the rate of **\$22** per employed hour. This price shall include furnishing the truck mounted attenuator, mounting vehicle, lights, electronic arrows, if allowed but not required, and maintenance. When electronic arrows are used at the option of the Contractor in lieu of the rotating or high intensity amber strobe light, the cost of the electronic arrow shall be included in the price for truck mounted attenuators. When electronic arrows are required and authorized as determined by the Engineer and not incidentally mounted (and permitted) on such truck mounted attenuator support vehicles, they will be paid for separately as specified herein.
- **Portable traffic control signal** will not be measured for separate payment. The cost thereof shall be included in the price for other appropriate pay items. This shall include portable traffic control signal equipment, installation, energy source, maintaining, adjusting, aligning, removing and relocating equipment.
- **Portable Changeable Message Signs (PCMS)**, not designated in the Contract as a separate pay item but where additional Portable Changeable Message Signs are required as determined and authorized by the Engineer, these will be measured in hours of actual use and paid for at the rate of **\$15** per hour for each hour of employed use. This price shall be full compensation for furnishing or mobilizing the unit(s) to the project, maintenance, operation, and repositioning the unit(s).

Payment will be made under:

| <b>Pay Item</b>                                | <b>Pay Unit</b> |
|--|-----------------|
| Maintenance of traffic (Structure No.)         | Lump sum        |
| Maintenance of traffic (Route and Location[s]) | Lump sum        |

**GUIDELINES** — Asphalt schedule projects only (includes surface treatment, slurry/latex, and plant mix). If, for a particular project, a price(s) is justified to be different than what is stated in this SP, a SPCN must be written that specifically overrides the cost for that particular item. When measurement and payment of any pay item in this SP is different than what is shown in the measurement and payment section in this SP, a SPCN for inclusion in the proposal must be submitted to and approved by the State Contract Engineer. This submission must include supporting documentation. {2007-[S512L11](#)}

[SP512-000120-02](#)

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**SECTION 512—MAINTAINING TRAFFIC  
(ASPHALT SCHEDULES)**

July 28, 2017

**SECTION 512—MAINTAINING TRAFFIC** of the Specifications is amended as follows:

**Section 512.03(a) Temporary (Construction) Signs** is amended to replace the ninth paragraph with the following:

When a portable sign stand is used to mount a temporary STOP (R1-1) sign, YIELD (R1-2) sign, EXIT OPEN (E5-2) sign, EXIT CLOSED (E5-2a) sign, EXIT (E5-V1) sign or TURN LANE (M4-V8L) sign, the sign shall be mounted at least 7 feet from the pavement surface to the bottom of the sign on. For long term stationary projects, these signs shall be post mounted.

**Section 512.03(b) Flagger Service** is amended to include the following:

The Contractor shall have no less than one flagger each at the beginning and ending of each work site. The Contractor shall also have flaggers at all roadway intersections within the work site, as required by the VWAPM. When the Engineer determines additional flaggers are necessary at the work site, the Contractor shall furnish them. On a divided highway the Engineer will instruct the Contractor where flaggers shall be stationed.

Radio communications shall be used between flaggers unless all flaggers have clear, unobstructed line of sight with each other at all times.

**Section 512.03(d) Pilot Vehicles** is amended to include the following:

Pilot vehicles shall be used on all roads where modified seal treatments, seal treatments using latex modified emulsified asphalt (CRS-2L) and other seal treatments on roads having more than 49 ADT are being placed, unless otherwise directed by the Engineer.

Radio communication shall be used between all pilot vehicles and flaggers.

Section 512.03(k)1 Type A or B Pavement Markings is replaced with the following:

**Type A pavement markings** (temporary paint) shall be used where the roadway is to be resurfaced before changes in the traffic pattern or where pavement is to be demolished and traffic patterns will not change before demolition.

Type A-temporary paint, or Flexible Temporary Pavement Markers (FTPMS) used in lieu of Type A-temporary paint, shall be in accordance with the Special Provision for Pavement Markings and Markers included in the Contract.

**Section 512.03(l) Eradicating Pavement Markings** is amended to replace the first sentence of the second paragraph with the following:

The Contractor shall perform eradication by grinding, blasting, hydroblasting, or a combination thereof.

**Section 512.03(q) Type 3 Barricades** is amended to add the following:

When closing sidewalks with Type 3 barricades, the barricades shall be wide enough to cover the width of the sidewalk.

**Section 512.03(s) Portable Changeable Message Sign (PCMS)** is amended to replace the fifth paragraph with the following:

During emergency situations the Contractor shall make every effort to deploy units it has assigned to the project. However, if the number of units shown on the plans are already in operation and cannot be reassigned to handle the emergency situation, the Contractor shall immediately contact the Engineer. The Engineer will then make a determination as to the most expeditious manner in which to deploy units for emergency use, whether by using Department supplied units, directing the Contractor to reassign those units he has committed to the project, or having the Contractor supply additional units as needed. In these circumstances, the cost for such additional units that are authorized by the Engineer shall be paid for according to Section 512.04 of this Special Provision.

**Section 512.03(y) Temporary pedestrian accommodations** is inserted as follows:

**Temporary pedestrian accommodations:** The Contractor shall close all pedestrian pathways that cross a milled or performance-planed surface in accordance with the VWAPM. The Contractor shall establish pedestrian detours where determined practical by the Engineer. Pedestrian pathways shall be re-opened when that segment of highway is opened to vehicles.

**Section 512.04 Measurement and Payment** is replaced with the following:

**Maintenance of Traffic** will be paid for at the lump sum price per schedule as designated in the Contract. Such traffic control shall include furnishing, erecting, installing or employing, and maintaining traffic control devices.

Payment for traffic control will be made incrementally as a percentage on the lump sum price based on the percentage of tonnage or square yards (as with slurry seal, latex emulsion, and surface treatment contracts) and placed on the schedule for the payment period covered by the appropriate progress estimate.

Additional traffic control layout detail items that are determined and authorized by the Engineer to be necessary to ensure the safety of the traveling public and are **in addition to the number required** by the traffic control layout details in the VWAPM and the Contract, will be measured and paid for as follows; therefore, the provisions of Section 104.02 of the Specifications will not apply:

- **Pilot vehicles** shall include vehicles, drivers, necessary warning devices, fuel and maintenance. Where additional pilot vehicles are required as determined and authorized by the Engineer, such vehicles will be measured in hours of actual use and will be paid for at the rate of **\$30** per hour of employed use.
- **Electronic arrows** shall include arrow boards, fuel, maintenance, and a truck or trailer having flashing vehicle warning lights. Where additional electronic arrows beyond those required by the VWAPM are determined to be necessary and authorized by the Engineer, electronic arrows will be measured in hours of actual use and will be paid for at the rate of **\$5** per hour for each hour of employed use.
- **Warning lights** for use on sign panels or installed on traffic barrier service will not be measured for separate payment. The cost thereof shall be included in the price for other appropriate pay items. This shall include maintaining, relocating, and removing warning lights as needed.
- **Group 1 channelizing devices** will not be measured for separate payment. The cost thereof shall be included in the price for other appropriate pay items.
- **Group 2 channelizing devices** shall include furnishing and maintaining devices, removing devices when no longer required, and signs. Where additional Group 2 channelizing devices beyond those required by the VWAPM are determined to be necessary and authorized by the Engineer, those Group 2 channelizing devices will be measured in days and paid for at the rate of **\$1** per day per device. . When group 2 channelizing devices are moved to a new location or are removed and re-installed at the same location, the relocated devices will be measured for separate payment. However, when Group 2 channelizing devices are moved laterally within the lane or from one lane to another or from a shoulder into a lane by simply moving the devices across the lane edge line without removal from the roadway, no additional payment will be made.
- **Traffic barrier service** will not be measured for separate payment. The cost thereof shall be included in the price for other appropriate pay items. This shall include warning lights, delineators, barrier vertical panels, fixed object attachments, patching restraint holes, fixed object attachments used on traffic barrier service in locations where existing guardrail is in place including restoring existing guardrail to its original condition, maintaining, and removing traffic barrier service when no longer required.
- **Traffic barrier service guardrail terminal** will not be measured for separate payment. The cost thereof shall be included in the price for other appropriate pay items. This shall include furnishing, installing, moving to a new location as directed or approved by the Engineer, and removing when no longer needed.
- **Impact attenuator service** will not be measured for separate payment. The cost thereof shall be included in the price for other appropriate pay items. This shall include Impact attenuators used with barrier openings for equipment access.
- **Aggregate material** will not be measured for separate payment. The cost thereof shall be included in the price for other appropriate pay items. This shall include preparing the grade and furnishing, placing, maintaining, and removing material as required.
- **Type 3 barricades** will not be measured for separate payment. The cost thereof shall be included in the price for other appropriate pay items. This shall include barricades with retroreflective sheeting, sandbags, maintaining, relocating to new locations, and removing the type 3 barricades when no longer required.

- **Pedestrian barricade devices** will not be measured for separate payment. The cost thereof shall be included in the price for other appropriate pay items. This shall include maintaining, sand bag ballast, relocating to new locations, and removing when no longer required.
- **Temporary (construction) signs** shall include furnishing, installing, maintaining, covering, uncovering, relocating, and removing the following: temporary signs, temporary sign panels, sign panel bracing, sign supports, hardware, delineators, and flags.

When additional temporary signs beyond those required by the VWAPM are determined to be necessary and authorized by the Engineer, the additional signs will be paid for at **\$20** per square foot..

- **Truck mounted attenuators** shall include the truck mounted attenuator, mounting vehicle, warning lights, vehicle-mounted signs, electronic arrow boards used in lieu of vehicle warning lights,, and maintenance. Electronic arrow boards required on truck-mounted attenuator support vehicles in moving or mobile operations will be measured and paid for separately.

When truck-mounted attenuators beyond those required by the Contract are determined to be necessary and authorized by the Engineer, these will be measured in hours of actual use required, and will be paid for at the rate of **\$22** per employed hour. When electronic arrows are required and authorized as determined by the Engineer and not incidentally mounted (and permitted) on such truck mounted attenuator support vehicles, they will be paid for separately as specified herein.

- **Portable Changeable Message Signs (PCMS)**, not designated in the Contract as a separate pay item but where additional Portable Changeable Message Signs are required as determined and authorized by the Engineer, these will be measured in hours of actual use and paid for at the rate of **\$15** per hour for each hour of employed use. This price shall include mobilizing the units to the project, maintenance, operation, and repositioning the units.

**Flagger Service** will be measured in hours of operations, per flagger, as required by Section 512.03(b) and authorized or approved by the Engineer, and will be paid for at the Contract hour price. This price shall include paddles, safety equipment, and required communication gear.

**Automatic Flagger Assistance Devices (AFADs)** may be used instead of Flagger Service when approved by the Engineer, at no additional cost to the Department. This price shall include furnishing or mobilizing the AFAD to the project, services of the trained AFAD operators, channelizing devices, safety equipment, fuel, necessary warning devices, maintenance, and removal. Separate payment for the certified flagger operating the AFAD will not be made.

**Portable Temporary rumble strips (PTRS)** will be measured in units of each and will be paid for at the contract unit price per each array consisting of three rumble strips. This price shall include installing, maintaining, removing, and relocating throughout the life of the Project.

**Eradication of existing pavement markings** will be measured in linear feet of a 6-inch width or portion thereof as specified herein. Widths that exceed a 6-inch increment by more than 1/2 inch will be measured as the next 6-inch increment. Measurement and payment for eradication of existing pavement markings specified herein shall be limited to linear pavement line markings. Eradication of existing pavement markings will be paid for at the contract unit price per linear foot. This price shall include removing linear pavement line markings, cleanup, and disposing of residue.

**Eradication of existing nonlinear pavement markings** will be measured in square feet based on a theoretical box defined by the outermost limits of the nonlinear pavement marking as defined in

Standard PM-10 of the *VDOT Road and Bridge Standards*. Nonlinear pavement markings shall include but not be limited to stop lines, arrows, images, symbols, and messages. Eradication of existing nonlinear pavement markings will be paid for at the contract unit price per square foot. This price shall include removing nonlinear pavement markings, cleanup, and disposing of residue.

**Basic Work Zone Traffic Control** – Separate payment will not be made for providing a person to meet the requirements of Section 105.14 of the Specifications. The cost thereof shall be included in the price of other appropriate pay items.

**Intermediate Work Zone Traffic Control** - Separate payment will not be made for providing a person to meet the requirements of Section 105.14 of the Specifications. The cost thereof shall be included in the price of other appropriate pay items.

**Temporary (construction) pavement markings**, including FTPMs used in substitution of temporary pavement markings, will be measured and paid for in accordance with the Special Provision for Pavement Markings and Markers .

Payment will be made under:

| <b>Pay Item</b>                                    | <b>Pay Unit</b> |
|--|-----------------|
| Flagger Service                                    | Hours           |
| Maintenance of Traffic (Schedule)                  | Lump Sum        |
| Eradication of existing pavement marking           | Linear foot     |
| Eradication of existing nonlinear pavement marking | Square foot     |
| Portable Temporary Rumble Strips                   | Each            |

**GUIDELINES** — For use on all projects requiring the use of Portable Temporary Rumble Strips according to [IIM-TE-386](#). DO NOT use until the first July 2019 advertisement.

[SP512-000130-00](#)

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**EMPLOYMENT OF PORTABLE TEMPORARY RUMBLE STRIPS**

January 24, 2019

**I. Description**

This work shall consist of employing Portable Temporary Rumble Strips (PTRSs) in support of work-zone flagging operations at locations or times designated herein, on the Plans, in the VWAPM, or as directed by the Engineer. A PTRS is a transverse rumble strip that consists of intermittent, narrow, transverse areas of rough-textured or slightly raised or depressed surface that extends across the travel lane to alert drivers to unusual vehicular traffic conditions. PTRSs are not required during emergency work, or during rain, snow, or icy weather conditions, as determined by the Engineer.

**II. Materials**

**PTRSs** shall be made of rubber or recycled rubber and the color shall be orange or black. Colors shall not be mixed within one work zone. It shall have a recessed, raised or grooved design to prevent movement and hydroplaning. A PTRS shall consist of hinged segments of equal length that prevent separation while in use. The combined usable length of the PTRS shall be between 10 feet 9 inches and 11 feet. The width of the PTRS shall be 12 to 13 inches. The maximum height of the PTRS shall be 1 inch; and the minimum height shall be 5/8 inch. The weight of each roadway strip shall be a minimum of 100 lbs. to a maximum of 120 lbs. The leading and departing edge taper shall be between 12 and 15 degrees. Each roadway length of the PTRS shall have either a minimum of one cutout handle in the end of the rumble strip, or an interlocking segment which can be used as a handle for easy deployment or removal.

**III. Requirements for Employment**

PTRSs shall be employed in accordance with the VWAPM when all of the following conditions are met:

- Work operations involving flaggers occurring on a two-lane roadway during daylight hours
- The duration of the activity at a location is greater than 3 hours but less than 72 consecutive hours
- Existing speed limit is 35 MPH or greater
- Existing roadway has a marked centerline

PTRSs shall not be used on loose gravel, bleeding asphalt, heavily rutted pavements as determined by the Engineer, or unpaved surfaces.

PTRSs shall be installed in advance of horizontal curves if determined necessary for driver visibility by the Engineer. PTRSs installed at the beginning of a non-stationary flagging operation in accordance with the VWAPM will not require repositioning as the work advances.

