PROJECT SPECIAL PROVISIONS

ROADWAY

SHOULDER RECONSTRUCTION PER SHOULDER MILE:

(1-18-00) (Rev 5-17-11) R1 R07A

Description

This work consists of reconstructing each shoulder (including median shoulders as applicable) in accordance with Roadway Standard Nos. 560.01 and 560.02 except that the rate of slope and width will be as shown on typical section, or to the existing shoulder point, whichever is nearer, as long as the desired typical is achieved, and when completed, seeding and mulching. This work shall be performed immediately after the resurfacing operations are complete as directed by the Engineer.

Materials

The Contractor shall furnish all earth material necessary for the construction of the shoulders. Provide soil with a P.I. greater than 6 and less than 25 and with a pH ranging from 5.5 to 6.8 and capable of supporting vegetation. Remove stones and other foreign material 2 inches or larger in diameter. All soil is subject to test and acceptance or rejection by the Engineer.

The Contractor will have the option of using Aggregate Shoulder Borrow (ASB) which meets the following gradation on **Ramps and Loops**.

Sieve	Percent Passing
1 1/2"	100
1/2"	55 – 95
#4	35 – 74

Construction Methods

Obtain material from within the project limits or approved borrow source. Prior to adding borrow material, the existing shoulder shall be scarified to provide the proper bond and shall be compacted to the satisfaction of the Engineer.

Any excess material generated by the shoulder reconstruction shall be disposed of by the Contractor in an approved disposal site.

Measurement and Payment

Shoulder Reconstruction will be measured and paid as the actual number of miles of shoulders that have been reconstructed. Measurement will be made along the surface of each shoulder to the nearest 0.01 of a mile. Such price will include disposing of any excess material in an approved disposal site, and for all labor, tools, equipment, and incidentals necessary to complete the work.

Borrow Excavation will be paid in accordance with Section 230 of the *Standard Specifications* for earth material furnished by the Contractor. The requirements of Article 104-5 of the *Standard Specifications* pertaining to revised contract prices for overrunning minor items will not apply to the item of *Borrow Excavation.* If ASB is used for borrow, a unit weight of 140 pounds per cubic foot will be used to convert the weight of ASB to cubic yards.

Incidental Stone Base will be measured and paid as provided in Article 545-6 of the *Standard Specifications*. If ASB is used for Incidental Stone Base, payment will be made for borrow as referenced above.

Seeding and Mulching will be measured and paid as shown elsewhere in the contract documents. Where ASB is used, seeding and mulching will not be required.

Payment will be made under:

Pay Item	**Pay Unit**
Shoulder Reconstruction	Shoulder Mile
Borrow Excavation	Cubic Yard

SHOULDER GRADING PER SHOULDER MILE:

Description

The work covered by this provision consists of clipping high shoulders and reconstructing the earth shoulder in accordance with *Roadway Standard Drawing Nos. 560.01 and 560.02,* except that the rate of slope and width will be as shown on typical section, or to the existing shoulder point, whichever is nearer, as long as the desired typical is achieved, and when completed, seeding and mulching. This work shall be performed immediately after the resurfacing operations are complete as directed by the Engineer. **In areas where expressway gutter is located in lieu of shoulder section, the Contractor shall remove existing earth material from the gutter as directed by the Engineer.**

Materials

The Contractor shall make use of the existing earth material along the shoulders such that no waste material is generated.

The Contractor shall furnish all earth material necessary for the construction of the shoulders. Provide soil with a P.I. greater than 6 and less than 25 and with a pH ranging from 5.5 to 6.8 and capable of supporting vegetation. Remove stones and other foreign material 2 inches or larger in diameter. All soil is subject to test and acceptance or rejection by the Engineer.

The Contractor shall use ABC on the loops and ramps as directed by the Engineer.

The Contractor will have the option of using Aggregate Shoulder Borrow (ASB) which meets the following gradation on the mainline, loops and ramps as directed by the Engineer.

