

EXHIBIT B

VDOT/FHWA VIRGINIA DIVISION AGREEMENT FOR FEDERAL AID MAINTENANCE PROJECTS

The most recent VDOT/FHWA Virginia Division Agreement for Federal Aid Maintenance Projects is dated March 13, 2015. A link to this document follows:

<https://insidevdot.cov.virginia.gov/div/opd/L7TF1/Shared%20Documents/2015%20PM-3R%20Agreement.pdf>

Note: Due to the changes implemented by both MAP-21 and FAST Act, prior agreement with the FHWA Virginia Division for Federal Aid Maintenance Projects is not needed. However, it is still highly encouraged for contract and programmatic consistency.

The federally recognized maintenance activities as shown in the VDOT/FHWA Virginia Division Agreement for Federal Aid Maintenance Projects are listed in the following table, along with their associated VDOT Bridge Maintenance activity codes and activity code descriptions.

| Activity Description in FHWA/VDOT letter Agreement for Planned Preventive Maintenance and System Preservation | | VDOT Bridge Maintenance Activity Code | VDOT Bridge Maintenance Activity Code Description |
|---|---|---------------------------------------|---|
| 1 | Seal or replace leaking joints, reconstruction of joint areas during joint replacement or elimination of deck joints | 61704 | Joint Rehabilitation |
| 2 | Thin bonded overlays | 61703 | Thin Overlay |
| 3 | Rigid overlays | 61705 | Rigid Overlay |
| 4 | Asphalt overlays with waterproof membranes | 62708 | Asphalt Overlay |
| 5 | Spot and zone painting/coating of structural steel to include bearings for prestressed concrete members | 62729 | Spot Paint |
| 6 | Painting/coating of structural steel | 62728 | Paint |
| 7 | Cathodic Protection (CP) Systems for Bridge Decks, Substructure Elements, Superstructure Elements other than bridge decks | None | None |
| 8 | Electrochemical Chloride Extraction (ECE) Treatment for bridge decks and substructure elements | None | None |
| 9 | Scour countermeasures installation | 62746 | Repair Undermining |
| 10 | Removing large debris from channels | 60740 | Ordinary Maintenance |
| 11 | Retrofit of fracture critical members | 62726 | Steel Superstructure Repair |
| 12 | Retrofit of fatigue prone details | 62726 | Steel Superstructure Repair |
| 13 | Concrete deck repairs in conjunction with installation of deck overlays, CP systems, or ECE treatment | 61701, 61703, 62705, 62708 | Patching, overlays |
| 14 | Galvanic anodes in conjunction with approved concrete deck repairs, concrete substructure surface repairs and joint elimination | 61701 | Deck Patching |
| 15 | Substructure concrete repairs in conjunction with installation of CP system in the bridge element, ECE treatment of the element, or galvanic anodes in the element. (Includes substructure units with cathodic protection jackets.) Includes preventive maintenance of piles using jackets in conjunction with cathodic protection. | 62745 | Substructure Surface Repair |
| 16 | Application of concrete sealants, coatings, and membranes for surface protection of the concrete | 60700 | Ordinary Maintenance |

| Activity Description in FHWA/VDOT letter Agreement for Planned Preventive Maintenance and System Preservation | | VDOT Bridge Maintenance Activity Code | VDOT Bridge Maintenance Activity Code Description |
|---|--|---------------------------------------|---|
| 17 | Bridge cleaning and/or washing service – decks, joints, drains, superstructure and bearing devices, substructure horizontal elements | 60700 | Ordinary Maintenance |
| 18 | Concrete mat along the flow line of steel pipe culverts | 62755 | Surface Repair |
| 19 | Culvert Liners, including steel or polymer pipe inserts, spray on liners such as shotcrete, epoxy or polyuria - based systems | 72749 | Major Rehabilitation |
| 20 | Cleaning and lubricating bearing devices, including removal and disposal of debris and lubricating moveable bearings | 62727 | Bearing Repair |
| 21 | Movable bridge preservation including rebalance movable span(s), maintenance of gear reducer, maintenance of hydraulic pumps and motors and maintenance of hydraulic systems | 62211 | Movable – Mech. Repairs |
| 22 | Cleaning of drainage facilities (on individual bridges) | 60700 | Ordinary Maintenance |
| 23 | Corrosion protection activities (on individual bridges) | 60740 | Ordinary Maintenance |

VDOT and FHWA Virginia Division have agreed to establish programmatic authorizations for pavement resurfacing work (construction phase of a pavement project) and bridge preliminary engineering activities as outlined in the Federal-Aid Preventative Maintenance Agreement between FHWA Virginia Division and VDOT. This approach will streamline project delivery and enable VDOT to continue progress to meet or exceed performance targets as required at the state and federal levels. This effort also reduces significantly the number of individual federal agreements that would need to be established, monitored, and managed by VDOT and FHWA. With the programmatic agreement already in place, VDOT can more efficiently begin preliminary engineering work on bridges and construction activities on pavements identified as needing some preventative maintenance treatment when those needs are identified.

