ITEM 351

REPAIRING EXISTING FLEXIBLE PAVEMENT STRUCTURE

351.1. Description. This Item shall govern for the repair of localized failures of existing sections of stabilized or unstabilized base that are surfaced with asphaltic concrete pavement or asphalt surface treatment. Sections shall be repaired to the specified depth, with the type of materials, and in conformance with the details shown on the plans. The minimum repair dimension shall be one (1) meter in both length and width.

When shown on the plans, salvaged asphaltic concrete pavement and/or asphalt stabilized base, including any accompanying surface treatment, plant mix seal and microsurfacing, may be allowed or required for use in other construction items of this project. If not used in other construction items of this project, these materials shall be stockpiled by the Contractor at the location shown on the plans or approved by the Engineer and shall remain the property of the State.

351.2. Materials. Materials used shall meet the following requirements and will be subject to the approval of the Engineer in regard to quality. For small quantities of materials, testing of materials may be waived by the Engineer. Unless otherwise shown on the plans, existing material removed from the roadway shall not be reused under this construction Item.

When opening to traffic is adversely delayed by the curing requirements for the specified material(s), the Engineer may approve the use of base materials listed below which require less curing than those shown on the plans.

(1) Flexible Base. Unless otherwise shown on the plans, flexible base shall conform to the material requirements of Item 247, "Flexible Base" of the type and grade shown on the plans.

(2) Stabilized Base. Stabilized base materials shall conform to the pertinent material requirements of the following Items:

Item 262, "Lime Treatment for Base Courses (Road Mixed)"
Item 275, "Portland Cement Treated Materials (Road Mixed)"
Item 276, "Portland Cement Treated Base (Plant Mixed)"
Item 345, "Asphalt Stabilized Base (Plant Mix)"

(3) Asphaltic Concrete Pavement. Asphaltic concrete pavement shall conform to the pertinent material requirements of the following Items:

Item 330, "Limestone Rock Asphalt Pavement (Class A)"
Item 334, "Hot Mix-Cold Laid Asphaltic Concrete Pavement"
Item 340, "Hot Mix Asphaltic Concrete Pavement"

(4) Surface Treatments. Surface treatments shall conform to the material requirements of Item 316, "Surface Treatments".

(5) Prime Coat. Prime coats shall conform to the pertinent material requirements of the following Items:

Item 310, "Prime Coat (Cutback Asphaltic Material)"
Item 315, "Emulsified Asphalt Seal"
351.3. Construction Methods.

(1) **Removal of Existing Pavement Structure.** The existing pavement structure shall be broken or scarified and excavated for the length, width and depth as shown on the plans or as determined by the Engineer, leaving neat vertical faces around the perimeter. The minimum repair dimension shall be one (1) meter in both length and width. Care shall be taken to avoid loosening or disturbing material below the specified depth for removal.

Loose asphaltic paving material resulting from the operation which is not used in other construction items of this project, as shown on the plans, shall remain the property of the State and shall be stockpiled at the sites and in the manner shown on the plans or as approved by the Engineer. Salvaged asphaltic paving material shall be kept as free as possible from contamination by nonasphaltic materials during its removal, transportation, and storage. The stockpile areas shall be cleaned of trash, weeds and grass. The Engineer may require separate stockpiling of salvaged asphaltic paving materials of differing type or quality. Silt fencing around stockpile areas shall be provided when shown on the plans. Unless otherwise shown on the plans, nonasphaltic materials removed from the existing pavement structure shall become the property of the Contractor for disposition.

Where failure of the subgrade has occurred, the unstable subgrade material shall be removed to the depth specified by the Engineer and replaced with approved material.

Unless otherwise shown on the plans or approved by the Engineer, areas of removed pavement shall be repaired to a stage suitable to open to traffic within the same day.

(2) **Preparation of the Subgrade.** All holes, ruts or depressions shall be filled with an approved material, and if required, the subgrade shall be thoroughly wetted with water, reshaped and compacted as directed in order to place the subgrade in an acceptable condition to receive the base material.

(3) **Mixing and Placing Base Material.** Flexible base or stabilized base shall be mixed at locations approved by the Engineer. The material shall be spread and compacted in uniform layers to produce the depth specified on the plans.

(a) **Flexible Base.** Each layer shall be sprinkled as required and rolled or tamped as directed until a uniform compaction is secured. All irregularities, depressions or weak spots which develop shall be corrected immediately by scarifying the areas affected, adding suitable material as required, reshaping and recompacting by sprinkling and rolling or tamping.