Sieve	Percent Passing
1 1/2"	100
1/2"	55 – 95
#4	35 – 74

Construction Methods

Obtain material from within the project limits or approved borrow source. Prior to adding borrow material, the existing shoulder shall be scarified to provide the proper bond and shall be compacted to the satisfaction of the Engineer.

Any excess material generated by the shoulder reconstruction shall be disposed of by the Contractor in an approved disposal site.

Measurement and Payment

Shoulder Grading will be measured and paid as the actual number of miles of shoulders that have been reconstructed. Measurement will be made along the surface of each shoulder to the nearest 0.01 of a mile. Such price will include disposing of any excess material in an approved disposal site, and for all labor, tools, equipment, and incidentals necessary to complete the work.

Borrow Excavation will be paid in accordance with Section 230 of the *Standard Specifications* for earth material furnished by the Contractor. The requirements of Article 104-5 of the *Standard Specifications* pertaining to revised contract prices for overrunning minor items will not apply to the item of *Borrow Excavation*. If ASB is used for borrow, a unit weight of 140 pounds per cubic foot will be used to convert the weight of ASB to cubic yards.

Aggregate Base Course will be measured and paid as provided in Article 520-11 of the *Standard Specifications*.

Incidental Stone Base will be measured and paid as provided in Article 545-6 of the *Standard Specifications*. If ASB is used for Incidental Stone Base, payment will be made for borrow as referenced above.

Seeding and Mulching will be measured and paid as shown elsewhere in the contract documents. Where ASB or ABC is used, seeding and mulching will not be required.

Payment will be made under:

Pay Item	**Pay Unit**
Shoulder Grading	Shoulder Mile
Borrow Excavation	Cubic Yard
Aggregate Base Course	Ton

INCIDENTAL STONE BASE:

(7-1-95) (Rev.7-18-06) 545 R5 R28

Description

Place incidental stone base on driveways, mailboxes, etc. immediately after paving and do not have the paving operations exceed stone base placement by more than one week without written permission of the Engineer.

Materials and Construction

Provide and place incidental stone base in accordance with Section 545 of the *2012 Standard Specifications*.

Measurement and Payment

Incidental Stone Base will be measured and paid in accordance with Article 545-6 of the *2012 Standard Specifications*.

ASPHALT BINDER CONTENT OF ASPHALT PLANT MIXES:

(11-21-00) (Rev. 7-19-11) 609 R6 R15

The approximate asphalt binder content of the asphalt concrete plant mixtures used on this project will be as follows:

Asphalt Concrete Base Course	Type B 25.0__	4.4%
Asphalt Concrete Intermediate Course	Type I 19.0__	4.8%
Asphalt Concrete Surface Course	Type S 4.75A	6.8%
Asphalt Concrete Surface Course	Type SF 9.5A	6.7%
Asphalt Concrete Surface Course	Type S 9.5__	6.0%
Asphalt Concrete Surface Course	Type S 12.5__	5.5%

The actual asphalt binder content will be established during construction by the Engineer within the limits established in the *2012 Standard Specifications.*

REVISED - TRENCHING FOR BASE COURSE:

(7-1-95) R6 R79 (Rev.)

Perform all trenching necessary to place the asphalt concrete base course widening or aggregate base course in accordance with the typical sections, at locations shown on the sketch maps, and as directed by the Engineer.

Perform the trenching for the base course on the same day that the base course is to be placed. If the base course cannot be placed on the same day the trench section is excavated, backfill the trench with earth material and compact it to the satisfaction of the Engineer. Once the trench is open, perform backfilling and re-opening of the trench at no cost to the Department.

The Contractor will be restricted to widening one side of the project at a time unless otherwise permitted by the Engineer. In widening, operate equipment and conduct operations in the same direction as the flow of traffic.