**IV. Installation and Employment**



The manufacturer of the PTRS shall provide a signed affidavit that states the PTRS is able to withstand being run over by an 80,000 pound vehicle and retain its original placement with minor incidental movement of 6 inches or less during an 8 hour deployment. Incidental movement of the PTRS shall be parallel with other rumble strips in an array but shall not move so that its placement compromises the performance and safety of the other rumble strips, workers or the traveling public. PTRS shall be used in arrays of three rumble strips at the center to center spacing shown on the Typical Traffic Control figure in the VWAPM, placed transversely across the travel lane, without intruding into the opposing travel lane. . The PTRS shall be installed without the use of adhesives or fasteners.

The PTRS shall be repositioned ahead of queueing traffic if directed by the Engineer.

**V. Measurement and Payment**

**Portable Temporary Rumble Strip Array** will be measured in days per array and will be paid for at the Contract day price. This price shall include installing, maintaining, removing devices when no longer required, and relocating throughout the day.

Payment will be made under:

| <b>Pay Item</b>                       | <b>Pay Unit</b> |
|---------------------------------------|-----------------|
| Portable Temporary Rumble Strip Array | Day             |



**GUIDELINES** – Paving projects that will or may require police assistance during paving operations. {2007-S512N00}

[SP512-000310-00](#) [formerly SP512-030100-00]

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**POLICE ASSISTANCE FOR PAVING OPERATIONS**

November 6, 2013c; Reissued July 12, 2016

**SECTION 512—MAINTAINING TRAFFIC** of the Specifications is amended as follows:

**SECTION 512.03—PROCEDURES** is amended to include the following:

- (z) **Police Assistance for Paving Operations:** Police assistance may be required at times for paving operations in work zones during the life of this contract to ensure the safety of the traveling public and construction personnel. The Contract will specify where police assistance is required according to the following:
1. **Interstate Routes:** Where the Contract specifies State Police assistance is required, VDOT will notify the State Police contact person. VDOT will pay for the uniformed police officer(s).
  2. **Major Primary Routes (Traffic Groups XII and above):** Where the Contract specifies police assistance is required, VDOT will notify the police contact person. VDOT will pay for the uniformed police officer(s).
  3. **Other Primary Routes:** The Contract will list the locations where police assistance is required and whether it is the Contractor's responsibility or VDOT's responsibility to notify the police contact person and pay for the uniformed police officer(s).
  4. **Secondary Routes:** The Contractor will have the option whether to flag intersections or use uniformed police officers if this is not specified otherwise in the Contract. If the Contractor determines police assistance is necessary, he shall obtain this assistance at no cost to VDOT.

Where VDOT determines police assistance will be required on specific routes, the Contract will list the locations and whether it is the Contractor's responsibility or VDOT's responsibility to notify the police contact person and pay for the uniformed police officer(s). If the Contract does not state the responsible party, VDOT will be responsible.

If during the life of this contract the Engineer determines that police assistance is necessary at a specific location not listed in the Contract, VDOT will notify the police contact person. VDOT will pay for the uniformed police officer(s).

If during the life of this contract the Contractor determines that police assistance is necessary at a specific location not listed in the Contract, he shall notify the police contact person. The Contractor shall obtain this assistance at no cost to VDOT.

**GUIDELINES — Projects requiring cold planing (milling) of asphalt pavement. {2007-S515B03}**

[SP515-000100-00](#)

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**COLD PLANING (MILLING) ASPHALT CONCRETE OPERATIONS**

July 12, 2016

**I. DESCRIPTION**

This provision shall govern cold planing (milling) asphalt concrete operations in preparation for pavement repair and/or pavement overlay. Cold planing of asphalt concrete pavement shall be performed according to Section 515 of the Specifications and the requirements herein.

**II. GENERAL PROCEDURES**

The Contractor is permitted to perform either regular pavement planing or performance pavement planing to the Contract specified depth or as directed by the Engineer in order to provide a uniform sound substrate prior to paving roadways designated in the schedules according to Section 315 of the Specifications, the requirements herein, or elsewhere in the Contract.

**A. Regular and Performance Planing**

The following general conditions apply to either type of cold pavement planing:

Limitations of operations for planing shall be performed according to Section 108.02 of the Specifications, other Contract specific requirements, and as specified herein.

Where the depth of planing designated in the Contract or directed by the Engineer is 2 inches or less, the Contractor shall have the option of planing the abutting lane or shoulder on alternate days or squaring up the planing operation at the end of each work shift. However, abutting lanes or shoulders shall be planed and squared up regardless of planing depth prior to holidays or any temporary shutdowns.

Where the depth of planing designated in the Contract or directed by the Engineer is greater than 2 inches in the Contract, the Contractor shall square up the planing operation at the end of each workday or plane adjacent lanes including abutting shoulders within the same day for the length of that day's planing operation.

The Contractor will not be permitted to plane a portion of the width of a travel lane, ramp, loop or shoulder and leave it unpaved and open to traffic. Abutting shoulders may also be planed during single and multiple lane planing operations. Planing operations shall be planned and performed to maintain positive drainage according to Section 315.05(c) of the Specifications.

In the event an emergency or an unforeseen circumstance such as equipment failure or breakdown occurs during the Contractor's operations and such emergency or unforeseen circumstance within his control prevents the Contractor from squaring up

the planed surface on adjacent lanes prior to a holiday or temporary shutdown, any additional signage, traffic control devices or temporary markings or markers required to protect the traveling public shall be the Contractor's responsibility and at his expense.

Where uneven pavement joints exist either transversely or longitudinally at the edges of travel lanes, the Contractor shall provide advance warning signage and traffic control devices to inform the traveling public according to the details provided in the Contract for the scope of operation he is performing. The cost for such advance warning signage and traffic control devices shall be included in the cost of other appropriate items

Where appropriate according to Contract requirements and site specific conditions, the existing asphalt concrete layers shall be planed to permit the transition of the top course of the asphalt concrete overlay according to the details of the ACOT-1 Standard. Any sub-courses termination may be notched into the existing pavement or blended with the next course of pavement.

**B. Performance Planing Only Limitations:**

When the Contractor elects to performance plane on roadways specified to be planed to a depth of 2 inches or less, the Contractor shall performance plane only that amount of pavement which can be paved back within the time allowance specified herein for completion of planing the roadway or portion of roadway. The Contractor is required to perform pavement surface testing as specified in Section 515.04 of the Specifications to verify the Contractor has achieved the acceptable surface texture specified in that Section prior to opening the performance planed surface to traffic. Additional traffic control devices and signage required for the extended pave back time allowance specified herein for performance planing operations versus the traffic control devices required for the pave back operations for regular pavement planing operations specified herein shall be at the Contractor's expense.

**III. ROADWAY CLASSIFICATION LIMITATIONS**

The following restrictions, based on the type of roadway, shall apply:

**A. All Interstates and other Limited Access Roadways including Ramps and Loops posted at 55 Mph or Greater**

**1. Regular planing and performance planing in multiple lanes**

The Contractor shall plan, execute and maintain pavement planing operations to avoid trapping water on the roadway. On roadways with a combination of 3 or 4 lanes and shoulders (i.e. 2 travel lanes and 1 or 2 shoulders in one direction) where the travel lanes and shoulders will not be completely planed to drain prior to the start of paving operations, planing shall be performed so that water will not pond on the travel surface. When the Contract does not include the removal of the shoulder at the specific roadway planing location, the Contractor shall cut drainage outlets through the shoulder at locations the Engineer designates (excluding curb and gutter sections) for those portions of the planed roadway that are to be opened to traffic. The Contractor shall restore the shoulders to their original grades once paving operations are completed, unless otherwise directed by the Engineer. The cost for cutting and restoring roadway shoulders shall be included in the price bid for other items of work.

On roadways with a combination of 5 or more lanes and shoulders (i.e. 3 or more travel lanes and 2 shoulders in one direction, the extent to which the interior lanes shall be planed will be such that the planed portions can be repaved within the work-zone time limits unless provisions are made to mitigate the ponding of water (i.e., milling adjacent lane(s) and shoulders or cutting drainage outlets through the shoulder).

Ramps and exits shall be planed in such a manner that an even longitudinal joint (elevation difference of greater than 1 inch) is not left for vehicles to cross within the posted speed limits in a “run on” situation. To prevent this, the Contractor can plane ramps and exits to the extent that the joint line between new and existing pavement crossed by traffic is traversed at an angle close to ninety (90) degrees per the ACOT-1 Standard for temporary transverse joints or can perform tapered planing along the ramp/exit longitudinal joint to provide a smooth transition for vehicles to cross, or can square up ramp or exit pavement with the adjacent mainline lane at the time of installation.

The following additional restrictions will apply to roadways where **regular pavement planing** is applicable:

- The Contractor will be limited in the case of regular pavement planing, whether in a single lane or multiple lane operation, to only that amount of pavement that can be paved back within 24 hours of completion of planing that roadway or portion of roadway.
- The Contractor shall pave all roadways, ramps and loops planed during the week before that weekend.
- On roadways with a combination of 4 or more lanes and shoulders (i.e. 2 or more travel lanes and 2 shoulders) in one direction, all travel lanes must be paved back before the weekend. Up to two thousand five hundred (2,500) feet of shoulder may be planed and left over the weekend provided the portion of planed shoulder left unpaved over the weekend is paved within 24 hours after the end of the weekend period.

The following additional restrictions will apply to roadways where **performance pavement planing** is planned by the Contractor:

- Performance planing may be performed in multiple lanes across the entire widths of the lanes up 4 miles of travel lane unless otherwise stated in the Contract. Performance planed travel lanes surfaces must be paved back within 96 hours from the end of the performance planing operation
- Where the Contractor decides to performance plane multiple lanes, the Contractor shall be responsible for furnishing and installing advance warning signage and traffic control devices to inform the traveling public according to the details provided in the Contract. Temporary pavement markings and markers used for lane demarcation on performance planed surfaces will be according to Section 704.04 of the Specifications and the *Special Provision for SECTION 704—PAVEMENT MARKINGS AND MARKERS* included in the Contract. The cost for such warning devices and advance signage required by multiple lane planing operations shall be included in the cost of other appropriate items unless otherwise specified in the Contract by a specific pay item(s) for separate payment.

**B. Non-Limited Access Roadways with an ADT of 10,000 or Greater (Traffic Group XV and above) and a Posted Speed Limit of 45 Mph or Greater**

**1. Regular planing and performance planing in multiple lanes**

The Contractor shall plan and proceed with the pavement planing operation to avoid trapping water on the roadway. On roadways with a combination of 3 or 4 lanes and shoulders (i.e. 2 travel lanes and 1 or 2 shoulders) in one direction where the travel lanes and shoulders will not be completely planed prior to the start of paving operations, planing operations shall be performed so water will not pond on the travel surface. When the Contract does not include the removal of the shoulder, the Contractor shall cut drainage outlets through the shoulder at locations the Engineer designates, excluding curb and gutter sections, for those portions of the planed roadway that are to be opened to traffic. The Contractor shall restore the shoulders to their original grades once paving operations are completed, unless otherwise directed by the Engineer. The cost for cutting and restoring the roadway shoulder shall be included in the price bid for other items of work.

On roadways with a combination of 5 or more lanes and shoulders (i.e. 3 or more travel lanes and 2 shoulders in one direction), the extent of pavement planing on the interior lanes shall be such that the planed surface can be repaved within the timeframe of the work-zone time limits unless provisions are made to mitigate the ponding of water (i.e. planing adjacent lane(s) to mitigate the ponding of water).

The following additional restrictions will apply to roadways where **performance pavement planing** is planned by the Contractor:

- Performance planing may be performed in multiple lanes across the entire widths of the lanes up a total of 4 miles of travel lane unless otherwise stated in the Contract.
- Performance planed travel lane surfaces must be paved back within 10 days from the start of the performance planing operation.
- Where the Contractor decides to performance plane multiple lanes, the Contractor shall be responsible for furnishing and installing advance warning signage and traffic control devices to inform the traveling public according to the details provided in the Contract. The cost for such warning devices and advance signage required by multiple lane planing operations shall be included in the cost of other appropriate items unless otherwise specified in the Contract by a specific pay item(s) for separate payment. Temporary pavement markings required by such operations will be handled according to Section 704.04 and the *Special Provision for **SECTION 704—PAVEMENT MARKINGS AND MARKERS*** included in the Contract.

The following additional restrictions will apply to roadways where **regular pavement planing** is applicable:

- The Contractor will be limited whether in a single lane or multiple lane operation, to only that amount of pavement that can be paved back within 24 hours of completion of planing that roadway or portion of roadway.

- The Contractor shall pave all roadways that have been regular planed during the week before that weekend.
- On roadways with a combination of 4 or more lanes and shoulders (i.e. 2 or more travel lanes and 2 shoulders in one direction, all travel lanes must be paved back before the weekend. Up to two thousand five hundred (2,500) feet of shoulder may be planed and left over the weekend provided the portion of planed shoulder left unpaved over the weekend is paved within 24 hours after the end of the weekend period.

### C. All Other Roadways

#### 1. Regular Pavement Planing (single or multiple lanes)

If the Contractor elects to perform regular pavement planing the Contractor will be permitted to leave up to two miles of travel lane open to the traveling public provided such planing (milling) is performed across the entire lane width. This same total length restriction will apply in cases where multiple-lane regular pavement planing is permitted in the Contract or allowed by the Engineer. The Contractor will be limited in the case of regular pavement planing, whether in a single lane or multiple lane operation, to only that amount of pavement that can be paved back within 96 hours of completion of planing that roadway or portion of roadway.

#### 2. Performance Pavement Planing

When the Contractor elects to performance plane roadways specified to be planed to a depth of 2 inches or less, the Contractor shall plane only the amount of pavement that can be paved back within 14 calendar days of completion of planing that roadway or portion of roadway. The Contractor is required to perform pavement surface testing as specified in Section 515.04 of the Specifications to verify the Contractor has achieved the acceptable surface texture prior to opening the performance planed surface to traffic. The additional traffic control devices and signage required for the 14 calendar day pave back operation allowance for performance planing operations shall be at the Contractor's expense.

Temporary pavement markings required by such operations will be handled according to Section 704.04 and the *Special Provision for **SECTION 704—PAVEMENT MARKINGS AND MARKERS*** included in the Contract.

Roadways on which the roadway edges (i.e. edge milling) are to be planed shall be paved back within 10 days from the completion of the planing operation.

## IV. MEASUREMENT AND PAYMENT

Measurement and payment will be according to Section 515.05 of the Specifications.

**GUIDELINES — Use when requested by the Designer. {2007-S500A00}**

[SP516-000100-00](#)

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**REMOVAL OR CONNECTION OF ASBESTOS CEMENT PIPE**

November 7, 2005cc; Reissued July 12, 2016

**I. GENERAL**

The Contractor is advised that the existing pipe on this project that is scheduled for removal or for connection may contain asbestos. The Contractor shall assume any pipe designated on the plans as asbestos cement (A/C) pipe contains asbestos in a quantity sufficient to be a health hazard if found in a friable condition or made friable during removal or connection. A/C pipe is a “facility component” as defined in 40 CFR 61.141. The U.S. Environmental Protection Agency and the Virginia Department of Labor and Industry consider A/C pipe to be Category II non-friable asbestos-containing materials. Disposal of A/C is regulated by the Virginia Department of Environmental Quality.

**II. PROCEDURES**

Modifications of, connections to, or removal of A/C pipe that involve breaking, crushing, saw-cutting or abrading shall comply with the VDOT *Special Provision for Asbestos Removal for Road Construction Projects*.

This Special Provision applies to all removal modifications to A/C pipe where the A/C pipe is removed intact by disconnecting at the slip (bell) joint (with no breakage) and where any subsequent connections are made without disturbing the integrity of the existing pipe. If at any time the Contractor determines that the pipe cannot be removed without breakage, abrading, cutting or crushing, the Contractor shall cease work and resume operations according to the VDOT *Special Provision for Asbestos Removal for Road Construction Projects*.

The Contractor shall spray and saturate pipe joints with amended water prior to disturbing any pipe.

