

## **SECTION 470: PATCHING ASPHALT PAVEMENTS**

### **470.1 DESCRIPTION**

This work shall consist of full or partial depth removal and replacement of existing base and asphalt surfacing materials.

### **470.2 MATERIALS**

#### **470.2.1 Base Course**

Base Course material shall be provided in accordance with Section 310, "Base Course" of these Standard Specifications.

#### **470.2.2 Prime Coat**

Prime Coat material shall be provided in accordance with Section 420, "Prime Coat" of these Standard Specifications.

#### **470.2.3 Tack Coat**

Tack Coat material shall be provided in accordance with Section 425, "Tack Coat" of these Standard Specifications.

#### **470.2.4 Temporary Asphalt Patch Material**

Temporary asphalt patch materials shall be provided in accordance with Section 465, "Cold Mix Asphalt Material" of these Standard Specifications.

#### **470.2.5 Permanent Asphalt Patch Material**

Permanent asphalt patch material shall be provided in accordance with Section 405, "Hot-Mix Asphalt (HMA) Material" and Section 435, "Hot-Mix Asphalt (Superpave)" of these Standard Specifications.

### **470.3 CONSTRUCTION REQUIREMENTS**

#### **470.3.1 Equipment**

Equipment, tools, and machines used in the performance of the work, covered by this Section, shall be subject to the approval of the City Engineer or designee and shall be maintained in a satisfactory working condition at all times. All equipment proposed to be used for work under this Section shall be of sufficient size and in such mechanical condition to be capable of completing the work and producing a good quality patch.

#### **470.3.3 Temperature and Weather Limitations**

Permanent asphalt patches shall be placed in accordance with the temperature and weather limitations as specified in Section 435, "Hot-Mix Asphalt (Superpave)" of these Standard Specifications.

If temperature or weather limitations prevent the placement of a permanent asphalt patch, a temporary asphalt patch shall be placed. The temporary asphalt patch shall be removed and replaced with a permanent asphalt patch as soon as weather and temperature limitations allow.

#### **470.3.4 Patching of Existing Asphalt Pavement**

##### **470.3.4.1 General**

Patching of existing asphalt pavement shall be performed in any instance when the existing asphalt pavement surface or underlying structural courses are removed to facilitate other work or to patch pavement locally distressed areas.

Existing locally distressed pavement areas include potholes, rutted or uneven areas, raveled areas, severely cracked areas, or other surface irregularities detrimental to the performance of the existing pavement.

Existing locally distressed pavement areas shall be identified in the Plans or by the Contractor prior to patching. The Contractor shall schedule a field inspection with the City Engineer or designee to verify and determine the extent of repair needed for each locally distressed area.

Patching of existing asphalt pavement shall consist of full depth or partial depth removal and replacement of existing base and surfacing materials.

##### **470.3.4.2 Full Depth Removal and Replacement**

Full depth removal and replacement shall consist of removal of the existing base and asphalt pavement material down to the subgrade, subgrade preparation, replacement of base course, application of prime coat, application of tack coat, replacement of permanent hot-mixed asphalt material, and compaction of permanent hot-mixed asphalt material in accordance with Section 470.3.4.4, "Patch Preparation" of these Standard Specifications.

Full depth replacement shall conform to the typical section shown in the Plans or as shown in City Standard Detail PS-02, or City Standard Detail PS-03 as applicable. The Contractor shall obtain City Engineer or designee approval for any modification to the full depth replacement typical section prior to starting the work. The City Engineer or designee may modify the full depth replacement typical section to accommodate existing field conditions.

##### **470.3.4.3 Partial Depth Removal and Replacement**

Partial depth removal and replacement shall consist of removal of existing asphalt pavement, application of tack coat, replacement of permanent hot-mixed asphalt material, and compaction of permanent hot-mixed asphalt material in accordance with Section 470.3.4.4, "Patch Preparation" of these Standard Specifications and City Standard Detail PS-03.

##### **470.3.4.4 Patch Preparation**

###### **470.3.4.4.1 Removal of Existing Base and Asphalt Pavement**

Prior to removal, existing asphalt pavement shall be saw cut full depth using equipment suitable for the work. Saw cuts shall be continuous, with straight lines longitudinal or transverse to the centerline of the roadway. The saw cutting operation shall result in neat straight edges in the horizontal and vertical directions.

Saw cuts shall be located as per City Standard Detail PS-02 for utility cuts or similar work or City Standard Detail PS-03 for patching of locally distressed pavement areas.

Existing asphalt pavement and base material shall be removed and disposed of in an environmentally suitable manner.

#### **470.3.4.4.2 Subgrade and Base Preparation**

The underlying base course or subgrade shall be cleaned of all foreign or deleterious matter. The subgrade shall be scarified to a depth of twelve (12) inches and compacted to ninety-five (95%) percent of maximum density as per ASTM D 1557 in accordance with City Standard Drawing PS-02 and Section 207, "Subgrade Preparation" of the NMDOT Standard Specifications for Highway and Bridge Construction, current edition.

Base Course shall be placed and compacted as per Section 310, "Base Course" of these Standard Specifications. The base course shall be replaced to the same thickness as existing. The base course shall be compacted to ninety-five percent (95%) of maximum density using self propelled rollers of a size suitable for the area to be patched. The use of hand held vibratory compactors shall require prior approval by the City Engineer or designee. The base course thickness may be modified or adjusted as directed by the City Engineer or designee.

#### **470.3.4.4.3 Prime Coat**

Prime Coat shall be applied in accordance with Section 420, "Prime Coat" of these Standard Specifications.

#### **470.3.4.4.4 Tack Coat**

Tack coat shall be applied in accordance with Section 425, "Tack Coat" of these Standard Specifications.

#### **470.3.4.4.5 Placement of Permanent or Temporary Asphalt Patch Materials**

Placement of temporary asphalt patch material may be allowed when the patch is to remain for a period of 24 hours or less, or if the temperature and weather requirements are not met, otherwise, permanent asphalt patch material shall be placed.

Permanent asphalt patch material shall be placed in accordance with Section 435, "Hot-Mix Asphalt (Superpave)" of these Standard Specifications and City Standard Detail PS-02 and PS-03. Maximum lift thickness shall not exceed three (3) inches. HMA shall be placed with a paving machine. For small patch areas in which use of a paving machine is not practical, HMA may be placed and leveled by hand as approved by the City Engineer or designee.

Temporary or permanent patch material shall be placed around the perimeter of the patch area and raked toward the center of the patch to reduce segregation and concentration of aggregates at the joints. The materials shall also be dumped or placed and not thrown or broadcast to reduce segregation.

