

the date of final acceptance thereof by the City, including the cost to the City of all claims of damages filed with and court actions brought against the said City for and because of such damage, and the repair to the satisfaction of the Engineer of any and each pavement, driveway, curb, slab, walk, or structure damages by such backfill settlement.

403.4 EXECUTION

- 403.4.1 Remove trash and debris from the excavation prior to backfilling.
- 403.4.2 Backfilling trenches and excavations to the original ground surface unless otherwise indicated on the Drawings.
- 403.4.3 Carefully place backfill materials to avoid damage to or displacement of the pipeline and other exposed utilities or structure.
- 403.4.4 Do not backfill with frozen material or when a blanket of snow prevents proper compaction. Backfill shall not contain waste material, trees, organic material, rubbish, or other deleterious substances.
- 403.4.5 The backfill material shall be placed in lifts. Each lift shall be compacted to the required density prior to the next lift being placed.
- 403.4.6 In gardens or flower gardens, the original topsoil shall be replaced to original elevation, location, and depth. Minimum depth shall be 12”.

403.5 BACKFILLING STREET RIGHTS-OF-WAY AND PAVEMENT AREAS

- 403.5.1 Backfill trenches under and within 2’ of all existing and proposed pavement, driveway pavement, sidewalk, and curb and gutter using ODOT Type A aggregate base.
- 403.5.2 Compaction Method
 - A) Granular trench backfill shall be mechanically compacted in layers of 8” loose measure. Each layer shall be firmly compacted to 95% of Standard Proctor density as determined by ASSHTO T99. Material may be compacted by tamping or by using surface vibrators in such a manner as not to disturb or injure the pipe. At least 72” of cover over sewer pipe shall be provided before using mobile trench compactors of the hydrohammer or impactor type.
- 403.5.3 Undermining of Paved Surfaces: Where undermining of paved surfaces has occurred, Contractor shall remove the paved surface above the undermined area prior to placing backfill.

403.6 BACKFILLING IN AREAS OTHER THAN STREET RIGHTS-OF-WAY AND PAVEMENT AREAS

403.6.1 Backfill trenches using acceptable job excavated materials or as directed by the Engineer.

403.6.2 Backfill in 12-inch maximum loose lifts and mechanically compact to 90% of maximum density as defined by AASHTO T 99 (Standard Proctor test).

403.6.3 Place a minimum of 18" of granular backfill above the top of pipe in areas where the existing surface elevation is less than 24" above the proposed top of pipe. The granular backfill shall extend 1' from each side of the pipe and shall be placed at a 1:1 slope to bedding material or the existing ground surface.

403.7 CLAY DAMS

403.7.1 Clay dams shall be installed where shown on the plans. The dams shall be constructed in such a manner that an impervious barrier is constructed to prevent ground water from following the pipeline trench past the new construction.

403.7.2 The work will be constructed in accordance with details in these specifications.

403.8 TESTING

403.8.1 All density tests shall be performed per AASHTO standards by the City of Tulsa.

403.8.2 Tests shall be performed to meet the required density.

403.8.3 The cost of providing access to the level of trench backfill to be tested will be a cost to the Contractor, and no extra compensation will be allowed for exposing of the backfill layer to be tested.

403.8.4 Tests which indicate compaction results non-conforming to specified densities shall be re-compacted to proper density by the Contractor at no additional cost to City.

403.9 RESPONSIBILITY OF CONTRACTOR FOR BACKFILL SETTLEMENT

403.9.1 Wherever trenches or other excavations made by the Contractor in the performance of work under these Contract Documents have not been properly filled, or where settlement has occurred at any time prior to the expiration of the one year correction period, to the extent that the top of the backfill is below the original ground surface, such trenches shall be refilled and the backfilled surface compacted and smoothed to conform to the elevation of the adjacent ground surface. All sod in lawns or pavement damaged by reasons of such settlement, and the repair thereof, shall be replaced at no additional cost to City.

403.10 MEASUREMENT AND PAYMENT

403.10.1 Payment for the work in this section is considered subsidiary to other items of work and will not be paid for directly.