

Design Standards Letter

Letter Number: **G-1992-23**

Letter Date: **11/18/1992**

Effective Date: **11/18/1992**

Section/Plan No.: **Pay Items**

Subject: **Rumble Strips**

Body

Please delete General Letter No. 8, 1991 and substitute the following.

The attached special provisions and drawings are to be used to provide for rumble strips on paved shoulders.

The rumble strips shall be rolled into the hot bituminous material or formed in the plastic Portland Cement Concrete of shoulders on new and resurfaced projects except where curbs are provided on the shoulder or where it is intended that the shoulder become an additional travel lane in the relatively near future.

Rumble strips shall be placed on both shoulders. However, rumble strips shall be omitted adjacent to ramps, acceleration and deceleration lanes including tapers, and between the radius points for side road approaches and median crossovers.

Rumble strips shall be included on all routes where the shoulder is paved with PCCP or the final lift of bituminous materials at least 1 3/4" thick.

These procedures should be implemented on all projects in such a stage of design as to allow for practical revision but no later than the March, 1993 letting.

The above-stated changes to the rumble strip policy necessitate revisions to Bid Item No. 403-90.80 for Rumble Strip and the addition of a new bid item for rumble strips placed in concrete shoulders.

The revised bid item for Bituminous Rumble Strip and the new bid item for Portland Cement Concrete Rumble Strip are as shown below:

ITEM NO. UNIT TYPE ITEM DESCRIPTION
403-90.80 10.0 100 FT. Bituminous Rumble Strip
502-30.00 1.0 sq. yd. Portland Cement Concrete Rumble Strip

Please advise if you have questions concerning the above.

mc/kd

PORTLAND CEMENT CONCRETE RUMBLE STRIP

1.0 Description. This item shall consist of the forming of a corrugated rumble strip in the plastic concrete. The corrugations shall be of the size, shape, and spacing shown on the plans or as directed by the Engineer.

2.0 Construction Requirements. The corrugations shall be formed in the plastic concrete at the optimum time so as to produce a neat and uniform finish. Forms and methods used to form the corrugations shall be approved by the Engineer.

3.0 Method of Measurement. Rumble Strips will be measured by the square yard.

Final

measurement will not be made except for authorized changes during construction or where

appreciable errors are found in the contract quantity. The revision or correction will be

added to or deducted from the contract quantity.

4.0 Basis of Payment. Work completed and accepted under this item and measured as provided above will be paid for at the contract unit price bid per square yard for Portland

Cement Concrete rumble strips, which price shall be full compensation for the formation of

the rumble strip and for furnishing all equipment, tools, labor, and incidentals necessary to

complete the work.

BITUMINOUS RUMBLE STRIP

1.0 Description. This work shall consist of constructing depressions in bituminous shoulders in accordance with details shown on the plans.

2.0 Equipment. Equipment used to form rumble strip shall meet requirements of Sec 403.12(c) modified with an adjustable auxiliary steel wheel roller or may be a self-propelled

steel wheel roller designed solely for the purpose of forming rumble strip.

2.1 The roller wheel shall have approximate half sections of solid steel bar or steel pipe welded to the face of wheel with the rounded surface of the bar or pipe away from the wheel. Steel bar shall have a nominal 1 1/2-inch diameter. Steel pipe shall have a

nominal 1 1/2-inch inside diameter decreased in cross section to provide a nominal 3/4-inch projection of the section when welded to the wheel. Each section of bar or pipe

shall be 3 feet in length with a 6-inch longitudinal beveled transition on each end. The longitudinal center line of each section shall be aligned with the center axis of the wheel to

maintain equal pressure along the length of the section when in use. Sections shall be spaced at nominal 8-inch centers around the perimeter of the wheel.

2.2 The rumble strip roller wheel shall be equipped with a guidance device to enable the

operator to maintain proper linear and offset alignment.

2.3 The rumble strip roller wheel shall have a system for moistening the wheel contact surface.

2.4 Sections shall be replaced if deformed or excessively worn.

3.0 Construction Requirements. Rumble strip depressions shall be formed in the hot asphalt surface of the shoulder at 8-inch intervals following the last pass of the final roller.

Each depression shall be a nominal 1 1/2-inch wide indentation 3/4-inch deep and 3 feet in length, excepting the two 6-inch end depth transition sections.

3.1 Rumble strip depressions shall be formed in one pass of the roller. Asphalt temperature

shall be such that depressions can be formed to the specified length and depth without unacceptable displacement or tearing of the asphalt.

4.0 Method of Measurement. Measurement will be made parallel to the center line for the length of rumble strip constructed on each shoulder to the nearest 10 linear feet.

The

accepted quantity of rumble strip shall include all costs incurred by the contractor for roller

modifications, equipment, tools, labor, and incidental work necessary to construct rumble

strips.

5.0 Basic of Payment. Payment for rumble strip will be made at the contract price per 100 feet.