

## Miscellaneous Engineering Plan Guidance

The City of Rockwall currently utilizes the Standard Specifications for Public Works Construction, North Central Texas, Third edition, published by the North Central Texas Council of Governments (NCTCOG). The City of Rockwall specifications and amendments to the NCTCOG standards can be found in the City of Rockwall Standards of Design and Construction. This document can be downloaded on the Engineering Department webpage, [www.rockwall.com/Engineering](http://www.rockwall.com/Engineering). Roadway and utility extension locations shall be in accordance with the City of Rockwall Subdivision Ordinance. This document can be downloaded at <http://www.rockwall.com/Planning/documents/SubdivisionRegulations.pdf>.

### **Detention.**

- Detention requirements shall be per the current adopted by ordinance. See the *Revised Detention Requirements* at [www.rockwall.com/Engineering](http://www.rockwall.com/Engineering).

### **Retaining Walls.**

- Projects with retaining walls shall include construction details in the plans. Retaining wall structural calculations shall be submitted separately if the retaining wall is four (4) feet or greater in height. An engineer licensed in the State of Texas shall design, seal, and sign the calculations. Soils report used in the calculations shall also be submitted. If a retaining wall has a drop-off height greater than 30-inches, a handrail detail shall be included in the plans and shall comply with Building Inspection requirements (typically vertical pickets at 4-inch spacing) (International Building Code 1003.2.11.1 and International Residential Code). If a screening wall or handrail is attached either to or in the proximity of the retaining wall, the structural calculations shall reflect the appropriate loads and the construction details shall show the connection between the two.

### **Fire Lane, Flow, and Hydrant Requirements.**

- Fire lanes, fire flows, and fire hydrant requirements shall be per the current International Fire Code (IFC) adopted by Ordinance. Requirements may be directly coordinated with the Fire Marshal. See the *Fire Marshal's Office Policies and Guidelines* document at [www.rockwall.com/firedepartment](http://www.rockwall.com/firedepartment) for further details.
- Fire lanes: Shall not cover the same area as a loading zone or parking spaces; shall be within 150-feet of all exterior walls as the hose lays; shall have an unobstructed vertical clearance; shall have an unobstructed width of not less than 24-feet and shall not dead-end after 150-feet without a cul-de-sac radius of 47.5-feet of pavement or other approved turn around. (This requirement differs for parking)
- Fire Lane Paving: As required in the City of Rockwall *Standards for Design and Construction* published by the Engineering Department.
- Fire Hydrants: Shall be spaced every 400-feet in commercial and single/double family developments along fire apparatus access ways and at every intersection; shall be within 300-feet of all exterior walls as the hose lays; shall be within 100-feet of the building's fire department connection (FDC); and shall not be more than 20-feet from fire lane.
- Needed Fire Flow shall be determined in accordance with the IFC Appendix B. Electronic forms for calculating the Fire Flow and Water Flow Test can be found at [www.rockwall.com/firedepartment](http://www.rockwall.com/firedepartment).

### **Water Lines.**

- Comply with the Standard Specifications for Public Works Construction, North Central Texas, Third edition, published by the North Central Texas Council of Governments as adopted and modified by the City of Rockwall.
- Domestic and/or irrigation water taps must be off a live/looped main and not a dead end or fire hydrant lead.

- Water mains shall be not less than 8 inches in diameter and looped in residential areas and not less than 8 inches in diameter in commercial areas.
  - All water lines must be in a minimum of a 15 ft easement. Ensure the fire sprinkler line is outside the easement.
  - All valves and fittings shall be mechanically restrained (Mega-lug or other approved). Place valves on end of a plugged line.
  - Typically, the top of the water main shall be 42-inches deep (see standard details). If the existing water main is less than 18-inches deep, provide a 4-inch concrete cap.
  - Water mains shall typically be designed to be installed above storm water pipes and sanitary sewer pipes.
- Water Meter Backflow Protection.**
- Provide a double check with backflow device at every non-residential and irrigation meter.
- Water Meters.**
- Meters are preferred to not be placed in paved areas including sidewalks and driveways (i.e., installed in a grass area protected by a concrete curb). Meters must be placed adjacent to a utility easement or City ROW.
  - Only 1", 1 ½", 2", 4", 6", or 8" meters are allowed. Meters 4" and larger require vaults.
  - Domestic water service shall be tapped into a looped water main.
  - All hospitals shall have two water service pipes and meters installed in such a manner to minimize the potential for an interruption of the supply of water in the event of a water main or water service pipe failure. (International Building Code, paragraph 609.2)
- Typical Sanitary Sewer Lines.**
- Comply with the Standard Specifications for Public Works Construction, North Central Texas, Third edition, published by the North Central Texas Council of Governments as adopted and modified by the City of Rockwall.
  - It is preferred that the non-residential sewer services are brought into an existing manhole or construct a manhole at the tie-in to the existing sewer system.
  - Provide top rim, flow line in, flow line out and slope of lines.
  - Most sewer mains will be SDR-35, 8-inch with a minimum of 0.33% slope. If main is deeper than 10-feet from ground to flow line, then SDR-26 is required. No services allowed on lines 10-feet and deeper. **Note on plans, "No Services shall be allowed on lines 10-feet and deeper"**.
  - Show all water and storm water lines in profile of sewer main. Provide benchmarks.
  - All sewers shall have precast manholes. If deeper than 10-feet, then construct a 5-foot diameter manhole. All drop manholes are to be internal.
  - All commercial developments shall install a minimum 6-inch domestic sewer service. All non-residential sewer services shall be connected to the City sanitary sewer main at a manhole.
  - See TCEQ requirements for required water and sanitary sewer separation distances.
- Bores - See information on bores** in the North Central Texas Council of Governments Public Works Construction Standards, North Central Texas, Third edition, published by the as adopted and modified by the City of Rockwall.