

SECTION 112

SELECT GRANULAR BACKFILL

112.1 DESCRIPTION

A. General:

This work shall consist of furnishing select granular backfill materials.

B. Related Work:

Section 8	Water Piping Systems
Section 11	Utility Excavation and Backfill
Section 12	Roadway and Drainage Excavation
Section 20	Granular Materials
Section 64	Under-drains
Section 107	Coarse Aggregate for Use in Portland Cement Concrete
Section 109	Riprap and Slope Materials

112.2 MATERIALS

A. General:

This material shall be free from dirt, vegetable matter, cinder, ashes, refuse, organic matter or other unsuitable foreign substance. Frozen material may not be used.

B. Utility Trench Backfill:

Type 1, Type 2 or Type 3 material shall be a crushed limestone rock having a minimum of two fractured faces and meet the following gradation requirements by dry weight:

1. Type 1 - Bedding Material

Passing 1 inch sieve.....	100%
Passing 3/4 inch sieve.....	90-100%
Passing 3/8 inch sieve.....	20-55%
Passing #4 sieve	0-10%
Passing #8 sieve	0-8%

2. Type 2 - Foundation Material

Passing a 3 inch sieve.....	100%
Passing a 3/4 inch sieve.....	50-70%
Passing a #4 sieve	20-40%
Passing a #200 sieve	0-8%

3. Type 3 - Foundation Material

- Passing a 3 inch sieve..... 100%
- Passing a 1 inch sieve.....0-15%
- Passing a #4 sieve0-8%

C. Roadway Backfill and Utility Trench Special Foundation Material:

Roadway foundation backfill and utility trench special foundation backfill for stabilization of sub grade shall be a crushed rock with a minimum of two fractured faces and shall meet the following gradations:

1. Type 4 - Foundation Material

- Passing the 8 inch sieve..... 100%
- Passing the 6 inch sieve.....65-85%
- Passing the 3 inch sieve.....0-20%
- Passing the #200 sieve0-5%

2. Stabilization Rock

Shall be further classified as follows:

Class I	Stabilization Rock
Class II	Stabilization Rock
Class III	Stabilization Rock
Class IV	Stabilization Rock
Class V	Stabilization Rock

Each class of stabilization rock above shall meet the same corresponding Class I-V gradation requirements as riprap in Section 109. Stabilization rock shall be a crushed rock with a minimum of two fractured faces.

D. Under drain Pipe Trench Backfill Material:

1. Rock used as backfill around under-drains shall be clean, washed and sound materials free of excess fines and deleterious materials as specified herein.
2. Rock used as backfill ~~for around~~ under-drains or edge-drains shall be ~~washed size 3 coarse~~ Type 1 bedding material aggregate for concrete. ~~Washed R&R~~ Rounded river rock shall be acceptable for installations located behind the curb. Installations located under or in front of the curb and gutter shall be a crushed rock with a minimum of two fractured faces.
3. ~~Rock used as backfill around pipe edge drains with filter fabric immediately surrounding the pipe shall be size 3 coarse aggregate for concrete. Rounded river rock shall be acceptable for installations located behind the curb.~~

~~Installations located under or in front of the curb and gutter shall be a crushed rock with a minimum of two fractured faces.~~

~~4. Rock, that is used as backfill around pipe edge drain, which has no fabric immediately surrounding the pipe, shall be clean rock. Such installations shall have filter fabric placed against the trench wall surrounding both the rock and pipe. Rock shall be size 1 coarse aggregate for concrete, but in no case shall the rock be smaller than the pipe perforations. Rounded river rock shall be acceptable for installations located behind the curb. Installations located under or in front of the curb and gutter shall be a crushed rock with a minimum of two fractured faces.~~

E. Los Angeles Abrasion:

Abrasion loss shall not exceed 40 percent.

F. Sampling and Testing:

Sampling	SD 201
Gradation.....	SD 202
Fractured Faces	SD 211
Los Angeles Abrasion	AASHTO T 96

112.3 METHOD OF MEASUREMENT

Measurement for Select Granular Backfill materials, except as further defined below, shall be to the nearest 0.1 ton based on the total weight of the material furnished and installed as determined from valid weigh tickets.

Type 1. Bedding material for water and sewer pipe installations as described in sections 8, 9, and 11 shall be considered as incidental to the pipe being installed. The Contractor and Engineer shall, on a daily basis, quantify the amount of type 1 bedding material installed along with the corresponding quantity of water and/or sewer pipe. The Contractor shall submit, daily to the Engineer, weigh tickets for type 1 bedding material. The weigh tickets shall clearly state "Type 1 bedding material, incidental." All stockpiled Type 1 bedding material used for water and sewer pipe installation shall be clearly identified on the project.

Type 1 bedding material used as foundation material or for uses other than bedding for water and sewer pipe shall be measured in accordance with the provisions above and shall be measured to the nearest 0.1 ton.

~~No measurement of under-drain pipe trench backfill material will be made. This material shall be considered incidental to the bid item "Under-drains", unless otherwise specifically indicated. Under-drain Pipe Trench Backfill material shall be measured in accordance with Specification Section 64.4.~~

112.4 BASIS OF PAYMENT

Payment for Select Granular Backfill materials, except as further defined below, shall be made under the appropriate bid item for the material furnished and installed. Payment for select granular backfill materials shall include all associated costs of excavation and disposal of excavated materials, unless otherwise called for in the drawings or detailed specifications.

Type 1 bedding material for water and sewer piping installations as described in specification sections 8, 9, and 11 shall be considered incidental to the pipe being installed. All associated costs of excavation and disposal of excavated material shall be considered incidental to the pipe installation, unless called for otherwise in the drawings and detailed specifications.

Type 1 bedding material used as foundation material or for a purpose other than pipe bedding shall be paid for in accordance with the provisions above and under the appropriate bid item.

~~No payment will be made for Under-drain Pipe Trench Backfill Material. This material shall be considered as incidental to the bid item Underdrains unless specifically indicated otherwise.~~ Payment for Under-drain Pipe Trench Backfill material shall be in accordance with Specification Section 64.5.

END OF SECTION