No “T”-type connections shall be made to existing pipe by internally piercing or breaking existing potable water pipe without pre- and post-connection monitoring for asbestos fibers in water downstream of the connection. Any results that exceed 7 million fibers per liter (7MFL) shall be reported immediately to the Engineer.

VDOT, at its discretion, may employ an asbestos project monitor to observe and monitor removal operations of intact A/C pipe. If such monitoring determines that asbestos fibers are being released above the applicable action level or the pipe becomes friable, the Contractor shall cease operations on the pipe and take appropriate corrective action to comply with all applicable federal, state, and local regulations.

Removal, connection, hauling, and disposal shall be performed according to 40CFR 61.140-61.157 (Subpart M-National Emission Standard for Asbestos), with 29 CFR 1926.1101 (Subpart Z-Toxic and Hazardous Substances), and with all state, regional, and local standards. The



Contractor shall ensure that the intact A/C pipe sections remain intact during loading and hauling of the material to the licensed disposal facility. The Contractor shall double bag or wrap A/C pipe in plastic and seal and mark the materials. The Contractor shall only dispose of the material in a permitted landfill that provides daily soil cover and only after the Contractor has provided notification to the landfill that the material is non-friable/non-regulated ACM. Within 35 days of the deposit of the waste in the landfill, the Contractor shall submit to the Engineer a copy(s) of the certificate of disposal from the landfill. VDOT must receive all acceptable waste manifests/certificates of disposal prior to making payment to the Contractor.

With approval of the Engineer, abandoned portions of A/C pipe may be left in place of origin and backfilled provided that the pipe is not crushed; however, pipe that is scheduled to be abandoned may not be removed and re-deposited. With approval of the Engineer, the Contractor may pump grout into buried lines that are no longer in service to maintain the structural weight bearing capacity of the area. No on-site burial of crushed A/C pipe will be allowed.

### III. MEASUREMENT AND PAYMENT

Connection to existing A/C pipe will be measured and paid for at the contract unit price per each for each connection.

Removal of existing A/C pipe (without disturbing integrity of pipe) will be measured and paid at the contract unit price per linear foot for the length of pipe actually removed (back to the closest joint).

Payment for these items shall include all material, labor, and equipment necessary for excavation, disassembly, tie-ins, backfill, line abandonment including grout, documentation and disposal of A/C pipe.

Payment will be made under:

| <b>Pay Item</b>                 | <b>Pay Unit</b> |
|---------------------------------|-----------------|
| Connection to Existing A/C Pipe | Each            |
| Remove Existing A/C Pipe        | Linear Foot     |



**GUIDELINES** — Use on projects involving tree removal, identified by the District Environmental Manager, where protection of bat species is required.

[SP522-000130-01](#)

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**TREE REMOVAL TIME OF YEAR RESTRICTION FOR ROOSTING BAT HABITAT**

March 27, 2018

**I. Background**

This project is in an environmentally sensitive area for bat species protected under the Endangered Species Act (16 USC 1531 et seq., hereinafter “the Act”) and the Virginia Endangered Species Act (29.1-563 et seq.). The removal of trees greater than or equal to 3 inches diameter at breast height (DBH) is restricted, as it may result in adverse impacts to bat species by removing roosting habitat during summer months, and is prohibited during the Time of Year Restriction period.

Tree removal activities associated with this project shall conform to Section 107.01 of the Specifications, the Act, and this Special Provision.

**II. Requirements**

1. **Time of Year Restriction.** No trees greater than or equal to 3 inches DBH shall be removed from **DATE** to **DATE** unless otherwise allowed by the Engineer as approved by the District Environmental Manager.
2. Unless other restrictions exist in the Contract prohibiting tree removal, the Contractor is allowed to proceed with tree removal operations outside of the Time of Year Restriction in accordance with Section 601 of the Specifications and within the established clearing limits as shown on the plans, and as directed by the Engineer.
3. **Notification and Cessation of Work**

If the Contractor does not comply with this requirement, the work may be suspended and administered in accordance with Section 108 of the Specifications.

**III. Measurement and Payment**

The cost of complying with this Specification shall be included in the contract unit price of other items.

**GUIDELINES** — Use when requested by the District Environmental Manager. Fill in the yellow highlighted section with project specific information.

[SP522-000160-00](#)

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**PROTECTION OF LOGGERHEAD SHRIKE**

February 27, 2019

**I. Description**

The protected loggerhead shrike may nest in close proximity to this project. The Contractor shall take protective measures described herein to protect nesting behaviors.

**II. Requirements**

A Time-of-Year Restriction (TOYR), from April 1st to July 31<sup>st</sup>, applies to tree removal and clearing and grubbing activities **within the areas as designated on the Plans or from Station XXX+XX to XXX+XX.**

**III. Measurement and Payment**

No separate payment will be made for compliance with the requirements herein.

**GUIDELINES** — Use when requested by the Project Manager. Federal structure number must be filled in. If nests were not identified, insert "N/A".

[SP522-000170-01](#)

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**PROTECTION OF NESTING MIGRATORY BIRDS DURING BRIDGE MAINTENANCE**

June 27, 2019

**I. Description**

The Contractor shall take protective measures for nesting migratory birds as described herein for all structures included in this Contract.

**II. Requirements:**

Active nests of migratory birds were identified on Structure No. **XXXX (Federal Structure Number)**. A Time of Year Restriction (TOYR), from March 15 through August 15, applies to any activity that requires removal of any nests or contents on any structures included in this Contract. The Contractor may proceed with other work activities that do not result in removal of nests or contents during the TOYR.

Before beginning work on any structure where active nests have not been previously identified, the Contractor shall visually examine each site for evidence of migratory bird nesting. If a nest is observed on a structure, the Contractor shall immediately notify the Engineer and suspend work in the immediate vicinity of the nest until authorized to continue.

With approval from the Engineer, the Contractor may take actions to prevent birds from accessing former nests or building new ones. Actions to preempt nesting activities include, but are not limited to, the placement of netting, planking, and tarpaulins.

**III. Measurement and Payment**

No separate payment will be made for compliance with the requirements herein.

**GUIDELINES — Use when requested by the District Environmental Manager.**

**SP522-000190-00**

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**PROTECTION OF WOOD TURTLE**

June 19, 2019

**I. Description**

The Wood Turtle, a protected species, may occur in close proximity to this project. The Contractor shall implement the protective measures described herein.

**II. Requirements**

Prior to beginning work, the Contractor shall obtain the Virginia Department of Game and Inland Fisheries (VDGIF) Wood Turtle Field Observation Form and Wood Turtle Field Information Sheet, available on VDGIF's website, and clearly post copies of these documents at the construction site. Additionally, all staff working at the construction site shall attend a short briefing by the Department, lasting approximately 10 minutes, which consists of wood turtle identification, monitoring, and documentation requirements. The Contractor shall coordinate briefings through the District Environmental Manager or designee.

Time-of-Year Restrictions depend on whether project activities take place in streams or uplands. Contractors shall follow the appropriate restrictions, as presented below:

- **Instream work:** A Time of Year Restriction (TOYR) applies on all instream work from October 1 to March 31 with the exception of dewatering and other work within cofferdams, or as otherwise specified by the water quality permits issued for the project.

The Contractor shall install and remove cofferdams outside of the TOYR.

If wood turtles are found within the instream construction area, the Contractor shall stop work and immediately notify the Engineer. The Contractor shall make the site available and accessible for turtle relocation by the Department. Work shall not resume until the Engineer provides a written notice to proceed.

- **Upland work:** A TOYR applies on all land-clearing or upland soil-disturbing activities within 300 feet of the water from April 1 to September 30. If the Contractor requires access to these areas during the TOYR, the Contractor shall request approval from the Engineer to access the restricted area. If approved by the Engineer, the Contractor shall install silt fence to create a delineated work area. An initial wood turtle relocation by the Department will be required prior to work within the delineated work area.

Each day, following initial relocation efforts, the Contractor shall visually inspect the delineated work area for wood turtles prior to beginning work. If turtles are found within the delineated work area, the Contractor shall immediately stop work within the delineated work area and notify the Engineer to initiate turtle relocation by the Department. Work shall not resume within the delineated work area until the Engineer provides a written notice to proceed.

### **III. Measurement and Payment**

No separate payment will be made for compliance with the requirements herein.

**GUIDELINES** — Use on projects identified by the District Environmental Manager where compensatory mitigation site survey data is required.

[SP522-000200-00](#)

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**COMPENSATORY MITIGATION SITE SURVEY DATA**

April 11, 2017

**I. GENERAL**

The Contractor shall identify and document compensatory mitigation sites and planimetric features by survey control and conducting as-built surveys in accordance with Section 517 of the Specifications. Planimetric features shall include, but not be limited to: planting zones, site topography, structure locations, Compensation Area Boundaries, and problem areas. The Contractor shall follow the specific requirements for data formatting and submittal to the Engineer.

**II. SURVEY CONTROL**

1. Four survey control points shall be established for every mitigation site, one of which should be a VDOT survey control point. If all survey control points are new, one of these shall be tied to an existing VDOT survey control point.
2. Easement and Compensation Area Boundaries shall be referenced to the property boundary, at least one corner of which shall have established horizontal and vertical coordinates.

**III. AS-BUILT SURVEY DATA**

1. As-Built Surveys shall include:
  - A. Planimetric data necessary to define site character and limitations (e.g., site property boundary, existing and proposed easements, trees, fence lines, open water, buildings, or other existing structures). The survey traverse or baseline shall be clearly marked.
  - B. The limits of disturbance, at a minimum. If a Compensation Area Boundary is defined in the construction plans or mitigation narrative, this feature shall be used in lieu of the limits of disturbance.
  - C. Spot elevations and 0.5-foot contour intervals within the Compensation Area Boundary (excluding buffers) and 1.0-foot contour intervals elsewhere.
  - D. Spot shots at 50 foot on center in all areas where contour intervals exceed 50 foot spacing.
  - E. Sufficient points to define, in plan view, the channel boundary (i.e., the slope break between floodplain elevations and the channel), bankfull (if different from the channel boundary), and thalweg.
  - F. Inverts and sizes of all drainage structures.
  - G. Crest elevations at 30 foot on center of all berms and dams.
  - H. Inverts of all outlet spillways (10 foot on center with 5 shots minimum per spillway at each end and center).
  - I. Planting zones (including buffers), if deviating significantly from design planting plans.

- J. Instream structure positions and elevations at three points (thalweg, mid-point on structure arms and bankfull benches). Structure survey points must be permanently marked by chiseling or painting to ensure collection of consistent locational data.
  - K. Stream cross section and longitudinal profile termini (designated by permanent concrete monuments).
  - L. Well, gage, and panoramic photo station locations, when present during as-built survey.
- 2. A coordinate table describing the geodetic coordinates and VDOT project coordinates of the Compensation Area Boundary, Easement Boundaries, all point feature locations (e.g., wells, photo stations, stream cross section and longitudinal profile termini), and all structures shall be included. Node points for boundary surveys shall be labeled on the plan sheet with northing and easting coordinates in decimal degrees.
  - 3. Survey data shall be tied to a clearly identified VDOT control point, or to an on-site control point whose coordinates are horizontally and vertically defined. In most cases, control points will be set prior to design. Latitude and longitude are to be reported in decimal degrees using the North American Datum of 1983 (NAD83). Elevations shall be recorded and reported in the same units as the design plan, using the North American Vertical Datum of 1988 (NAVD 88).
  - 4. As-Built surveys must be conducted by conventional survey or survey-grade GPS units.
  - 5. Drainage Structures, instream structures, wells, gages, stream cross section, and longitudinal profile termini survey data shall include elevation, expressed in units consistent with the design plan to two decimal places.

#### IV. DATA FORMAT AND DELIVERABLES

- 1. All survey data shall be submitted in hard copy and digital format. The digital format shall be a file which can be opened by the version of Microstation currently in use by VDOT. Digital data shall be three dimensional, with the exception of planimetric features and wetland boundaries. Digital survey data shall have a VDOT project coordinates coordinate system.
- 2. Digital or hard copy data (copies of field books, data files or other information in conformance with VDOT Survey Manual standards) shall be submitted with surveys to demonstrate attainment of the horizontal and vertical survey specifications in 90 percent of the observations.

#### V. MEASUREMENT AND PAYMENT

**Compensatory mitigation site survey data will** be paid for at the contract lump sum price. This price shall be full compensation for performing the work prescribed herein.

Payment for mitigation site survey data will be made upon written request by the Contractor. Such request shall be submitted to the Engineer no earlier than five days, and no later than two days prior to the progress estimate date. Payment may be made in increments selected by the Contractor. However, payments will not exceed 60 percent of the contract unit price bid until the Contractor provides the Engineer with surveying field notes, layouts, computations, sketches and drawings in the format detailed herein.

Payment will be made under:

| Pay Item                                 | Pay Unit |
|--|----------|
| Compensatory mitigation site survey data | Lump sum |

**GUIDELINES** — Use on projects where demolition of structures containing non-friable asbestos-containing materials (ACM) is required; also, use with **SP522-000200-00**. If an asbestos report is available, a copied note should be created detailing the locations, NESHAP category, condition, and approximate quantities of asbestos.

[SP522-000210-00](#)

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**DEMOLITION OF STRUCTURES CONTAINING  
NON-FRIABLE ASBESTOS CONTAINING MATERIALS**

May 9, 2017

**I. DESCRIPTION**

This work shall include the demolition of structures containing non-friable asbestos-containing materials (ACM) and in which all Regulated Asbestos-Containing Materials (RACM) have been removed. This special provision complements the Special Provision for Asbestos Removal for Road Construction Projects and Section 516 of the Specifications.

ACM that may be present in the structures to be demolished may include Category I Non-friable ACM in "good condition" (e.g. resilient flooring, asphalt roofing products, mastics), and certain Category II Non-friable materials (e.g. floor tile mastics) that do not have a high probability of becoming or will not become crumbled, pulverized or reduced to powder by the forces expected to act on the material in the course of demolition.

**II. LIMITATIONS**

1. The Demolition Contractor shall not be financially affiliated with the Project Monitor on the project. The project monitoring services shall be directly contracted for by VDOT and the monitoring personnel shall be accountable only to the Department.
2. The Contractor's liability insurance or bonding shall not contain any pollution exclusion provisions.
3. No demolition of structures shall be performed by intentional burning when any amount of ACM is present in the structure.

**III. DEFINITIONS**

1. **ADEQUATELY WET:** means to sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from any asbestos containing material, then the material has not been adequately wet.
2. **AIR MONITORING:** The process of measuring the fiber content of a specific volume of air in a stated period of time.
3. **ASBESTOS:** The term asbestos includes Chrysotile, Amosite, Crocidolite, Tremolite, Anthrophyllite and Actinolite, and any of these minerals that have been chemically treated or altered.



4. **ASBESTOS-CONTAINING MATERIAL (ACM):** Material or product containing more than 1% asbestos.
5. **CATEGORY I NON-FRIABLE ACM:** Asbestos-containing packings, gaskets, resilient floor covering and asphalt roofing products containing more than one percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy.
6. **CATEGORY II NON-FRIABLE ACM:** Any material, excluding Category I non-friable ACM, containing more than one per cent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarized Light Microscopy that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
7. **CUTTING:** To penetrate with a sharp-edged instrument and includes sawing, but does not include shearing, slicing, or punching.
8. **FRIABLE ACM:** Any material containing more than one percent asbestos as determined by polarized light microscopy that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.
9. **DEMOLITION:** The wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations or the intentional controlled burning of a facility.
10. **GRINDING:** To reduce to powder or small fragments and includes mechanical chipping or drilling.
11. **IN POOR CONDITION:** The binding of the material is losing its integrity as demonstrated by peeling, cracking or crumbling of the material.
12. **PROJECT MONITOR:** Individual licensed by the Virginia Department of Professional and Occupational Regulation to observe and monitor the activities of the demolition contractor to determine that proper work practices are used and compliance with all federal, state and local laws and regulations are maintained.
13. **REGULATED ASBESTOS-CONTAINING MATERIAL (RACM):** Includes (1) friable asbestos material; (2) Category I nonfriable ACM that has become friable; (3) Category I nonfriable ACM that will be subjected to sanding, grinding, cutting or abrading, or (4) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized or reduced to powder by forces expected to act on the material in the course of demolition or renovation operations.
14. **VISIBLE EMISSIONS:** Any emissions coming from asbestos-containing waste material that are visually detectable without the aid of instruments.
15. **WASTE SHIPMENT RECORD:** A shipping document required to be originated and signed by the waste generator and used to track and substantiate the disposition of asbestos containing waste material.