Density tests may be taken every 2000 feet in the widened areas as directed by the Engineer. Shape and compact the subgrade in the widened areas to the satisfaction of the Engineer. Compact the aggregate base course in the widened areas in accordance with the provisions of Article 520-7 of the *2012 Standard Specifications*.

Place the excavated material from trenching operation on the adjacent shoulder area as directed by the Engineer. Cut adequate weep holes in the excavated material to provide for adequate drainage as directed by the Engineer. Remove all excavated material from all drives to provide ingress and egress to abutting properties and from in front of mailboxes and paper boxes. Saw a neat edge and remove all asphalt and/or concrete driveways, and existing asphalt widening, as directed by the Engineer, to the width of the widening and dispose of any excavated concrete or asphalt materials. Properly reconnect driveways.

Upon completion of the paving operation, backfill the trench to the satisfaction of the Engineer. Properly dispose of any excess material remaining after this operation.

No direct payment will be made for trenching, sawing, and removal of driveways, depositing material on shoulder area, backfilling trench, or removal of spoil material, as the cost of this work shall be included in the contract unit price per ton for *Aggregate Base Course.*

PRICE ADJUSTMENT - ASPHALT BINDER FOR PLANT MIX:
(11-21-00) 620 R6 R25

Price adjustments for asphalt binder for plant mix will be made in accordance with Section 620 of the *2012 Standard Specifications.*

The base price index for asphalt binder for plant mix is **$588.21** per ton.

This base price index represents an average of F.O.B. selling prices of asphalt binder at supplier's terminals on **December 1, 2011**.

FINAL SURFACE TESTING (Not Required):
(5-18-04) (Rev. 1-17-12) 610 R6 R45

Final surface testing is not required on this project.

FOG SEAL:

Description

Apply an emulsified asphalt and water mixture as an aggregate loss preventative or surface seal.

Materials

Use a base material from a CRS, CSS or CQS1H emulsion in accordance with the requirements of Article 1020-7. Emulsion will be diluted with water at a 1:1 ratio unless otherwise directed by the Engineer.

Equipment

Provide a distributor for heating and uniformly applying the emulsion in accordance with the requirements of Article 600-5. Provide a hand spray hose and nozzle to cover areas inaccessible to the spray bars.

Construction

The pavement surface must be clean and dry before applying the fog seal. Apply the mixture when the air temperature is 60°F and above. Do not apply asphalt material when the weather is foggy or rainy. The application temperature will be between 160 and 175 degrees F. Care is to be taken not to overlap the existing thermo edgeline while spraying. Typical application rates for diluted emulsion range from 0.10 gal/sy to 0.15 gal/sy. The Engineer may request a test strip prior to construction to determine the application rate. When the Engineer directs the rate of application of asphalt material be decreased below the minimum rate, no reduction in compensation will be made. When the Engineer directs that the rate of application of asphalt material be increased above the maximum rate, compensation to the Contractor will be made in the amount of 5 cents plus the verified cash cost to the Contractor at the point of delivery for each gallon as asphalt material, measured at application temperature, necessitated by the increase.

Fog Seal will be measured and paid for at the contract unit price per the square yard.

Pay Item	**Pay Unit**
Fog Seal	Square Yard

SEALING EXISTING PAVEMENT CRACKS:

The work covered by this provision consists of sealing existing longitudinal and transverse pavement cracks with Sealant Type 2, PS/AR (hot-poured rubber asphalt) at locations as directed by the Engineer. All existing pavement cracks in excess of 1/4 inch but less than 1 1/2 inch will be cleaned using a hot compressed air lance and sealed with hot -poured rubber asphalt. **The Contractor shall be required to seal joint between existing pavement and curb and gutter, as directed by the Engineer.**

