



Engineering Design Standards

June 24, 2014

Changes to all Sections:

- Provide clarity to the existing standards and remove any ambiguity that may have been identified over the use of the current document.
- Reflect recent studies completed by Parkland County in the areas of Transportation and Storm Water Management.
- Survey current practices in the Capital Region.
- Compared to other Municipalities to ensure that they are consistent with the current practices within the region.

(Strathcona County, Leduc County, Sturgeon County, Spruce Grove, City of Edmonton, Wood Buffalo, . Red Deer County, Yellowhead County, Rockyview County, Wheatland County, MD of Opportunity, County of Athabasca and County of Wetaskiwin)

Section 1 General Conditions

- Erosion and Sediment Control Measures - New Section
 - Additions to reflect Alberta Environmental Protection and Enhancement Act requirements and current practices within the Capital Region

Section 2 Engineering Plans & Drawings

- Additional design drawings:
 - Storm Drainage and Sanitary Basin Plan
 - Rough Grading Plan
- Record Drawings
 - To be compatibility with GIS

Section 3 Water Distribution

- Minimum depth of cover for water mains to be 2.75 m.
- Isolation valve between fire hydrants unchanged from 1999 Standard
- Auguring under existing infrastructure
- Installation of pressure reducing valves where hydraulic modeling warrants.
- Additional clarity on water main testing
- New Section on Low Density Water Distribution Systems:
 - This section is intended to be used for rural residential developments
 - There are currently no developments with this type of system; however, this type of development is anticipated once the WILD water trunk line becomes available. Design criteria currently being used by Strathcona County.

Section 4 Sanitary Sewer Systems

- Sewage loading requirements:
 - Residential Contribution
 - Population to be based on 3.0 people/residence
 - Commercial/Industrial
 - Flows is to be 6170 litres/ha/d plus Inflow/Infiltration (I/I). Consistent with Alberta Capital Region Sewage Commission
- Minimum depth of cover for sewer mains to be 2.75 m.
- Mains to be installed under the travelled portion of the roadway
- Additional clarity on sewer main testing
 - Leakage testing
 - CCTV
- New Section on Sewage Lift Stations and Force mains
- New Section on Low Pressure Sanitary Sewer Systems
 - This design criteria is currently being used in Strathcona County.

Section 5 Service Connections

- All service connection will be constructed to the property line at the time of subdivision.
- Minimum size of water service connection to a single family dwelling:
 - 38 mm for un-sprinkled dwelling.
 - 50 mm for sprinkled dwelling.
- Minimum depth of cover to be 2.75 m.
- Minimum size of sanitary service connection to a single family dwelling
 - 150 mm diameter with 150 mm x 100 mm reducer.
- Inspection Chamber required for Residential Development
- Inspection Manhole required for all Industrial Development

Section 6 Storm Drainage Systems

- The standards for Storm Drainage Systems have been significantly expanded to reflect the recommendations of the 2011 Acheson/Big Lake Drainage Plan.
- Overall the existing standards have remained unchanged
- Additional items added to this section:
 - Requirements on Federal and Provincial approvals.
 - Detailed requirements for storm ponds and discharge to comply with Alberta Environmental Protection requirements.
 - Details for storm water lift stations and force mains
 - Additional information regarding Erosion and Sediment Controls
 - Requirements on construction of wet lands, and wet and dry ponds

Section 7 Roadway Systems

- Roadway Classifications (as per Transportation Master Plan):
 - Local
 - Residential.
 - Rural (grid)
 - Industrial
 - Minor Collector
 - Rural
 - Industrial
 - Major Collector (2 lane and 4 lane)
 - Rural
 - Industrial
 - Arterial (2 lane and 4 lane)
 - Rural
 - Industrial
- Note increase in ROW from 30m to 40m for Industrial with general increase in Pavement width from 05m to 1.0m

Section 8 Miscellaneous Requirements

- Underground power services required for Residential, Commercial and Industrial Subdivisions
- All davit poles shall be of steel
- Street lighting allowed in industrial setting following dark sky policy
- Street lighting in Residential Subdivision conditional to Council approval

Section 9 Landscape Requirements

- This is a complete new section and includes detailed landscape requirements that are currently in practice in Parkland County and other municipalities within the Capital Region.
- This section includes requirements for placing topsoil, seeding, sodding, watering, fertilizing, cutting of vegetation, and maintenance procedures during warranty period on all Parkland County green spaces and roadway rights-of-way areas.

Section 10 Standard Detail Drawings

- Standard detail drawings have been assembled in one section
- All drawings were updated to match the changes within the standards.