

CITY OF ODESSA
STANDARD SPECIFICATIONS

ITEM 23A
FLEXIBLE BASE (CALICHE)
FOR MAJOR THOROUGHFARES

23A.1 DESCRIPTION

This item shall consist of a base course for surface course or for other base courses; shall be composed of caliche and stone materials; and shall be constructed herein specified in one or more courses in conformity with the typical sections shown on plans and to the lines and grades as established by the Engineer.

23A.2 MATERIAL

The material shall be obtained from approved sources. It shall consist of argillaceous limestone, calcareous or calcareous clay particles, with or without stone, conglomerate, gravel, sand or other granular materials. The material shall be approved by the Engineer at the source. All the acceptable material shall be screened and the oversize shall be crushed and returned to the screened material in such a manner that a uniform product will be produced. The processed material, when properly slaked and tested by standard laboratory methods, shall meet the following requirements:

1. Gradation

The gradation of the crushed stone flexible base material shall meet the following limits when tested by ASTM C136 61T:

<u>Sieve Size</u>	<u>Percent Passing</u>
1-3/4"	100
7/8"	65-90
3/8"	50-70
No. 4	35-55
No. 40	15-30
No. 200	0-16

2. Los Angeles Abrasion

The coarse aggregate of the crushed stone flexible base material shall have a percentage of wear not to exceed 50 when tested in accordance with ASTM C131-55.

3. Liquid Limit and Plasticity Index

The portion of the crushed stone flexible base material passing the No. 40 sieve after slaking and washing shall have a liquid limit not to exceed 45, a plasticity index not to exceed 12, and a linear shrinkage not to exceed 8.5% when tested in accordance with ASTM D423-61T and D424-59.

23A.3 MATERIAL SOURCES

Should the Contractor elect to procure the specified material from local pits, the material shall be secured from sources approved by the Engineer. These pits, as utilized, shall be opened up in such a manner as to immediately expose the vertical faces of all of the various strata of acceptable material and unless otherwise directed, the materials shall be secured (by blasting if necessary) in successive vertical cuts extending through all of the exposed strata. Preliminary information on the source of crushed stone base material shall be submitted to the Engineer 30 days prior to use for evaluation of the quality with respect to the material requirements. This information shall consist of suitable test data covering the specified requirements and should be evidence of the current material production. This data will not be used for blanket approval of the source, but will be used to issue an initial acceptance, if indicated by the test results.

Stockpiling of material shall be designated as to location, height, width and made up of a certain amount of layers as determined by the Engineer.

23A.4 CONSTRUCTION METHODS

1. First Course

The maximum lift in any one course shall be 6" of compacted thickness. The material shall be delivered in approved vehicles of a uniform capacity and it shall be the charge of the Contractor that the required amount of specified material shall be delivered in each 100-foot station and the materials shall be spread as directed by the Engineer. The course shall then be sprinkled as required and rolled until a minimum density of 95% Standard A.A.S.H.O. T180-57 Method C Standard Modified Proctor is obtained. Moisture content shall be maintained near optimum during compaction. Throughout this entire operation, the shape of the course shall be smooth and in conformity with the typical sections shown on plans and to the established lines and grades. In that area on which pavement is to be placed, any deviation in excess of 1/4" in cross section and in a length of 16 feet measured longitudinally shall be corrected by loosening, adding, or removing material, reshaping and recompaction by sprinkling and rolling. All irregularities, depression, or weak spots which develop shall be corrected immediately by scarifying the area affected, adding suitable material as required, reshaping, and recompacting by sprinkling and rolling to the required density. All base shall be proof rolled with a 25 ton pneumatic roller minimum of two passes.

2. Succeeding Courses

Construction methods shall be the same as prescribed for the first course.

23A.5 COMPACTION TESTS

Compaction tests shall be made by the City Engineer or by a laboratory selected and paid for by the Owner. The laboratory shall be directed by the Engineer to check compliance with the density requirements. The Contractor shall notify the Engineer when compaction has been achieved.

Compaction tests may be used by the Contractor to assist in controlling the amount of compaction required. The cost of these control tests and the cost of failing tests taken for compliance shall be paid for by the Contractor.

23A.6 TESTING OF MATERIALS

The materials used in the construction of the flexible base (caliche) will be tested at intervals as determined by the Engineer, for compliance with the material specifications. Materials tests shall be made by the City or by a laboratory selected and paid for by the Owner.

The cost of all retest of materials shall be paid for by the contractor.

23A.7 MEASUREMENT

Work and accepted material as prescribed for this item shall be measured by the square yard of completed and accepted base course of the required thickness and number of courses.

23A.8 PAYMENT

The work performed and material furnished as prescribed by this item for "Flexible Base" will be paid for at the unit price bid, which price shall be full compensation for shaping and fine grading the roadbed; for furnishing all materials; for all royalty and freight involved; for loosening or blasting; for excavation, screening, and crushing; for loading all materials; for hauling and delivering on the work; for spreading, blading, dragging, shaping, and finishing; for all manipulations, sprinkling and rolling; for all labor, tools, equipment and incidentals necessary to complete the work.