Unless otherwise shown on the plans, the surface of the cured flexible base shall be protected by the application of a prime coat. The prime coat shall be of the type and grade and at the rate shown on the plans.

(b) **Lime Stabilized Base.** Unless otherwise shown on the plans, the minimum lime content will be three percent by mass of the total mixture. The base shall be thoroughly mixed with the required amount of lime and water and spread in uniform layers. Each layer shall be sprinkled as required and rolled or tamped as directed until a uniform compaction is secured. All irregularities, depressions or weak spots which develop shall be corrected immediately by scarifying the areas affected, adding suitable material as required, reshaping and recompacting by sprinkling and rolling or tamping.
Unless otherwise shown on the plans, the surface of the completed lime stabilized base shall be protected against rapid drying by the application of a prime coat. The prime coat shall be of the type and grade and at the rate shown on the plans.

(c) Cement Stabilized Base. Unless otherwise shown on the plans, the minimum cement content will be four percent by mass of the total mixture. The cement and base material shall be uniformly mixed with the water necessary to provide the optimum moisture, as determined by the Engineer, and spread in uniform layers. The cement stabilized base shall be rolled or tamped as directed until a uniform compaction is secured. Compaction shall begin immediately after mixing and spreading operations and shall be completed within two (2) hours from the time water is added to the mixture. All irregularities, depressions or weak spots which develop shall be corrected immediately by scarifying the areas affected, adding suitable material as required, reshaping and recompacting.

Unless otherwise shown on the plans, the surface of the completed cement stabilized base shall be protected against rapid drying by the application of a prime coat. The prime coat shall be of the type and grade and at the rate shown on the plans.

(d) Asphalt Stabilized Base and/or Asphaltic Concrete Pavement. The asphalt stabilized base material or asphaltic concrete pavement shall be spread in uniform layers. Each layer shall be rolled or tamped as directed until a uniform compaction is secured. All irregularities, depressions or weak spots which develop shall be corrected immediately by removing and replacing or adding material as required, and compacting.

(4) Curing and Traffic. Curing of all base material in repair work will be required as approved by the Engineer.

Completed sections of base may be opened immediately to local traffic and to construction equipment. All traffic will be allowed after the curing period, provided the mixture has hardened sufficiently to prevent marring or distorting of the surface by traffic.

(5) Surfacing. The completed sections of cured base shall be thoroughly cleaned and surfaced with the material shown on the plans.

(a) Asphaltic Concrete Pavement. When completed sections of base are to be surfaced with asphaltic concrete pavement, the base shall be cleaned to the satisfaction of the Engineer and shall be given a uniform application of tack coat using asphaltic materials of the type and grade indicated on the plans. The tack coat shall be applied in a manner approved by the Engineer with an approved sprayer at a rate not to exceed 0.2 liter per square meter of surface area. Tack coat may be eliminated by the Engineer when, in his opinion, it is unnecessary for a satisfactory bond between the base and the asphaltic concrete pavement.

The asphaltic concrete mixture shall be spread and compacted by equipment approved by the Engineer and in conformity with the existing roadway section or typical section shown on the plans, and to the lines and grades established by the Engineer. The asphaltic concrete shall be compacted as directed by the Engineer.

(b) Surface Treatments. When the completed sections of base are to be surfaced with a surface treatment, the base shall be cleaned and surfaced with the type and grade of asphalt and aggregate as shown on the plans in accordance with Item 316, “Surface Treatments”.

351.4. Measurement. This Item will be measured by the square meter of the completed
section for the depth specified. In those areas where material is excavated, at the direction of the Engineer, to depths greater than those specified on the plans, measurement will be made by dividing the actual depth of such area by the plan depth, and then multiplying this figure by the area in square meters of work performed. Calculations for each repaired area shall be rounded up to the nearest 0.1 square meter.

351.5. Payment. The work performed and the material furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Repairing Existing Flexible Pavement Structure", of the specified depth. This price shall be full compensation for scarifying or breaking the existing pavement structure; for the removal, hauling, spreading, disposal or stockpiling of existing pavement structure; for the removal of any objectionable or unstable material; for furnishing all materials, including prime coat, tack coat and surfacing; and for all hauling, sprinkling, spreading, compaction, and all other manipulations, labor, tools and incidentals necessary to complete the work.

When the plans call for the installation of silt-fencing protection around stockpile areas, the fencing will be measured and paid for directly under the pertinent specification item.