The Sealant Type 2, PS/AR (hot-poured rubber asphalt) shall meet the requirements of Article 1028-2 of the Standard Specifications dated January, 2012.
The sealant shall form a complete watertight bond with a high degree of elasticity, with maximum flexibility and longevity under extreme temperature ranges. An HCA (Hot Compressed Air) lance shall be used at all times to blast out any vegetation, dirt, dampness and loose materials from cracks. The concentrated hot air jet shall not be less than 3000°F in temperature and shall have an air jet force of not less than 3000 feet per second of blasting. Asphalt cracks Shall be forced open, cleaned warm and dry, ready for the application of the preheated sealant for maximum crack sealability. The sealant shall be preheated to correct temperature, using the air jacketed flow method to prevent the burning of the modified rubber in the sealant. This shall be done by means of a trailer mounted 190 gallon safety tested crack

sealant preheater melter kettle, with a horizontally mounted full sweep double paddle agitator. Sealant shall be applied in the prepared cracks at temperature range of 370°F minimum and 420°F maximum, using the pressure screed shoe to completely fill the crack, followed by a "V-shaped" asphalt squeegee leaving a sealed 2" overband. This method will allow uniform filling of the cracks and reduce excess material due to overbanding. Excessive overbanding or waste of sealant materials will not be tolerated. The PS/AR sealant shall not be applied when the surface temperature is below 32°F. All cracks sealed shall have a minimum of 1/8" depth of sealant installed. After the crack has been sealed, surplus sealer on the pavement shall be promptly removed. Traffic shall not be permitted over the sealed cracks without approval by the Engineer. The sealant is to be packaged in polyethylene bags and placed in boxes which weigh approximately 60 pounds. The sealant may be packed in 60 pound boxes containing two polyethylene bags of sealant which weigh approximately 30 pounds each. Boxes of sealant are to be palletized for shipment. The pallets are to be protected with a weatherproof covering. The Contractor shall be responsible for storage.

The amount of sealant material to be paid for will be the actual number of pounds of material that have been satisfactorily used to seal pavement cracks in the designated highway. Any material that has been spilled, used in excessive overbanding, wasted, misapplied, or unsatisfactorily used in any way will be deducted in determining quantities for payment. The Engineer will determine the quantity, if any, to be deducted. The Engineer's decision on the quantity to be deducted will be final and binding.

The quantity of sealant material, measured as provided above, will be paid for at the contract unit price per pound for "Joint Sealer". The above price will be full compensation for all work required to seal the pavement cracks including but not limited to furnishing, hauling, loading and unloading, and storage of all sealant materials; cleaning and preparation of cracks to be sealed; application of sealant material in the prepared cracks; any clean up; and any incidentals necessary to satisfactorily complete the work.

Pay Item	**Pay Unit**
Sealing Existing Pavement Cracks And Joints	Pound

RESURFACING EXISTING BRIDGES:

(7-1-95) R6 R61

The Contractor's attention is directed to the fact that he will be required to resurface the bridges on this project if directed by the Engineer.

Place the surface so as to follow a grade line set by the Engineer with the minimum thickness as shown on the sketch herein or as directed by the Engineer. State Forces will make all necessary repairs to the bridge floors prior to the time that the Contractor places the proposed surfacing. Give the Engineer at least 15 days notice prior to the expected time to begin operations so that State Forces will have sufficient time to complete their work.

At all bridges that are not to be resurfaced, taper out the proposed resurfacing layer adjacent to the bridges to insure a proper tie-in with the bridge surface.

PATCHING EXISTING PAVEMENT:
(1-15-02) (Rev.11-29-10) 610 R6 R88

Description

The Contractor's attention is directed to the fact that there are areas of existing pavement on this project that will require repair prior to resurfacing. Patch the areas that, in the opinion of the Engineer, need repairing. The areas to be patched will be delineated by the Engineer prior to the Contractor performing repairs.

Materials

The patching consists of Asphalt Concrete Base Course, Asphalt Concrete Intermediate Course, Asphalt Concrete Surface Course, or a combination of base, binder and surface course.

Construction Methods

Remove existing pavement at locations directed by the Engineer in accordance with Section 250 of the *2012 Standard Specifications*.

