

ITEM 937

AGGREGATE BEDDING

937.1 General: Provide aggregate bedding at locations shown on Plans and/or when ordered where unstable foundation conditions are encountered at pipe grade. For purposes of this Specification, aggregate bedding is defined as shell, crushed limestone, gravel, crushed gravel, or crushed stone.

- A. Where Plans, or other Specifications Items, require bank-sand bedding, use aggregate bedding where water is encountered and pipe foundation can be made dry by use of aggregate bedding.
- B. Where Plans, or other Specification Items, require cement-stabilized sand bedding, substitute aggregate bedding when trench conditions are wet and pipe foundation needs to be stabilized.

937.2 Materials:

- A. Rock Aggregate: Gravel, crushed gravel, or crushed stone, clean of clay, slate, schist, or soft particles of sandstone. Maximum percent of wear, 35 percent as determined by Test Method Tex-410-A (SPHPT). Gradation as follows:

Retained on 1/2" Sieve	0%
Retained on 3/8" Sieve	0 - 20%
Retained on No. 4 Sieve	65 - 100%
Retained on No. 10 Sieve	98 - 100%

- B. Crushed Limestone: Use crushed limestone meeting following gradations and plasticity index:

Retained on 1-1/2" Sieve	0%
Retained on 1" Sieve	0-10%
Retained on 3/4" Sieve	15-45%
Retained on a No. 4 Sieve	45-75%
Retained on a No. 10 Sieve	60-85%

Plasticity Index 12 Max. (for materials passing No. 40 Sieve)

937.3 Construction Methods: Excavate bottom of trench for pipe barrel to a line parallel to pipe flow line and to a depth of not less than one-inch below bell when bell and spigot pipe is used, or not less than three-inches below outside barrel of pipe when tongue and groove pipe is used. However, in no instance less than a minimum of six-inches below the flow line grade of the pipe. Spread aggregate bedding material over the entire bottom of trench to flow

line grade and to a depth of not less than six-inches, or such depth as needed to meet the most stringent above requirements. Prepare subgrade conforming to the outside shape of pipe. Compact with mechanical tamps to at least 95 percent ($\pm 2\%$) Standard Proctor Density according to ASTM D698 or AASHTO T99. After pipe has been installed, place aggregate bedding material up to the spring line of pipe. Compact aggregate bedding material by hand tamping or rodding space between pipe surface and trench wall. Cavities in aggregate bedding material between spring line of pipe and bottom of trench are prohibited. Contractor may (at his expense) place additional aggregate bedding material in lieu of specified backfill in the "pipe zone". ("Pipe zone", and specified backfill in "pipe zone", are defined in other Specification Items.)

937.4 Measurement and Payment:

- A. No separate payment for aggregate bedding where shown on Plans. Include cost of same in unit price bid for furnishing and installing pipe of size, type, and usage indicated.
- B. No separate payment for aggregate bedding used in place of required cement-stabilized sand bedding, or bank-sand bedding where one of these types of bedding are indicated on the Plans or required by other Specification Items.
- C. Where ordered, measure "Extra Aggregate Bedding" by **cubic yard** of bedding placed in trench. Measurement based on specified depth and width of O.D. of pipe barrel plus two (2) feet. The following table illustrates measurement for various pipe sizes:

Steel/PVC/DI Pipe

Pipe Size	Trench Width (Ft.) for	C.Y. per 100 L.F.
4"	2.40	4.44
6"	2.58	4.77
8"	2.75	5.10
10"	2.93	5.42
12"	3.10	5.74
14"	3.28	6.06
16"	3.45	6.39
18"	3.63	6.71
20"	3.80	7.04
24"	4.15	7.69
30"	4.67	8.64
36"	5.19	9.61
42"	5.71	10.57
48"	6.23	11.54

Clay/Concrete Pipe

Pipe Size	Trench Width	C.Y. per 100 L.F.
6"	2.59	4.80
8"	2.79	5.17
10"	2.98	5.52
12"	3.33	6.17
15"	3.63	6.71
18"	3.92	7.25
21"	4.21	7.79
24"	4.50	8.33
27"	4.79	8.87
30"	5.08	9.41
33"	5.38	9.95
36"	5.67	10.49
42"	6.25	11.57
48"	6.83	12.65
54"	7.42	13.73
60"	8.00	14.81
66"	8.58	15.90
72"	9.17	16.98
78"	9.75	18.06
84"	10.33	19.14

- E. Where aggregate bedding is ordered, measure as set forth in Table above. Pay for at unit price bid for **cubic yard** of "Extra Aggregate Bedding" as computed from Table. No additional payments for excavation of additional trench depth or disposal of surplus excavated material.

END OF ITEM 937