#### IV. NOTIFICATIONS

1. The Contractor performing any demolition activities shall provide the requisite 10-day demolition notifications, irrespective of any minimum quantity or other exclusions. Notifications shall be submitted to the Virginia Department of Labor and Industry and the EPA Region III Land and Chemical Division according to Section 107.01 of the Specifications.

2. The Contractor shall give a three full business day notification to the Asbestos Project Monitor, the VDOT Area Construction Engineer, and the VDOT Project Manager prior to beginning work.

## V. WORK PRACTICES

1. The Contractor shall keep all demolition materials and debris adequately wet so as to prevent the release of air borne particulates throughout the demolition and loading operations.
2. The Contractor shall perform demolition of structures according to Section 516 of the Specifications and this Special Provision.
3. The Contractor shall perform demolition of structures containing non-friable asbestos-containing materials according to all applicable EPA, OSHA and VOSH regulations, and shall follow EPA and OSHA workplace guidelines unless they are shown to not be applicable. EPA workplace guidelines include (1) EPA regulations 40 CFR 61, Subparts A and M and (2) "Demolition Practices Under the Asbestos NESHAP" (TRC Environmental Corporation Work Assignment No. IA2-19). In any instance of conflict between the VOSH and OSHA requirements, the VOSH requirements shall take precedence. Any "de minimus" exemptions or reduced requirements for demolition activities involving certain minimum quantities of non-friable ACM that may be provided in the aforementioned references shall not apply to VDOT demolition activities.
4. No sanding, grinding, cutting or abrading of any non-friable ACM shall be allowed prior to or during demolition.
5. Where possible, the Contractor shall separate concrete and other masonry materials from other demolition materials and legally dispose of the debris separately.
6. Segregating materials by intentionally running over debris with tractor treads will not be permitted (e.g. separation of flooring from concrete).
7. Waste consolidation efforts involving the use of pneumatic-hammers or other mechanical devices such as grinders to break up materials covered or coated with Category I non-friable ACM is prohibited.
8. Consolidating debris containing Category I non-friable ACM in the basement of a building and subsequently grinding or crushing is prohibited.
9. The use of cranes with clamshells or other heavy machinery with rakes or buckets to partially reduce debris-containing Category I non-friable ACM is permissible provided the material remains recognizable in its original form.
10. Concrete to which asbestos-containing resilient flooring is attached shall not be broken down using concrete-pulverizing machinery.
11. The Department will provide, at its discretion and cost, project monitoring that may include collection of air samples to ensure that demolition practices are performed according to this Special Provision. The Contractor shall cooperate with the Project Monitor in all testing and sampling activities. The Project Monitor will inform the Contractor and the Engineer of any area samples outside of the containment with results in excess of 0.01 fiber/cubic centimeter, and any instance where the Contractor is using demolition methods prohibited by this section. When fiber counts exceed this standard, the Contractor shall immediately discontinue operations until the cause of the excursion can be identified and corrected.

## VI. DISPOSAL

1. The Contractor shall provide notification to the landfill that the debris contains non-friable/non-regulated ACM and shall only dispose of debris containing non-friable ACM in a permitted landfill that provides daily soil cover.
2. The Contractor shall remove, transport, and dispose of ACM from the job site according to Virginia Department of Environmental Quality (VDEQ) regulations and other applicable federal, state, and local regulations.
3. The debris shall be transported in covered DOT-approved containers.
4. The Contractor shall be responsible for generating and maintaining waste shipment records, irrespective of whether the ACM-containing debris is, or is not, RACM.
5. Within 35 days of the deposit of a load of waste at the designated landfill, the Contractor shall submit a copy of the certificate of disposal from the landfill to the Engineer. VDOT must receive all acceptable waste manifests and certificates of disposal prior to making any payments to the Contractor.

## VII. MEASUREMENT AND PAYMENT

**Demolition with ACM** will be paid for at the contract lump sum price per structure. This price shall include coordinating and performing all work associated with disconnecting utilities, employing appropriate demolition and loading practices, disposal of materials and cleaning up. The Contractor shall take into consideration any salvage value of any material removed and shall include the same in the lump sum bid price.

Payment will be made under:

| <b>Pay Item</b>                 | <b>Pay Unit</b> |
|---------------------------------|-----------------|
| Demolition with ACM (Structure) | Lump Sum        |

**GUIDELINES** — Use on projects where removal of asbestos from any structure that will be demolished and not re-occupied is required. If an asbestos report is available, an SPCN should be created detailing the locations, NESHAP category, condition, and approximate quantities of asbestos. {2007-S516B00}

[SP522-000220-00](#)

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**ASBESTOS REMOVAL FOR ROAD CONSTRUCTION DEMOLITION PROJECTS**

March 14, 2017

**I. DESCRIPTION**

1. The Special Provision shall only apply to the removal of asbestos from structures that will be demolished and not reoccupied. Asbestos removal from any structure that is to be reoccupied (e.g. construction project offices, leased structures, etc.) shall comply with the *Special Provision for the Removal of Asbestos for Re-Occupied Structures*.
2. The Contractor shall furnish all labor, materials, supplies, and equipment necessary to legally remove and dispose of the materials identified in the Department's asbestos inspection reports, as required for removal and abatement.

All quantities are estimates. The bidder shall be responsible for ascertaining the exact amount of material to be removed and to base their bid on that quantity.

Payment shall be made for separate layers of similar Asbestos Containing Material (ACM) (e.g. floor tiles, roofing, etc.) only if it is physically separated by one or more layers of non-ACM.

3. This work may require the removal of existing flashing and miscellaneous trim in order to remove asbestos containing materials.

**II. DEFINITIONS AND ABBREVIATIONS**

1. **ABATEMENT:** Procedures to control fiber releases from asbestos containing building materials. Includes securing the work area, removing the material, and clearing the area and disposal of the material.
2. **ABATEMENT CONTRACTOR:** The company or individual properly licensed in the Commonwealth of Virginia by the Virginia Department of Professional and Occupational Regulations who conducts asbestos abatement activities such as, but not limited to, removal, encapsulation or enclosure of asbestos-containing materials.
3. **AIRBORNE ASBESTOS FIBERS:** Suspended, settling or moving asbestos fibers or fiber bundles in air.
4. **AIR LOCK:** A system for permitting ingress and egress with minimum air movement between a contaminated area and an uncontaminated area, consisting of two curtained doorways separated by a dead air space of at least four feet.
5. **AIR MONITORING:** The process of measuring the fiber content of a specific volume of air in a stated period of time.

6. **AMBIENT AIR:** Air in an area outside of the asbestos containment area. Areas chosen for air sampling shall not be located near access or egress routes for the project, nor shall they be located in areas known to contain friable asbestos containing materials.
7. **AMBIENT SAMPLING:** Air sampling of an area performed under normal or “as found” activity conditions.
8. **AMENDED WATER:** Water containing a wetting agent or surfactant.
9. **AIHA:** American Industrial Hygiene Association.
10. **ASBESTOS ANALYTICAL LABORATORY:** A laboratory accredited by the National Institute of Standards and Technology (NIST) and licensed by the Virginia Department of Professional and Occupational Regulation to perform analysis of asbestos samples.
11. **ASBESTOS-CONTAINING MATERIAL (ACM):** The material or product containing more than 1% asbestos.
12. **ASBESTOS CONTAINMENT AREA:** An area where an asbestos response action takes place.
13. **ASBESTOS DEBRIS:** Pieces of ACM that can be identified by an accredited inspector through color, texture, or composition, or particulate matter (i.e. dust) to contain more than 1.0% asbestos by volume.
14. **ASBESTOS REGULATED AREA:** An area where asbestos removal operations and some support activities are performed. This area is isolated by physical barriers with warning signs and includes regions where the airborne concentration of asbestos exceeds or can be reasonably expected to exceed the permissible exposure limit.
15. **AREA MONITORING:** Sampling of asbestos fiber concentrations within the asbestos regulated area. Sampling strategy must be designed to yield fiber counts representative of airborne fiber levels in the breathing zone.
16. **AUTHORIZED PERSON OR VISTOR:** The building Owners, or their authorized representative, or any representative of a regulatory, or other agency having jurisdiction over the project.
17. **CATEGORY I, NON-FRIABLE ACM:** Asbestos-containing resilient floor covering, asphalt roofing products, packings and gaskets, and asbestos-containing mastics.
18. **CATEGORY II, NON-FRIABLE ACM:** Asbestos-containing material, excluding Category I Non-Friable ACM, that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
19. **CLASS I ASBESTOS WORK:** Activities involving the removal of Thermal System Insulation (TSI) and surfacing ACM and PACM.
20. **CLASS II ASBESTOS WORK:** Activities involving the removal of ACM that is not TSI or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard systems, floor tile and sheeting material, roofing and siding shingles, and construction mastics.
21. **CLEARANCE AIR SAMPLING:** The measurement of airborne asbestos fibers using sampling filters to determine the adequacy and completeness of the asbestos removal actions.

22. **CLEARANCE LEVEL:** 0.01 or fewer asbestos fibers per cubic centimeter (0.01 f/cc) of air.
23. **COMPETENT PERSON:** An individual capable of identifying existing asbestos hazards in the workplace, selecting the appropriate control strategy for asbestos exposure and who has the authority to take prompt corrective measures to eliminate them.
24. **DEMOLITION:** Wrecking or taking out any load-supporting structural member and any related razing, removing, or stripping of asbestos products.
25. **ENCAPSULATION:** The treatment of ACM with a material that surrounds or embeds asbestos fibers in an adhesive matrix to prevent the release of fibers, as an encapsulate creates a membrane over the surface (bridging encapsulate) or penetrates the material and binds its components together (penetrating encapsulate).
26. **ENCLOSURE:** An airtight, impermeable, permanent barrier around ACM to prevent the release of asbestos fibers into the air.
27. **EQUIPMENT ROOM (CHANGE ROOM):** A contaminated room located within the decontaminated area that is supplied with the impermeable bags or containers for the disposal of contaminated protective clothing and equipment.
28. **FRIABLE ACM:** any material containing more than one percent asbestos as determined by polarized light microscopy that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.
29. **GLOVEBAG TECHNIQUE** (to be used following all OSHA and EPA rules and regulations): A method with limited applications for removing small amounts of friable asbestos- containing materials from HVAC ducts, short piping runs, valves, joints, elbows, and other nonplanar surfaces in a non-contained work area. The glovebag assembly is a manufactured or fabricated device consisting of glovebag (typically constructed of 6-mil transparent plastic), two inward projecting long sleeve rubber gloves, one inward projecting waterwand sleeve, and internal tool pouch and an attached-labeled receptacle for asbestos waste. The glovebag is constructed and installed in such a manner that it surrounds the object or area to be decontaminated and contains all asbestos fibers released during the removal process. All workers who are permitted to use the glovebag technique must be highly trained, experienced, and skilled in this method. Glovebags must be under negative air pressure during use.
30. **GOOD CONDITION:** condition of Category I non-friable asbestos-containing material wherein the binding of the material has not lost its integrity as indicated by the lack of peeling, cracking, or crumbling of the material.
31. **HEPA FILTER EQUIPMENT:** High efficiency particulate air filtered vacuuming equipment with a filter system capable of collecting and retaining asbestos fibers. Filters shall be 99.97 % efficient for retaining particles and fibers with a minimum dimension of 0.3 micrometer.
32. **LOGBOOK:** A notebook or other book containing essential data and daily project information and daily project diary. This book is kept on the project site at all times.
33. **MINI-ENCLOSURE:** A method with limited applications for removing small amounts of friable asbestos-containing materials typical for small scale, short duration type projects.
34. **NEGATIVE AIR PRESSURE EQUIPMENT:** A portable local exhaust system equipped with HEPA filtration and capable of maintaining constant, low velocity airflow into the contaminated area from adjacent uncontaminated areas.

35. **NIOSH:** National Institute for Occupational Safety and Health.
36. **OWNER:** Virginia Department of Transportation.
37. **PACM:** Presumed ACM
38. **PAT PROGRAM:** Proficiency Analytical Testing Program
39. **PERMISSIBLE EXPOSURE LIMIT (PEL):** The Contractor shall ensure that no employee is exposed to an airborne concentration of asbestos (1) in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour time-weighted average (TWA) or (2) in excess of 1.0 fiber per cubic centimeter over a 30 minute period (excursion limit), as determined by the method described in 29 CFR 1926.1101, Appendix A.
40. **PERSONAL MONITORING:** Sampling of asbestos fiber concentration within the breathing zone of an employee (i.e. attached to or near the collar or lapel near the worker's face).
41. **PHASE CONTRAST MICROSCOPY (PCM):** A laboratory analysis method for measuring airborne asbestos fibers (National Institute of Occupational Safety and Health Method 7400).
42. **PROJECT MONITOR:** Individual employed by the Department and licensed by the Virginia Department of Professional and Occupational Regulation to observe and monitor the activities of asbestos abatement contractors on asbestos projects to determine that proper work practices are used and that compliance with all federal, state, and local laws and regulations is maintained.
43. **RACM:** Regulated Asbestos Containing Materials includes:
  - A. Friable asbestos material
  - B. Category I non friable ACM that has become friable.
  - C. Category I non friable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, and
  - D. Category II non friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.
44. **REMOVAL:** All herein-specified procedures necessary to remove asbestos containing materials from the designed areas and to dispose of these materials properly and legally at an acceptable site.
45. **RESPONSE ACTION:** A method, including removal, encapsulation, enclosure, repair, operations and maintenance, to abate asbestos hazards to human health and the environment.
46. **SHOWER ROOM:** A room between the clean room, and the equipment room in the worker decontamination unit with hot and cold or warm running water and suitably arranged for complete showering during decontamination. The shower room comprises an air lock between the contaminated and clean area. Shower water filtration system shall be used to remove asbestos fibers from wastewater.
47. **SURFACING ACM:** Any ACM that is sprayed, troweled on or otherwise applied to surfaces.
48. **SURFACTANT:** A chemical wetting agent added to water to improve penetration.



49. **TIME WEIGHTED AVERAGE (TWA):** Representative samples are required to establish the eight (8) hours time weighted average. The TWA is an eight- (8) hour time weighted average airborne concentration of fibers, as determined according to 29 CFR 1926. 1101, Appendix A. Workshifts, which differ from eight- (8) hour duration, may require adjustments of the standard, which applies.
50. **TSI** – Thermal System Insulation ACM
51. **WASHROOM:** A room between the work area and the holding area in the equipment decontamination area. The washroom comprises an air lock.
52. **WASTE SHIPMENT RECORD:** The shipping document that is required to be originated and signed by the asbestos waste generator and that is used to track and substantiate the disposition of asbestos-containing waste material.
53. **WET CLEANING:** The process of eliminating asbestos-contamination from building surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with water, and after use, disposing of these tools as asbestos-contaminated waste.
54. **WORK AREA:** Designated rooms, spaces, or areas of the project in which asbestos abatement actions are to be undertaken or which may become contaminated as a result of abatement actions. A contained work area is a work area that has been sealed, covered in plastic and equipped with a decontamination enclosure system. A non-contained work area is an isolated or controlled-access work area that contains ACM, that has not been covered in plastic nor equipped with a decontamination enclosure system.

