SECTION 32 11 14

FLEXIBLE BASE CRUSHED LIMESTONE

PART 1 - GENERAL

1.1 DESCRIPTION

A. This item shall consist of a base course composed of crusher-run broken limestone. The base shall be constructed as specified in one or more courses in conformity with the typical section shown on the Plans, and to the line and grades established by the Engineer.

1.2 MEASUREMENT AND PAYMENT

A. Payment for flexible base will be made at the unit price bid in the Proposal. The price shall include preparing and rolling the sub-grade, furnishing and placing the base material, all royalty and freight, hauling and delivery on the street, spreading, shaping, dragging, sprinkling or drying, compacting and finishing; for all manipulation, labor, tools and incidentals necessary to complete the work. Payment will not be made for unauthorized work.

1.3 SUBMITTALS

A. The Contractor shall furnish the Engineer with two copies of all test results performed by a pre-approved independent testing laboratory. The documentation shall be specifically for the material that is to be used on the project.

PART 2 – PRODUCTS

2.1 MATERIALS

A. The material shall meet the material requirements of TX DOT 247, Type A, Grade 1-2. The Contractor shall be responsible for insuring that all materials delivered at the job site meet the specifications. The Engineer may require testing or retesting by an acceptable independent testing laboratory of any materials submitted. If this testing indicates the material to be unsatisfactory, the Contractor shall be required to pay for those tests, as well as supply materials which comply with said specifications. The material shall be obtained from pre-approved sources at the time of submittal, shall be crushed, and shall consist of durable particles of stone mixed with pre-approved binding materials. Unless otherwise specified on the Plans the processed material shall meet the following requirements:

1. Test Requirements: The processed material shall meet the following requirements when tested in accordance with procedures as outlined in TX DOT Item 247.

Retained on 1 3/4" sieve	0-10%
Retained on 7/8" sieve	10% - 35%
Retained on 3/8" sieve	30% - ~~50~~ 65%
Retained on 4 mesh sieve	45% - ~~65~~ 75%
Retained on 40 mesh sieve	~~70~~ 65% - ~~85~~ 90%

a. *Liquid Limit*: The portion of material passing the 40 mesh sieve shall have a liquid limit of ~~35~~ 40 or less, in accordance with TEX-104-E.

b. *Plasticity Index*: The portion of material passing the 40 mesh sieve shall have a plasticity index of not ~~less than 4 nor~~ more than 10, in accordance with TEX-106-E.

c. *Abrasion*: The crushed stone shall have an abrasion loss of not more than 40% when subjected to the Wet Ball Mill Test, TEX-116-E with a maximum of 20% increase in passing the No. 40 sieve.

d. *Triaxial Test:* The crushed stone shall have a minimum compression strength of ~~45~~ 35 psi at 0 psi lateral pressure and 175 psi at 15 psi lateral pressure in accordance with TEX-117-E.

2.4 EQUIPMENT

A. All equipment shall be adequate for the purposes intended, meeting the approval of the Engineer prior to the start of work.

2.3 TESTING REQUIREMENTS

A. The Contractor shall have field densities performed on the base for review by the Engineer. These tests shall be taken at points directed by the Engineer with a maximum of one test per construction station. The City will not pay for failing tests.

B. Testing for required depth will be performed upon completion of the course to the lines and grades specified.

PART 3 – EXECUTION

3.1 PLACING

A. The flexible base course shall be placed upon a previously approved sub-grade. Immediately before placing the flexible base material, the sub-grade shall be checked for conformance with the Plans and Specifications and any corrections as pre-approved by the Engineer shall be made.

B. Material deposited upon the sub-grade shall be spread and shaped the same day. The material shall conform to the typical sections as shown on the Plans. All areas and "nests" of segregated coarse or fine materials shall be corrected or removed and replaced with well-graded material. The Contractor shall furnish and apply additional binder to the in-place material, if directed by the Engineer. Such binder material shall be carefully and evenly incorporated with the in-place material by scarifying, harrowing, brooming, or other pre-approved methods.

3.2 FINISHING AND COMPACTION

A. The flexible base course shall be sprinkled as required and rolled until obtaining a uniform compaction and the required density.

B. Compaction of the flexible base course shall be accomplished with a pneumatic. Rolling shall continue until the base course material has been compacted to ninety five percent (95%) of the modified density (ASTM D1557). The allowable deviation from optimum moisture content is to +4%.

C. The shape of the course shall be maintained by blading throughout the entire compacting operation. The completed surface shall be smooth and in conformance with the typical sections shown on Plans and to the established lines and grades. Completed surfaces that deviate in excess of one-fourth (1/4) inch in cross-section and in a length of sixteen (16) feet measured longitudinally shall be connected.

D. The method of correction shall be by loosening, adding or removing material, and reshaping and recompacting by sprinkling and rolling. All irregularities, depressions or weak spots which develop shall be corrected immediately by scarifying the affected areas, adding suitable material as required, and reshaping and recompaction by sprinkling and rolling.

E. When directed by the Engineer the base course may be opened to traffic. The Contractor shall direct and distribute the traffic uniformly over the entire width of the course. During the period traffic is being directed over the course, the surface shall be satisfactorily maintained by the use of blades, drags and other equipment. Maintenance operations shall continue until starting the application of the next course or the surface course.

END OF SECTION