

LS 2540

SEWER LATERALS AND INSPECTION TEES

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A. Summary

This section includes sanitary and storm sewerage system lateral piping and appurtenances.

B. Submittals

All product data for pipe and appurtenances in accordance with the General Conditions.

C. Site Information

The Contractor is responsible for performing a site survey sufficient to perform the specified work., including research public utility records and physically locate and verify existing utility locations prior to beginning construction of proposed sewer(s).

- Verify that sanitary and storm sewerage system piping may be installed in compliance with original design and referenced standards.
- Locate existing utility, storm and sanitary sewerage system piping and structures that are to be crossed, connected, abandoned and/or closed.

D. Sewer Pipe and Fittings

General: All pipe and appurtenances shall as specified in LS 2530 and LS 2630, expect as modified herein.

Provide fittings for jointing sewer pipe per CMS 706.11 (concrete pipe) or CMS 706.12 (vitrified clay pipe).

Sleeves: ASTM F 477, elastomeric seal for plastic pipe. Sleeves for dissimilar or other pipe materials shall be compatible with pipe materials being joined.

Bands: Stainless steel, one at each pipe insert.

Couplings: Rubber or elastomeric compression gasket, made to match pipe inside diameter or hub, and adjoining pipe outside diameter.

Gaskets: ASTM F 477, elastomeric seal for plastic pipe. Gaskets for dissimilar or other pipe materials shall be compatible with pipe materials being joined.

Inspection Tee's: Riser shall be six inch (6") diameter PVC sewer pipe meeting these specifications with six inch (6") x six inch (6") long - sweep tee connection to the lateral and a threaded coupling with brass cap at the top.

E. Lateral Location

The Contractor shall determine the location of all existing storm and sanitary laterals within the project area or determine to the satisfaction of the City that such laterals do not exist. The following items shall be executed prior to all other construction work:

Obtain owner permission, enter the property, locate sanitary clean out plugs and storm inlets, open same, introduce a radio or sonic transmitter that can be extended through the lateral to the sewer main, trace the path of the laterals on the ground surface and measure the location of the laterals as documentation. Transmitter equipment must be able to negotiate tight bends.

Obtain Owner permission, enter the property, introduce sewer dye into all service connections such as soil stacks, floor drains, downspouts and yard drains to confirm sewer main connections.

Clogged laterals: If a lateral is clogged to the extent that location and television equipment can not be used to trace the pipe, the Contractor shall clean in the presence of the Engineer or Inspector and then perform documentation work.

Locate each existing inspection tee, uncover, open it, document its condition and use it to access the attached lateral.

All items damaged during investigation work shall be repaired and restored to functional condition as acceptable to the owner and the City.

All information shall be copied to the City prior to project or task completion.

F. Lateral Installation

Missing lateral(s) and inspection tee(s) shall be installed complete from the sewer main to the upstream side of the inspection tee. The Contractor shall connect the new lateral to the property lateral. If no property lateral exists, the new lateral shall be capped with a removable, secure pipe cap. Invert elevation of the new inspection tee shall be field determined by the Engineer.

Excavation shall be as specified in CMS Item 603.

- Contractor shall determine grade for trench bottom to maintain a minimum 0.4% lateral invert slope from the property lateral to the sewer main in the street.
- Contractor shall propose lateral configuration to the Engineer and receive confirmation or design changes prior to installation and backfill.

Installation, General

- Install piping from either end, true to approved slope and alignment with unbroken continuity of invert to sewer main. Lateral connections to deep sewer mains can utilize 45 degree elbows and steep pipe slopes to minimize lateral depths. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves and couplings in accordance with manufacturer's recommendations for use of lubricants, cements and other installation requirements.
- Only wye fittings shall be used to connect laterals to main sewer unless another method proposed by the Contractor receives approved from the Engineer.
- Remove unstable, soft and unsuitable materials at the surface upon which pipes are to be laid and backfill with No. 57 limestone to required elevation.
- No property lateral shall be left unconnected to the main sewer over night. If needed, the Contractor shall provide temporary connections at his or her expense.

G. Inspection Tee Installation

The final location of the inspection tee(s) shall be approved by the City and as necessary to avoid extreme grades, retaining walls, trees, landscaping or other major obstructions. In general, inspection tee's shall be installed within 24 inches of the right of way line on private property.

The riser(s) shall be vertical and plumb.

In lawn areas, the finished elevation of the brass cap shall be six (6) inches below the prevailing surrounding grade.

In pavement areas, the finished elevation of the brass cap shall be flush with the surrounding pavement.

H. Removal of Repair of Surface Items

Pavement and existing curbs shall be diamond saw cut where required. Curbs shall be restored according to ODOT Type 6 design, modified for curb cuts as required. Underdrains shall be restored across work areas according to CMS Item 605.

Existing drive aprons and adjacent sidewalks shall be removed completely or as directed by the Engineer only if required. Drive aprons shall be restored with four (4") inches CMS 304 limestone and six (6") inches concrete (residential) or eight (8") inches concrete (commercial), as specified.

Existing walks shall be diamond saw cut and/or removed at the closest existing joints. Walks shall be restored with three (3") inches #57 limestone and four (4") inches concrete as specified finished with the Lakewood standard "picture frame" tooling and broom finish.

Grassed areas shall be restored in accordance with LS 659.

Brick tree lawn areas shall be restored in kind.

The impact of construction on private property shall be kept to an absolute minimum. Plant materials other than grass shall be carefully removed with enough root and soil and stored in such a way as to ensure survival during the stockpile period. The plant stockpile shall be watered daily. Subject plant materials that are destroyed or do not survive one month past the construction period shall be replaced by the Contractor in kind or as acceptable to the property owner and City at no cost to the City. Watering following re-planting shall be as required in LS 659, above. All rocks or other structures removed shall be re-installed in kind.

I. Water System Repairs

The Contractor at his or her option can work around the existing copper supply lines and curb stops or remove and replace them. Supply line replacement shall include a new copper tube from the corporation tap to the curb stop and connection to the property side supply line. The cost for all work involving an existing copper supply line shall be included within the tabulated items at no additional cost to the City.

Under no circumstances shall a property be without water service for more than two (2) hours. The Division of Water shall be contacted to request a temporary house – to – house connection to accommodate water service interruptions of between two (2) hours and 24 hours. Under no circumstances shall a property be on a temporary water supply for more than 24 hours.

All existing in-ground watering systems damaged by construction shall be repaired in-kind.

J. Final Cleaning and Documentation

The Contractor shall provide documentation that all laterals are clear of obstructions televising the lateral(s) and sewer main(s) in the presence of the Engineer or Inspector.

Any video recordings shall be copied and turned over to the City.

K. Method of Measurement

The City of Lakewood will measure and pay for Sewer Laterals including Inspection Tees by the actual number of laterals installed. Payment for these items shall be considered full compensation for all labor and material. The Contractor should anticipate that the lateral pipe will be approximately 25 degrees off the perpendicular.

The City of Lakewood will measure and pay for six inch (6") to eight inch (8") sewer lateral connections and couplings by the actual length of pipe and fittings installed.

L. Basis of Payment

The City will pay for accepted quantities at the contract unit prices as follows:

<u>Item</u>	<u>Unit</u>	<u>Description</u>
LS 2540	EACH	_____ Storm Sewer Lateral
LS 2540	EACH	_____ Sanitary Sewer Lateral
LS 2540	LF	6" – 8" Sewer Lateral Connections and Couplings

END OF SECTION LS 2540