### III. CONTRACT LIMITATIONS

1. Asbestos abatement contractors are not eligible to bid on projects in which individuals or firms employed by or financially affiliated with the Contractor performed the asbestos inspection or sample analyses during the time period in which these activities were completed.
2. Asbestos Project Monitors are not eligible to contract for asbestos inspection, project monitoring or clearance air monitoring work if they are financially affiliated with or employed by the project asbestos removal contractor. The Project Monitor shall only be accountable to Department officials.
3. All laboratories utilized to perform asbestos sampling analyses on projects shall not have a business relationship or any financial affiliation with the Contractors conducting the asbestos removal activities. Individuals performing clearance air sampling shall not be employed by, or have a financial affiliation with, the asbestos removal contractor conducting the asbestos abatement project.

### IV. REGULATIONS

1. The Contractor shall comply with all applicable EPA, OSHA, VOSH, and Virginia Department of Professional and Occupation Regulation (DPOR) regulations, and shall follow EPA, VOSH, and OSHA workplace guidelines unless they are shown as not applicable. EPA workplace guidelines include (1) those pertinent sections of Part I and II, EPA guideline document 560/5-85-024, "Guidance for Controlling Asbestos Containing Materials in Buildings"; (2) EPA regulations 40 CFR Part 61 Subparts A and M; and (3) "*Demolition Practices Under the Asbestos NESHAP*" (TRC Environmental Corporation Work Assignment No. IA2-19). OSHA workplace guidelines include any currently applicable OSHA compliance directives or instructions. In any instance of conflict between the VOSH and OSHA requirements, the VOSH requirements shall take precedence. Any "de minimus" exemptions or reduced requirements for activities involving less



than 25 linear feet or 10 square feet of ACM that are provided in the aforementioned references shall not apply to VDOT asbestos removal activities.

2. The Contractor is required to maintain at the job site copies of EPA, VOSH, OSHA, and applicable state and local government regulations regarding the handling of ACM.
3. The Contractor shall remove, transport, and dispose of the ACM from the job site according to Virginia Department of Environmental Quality (VDEQ) regulations and this special provision. The Contractor shall be responsible for generating and maintaining a waste shipment record according to applicable local, state, federal, and disposal facility requirements and shall provide a copy to the Engineer for the Department's records.
4. The Contractor, its supervisors, and its employees shall be licensed for asbestos abatement activities according to DPOR requirements. A copy of valid license shall be included with the submittals.

#### **V. NOTIFICATIONS**

1. Contractor shall make all required notifications at least 20 days prior to beginning removal of asbestos-containing materials. Contractors also performing demolition activities shall also provide the requisite 10 day demolition notifications. Notifications shall be submitted to the Virginia Department of Labor and Industry and the EPA Region III, Land and Chemical Division according to Section 107.01 of the Specifications.
2. The 20 day notification is only required for the removal of RACM or Category II nonfriable ACM that is expected to become, or becomes, friable during removal. If any Category I or Category II non-friable ACM becomes friable during removal, the Contractor shall stop work and make all notifications. The on-site project monitor will determine friability.
3. The Contractor shall give both a 20 day and a 3 full business day notification to the Asbestos Project Monitor, the VDOT Area Construction Engineer, the VDOT District Engineer, and VDOT Project Manager prior to work being performed.
4. If the Contractor is performing structure demolition, the required 10 calendar day demolition notification to the aforementioned addressees pursuant to 40 CFR 61.145(b), irrespective of minimum quantity or other exclusions, shall be provided.

#### **VI. COMPETENT PERSON**

1. The Contractor shall have a "competent person" (as defined herein) present at all times while work on this contract is in progress. The competent person shall be thoroughly familiar and experienced with asbestos removal, related work, and shall monitor and enforce the use of all safety procedures and equipment and shall be knowledgeable of all EPA, OSHA, NIOSH, DPOR and Virginia Department of Labor and Industry VOSH requirements and guidelines.
2. The competent person shall have a valid asbestos supervisor's license issued by DPOR in accordance to the provisions of Chapter 5, Article 1 §54.1-500 et seq.

#### **VII. SUBMITTALS**

Prior to commencing work, two copies each of the following items, with the exception of the landfill manifest receipts, logs and air monitoring results, shall be submitted to and approved by the Department:

1. **Asbestos Plan:** Submit a detailed plan of the work procedures to be used in the removal of the materials containing asbestos. Such plan shall include the location of the asbestos work areas, layout of change rooms, interface with other trades involved in this project, sequencing of asbestos-related work, disposal plan, type of wetting agent, asbestos sealer, air monitoring and detailed description of the methods to be employed in order to control air pollution. Prior to the start of any asbestos removal work, the Project Monitor must approve this plan. Prior to performing any deviations from the approved plan, the Contractor shall submit a written request to the Department for approval.
2. **Notification:** Provide a copy of the required notification submitted to the Asbestos Control Clerk, Virginia Department of Labor and Industry.
3. **Testing Laboratory:** Provide the name, address, and telephone number of the independent testing laboratory selected for the monitoring of airborne concentrations of asbestos fibers along with a copy of the Commonwealth of Virginia Asbestos Analytical Laboratory License. Also, include evidence that the laboratory is accredited to analyze airborne asbestos fiber counts.
4. **Monitoring Results:** All monitoring results are to be received within 24 hours and retained at the work site where the Owner's representative may review them. Submit copies of these results at the completion of the project.
5. **Landfill:** Submit written evidence (copy of permit) that the landfill selected for disposal is approved for disposal of friable ACM (where friable materials are to be removed and disposed) or for disposal (where Non-friable ACM is to be disposed) by the USEPA and appropriate state or local regulatory agencies. Within 35 days of the deposit of a load of ACM waste from this project at the designated landfill, the Contractor shall submit a copy of the certificates of disposal from the landfill to the Department. The Department shall have received all acceptable waste manifests and certificates of disposal prior to making any payments to the Contractor.
6. **Certificate of Compliance:** A copy of the manufacturer's certificate of compliance with ANSI 9.2 for each brand and model of vacuum, ventilation and other equipment used by the Contractor to contain or remove asbestos fibers.
7. **Qualification of the Contractor's Personnel and Personnel Training:** Prior approval by the Department is required of all proposed asbestos removal personnel. Approval shall be based on review and acceptance of the Contractor's written submittals that all contractor personnel working on this asbestos project:
  - A. Have a valid asbestos worker's or supervisor's license issued by DPOR in accordance to the provisions of Chapter 5, Article 1 §54.1-500 et seq.
  - B. Have been provided with a respirator fit test according to 29 CFR 1926.1101 at the time of initial fitting, when facial conditions change, and at least annually thereafter for each employee wearing a negative pressure respirator.
  - C. Have been trained in the proper procedures to follow in case of an emergency.
8. **Medical Requirements:** Provide certification that the Contractor has an established medical surveillance program in compliance with OSHA regulations 29 CFR 1926.1101. This submittal shall include copies of the physician's statement that each employee (working on this project) is able to perform the required duties while wearing a respirator.
9. **Respirator Program:** Submit a copy of a written respirator program that complies with OSHA regulation 29 CFR 1910.134.

10. **Logs:** Copies of daily progress log and visitor's log.
11. **Safety Data Sheets (SDS):** Copies of SDS shall be provided for any chemical solvents that will be used.

## VIII. PERSONNEL PROTECTION

### 1. Respirators

- A. Workers shall wear properly fitted respirators in the work area. Respirator selection shall be based on personal air monitoring as required by 29 CFR 1926.1101. All employees within the work zone shall have respiratory protection consistent with proper respiratory protection factors. Long sideburns, beards, etc., which interfere with proper respirator fit, will not be allowed. However, the Engineer may, at his discretion, allow the Contractor to provide a loose fitting, hood-type powered air purifying respirator (PAPR) for such employees.
- B. All work requiring the use of Class "C" supplied air respirators shall utilize C.G.A. Grade D breathing air or better from a certified air source and copies of the certifications shall be supplied to the Department.
- C. Supplied air respirator systems must include a back-up provision approved for maintaining air flow long enough for escape and decontamination from a contaminated atmosphere in the event of loss of the primary source of breathing air.

### 2. Exposure Control/Protective Clothing

- A. Eating, gum or tobacco chewing, smoking, or drinking shall not be permitted in the asbestos control area.
  - B. Workers shall wear protective clothing according to 29 CFR 1926.1101. Use of protective clothing in the asbestos control area shall be mandatory and irrespective of airborne asbestos concentrations or removal quantities.
  - C. Contractor shall make available to the Department's representative complete sets of personal protective equipment as required herein for entry to the asbestos control area at any time for inspection of the asbestos control area.
  - D. Street clothing shall not be worn inside of the asbestos control area.
  - E. All persons who enter the control area shall shower after leaving the control area.
  - F. Personnel of other trades not engaged in the demolition and removal of asbestos materials shall not be exposed at any time to airborne concentrations of asbestos.
3. **Equipment:** All air handling equipment shall arrive at the job site in a clean (uncontaminated) condition and will be compliant with ANSI 29.2 specifications.
  4. **Caution Signs and Labels:** Provide caution signs at all approaches to the asbestos control areas containing concentrations of airborne asbestos fibers. Locate signs at such a distance that personnel may read the sign and take the necessary protective steps required before entering the area. Provide and affix caution labels to all asbestos materials, scraps, waste, debris and other products contaminated with asbestos.
    - A. Caution signs shall be in a vertical format conforming to 29 CFR 1926.1101 with a minimum 20-inch by 14-inch size.

- B. Caution labels shall be provided of sufficient size to be clearly legible and conforming to 29 CFR 1926.1101 and 1910.1200(f).

**5. Decontamination Area**

- A. The Contractor shall set up a decontamination area according to 29 CFR 1926.1101.
- B. The shower and any other decontamination water shall be drained and filtered to retain particles 5.0 microns or larger, to ensure that contaminated water is not released to uncontaminated areas; showers shall be drained after each use. If wastewater is inadvertently released, it shall be cleaned up as soon as possible to prevent any asbestos in the water from drying and becoming airborne in areas outside the work area. The Contractor shall be responsible for providing any necessary water source.

**IX. PROCEDURES**

**1. General**

- A. Wet removal procedures shall be utilized.
- B. Provide temporary power sources and equipment per applicable electrical code requirements and provide 24-volt safety lighting and ground-fault interrupter circuits as power sources for electrical equipment.
- C. Turn off all electricity to the work area other than that required in 1.B.

**2. Preparation of Work Areas**

- A. Work areas shall be prepared according to EPA NESHAP Part 61 Subpart M regulations (as amended), applicable EPA guidance, OSHA 1926.1101 standards, any currently applicable OSHA compliance instructions, and any other applicable guidance.
- B. Contractor shall not begin removal procedures until the Project Monitor approves the preparation of work areas as meeting all applicable requirements.

**X. ASBESTOS REMOVAL PROCEDURES**

**1. General Procedures**

- A. Contractor shall comply with the applicable Class I and Class II work practices for the removal of ACM pursuant to 29 CFR 1926.1101.
- B. VDOT will provide (at its expense) a licensed asbestos project monitor to collect preabatement air samples and to inspect and approve the work area preparations before authorizing the Contractor to begin removal. The asbestos project monitor will also inspect and approve completeness of the removal and subsequent cleanup actions in the asbestos control area before the Contractor may remove any barricades. No removal of asbestos is to be conducted without the Project Monitor on-site. The Project Monitor does not have the authority to waive compliance with the requirements of this special provision.
- C. The Contractor shall provide personnel to perform air monitoring as required by OSHA (29 CFR 1926.1101) and/ or VOSH regulations.

2. **Specific Work Procedures for Asbestos-contaminated Soil Removal:** Removal of contaminated soils may be required if ACM falls onto unprotected soil. Contamination shall be determined when fragments of ACM are visible as debris or when bulk sample analysis shows an asbestos fiber level in soil greater than 1%. Specific procedures shall be as follows:
  - A. Construct a decontamination enclosure and seal all openings into the work area with at least one layer of 6-mil minimum polyethylene sheeting.
  - B. Install negative air system using approved equipment unless the use of negative air system is not practicable. The Department or its representative shall determine practicability.
  - C. Lightly wet with a surfactant or diluted encapsulate any contaminated soil to be removed.
  - D. Remove contaminated debris and/or soil to a depth of 4" from the original surface or to hardpan and until all visible debris has been removed.
  - E. Remove all remaining ACM in the area in conjunction with the contaminated soil removal in a manner as not to re-contaminate the cleaned areas.
  
3. **Pre- and Post-Removal Inspection and Clearance**
  - A. The Project Monitor shall collect pre-abatement air samples and must inspect and approve the work area preparations before authorizing the Contractor to begin removal.
  - B. Clearance for removal of transite exterior siding materials, roofing materials (if applicable), soil, and ACM removed through the use of glove bags shall be evaluated by the Department and shall be completed when all visible ACM has been removed and the area properly encapsulated (if applicable).
  - C. Clearance for ACM removed in mini-enclosures, and all other removal operations not specifically listed in 4B. shall be achieved when the requirements of Part VII – CLEARANCE AIR MONITORING have been met.
  - D. The Project Monitor shall inspect and approve removal and cleaning in the asbestos control area before the Contractor may remove barricades.
  - E. The Contractor shall be held responsible for the cost of re-inspections if the work is determined to not be substantially complete.
  
4. **Air Monitoring**
  - A. The Contractor shall perform daily personal air monitoring for asbestos exposure and shall cooperate with the Project Monitor in all testing and sampling activities.
  - B. The Project Monitor shall inform the Contractor of any area samples outside the containment with results in excess of 0.01 fibers/cc. Contractor shall immediately discontinue operations until the violation is corrected.
  - C. All laboratory analytical air monitoring results shall be posted at the work site entrance no later than 24 hours after sampling; and copies of the analytical results and signed "Certificates of Analysis" shall be transmitted to the Engineer. The form shall state:
    - (1) Date and time sampling began.
    - (2) Flow rate of samples.

- (3) Sampling time elapsed.
  - (4) Concentration of fibers.
  - (5) Location of area where sample was taken (building, floor, room, area within room).
  - (6) Activity occurring during sampling (removal, clean up, clean-air, etc.).
  - (7) Name and phone number of person taking sample.
  - (8) Name, phone number, and signature of person analyzing sample.
  - (9) Name and phone number of contractor.
- D. Exposure records: The Contractor shall maintain records of any personnel or environmental monitoring required by this specification. Records shall be maintained for a period of at least 30 years and shall be made available upon request to the Secretary of Labor for Occupational Safety and Health, the Director of the National Institute for Occupational Safety and Health, and to authorized representatives of either.
- E. Copies of all exposure records and area monitoring records shall be submitted to the Owner at the conclusion of the project.
5. **Cleanup**
- A. All external work areas shall be cleared of all construction debris and left in a neat and orderly condition.
  - B. For internal work areas, the Contractor shall remove visible accumulations of asbestos material and debris and wet clean all surfaces within the work area and clean any other contaminated areas with water or HEPA-filtered vacuum equipment.
  - C. Contractor shall clean any sealed drums or equipment used in the work area and subsequently remove these from the work areas, via the equipment decontamination enclosure system.
  - D. The Project Monitor shall make an initial visual inspection of the work area to ensure that the work area is free of visible asbestos debris and; once approved, the Contractor shall subsequently apply one coat of asbestos encapsulating sealer.
  - E. Contractor shall keep the windows and doors sealed and the decontamination system operational until final clearance is certified. Air filtration/negative pressure systems and decontamination enclosure systems shall remain in operation until the time of the initial inspection and in an operational condition until final clearance is certified.
  - F. The Project Monitor shall collect clearance air samples according to Part VII of this special provision.
6. **Site Inspection:** VDOT reserves the right to inspect all asbestos removal operations at any time. If any aspect of the work is found inconsistent with this special provision, a stop work order will be issued and operations will be immediately suspended. Until the inconsistency is corrected, any standby time and costs for corrective actions shall be at the Contractor's expense.

