

ITEM 912 COMPACTED GRANULAR MATERIAL

912.01 Description

912.02 Materials

912.03 General

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912.01 Description. This work consists of furnishing, placing and compacting granular material for bedding, backfill or other use where shown on the plans, specified or ordered by the Engineer, including the disposal of excess material.

912.02 Materials. Use the following materials:

Granular material consisting of natural or synthetic mineral aggregate such as broken or crushed rock, gravel, slag, sand or cinders incorporated in an 8 inch (203 mm) layer, and conforming to the gradation specified in Section 703.11, Type 1.

The Contractor may use controlled density fill mixes as an alternate to compacted granular material, conforming to the requirements of Item 613.

912.03 Compaction Requirements. Apply the following compaction requirements to granular materials and to native backfill materials if such materials require compaction in accordance with Item 911.

Max. Lab. Dry Wt. Lbs./cu. Ft. (kg/m3)	Min. Comp. Requirements % Lab. Max.
90-104.9 (1442-1680)	102%
105-119.9 (1682-1920)	100%
120 and more (1922)	98%

Consider materials having a maximum laboratory dry weight of less than 90 lbs./cu. ft. (1442 kg/m3) unsuitable for compaction. Spread soil, granular material, or other approved material in successive level layers of a depth to allow compaction to the specified density and of not more than 8 inches (203 mm) in thickness (loose measurement), unless otherwise specified and/or authorized in writing by the Engineer.

Cooperate to the fullest extent to accommodate compaction tests. The City will not pay for delay or time lost due to verification of compaction required.

912.04 Method of Measurement. The Engineer will calculate the number of cubic yards (cubic meters) of compacted granular material on the following basis:

The number of cubic yards (cubic meters) is equal to W times L times D divided by 27 (0) where W is the specified trench width in feet (meters), L is the length of trench in feet (meters) specified or ordered backfilled with compacted granular material and D is the distance in feet (meters) from 1) the top of the bedding or encasement on 6 through 27 inch (152-686 mm) pipe or 2) the outside top of the barrel of the pipe or encasement on 30 inch (762 mm) and larger pipe to a point 1 foot (0.3 m) below the existing ground surface. These definitions for the D measurement may vary as indicated on the plans or as specified or as ordered by the Engineer. The Engineer will measure the length of trench along the centerline of the sewer in place without deduction for manholes or other structures built in the open trench. The City will not pay extra for compacted backfill in the extra excavation widths necessary at manholes and other structures along the

centerline of the work. At existing manholes or structures, where the work connects, the Engineer will measure this item from the centerline of the existing manhole or structure. At terminal manholes or structures, constructed as part of the work, the Engineer will measure this item through the manhole or structure to a point 1 foot (0.3 m) beyond the manhole or structure base. Where building manholes or structures over existing sewers, as part of the work, the Engineer will measure compacted backfill along the centerline of the sewer between two points 1 foot (0.3 m) beyond and on either side of the manhole or structure base. Where sewer trenches intersect, at different elevations or at a manhole or structure constructed as part of the work, the Engineer will deduct from the above measurement a length equal to the specified width of trench for the lesser diameter pipe for the length of the intersection.

The City will not pay for the following:

1. Work necessitated or material placed outside of the payment limits defined above, within the length of trench specified or ordered, due to unauthorized excavation.
2. Compacted granular material for bedding, backing or other use which is paid for under Section 901 as a part of the price per ft. (meter) of pipe.

912.05 Basis of Payment. The City will pay the calculated number of cubic yards (cubic meters) of granular backfill measured at the contract unit price per cubic yard (cubic meter).

The City will pay under:

Item	Unit	Description
912	Cubic Yard (Cubic Meter)	Compacted Granular Material