

**Item No. 210
Flexible Base**

210.1 Description

This item governs furnishing and placing a crushed stone base course for surfacing, pavement, or other base courses. "Flexible Base" shall be constructed on an approved, prepared surface in one or more courses conforming to the typical sections and to the lines and grades, indicated on the Drawings or established by the Engineer or designated representative.

This specification is applicable for projects or work involving either inch-pound or SI units. Within the text and accompanying tables, the inch-pound units are given preference followed by SI units shown within parentheses.

210.2 Submittals

The submittal requirements of this specification item may include:

- A. Source, gradation and TxDOT test results for the crushed limestone material,
- B. Notification that the crushed limestone is completed and ready for testing, and
- C. Field density test results for in-place compacted flexible base,

210.3 Material

- A. Mineral Aggregate

The material shall be crushed argillaceous limestone meeting the requirements specified herein. The material shall be from sources approved by the Utility and shall consist of durable crushed stone that has been screened to the required gradation.

Flexible base materials shall be tested according to the following TxDOT standard test methods:

a) Preparation for Soil Constants and Sieve Analysis	Tex-101-E
b) Liquid Limit	Tex-104-E
c) Plastic Limit	Tex-105-E
d) Plasticity Index	Tex-106-E
e) Sieve Analysis	Tex-110-E
f) Wet Ball Mill	Tex-116-E
g) Triaxial Test	Tex-117-E, Part II

Base material shall be stockpiled after crushing and may be then tested by the Utilities designated laboratory and approved by the Engineer or designated representative prior to being hauled to the Project.

The material shall be well graded and shall meet the following requirements:

Sieve Designation		Other Requirements	% Retained
US	SI		
1 3/4"	45 mm		0
7/8"	22.4 mm		10-35
3/8"	9.5 mm		30-50
#4	4.75 mm		45-65
#40	425 μm		70-85
		Maximum Plasticity Index	10
		Maximum Wet Ball Mill	42
Maximum Increase in passing #40 (425 μm) sieve from Wet Ball Mill Test			20

Minimum compressive strength when subjected to the triaxial test shall be 35 psi at 0 psi lateral pressure and 175 psi at 15 psi lateral pressure.

210.4 Measurement

When included in contract for separate payment, "Flexible Base" will be measured by the cubic yard, complete in place, as indicated in the Contract Documents.

210.5 Payment

Work performed and material furnished as prescribed by this item will be subsidiary to item no 510 "Pipe" unless included as a separate bid item in the contract. When included for payment, it will be paid for at the contract unit bid price for "Flexible Base". The unit bid price shall include full compensation for all work specified herein, including the furnishing, hauling, placing and compacting of all materials; for rolling, proof rolling, recompacting and refinishing; for all water required; for retesting as necessary; for priming; and for all equipment, tools, labor and incidentals necessary to complete the Work.

Payment will be made under one of the following:

Pay Item: Flexible Base Per Cubic Yard.

END

**Item No. 220
Sprinkling for Dust Control****220.1 Description**

This item shall govern the authorized application of water for dust control on specified haul routes or construction sites, as shown on the Drawings or directed by the Engineer or designated representative, for the purpose of maintaining these areas relatively free of dust.

220.2 Submittals

The submittal requirements of this specification item should include the sprinkling plan including application rate, pattern of sprinkling and schedule times of application.

220.3 Materials

Water shall be furnished by the Contractor and shall be clean and free from industrial wastes and other objectionable matter.

220.4 Construction Methods

Dust control shall only be conducted when directed by the Engineer or designated representative. The Contractor shall furnish and operate approved equipment. The Contractor shall apply any water in the quantity specified on the Drawings or as directed by the Engineer or designated representative.

It shall be the Contractor's continuous responsibility at all times, including nights, holidays and weekends until acceptance of the project by New Braunfels Utilities, to maintain the specified areas relatively free of dust in a manner that will cause the least inconvenience to the public.

220.5 Measurement

Sprinkling for dust control will be included in the unit price bid for other items of the contract unless included as a separate pay item in the contract. When included for payment in the contract as a separate contract pay item, it will be measured in units of 1,000 gallons actually placed as authorized by the Engineer or designated representative.

220.6 Payment

When this item is specified on the Drawings as a separate pay item, the water furnished and the work performed as prescribed by this item paid for in accordance with the contract unit bid price for 'Sprinkling for Dust Control'. The unit bid price shall include

total compensation for all labor, materials, tools, machinery, equipment and incidentals necessary to complete the work as indicated on the Drawings.

Payment, when specified in the contract, will be made under the following:

Pay Item: Sprinkling for Dust Control (Water) - Per 1000 gallon Unit.

End