7. **Building Contamination:** If the results of the air or surface dust samples indicate that building contamination has occurred as the result of Contractor negligence or poor work practices, the Contractor shall clean the premises at no additional cost to the Department. In addition, the Contractor shall be liable for any damage claims or other legal actions brought against VDOT or its employees or brought by VDOT or any persons exposed to such contamination.
8. **Disposal of Asbestos Waste:** Procedures for hauling and disposal of waste shall comply with 40 CFR 61 (SUBPART M), state, regional, and local standards. All asbestos waste, scrap, debris containers, asbestos contaminated clothing and equipment that may produce airborne concentrations of asbestos fibers shall be collected and placed in sealed and properly labeled, 6 mil impermeable bags. Sealed impermeable bags of asbestos waste shall be temporarily stored in asbestos waste containers (drums, skips, etc.). This waste material shall be transported in sealed, properly labeled, DOT approved containers and disposed of only at an USEPA or State approved sanitary landfill permitted to receive friable ACM. The procedures for hauling and disposal shall comply with 40 CFR61 (SUBPART M), state, regional and local standards. Sealed plastic bags may be hand placed from containers into the burial site unless the bags have been broken or damaged.

Damaged bags shall remain in the container and the entire contaminated container shall be buried. Uncontaminated containers may be recycled.

9. **Asbestos Cement (A/C) Pipe:** A/C pipe shall not be ground, broken, crushed, sawed, abraded or handled in a manner which would cause asbestos material to become friable or airborne. Saw-cutting will only be allowed provided that specifically designed saws equipped with high efficiency particulate air filtered vacuums are used. Cuts shall be continuously sprayed with amended water during cutting and the water shall be collected and properly filtered or disposed of.

With the approval of the Engineer, abandoned portions of A/C pipe may be left in place of origin and back-filled, provided that the pipe is not crushed; however, pipe that is to be abandoned may not be removed and re-deposited. With approval of the Engineer, the Contractor may pump grout into the buried lines that are no longer in service to maintain the structural bearing capacity of the area. No on-site burial of crushed A/C pipe shall be allowed.

## XI. Clearance Air Monitoring

Clearance air monitoring shall be conducted utilizing the specified sampling techniques whenever an asbestos containment area is utilized to control release of airborne asbestos fibers.

1. **Limitations:** Clearance air sampling techniques shall: (1) be used only in an asbestos containment area with effective negative air filtration; (2) be performed only by individuals meeting the licensing requirements described in Section D 1; and (3) not be initiated until a visual inspection is conducted and visible ACM and asbestos debris have been removed.

### 2. Equipment Requirements

- A. High volume air pumps with necessary peripheral equipment (hoses, connectors, etc) calibrated to draw from four to 10 liters of air per minute through the filter shall be used for air sampling.
- B. Filters shall be 25 millimeter mixed cellulose ester (MCE) filters with a 0.8-1.2 micrometer pore size if the filter is to be analyzed by PCM. Sampling cassettes shall have 50-millimeter extension cowls and shall not have been previously used.

### 3. Sampling Procedures



**A. Set up**

- (1) Ensure that:
  - (a) the area inside the enclosure is visibly clean of all ACM, dust and debris;
  - (b) spray encapsulate utilized for lockdown purposes has dried; and
  - (c) the negative air system is and remains fully operational at a rate of four air changes per hour.
- (2) Place the air pumps and sampling cassettes such that each covers approximately the same square footage of floor area, and the exposed filter faces of the sampling cassettes are oriented approximately 45 degrees from the horizontal using tape and clips as necessary to position the sampling cassettes.
- (3) Start the pumps and sample for the required time; turning off the air pumps when sampling is completed.

**B. Number of samples:** The minimum required number of sample cassettes for each enclosure site is listed in the table below (each set of samples consists of inside air samples, field blanks, and a sealed blank):

| Square Feet of Enclosure | Sample Cassettes (PCM Analysis)                    | Field Blanks <sup>1</sup> |
|--------------------------|--|---------------------------|
| Less Than 100            | 2  | 1                         |
| 100-500                  | 3  | 1                         |
| 500-1000                 | 4  | 1                         |
| 1000-10,000              | 5  | 1                         |
| Greater than 10,000      | 5 + 1 sample per each 5,000 additional square feet | 1                         |

<sup>1</sup>The cap of each field blank cassette is to be removed for not more than 30 seconds and replaced (before air sampling is initiated) near the entrance to each abatement area.

- C. Sampling times:** The run time for each air pump is calculated by dividing the flow rate (1ppm) of the pump into the minimum number of liters of air required to be collected (1200 liters for PCM analysis) to obtain the required number of minutes.
- D. Recording:** A floor plan indicating the locations of the collected sample cassettes, along with a data sheet indicating the project name, project monitor, location of project, date samples were collected, calibrated flows for each air pump, start and stop times for each air pump, the preferred method of analyses specified, and calculated number of liters drawn for each cassette sample, shall be transmitted to the laboratory with the cassette samples to be analyzed. The inclusion of these documents is required when generating reports on final clearance air sampling for the project.
- E. Shipping:** Air sample cassettes shall be shipped in separate containers from bulk samples to prevent sample cassette contamination. Avoid using expanded polystyrene and particle-based packaging materials.

**4. Laboratory Analysis**



- A. PCM analysis shall be conducted using the National Institute for Occupational Safety and Health (NIOSH) Method 7400 entitled “Fibers” published in the NIOSH Manual of Analytical Methods, (most current edition).
- B. The following minimum information shall be provided by the analytical laboratory to VDOT:
  - (1) concentration in fibers per cubic centimeter (PCM);
  - (2) analytical sensitivity used for the analysis;
  - (3) area analyzed;
  - (4) volume of air samples;
  - (5) average grid size opening;
  - (6) number of grids analyzed;
  - (7) copy of the count sheet;
  - (8) type of asbestos;
  - (9) signature(s) of laboratory analyst;
  - (10) official laboratory identification; and
  - (11) floor plan indication location where samples were obtained.

**5. Final Clearance**

- A. Final clearance shall be achieved when the concentration of fibers for each of the samples is shown to be less than or equal to 0.01 fiber per cubic centimeter of air.
- B. If the results of the clearance samples are above the level specified in 5(A.), the abatement site must be re-cleaned, and new sets of sample cassettes collected and analyzed until the abatement area passes. This process must continue until the abatement area complies with the above standard.

**XII. Measurement And Payment**

For the purposes described herein, asbestos shall be identified by type as either friable, Category II nonfriable (Cat II NF) or Category I non-friable (Cat I NF) not in “good” condition.

**Asbestos Removal** will be measured and paid for at the contract unit per square foot or linear foot for the type specified. The price bid shall be full compensation for removal and disposal, sampling, testing, analysis, and encapsulation, if required, and for all required documentation and monitoring operations.

Payment for removal and disposal will be made under:

| <b>Pay Item</b>                        | <b>Pay Unit</b>            |
|--|----------------------------|
| Friable ACM                            | Square foot or linear foot |
| Cat II NF ACM                          | Square foot or linear foot |
| Cat I NF ACM (not in “good” condition) | Square foot or linear foot |



**GUIDELINES** — Use on projects selected by the District Environmental Manager. Fill in the yellow highlighted area for each project.

[SP522-000230-00](#)

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**PROTECTION OF BALD EAGLE**

November 19, 2018

**I. Description**

Nesting bald eagles, a federally protected species, are present within 660 feet of this project. The Contractor shall implement the protective measures described herein.

**II. Requirements**

A Time-of-Year Restriction (TOYR), from December 15 through July 15, applies to all activities from Station **XXX+XX** to Station **XXX+XX**. This TOYR limits the Contractor's operation in order to protect the nesting behaviors. If specific, well-defined, and short-duration work activities must occur within the TOYR, the Contractor may coordinate with the Engineer to request case-by-case relief from the restriction; however, consideration of such requests is at the discretion of the Engineer.

**III. Measurement and Payment**

No separate payment will be made for compliance with the requirements herein.

**GUIDELINES** — Use on projects where removal of asbestos from a bridge structure is required. If an asbestos report is available, a copied note should be created detailing the locations, NESHAP category, condition, and approximate quantities of asbestos.

[SP522-000240-00](#)

DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**REMOVAL OF ASBESTOS FROM BRIDGE STRUCTURES**

September 12, 2017

**I. GENERAL**

**1. Description of Work:**

This Special Provision applies to the removal of asbestos containing materials (ACM) from bridge structures scheduled for demolition, renovation, reconstruction, or replacement. The Contractor is hereby advised that the bridge structures identified in the Plans may contain asbestos. The Contractor shall assume that any ACM contain asbestos in a quantity sufficient to be a health hazard when disturbed or found in a degraded state or friable condition.

Where asbestos inspection results indicate the presence of ACM, the Contractor shall employ a licensed asbestos abatement firm and a licensed project designer to conduct asbestos abatement and project design activities, respectively, on bridge structures, as appropriate. The firms shall furnish all labor, materials, supplies, and equipment necessary to legally remove and dispose of ACM identified in the asbestos inspection report and as-built construction plans as required by Federal and State regulations. For renovation projects, only the ACM identified in the asbestos inspection report that will be removed or disturbed as part of the renovation shall be removed. All quantities are estimates. The Contractor shall be responsible for ascertaining the exact amount of material to be removed and removing it in accordance with the provisions herein.

Where no asbestos inspection report is available or where asbestos removal from any bridge appurtenance that will be re-occupied (e.g. bridge tender's office) is required, the Contractor shall comply with requirements found elsewhere in the Contract.

**2. Contract Limitations**

- A. An asbestos abatement firm is not eligible to perform work on projects if asbestos abatement activities were or will be performed by individuals or firms with an employer/employee relationship or financially affiliated with the asbestos inspection firm performing inspection activities.
- B. An asbestos abatement firm is not eligible to perform asbestos abatement activities if the asbestos sample analyses were performed by individuals or firms with an employer/employee relationship or financially affiliated with the laboratory performing sample analysis.

**3. Definitions and Abbreviations:**

All definitions and abbreviations used in this Special Provision are consistent as defined under OSHA; the USEPA Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP); the Virginia Department of Labor and Industry (DOLI); the Virginia Department of

Professional and Occupational Regulation (DPOR); and the Virginia Department of Environmental Quality (VDEQ).

## II. WORK PRACTICES

### 1. Regulations

- A. The Contractor and its subcontractors shall comply with all applicable EPA, OSHA, VDEQ, DOLI, and DPOR regulations, and shall follow all applicable EPA and DOLI/OSHA workplace guidelines. EPA workplace guidelines include, but are not limited to: Parts I and II of EPA guideline document 560/5-85-024, "Guidance for Controlling Asbestos Containing Materials in Buildings"; EPA regulations 40 CFR 61 Subparts A and M; and "*Demolition Practices Under the Asbestos NESHAP*" (TRC Environmental Corporation Work Assignment No. IA2-19). OSHA workplace guidelines include, but are not limited to, any currently applicable OSHA compliance directives or instructions. In any instance of conflict between the DOLI and OSHA requirements, the DOLI requirements shall take precedence. Any "de minimus" quantity exemptions that are provided in the aforementioned references shall not apply to VDOT asbestos removal activities.
- B. The asbestos abatement firm is required to maintain at the job site copies of EPA, VOSH/OSHA, and applicable state and local government regulations regarding the handling of ACM.
- C. The firms and their employees shall be licensed to perform asbestos activities in accordance with DPOR requirements.

### 2. Notifications

- A. The Contractor shall make all required notifications at least 20 days prior to beginning removal of ACM. Pursuant to 40 CFR 61.145(b), the Contractor shall also provide the requisite ten day demolition notification irrespective of minimum quantity or other exclusions. The Contractor shall also provide written notice to the Engineer prior to work being performed. Notifications shall be submitted to the DOLI and the EPA Region III, Land and Chemical Division according to Section 107.01 of the Specifications.
- B. The 20 day notification is only required for the removal of Regulated Asbestos Containing Materials (RACM). RACM are friable asbestos material; Category I non-friable ACM that has become friable; Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading; and Category II non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation. If any Category I or Category II non-friable ACM becomes friable during removal, the Contractor shall stop work and make all notifications.

### 3. Competent Person:

- A. The asbestos abatement firm shall have a "competent person" present at all times while work on this contract is in progress. The competent person shall be thoroughly familiar and experienced with asbestos removal and related work; shall monitor and enforce the use of all safety procedures and equipment; and shall be knowledgeable of all National Institute for Occupational Safety and Health, EPA, OSHA, DPOR, DOLI, and VOSH requirements and guidelines.
- B. The competent person shall have a valid asbestos supervisor's license issued by the DPOR in accordance with the provisions of VA § 54.1-500 et seq.

#### 4. **Additional Contractor Responsibilities**

- A. The Contractor shall select a landfill approved for disposal of friable ACM and for disposal of non-friable ACM by the USEPA and appropriate state.
- B. The abatement firm and its employees performing work under this Specification have been trained in the proper procedures to follow in case of an emergency.
- C. The abatement firm and its employees performing work under this Special Provision have an established medical surveillance program in compliance with 29 CFR 1926.1101 and a written respirator program in compliance with 29 CFR 1910.134.
- D. Copies of Material Safety Data Sheets are obtained for any chemical solvents that will be used.

#### 5. **Materials, Work Areas, and Support Equipment**

- A. Personnel of other trades not engaged in the removal of asbestos materials shall be excluded by the Contractor from areas where there is potential exposure to airborne concentrations of asbestos; the abatement firm shall erect appropriate signage and barricades.

All air handling equipment, if required, shall arrive at the job site in a clean (uncontaminated) condition and shall be compliant with ANSI 29.2.

- B. The abatement firm is responsible for providing all equipment necessary to access areas containing ACM.
- C. The abatement firm shall provide appropriate decontamination facilities and shall be responsible for providing any necessary electrical and water sources and disposal of all contaminated materials.
- D. Work areas shall be prepared in accordance with 40 CFR 61 Subpart M; other applicable EPA guidance; 29 CFR 1926.1101; and any currently applicable OSHA compliance instructions.

#### 6. **ACM Management**

- A. All RACM shall be removed prior to demolition or renovation.
- B. Any Category I or Category II non-friable ACM present during demolition, renovation, post-demolition, or post-renovation subject to sanding, grinding, cutting, crushing, breaking, or abrading shall be removed and disposed as RACM.
- C. Category I and Category II non-friable ACM, that are not in poor condition and cannot be removed prior to demolition or renovation, shall be separated from the demolition debris. Alternatively, the entire debris mass shall be considered Category I or Category II non-friable ACM in good condition and shall be handled accordingly.
- D. Category I non-friable ACM that is not in poor condition before demolition, but where the structure and the ACM can be expected to burn as a result of explosive demolition, shall be treated as RACM; and therefore, shall be removed from the structure before demolition.
- E. All Category II ACM found in or on structures scheduled for explosion shall be removed before such demolition.