A link to the Programmatic Authorizations for Preventative Maintenance Activities - Pavements and Bridge PE document follows:

[https://insidevdot.cov.virginia.gov/div/FPMD/Lists/Announcements/Attachments/3/Programmatic%20Authorizations District%20Guidance%20-%20042017.pdf](https://insidevdot.cov.virginia.gov/div/FPMD/Lists/Announcements/Attachments/3/Programmatic%20Authorizations%20District%20Guidance%20-%20042017.pdf)

Ordinary Maintenance is defined by VDOT as follows:

Work that preserves roadway assets, corrects minor defects or problems, and extends the life of the asset.

Planned Preventive Maintenance (PM) is defined by VDOT as follows:

Any planned activity performed in advance of a need for repair or in advance of accumulated deterioration so as to avoid or minimize such occurrences and reduce or arrest the rate of future deterioration. The activities may correct minor defects as a secondary benefit. PM is usually planned cyclical, and generally is designed to extend the useful life of the asset, without, necessarily, extending structural capacity of the assets.

Planned preventive (cyclical) maintenance should be performed on a schedule to be developed for each structure. The following table establishes a basis for scheduling planned preventive maintenance activities:

| Preventive Maintenance Activity | | Ideal Cycle Years | Units | Activity Description | How Activity Is Accounted for in Annual Needs Analysis |
|---------------------------------|---|-------------------|-------|--|--|
| 1 | Bridge Deck Washing (Concrete) | 1 | SY | Removal & disposal of debris; pressure washing of bridge roadway surface, joints, sidewalks, curbs, parapet walls, drainage grates, downspouts, and scuppers. | All concrete decks and slabs that do not have an asphalt overlay. |
| 2 | Bridge Deck Sweeping | 1 | SY | Includes the removal and disposal of debris and sweeping of the bridge roadway surface, shoulders, joints, sidewalks, and curb lines. | All concrete decks and slabs with asphalt overlay, metal decks, timber decks and slabs. |
| 3 | Seats & Beam Ends Washing | 2 | SY | Includes the removal and disposal of debris and pressure washing of the bridge seat, bearing areas, and 5 feet of beam-ends. Use 3 feet avg. seat width for estimation purposes. | Clean all bridge seat and bearings, abutment seats, pier seats, bearing devices, end diaphragms and the last 5' of beams and girders. |
| 4* | Cutting & Removing Vegetation | 2 | EA | Cutting, removing and disposing of vegetation, brush and trees that are on, adjacent to, or under bridges. | This activity can be planned and performed on any bridge or culvert as deemed necessary. |
| 5* | Routine Maintenance of Timber Structures | 2 | EA | Tightening and/or replacing fasteners for decks, railing systems, misc. connections. Sealing ends of timber elements, such as boards, bent caps, railings, posts. | All timber structures. |
| 6 | Scheduled Replacement of Deck Expansion Joint Seals | 10 | LF | Includes removal of existing joint material, surface preparation and installing new joint material. | Only joints that are in good condition will be considered as planned preventive maintenance needs. Needs for joints that are not in good condition are included in the condition-based preventive maintenance needs. |
| 7 | Cleaning and Lubricating Bearing Devices | 4 | EA | Removal and disposal of debris, and lubricating movable bearings. | All bridges with movable type bearings. |
| 8 | Scheduled Installation of Thin Epoxy Concrete Overlay | 15 | SY | Includes installing of new system and/or replacing existing overlay system. | Only concrete bridge decks that are in overall good condition are considered in this program. |
| 9 | Beam End Painting | 10 | EA | Preparing and over-coating the end 5' of painted steel beams or girders that are located under joints, except for bridges with timber decks. Assume paint system replaced at 40 years. | Only beam ends in good condition will be considered in the annual planned preventive maintenance needs analysis. Needs for beam ends not in good condition are included in the condition-based preventive maintenance needs. |
| 10 | Removing Debris from Culverts | 5 | EA | Includes the removal and disposal of debris that is collected inside and/or at inlets or outlets of culverts. | All culverts except for those scheduled for replacement. |

*Not eligible for federal reimbursement under the efficiencies agreement

Notes on deck crack sealing: There are two distinct schools of thought on the application of gravity sealants to seal active deck cracks. Recent research has shown that this activity has, at best a very limited functional duration and is not a cost-effective maintenance technique for active cracks. However, some districts have had good experience with the practice and have both practical and anecdotal evidence to support this position. This document does not recommend the use of gravity sealants on active cracks but recognizes that a valuable short-term maintenance activity for dormant cracks.

MAINTENANCE AND REPAIR PREVENTIVE MAINTENANCE SCHEDULING PLANNED PREVENT. MAINT. ACTIVITIES

PART 2
DATE: 08Aug2018
SHEET 5 of 5
FILE NO. 32.10-5