Place Asphalt Concrete Base Course, in lifts not exceeding 5.5 inches. Utilize compaction equipment suitable for compacting patches as small as 3.5 feet by 6 feet on each lift. Use an approved compaction pattern to achieve proper compaction. If patched pavement is to be open to traffic for more than 48 hours prior to overlay, use Asphalt Surface Course in the top 1.25 inches of the patch.

Schedule operations so that all areas where pavement has been removed will be repaired on the same day of the pavement removal and all lanes of traffic restored.

Measurement and Payment

Patching Existing Pavement will be measured and paid as the actual number of tons of asphalt plant mix complete in place that has been used to make completed and accepted repairs. The asphalt plant mixed material will be measured by being weighed in trucks on certified platform scales or other certified weighing devices. The above price and payment will be full compensation for all work covered by this provision, including but not limited to removal and disposal of all types of pavement; furnishing and applying tack coat; furnishing, placing, and compacting of asphalt plant mix; furnishing of asphalt binder for the asphalt plant mix; and furnishing scales.

Patching Existing Pavement will be considered a minor item. In the event that the item of Patching Existing Pavement overruns the original bid quantity by more than 100 percent, the provisions of Article 104-5 of the *2012 Standard Specifications* pertaining to revised contract unit price for overrunning minor items will not apply to this item. Any provisions included in the contract that provides for adjustments in compensation due to variations in the price of asphalt binder will not be applicable to payment for the work covered by this provision.

Payment will be made under:

Pay Item	Pay Unit
Patching Existing Pavement	Ton

REPLACE EXISTING BARRIER DELINEATOR:
(04-25-07) (Rev. 1-17-12) SP

Replace barrier delineators as directed and in accordance with Section 1170 of the *2012 Standard Specifications*. *Replace Existing Barrier Delineator* will be measured and paid in units of each for the actual number of barrier delineators completed and accepted.

Payment will be made under:

Pay Item	Pay Unit
Replace Existing Barrier Delineator	Each

EROSION AND STORMWATER CONTROL FOR SHOULDER CONSTRUCTION AND RECONSTRUCTION:
(11-16-10) 105-16, 225-2, Division 16 R16 R03

Land disturbing operations associated with shoulder construction/reconstruction may require erosion and sediment control/stormwater measure installation. National Pollutant Discharge Elimination System (NPDES) inspection and reporting may be required.

Erosion control measures shall be installed per the erosion control detail in any area where the vegetated buffer between the disturbed area and surface waters (streams, wetlands, or open waters) or drainage inlet is less than 10 feet. The Engineer may reduce the vegetated buffer threshold for this requirement to a value between 5 and 10 feet. Erosion control measures shall be spot checked every 14 days until permanent vegetative establishment.

In areas where shoulder construction/reconstruction includes disturbance or grading on the front slope or to the toe of fill, relocating ditch line or backslope, or removing vegetation from the ditch line or swale, NPDES inspection and monitoring are required every 14 days or within 24 hours of a rainfall event of 0.5" or greater. Maintain daily rainfall records. Install erosion control measures per detail.

In areas where the vegetated buffer is less than 10 feet between the disturbed area and waters of the State classified as High Quality Water (HQW), Outstanding Resource Water (ORW), Critical Areas, or Unique Wetlands, NPDES inspection and monitoring are required every 14 days or within 24 hours of a rainfall event of 0.5" or greater. The Engineer may reduce the vegetated buffer threshold for this requirement to a value between 5 and 10 feet. The plans or provisions will indicate the presence of these water classifications. Maintain daily rainfall records. Install erosion control measures per detail.

Land disturbances hardened with aggregate materials receiving sheet flow are considered non-erodible.

Sites that require lengthy sections of silt fence may substitute with rapid permanent seeding and mulching as directed by the Engineer.

NPDES documentation shall be performed by a Level II Erosion and Sediment Control/Stormwater certificate holder.

Materials used for erosion control will be measured and paid as stated in the contract.