- F. Asbestos Cement (A/C) pipe shall not be ground, broken, crushed, sawed, abraded, or handled in a manner which would cause asbestos material to become friable or airborne. Saw-cutting will only be allowed provided that specifically designed saws equipped with high efficiency particulate air filtered vacuums are used. Cuts shall be continuously sprayed with amended water during cutting. The water shall be collected and filtered or disposed of properly. With the approval of the Engineer, A/C pipe that will be removed and that is encased in concrete, such as end walls, shall be cut flush with the concrete surface. With approval of the Engineer, the Contractor may pump grout into the buried lines that are no longer in service to maintain the structural bearing capacity of the area. No on-site burial of crushed A/C pipe shall be allowed.

#### **7. Cleanup**

- A. All work areas shall be cleared of all construction debris and left in a neat and orderly condition.
- B. All visible accumulations of asbestos material and debris shall be removed, and all surfaces within the work area shall be wet cleaned.
- C. Sealed drums or equipment used in the work area shall be cleaned and subsequently removed from the work areas.
- D. If the results of the air or surface dust samples indicate that contamination has occurred as the result of Contractor negligence or poor work practices, the Contractor shall clean the site at no additional cost to the Department. In addition, the Contractor shall be liable for any damage claims or other legal actions brought against VDOT, its employees, or brought by VDOT or any persons exposed to such contamination.
- E. The Contractor shall be held responsible for the cost of re-inspections if the work is determined to not be substantially complete.

#### **8. Disposal of Asbestos Waste**

The abatement contractor shall remove, transport, and dispose of the ACM from the job site in accordance with all federal and state regulations and this Special Provision. The Contractor shall be responsible for generating and maintaining a waste shipment record in accordance with applicable local, state, federal, and disposal facility requirements; and shall provide a copy to the Engineer for the Department's records.

All asbestos waste, scrap, debris containers, asbestos contaminated clothing, and equipment that may produce airborne concentrations of asbestos fibers shall be collected and placed in sealed and properly labeled, 6 mil impermeable bags. Sealed impermeable bags of asbestos waste shall be temporarily stored in asbestos waste containers (drums, trailers, etc.). Uncontaminated containers may be recycled.

### **III. SUBMITTALS**

#### **1. Pre-Work Submittals**

Before commencing work, the Contractor shall submit to the Department two copies of the required notifications submitted to the Asbestos Clerk, DOLI.

#### **2. Work/Post-Work Submittals**

The Contractor shall submit to the Department:

- A. Copies of licenses for the firms and employees performing work under this Specification.
- B. Within 35 days of depositing a load of ACM waste from this project to the designated landfill, the Contractor shall submit a copy of the certificates of disposal from the landfill to the Department. All acceptable waste manifests and certificates of disposal shall be submitted to the Department before any payments are made to the Contractor for this work.

#### IV. **SITE INSPECTION**

The Department (or its representative) reserves the right to inspect all asbestos abatement operations at any time. If any aspect of the work is found inconsistent with this special provision, a stop work order will be issued and operations will be immediately suspended. Until the inconsistency is corrected, any standby time and costs for corrective actions shall be at the Contractor's expense.

#### V. **MEASUREMENT AND PAYMENT**

Where the Department has provided an asbestos inspection report, **asbestos removal** will be paid for at the Contract lump sum price per structure. This price shall include removal and disposal of all ACM, and submission of required documentation.

Where the Department has not provided an asbestos inspection report, payment for removal and disposal of all ACM will be made under Section 109.05 of the Specifications.

Payment will be made under:

| <b>Pay Item</b>                  | <b>Pay Unit</b> |
|----------------------------------|-----------------|
| Asbestos Removal (Structure No.) | Lump sum        |



**GUIDELINES** — Use when requested by the Project Manager. Federal structure number and location must be filled in.

[SP522-000250-00](#)

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**PROTECTION OF PEREGRINE FALCON**

August 21, 2018

**I. Description**

The state threatened peregrine falcon has been identified to nest on Structure No. **XXXX (Federal Structure Number)** included in this contract. The Contractor shall take protective measures described herein.

**II. Requirements**

A Time-of-Year Restriction (TOYR), from February 15 through July 15, applies to all activities within 600 feet of nest locations. This TOYR limits the Contractor's operation in order to protect the nesting behaviors. The TOYR shall be applied within 600 feet of the nest **(describe the general location of the nest. For example, "...located at the southeastern corner of the bridge.")** If specific, well-defined, and short-duration work activities must occur within the TOYR, the Contractor may coordinate with the Engineer to request case-by-case relief from the restriction; however, consideration of such requests is at the discretion of the Engineer.

**III. Measurement and Payment**

No separate payment will be made for compliance with the requirements herein.

**GUIDELINES** — Use when the project schedule allows adequate time for the Department to perform the relocation work ahead of the contract advertisement date. Determination should be made prior to the PAC meeting.

[SP522-000260-00](#)

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**PROTECTED FISH SPECIES**  
DEPARTMENT PERFORMS RELOCATION

January 10, 2019

**I. Description**

**Stream Name** is known to provide habitat for the **Fish Common Name**, a **state or federally** protected species. The Contractor shall take protective measures as described herein.

**II. Requirements**

A Time of Year Restriction (TOYR) applies on all instream work from **(DATE) to (DATE)** with the exception of dewatering and other work within cofferdams, or as otherwise specified by the water quality permits issued for the project.

The Contractor shall install and remove cofferdams outside of the TOYR. The Contractor shall notify the Engineer at least 60 days before cofferdam placement, or a different notification timeframe as approved by the Engineer, and shall allow the Department's biologists to perform fish relocation activities within all cofferdams. The Contractor shall not begin work within cofferdams until the fish relocation activities are completed, and the Engineer provides a written notice to proceed.

If the cofferdam overtops due to excessive stream flow after initial relocation efforts are complete, additional fish relocation will be required before subsequent dewatering activities. The Department will conduct additional fish relocation activities within 3 working days after receiving written notification of the overtopping.

**III. Measurement and Payment**

No separate payment will be made for compliance with the requirements herein.

**GUIDELINES — Guidelines: Use when the project schedule does not allow adequate time for the Department to perform the protected fish relocation within cofferdams. Determination should be made prior to the PAC meeting.**

[SP522-000270-00](#)

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**PROTECTED FISH SPECIES**  
**CONTRACTOR PERFORMS RELOCATION**

January 14, 2019

**IV. Description**

**Stream Name** is known to provide habitat for the **Fish Common Name**, a **state or federally** protected species. The Contractor shall take protective measures as described herein.

**V. Requirements**

A Time of Year Restriction (TOYR) applies on all instream work from **(DATE)** to **(DATE)** with the exception of dewatering and other work within cofferdams, or as otherwise specified in the applicable water quality permits issued for the project.

The Contractor shall install and remove cofferdams outside of the TOYR.

The Contractor shall conduct the fish relocation work. Fish relocation shall be performed by an individual with a valid Virginia Department of Game and Inland Fisheries (VDGIF) Threatened and Endangered Species Permit. The Contractor shall notify the Engineer of the selected individual and provide a copy of the Threatened and Endangered Species Permit at least 14 days before beginning fish relocation, or a shorter timeframe as determined by the Engineer for subsequent fish relocations. The Engineer will not authorize fish relocation without receipt of the permit. Reporting under the permit is the responsibility of the approved individual doing the fish relocation work; the Contractor shall provide a copy of all reports to the Engineer. Dewatering shall not begin until the fish relocation is complete, and the Engineer provides written authorization for dewatering to proceed.

If any cofferdam has overtopped due to excessive stream flow after initial relocation efforts were completed, additional fish relocation shall be required before subsequent dewatering activities. Additional fish relocation shall follow the same requirements as the initial fish relocation.

**VI. Measurement and Payment**

The cost associated with this work shall be included in other appropriate items. No separate payment will be made for compliance with the requirements herein.

**GUIDELINES** — Use when requested by the District Environmental Manager. Fill in the highlighted section. work ahead of the contract ad date. Determination should be made prior to the PAC meeting.

**SP522-000280-00**

VIRGINIA DEPARTMENT OF TRANSPORTATION  
SPECIAL PROVISION FOR  
**PROTECTION OF THE BIG SANDY CRAYFISH**

June 19, 2019

**I. Description**

**Stream Name** is known to provide habitat for the Big Sandy Crayfish, a state and federally protected species. The Contractor shall take protective measures as described herein.

**II. Requirements**

A Time of Year Restriction (TOYR) applies on all instream work from July 1 through October 31 with the exception of dewatering and other work within cofferdams, or as otherwise specified by the water quality permits issued for the project.

The Contractor shall install and remove cofferdams outside of the TOYR. The Contractor shall notify the Engineer at least 30 days before cofferdam placement, or a different notification timeframe as approved by the Engineer, and shall allow the Department's biologists to perform Big Sandy Crayfish relocation activities within all cofferdams. The Contractor shall not begin work within cofferdams until the crayfish relocation activities are completed, and the Engineer provides a written notice to proceed.

If the cofferdam overtops due to excessive stream flow after initial relocation efforts are completed, additional crayfish relocation will be required before subsequent dewatering activities. The Department will conduct additional crayfish relocation activities within 3 working days after receiving written notification of the overtopping.

**III. Measurement and Payment**

No separate payment will be made for compliance with the requirements herein.

**GUIDELINES** — All projects with guardrail and w-beam median barriers.

[SS505-002016-03](#)

May 2, 2018

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2016 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS  
**SECTION 505 – GUARDRAIL AND W-BEAM MEDIAN BARRIERS**

**SECTION 505 – GUARDRAIL AND W-BEAM MEDIAN BARRIERS** of the Specifications is amended as follows:

**Section 505.03 – Procedures** is amended to replace the thirteenth paragraph with the following:

Guardrail shall only be constructed by a guardrail erector included on the Department's Approved List 12, who shall have a trained guardrail installer on the project during guardrail installation. For the purpose of this specification, a trained guardrail installer is a person who has a current certificate of training from a Department-approved guardrail installation training course.

**Section 505.03 – Procedures** is amended to replace the sixteenth paragraph with the following:

The Contractor shall submit two copies of the manufacturers' recommended installation instructions and the FHWA NCHRP 350 or MASH approval letter for the type of new or salvaged guardrail end treatments being installed on the project to the Engineer at least 2 weeks before starting guardrail end terminal installation. All end terminals shall be from manufacturers on the Department's Approved List 12 and the Department's Approved List for NCHRP 350 or MASH products linked therein. New Type I Re-Directive Impact Attenuators and Guardrail Terminals shall be permanently identified by stamping or engraving in a location readily visible for inspection that is not susceptible to damage. The identification shall include Manufacturer, Date and Site of Manufacture, and Model Number.

**Section 505.03(d) – Adjusting existing guardrail** is amended by replacing the first paragraph with the following:

Adjusting existing guardrail beam shall consist of removing and disassembling the existing guardrail beam and offset blocks from the posts, drilling the post in accordance with the standard drawing, and reassembling the offset blocks and guardrail beam to the height required by current Standard Drawings or Specifications. Adjusting the existing guardrail beam shall be limited to 4 inches. Adjusting guardrail beam shall be limited to steel posts and shall be in accordance with the plan details and Standard Drawings. Adjusting existing guardrail beam will not be permitted within the pay limits of end terminals. The terminal shall be completely removed and reinstalled or a new terminal installed in accordance with the Standard Drawings and the manufacturer's instructions.

Adjusting existing guardrail to meet the GR-MGS1 or GR-MGS1A Standard Drawings will not be permitted.

**Section 505.04 – Measurement and Payment** is amended by replacing the fifth paragraph with the following:

**Terminal treatment or end anchorage for beam guardrail, cable guardrail, and steel median barriers terminating on the roadway side of the ditch line** will be measured in units of each and will be paid for at the contract unit price per each.

**Section 505.04 – Measurement and Payment** is amended by inserting the following:

**Guardrail height transition (Standard)** will be measured in units of each and will be paid for at the Contract each price. This price shall include furnishing and placing posts, offset blocks, and all hardware necessary to fully install the height transition.

**Section 505.04 – Measurement and Payment** is amended by revising the Pay Item Table as follows:

The following pay items are inserted:

| <b>Pay Item</b>                        | <b>Pay Unit</b> |
|--|-----------------|
| Guardrail end anchorage (Standard)     | Each            |
| Guardrail height transition (Standard) | Each            |

Included in the [2019 Supplement to the 2016 Specifications page 65](#)

[SS512-002016-02](#)

February 7, 2017

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2016 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS  
**SECTION 512 – MAINTAINING TRAFFIC**

**SECTION 512 – Maintaining Traffic** of the Specifications is amended as follows:

**Section 512.01 – Description** of the Specifications is replaced with the following:

This work shall consist of maintaining traffic and protecting workers through temporary work areas, maintaining public and private entrances and mailbox turnouts, constructing and obliterating temporary traffic Diversions, providing positive guidance to the traveling public within the limits of the work area and over approved traffic Detours. All work shall be in accordance with the VWAPM, the MUTCD, and the Contract, as directed by the Engineer.

**Section 512.02(f) – Temporary (Construction) signs** is replaced with the following:

**Temporary (Construction) signs** for traffic control during construction, maintenance, permits, utility, and incident management activities shall have retroreflective sign sheeting in accordance with Sections 247 and 701 of the Specifications, and shall be installed in accordance with Section 701 of the Specifications.

Sign substrates for rigid temporary (construction) signs mounted on posts and temporary (construction) sign panels for overlays shall be either fabricated of aluminum at least 0.080-inches thick, conforming to Section 229.02(a) of the Specifications, or one of the following from the Traffic Engineering Division's Approved Products List: 0.4-inch-thick corrugated polypropylene; 0.4-inch-thick corrugated polyethylene plastic; or 0.079-inch-thick aluminum/plastic laminate. Sign substrates shall be smooth, flat, and free of metal burrs or splinters.

Sign substrate materials for signs mounted on drums, Type 3 barricades, and portable sign stands shall be as specified below and shall be the same material that was used when the device was tested and found to be in compliance with the requirements of National Cooperative Highway Research Program (NCHRP) Report 350, Test Level 3, or of other materials allowed in the FHWA acceptance letter. Drums, Type 3 barricades, and portable sign stands shall be from Location & Design Division's NCHRP 350/MASH Approved Products List.

**Sign Substrates for Type 3 Barricades and Portable Sign Stands**

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Rollup sign  
0.4 inch thick corrugated polypropylene or polyethylene plastic  
0.079 inch thick aluminum/plastic laminate

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**Sign Substrates for Drums**

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0.4 inch thick corrugated polypropylene or polyethylene plastic

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**Section 512.03 – Procedures** is amended by replacing the seventh paragraph with the following:

The color of Automated Flagger Assistance Device trailers, arrow board trailers, portable traffic control signal trailers, Intelligent Traffic Systems (ITS) trailer equipment, and portable changeable message sign trailers and sign frames shall be either Virginia highway orange (DuPont Color No. LF74279 AT or color equivalent) or federal yellow. The back traffic facing trailer frame, where the signal and brake lights are located, shall be fully covered with 2 inch high retroreflective sheeting conforming to Section 247.02(c) of the Specifications. The sheeting shall have alternating 11 inch wide vertical red stripes and 7 inch wide vertical white stripes.

**Section 512.03(b) – Flagger Service** is replaced with the following:

**Flagger Service:** The Contractor shall provide certified flaggers in sufficient numbers and locations as necessary for control and protection of vehicular and pedestrian traffic in accordance with the VWAPM, or as directed by the Engineer. Flaggers shall use sign paddles to regulate traffic in accordance with the VWAPM. Certified flaggers shall conform to Section 105.14.

**Section 512.03(g)2b(1) – Drums** is amended to replace the third paragraph with the following:

Drums shall be used in all unmanned work zone locations and shall also be used to delineate the locations of all non-crashworthy trailer mounted devices such as, but not limited to, ITS devices, Portable Changeable Message Sign, Highway Advisory Radio, Speed Trailers, CB Wizards, etc. as well as light towers. Drums shall be used to delineate merging tapers on limited access highways during nighttime operations and the location of Electronic Arrow Boards.

Portable Traffic Control Signals and AFAD units shall be delineated in accordance with the VWAPM.

**Section 512.03(l) – Eradicating Pavement Markings** is amended to replace the fourth paragraph with the following:

The Contractor may submit other methods of eradication for the Engineer's approval. The Contractor shall minimize roadway surface damage when performing the eradication. The Contractor shall repair the pavement if eradication of pavement markings results in damage to or deterioration of the roadway presenting unsafe conditions for motorcyclists, bicyclists, or other road users. Pavement repair, when required, shall be performed using a method approved by the Engineer.

**Section 512.04 – Measurement and Payment** is amended to replace the first paragraph with the following:

**Flagger service** will be measured in hours of operation, per flagger, as required by Section 512.03(b) and authorized or approved by the Engineer; and will be paid for at the contract unit price per hour. This price shall include paddles and safety equipment.

**Section 512.04 – Measurement and Payment** is amended to replace the fourteenth paragraph with the following:

**Temporary traffic control signal** will be paid for at the contract lump sum price for the location specified in the contract documents. This price shall include, but not be limited to, supports; span wire; tether wire; conduit; conductor cable; traffic signal heads; backplates; hanger assemblies; necessary control items; vehicle detection; uninterruptable power supply; channelizing devices; and, when approved, portable traffic control signal equipment. The price shall also include installing, maintaining, adjusting, and aligning signal equipment; when required plan development, inclusive of signal layout, signal timing, phasing, and/or sequencing; providing electrical service; utility company costs; and removing temporary signal equipment when no longer required.



**Section 512.04 – Measurement and Payment** is amended to replace the seventeenth paragraph with the following:

**Temporary (Construction) Pavement message (word) markings** will be measured in units of each and will be paid for at the contract unit price per each. This price shall include surface preparation, premarking, furnishing, installing, quality control tests, daily log, guarding devices, primer or adhesive, glass beads, reflective optics materials (when required), maintenance, and warranty.

**Temporary (Construction) Pavement symbol markings** will be measured in units of each per location for the symbol and type material specified and will be paid for at the contract unit price per each. This price shall include surface preparation, premarking, furnishing, installing, quality control tests, daily log, guarding devices, primer or adhesive, glass beads, reflective optics materials when required, maintenance, and warranty.

**Section 512.04 – Measurement and Payment** is amended to replace the nineteenth paragraph with the following:

**Eradication of existing linear pavement markings** will be measured in linear feet of a 6 inch width or portion thereof as specified herein. Widths that exceed a 6 inch increment by more than 1/2 inch will be measured as the next 6 inch increment. Measurement and payment for eradication of existing pavement markings specified herein shall be limited to linear pavement line markings. Eradication of existing pavement markings will be paid for at the contract unit price per linear foot. This price shall include removing linear pavement line markings, cleanup, and disposing of residue.

**Section 512.04 – Measurement and Payment** is amended by revising the Pay Item Table as follows:

The following pay items are removed:

| <b>Pay Item</b>                                       | <b>Pay Unit</b> |
|---|-----------------|
| Temporary pavement message marking (Type and message) | Each            |
| Eradication of existing pavement marking              | Linear foot     |

The following pay items are inserted:

| <b>Pay Item</b>   | <b>Pay Unit</b> |
|---|-----------------|
| Temporary pavement message marking (Size character, Type or class material) | Each            |
| Temporary pavement symbol marking (Symbol, Type or class material)          | Each            |
| Eradication of existing linear pavement marking                             | Linear foot     |

**GUIDELINES — All projects.**

SS513-002016-01

April 25, 2019

**VIRGINIA DEPARTMENT OF TRANSPORTATION  
2016 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS  
SECTION 513—MOBILIZATION**

**SECTION 513 – MOBILIZATION** of the Specifications is replaced with the following:

**513.01 – Description**

This work shall consist of performing preliminary operations, including: moving personnel and equipment to the project site; paying bonds and insurance premiums; and establishing the Contractor's offices, buildings, and other facilities necessary to allow work to begin on a substantial phase of the Contract.

**513.02 – Measurement and Payment**

**Mobilization** will be paid for at the Contract lump sum price. This price shall include demobilization.

Payment for mobilization up to the limitations specified herein will be made in two separate installments. The first installment of 50 percent of the Contract lump sum price for mobilization will be made on the first progress estimate following partial mobilization and initiation of construction work. The second installment will be made on the next progress estimate following completion of substantial mobilization, including erection of the Contractor's offices and buildings. Completion of erection of processing plants, if any, will not be required as a condition for the release of the second installment.

If the original Contract lump sum price for mobilization exceeds the total mobilization payout limit stated in the table below, the excess will be included on the semifinal estimate.

| <b>Contract Amount</b> |                         | <b>Total Mobilization Payout Limit</b>                        |
|------------------------|-------------------------|---|
| <b>More Than</b>       | <b>To and Including</b> |   |
| \$0                    | \$200,000               | 10% of total contract amount                                  |
| 200,000                | 1,000,000               | \$20,000 plus 7.5% (of total contract amount minus \$200,000) |
| 1,000,000              | More                    | \$80,000 plus 5% (of total contract amount minus \$1,000,000) |

No additional payment will be made for demobilization and remobilization because of shutdowns, suspensions of work, or other mobilization activities.

When not shown as a pay item, the cost of mobilization shall be included in the price bid for other appropriate items of work.

Payment will be made under:

| <b>Pay Item</b> | <b>Pay Unit</b> |
|-----------------|-----------------|
| Mobilization    | Lump sum        |



Included in the [2019 Supplement to the 2016 Specifications page 69](#)

[SS516-002016-01](#)

March 8, 2016; Issued July 12, 2016

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2016 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS

**SECTION 516—DEMOLITION OF BUILDINGS AND CLEARING PARCELS**

**SECTION 516—DEMOLITION OF BUILDINGS AND CLEARING PARCELS** of the Specifications is amended as follows:

**Section 516.02(d) Demolition** is amended by replacing the first paragraph with the following:

The Department will issue written notification to the Contractor when buildings are ready for demolition. Demolition shall include removing and disposing of materials from buildings and appurtenances down to ground level. If the structure includes a basement, concrete slab, or any other elements which extend below the ground, exclusive of piles, then demolition shall include removing and disposing of the materials down to, and including, this portion of the structure as directed by the Engineer.

**Section 516.02(e) Clearing Parcels** is amended by replacing the second paragraph with the following:

Clearing parcels shall include disposing of materials from abandoned, noncombustible foundations down to and including floor slabs, basement slabs, and any improvement or appurtenance designated for removal but not listed as a pay item. Foundations for buildings designated as pay items will be considered part of those buildings, and removed according to paragraph (d) above. Combustible debris and rubble, including fences, posts, or pillars shall be removed from the right of way or from within the limits of easements obtained for removing buildings that may be partially outside the right of way.

Included in the [2019 Supplement to the 2016 Specifications page 69](#)

[SS520-002016-01](#)

February 19, 2018

VIRGINIA DEPARTMENT OF TRANSPORTATION  
2016 ROAD AND BRIDGE SUPPLEMENTAL SPECIFICATIONS  
**SECTION 520 – WATER AND SANITARY SEWER FACILITIES**

**Section 520 – Water and Sanitary Sewer Facilities is amended as follows:**

**Section 520.01 – Description** is amended to include the following:

If the utility owner's specifications conflict with the Contract, the utility owners' specifications shall govern in those areas.

**Section 520.02(c) – Casing pipe** is replaced with the following:

**Casing pipe** shall conform to Section 232.02 (c) 4.

**Section 520.02(k) – Valves** is replaced with the following:

**Valves** shall conform to AWWA C500, C504, C506, C507, C508, C509, or C515 for the types and features specified.

**Section 520.02(r) – Flowable backfill** is inserted as follows:

**Flowable backfill** shall conform to Section 249.

**Section 520.03 – Procedures** is amended to replace the fourth paragraph with the following:

The Contractor shall abandon existing water and sewer lines and appurtenances and manholes not required in the completed system as directed by the Engineer. Abandoned materials shall become the property of the Contractor, unless otherwise noted on the plans, upon satisfactory replacement with the new installation. The Contractor shall clean abandoned pipe that is not removed of debris and plug it with Class A3 concrete at open ends if the utility is less than 8 inches inside diameter. If the abandoned pipe is 8 inches inside diameter or greater, the Contractor shall clean the pipe of debris and fill it entirely with Class A3 concrete or flowable backfill conforming to Section 509.

**Section 520.03(b) – Excavation** is amended to replace the fourth paragraph with the following:

When work is not in progress for any reason, lines shall be securely closed with a water-tight cap or plug to prevent water and debris from entering the lines.

**Section 520.03(f)5 – PVC pipe** is replaced with the following:

**PVC pipe** shall be joined by gasketed bell and socket joints in accordance with AWWA C-900 and AWWA C905.

**Section 520.03(f)8 – PE pipe** is replaced with the following:

**PE pipe** shall be joined in accordance with AWWA C-901, AWWA C906, and the manufacturer's recommendation.

**Section 520.03(g) – Plugs, Caps, Tees, and Bends** is replaced with the following:

**Plugs, Caps, Tees, and Bends:** The Contractor shall anchor plugs, caps, tees, and bends with reaction backing if indicated in the Plans. Backing shall be concrete reaction blocks, metal reaction harnesses, or a combination thereof. Concrete shall be placed in accordance with Section 404 and cured in accordance with Section 316.04(j). Metal harness tie rods and clamps shall be of adequate strength to prevent movement and shall be galvanized or rustproofed by a means approved by the Engineer.

**Section 520.04(a) – Water Mains and Appurtenances** is renamed **Force Main Sanitary Sewers, Water Mains, and Appurtenances** and replaced with the following:

**Force Main Sanitary Sewers, Water Mains, and Appurtenances:** New force main sanitary sewers, water mains, and appurtenances shall be tested for leakage using the hydrostatic pressure test method in accordance with Section 4 of AWWA C600 and the following:

1. The duration of each test shall be at least 2 hours. Sections of main with concrete reaction backing shall not be tested until at least 5 days after the backing is placed. If the backing is constructed with high-early-strength concrete, the test may be performed 2 days after backing is placed.
2. Testing of tie-ins with existing mains shall be performed under the normal working pressure of the main involved. The Engineer will not allow visible leakage at these points during a period of at least 2 hours.
3. The hydrostatic test pressure shall be 150 pounds per square inch or 1.5 times the working pressure, whichever is greater, based on the elevation of the lowest point in the line or section under test and shall be corrected to the elevation of the test gage. The Contractor shall ascertain the specific working pressure of the force main sanitary sewer or water main from the utility owner. Leakage loss shall not exceed the allowable leakage ( $L$ ) as determined by the following formula:

$$L = \frac{SD\sqrt{P}}{148,000}$$

Where:

$L$  = the allowable leakage in gallons per hour

$S$  = the length of pipe tested in feet

$D$  = the nominal inside diameter of the pipe in inches

$P$  = the average test pressure during the leakage test in pounds per square inch

**Section 520.04(b)3 – Air test** is replaced with the following:

**Air test:** In lieu of the infiltration or exfiltration test for leakage the Contractor may test the sewers by using low air pressures in accordance with ASTM F1417. The Contractor shall perform the low air pressure test in accordance with the following:

- a. The Contractor shall eliminate discernable water leaks and remove debris after backfilling and prior to air testing. Tests shall be conducted from manhole to manhole or from manhole to terminus. No personnel shall be allowed in manholes once testing has begun.
- b. The Contractor shall provide securely braced test plugs at each manhole and a suitable means of determining the depth of the ground water level above the inverts immediately before testing.
- c. The Contractor shall slowly add air to the portion of the pipe being tested until the internal air pressure is at a test pressure of 4 pounds per square inch above the invert or ground water table, whichever is greater, or until the pressure is equal to the hydraulic gradient, whichever is greater. If the test plug shows leakage, as determined by the Engineer, the Contractor shall relieve the pressure for at least 2 minutes. The Contractor shall then disconnect the hose and compressor. If the pressure decreases to 3.5 pounds per square inch, the Contractor shall record the amount of time required for the pressure to drop from 3.5 to 2.5 pounds per square inch. The minimum allowable holding times will be as specified herein. The Engineer will not accept pipes that fail to maintain minimum holding times required by ASTM F1417. Any repairs, replacement, and retesting as specified by the Engineer shall be performed at the Contractor's expense.

If low air pressure tests are used, the manholes shall be tested by exfiltration. Inflatable stoppers shall be used to plug all lines into and out of the manhole being tested. The stoppers shall be positioned in the lines far enough from the manhole to ensure testing of those portions of the lines not air tested. The manhole shall then be filled with water to the top and a 12-hour soaking period shall be allowed prior to test measurement. The manhole shall be refilled to a mark, and at the end of 1 hour, the amount of leakage shall be measured. Leakage shall not exceed 1/2 gallon per hour. If the manhole fails to comply with the test requirements, the Contractor shall repair leaks at the Contractor's expense. The test shall then be repeated until satisfactory results are obtained.

**Section 520.04(c) – Force Main Sanitary Sewers** is deleted.

**Section 520.04(d) – Offsets of Existing Pipe** is redesignated **(c)**.

**Section 520.06 – Measurement and Payment** is amended to replace the second paragraph with the following:

**Water mains, water service lines, sanitary sewer pipe, and sanitary sewer force mains** will be measured in linear feet of pipe through all valves and fittings, complete-in-place, and will be paid for at the Contract linear foot price. This price shall include excavating when not a specific pay item for the utility in question; testing; disinfecting; backfilling; compacting; dewatering; disposing of surplus and unsuitable material; sheeting and shoring; furnishing and installing bedding material; furnishing and installing pipe; connecting to existing lines or manholes; fittings less than 16 inches in diameter; reaction blocking; concrete anchor block; watertight welds; restrained joints; abandoning or removing lines, manholes, and other appurtenances; and restoring property. Furnishing and installing Class A3 concrete or flowable backfill in abandoned 8 inch or larger lines will be measured and paid for separately. Pipe of one size, except for cast iron and ductile iron pipe, shall be combined into one contract item for the respective size of water main and sanitary sewer pipe. The salvage value of abandoned materials shall accrue to the Contractor and shall be reflected in the price bid for the respective replacement facility.

**Section 520.06 – Measurement and Payment** is amended to replace the thirteenth paragraph with the following:

**Bends, plugs or caps, reducers, solid sleeves, and branches** (tees, wyes, and crosses), only 16 inches in diameter and larger, will be measured in units of each and will be paid for at the Contract each price. This price shall include furnishing and installing pipe fittings, restrained joints, excavating, reaction blocking, testing, backfilling, sheeting and shoring, watertight welds, abandoning or removing existing lines as noted on the plans, and restoring property.

**Section 520.06 – Measurement and Payment** is amended by inserting the following after the fifteenth paragraph:

**Concrete** will be measured in cubic yards and paid for at the Contract cubic yard price. This price shall include furnishing and placing of concrete not included in other pay items, and installing plugs.

**Flowable Backfill** will be measured in cubic yards and will be paid for at the Contract cubic yard price. This price shall include furnishing and placing of backfill material and furnishing and installing plugs.

**Section 520.06 – Measurement and Payment** is amended by revising the Pay Item Table as follows:

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| The following pay items are inserted: |                 |
|---------------------------------------|-----------------|
| <b>Pay Item</b>                       | <b>Pay Unit</b> |
| Solid Sleeve (Size)                   | Each            |
| Solid sleeve-force main (Size)        | Each            |
| Concrete (Class)                      | Cubic Yard      |
| Flowable Backfill                     | Cubic Yard      |

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