



City of St. Albert
Municipal Engineering Standards Addendum #1

April 2026

Revisions to the Municipal Engineering Standards as per the following:

Existing: Section 3.2

Table 3.2.1: Summary of Minimum Horizontal Clearances

	Water Main	Wastewater Main	Stormwater Main	Catch Basins	Manholes	Hydrants	WAT/STM/SAN Services	Street Poles	Gas Lines	Trees	Pedestals (1)	Transformers (2)
Water Main	N/A	3.0m	3.0m	1.5m	1.5m	N/A	N/A	N/A	2.0m	N/A	3.0m	3.0m
Wastewater Main	3.0m	N/A	2.0m	1.5m	1.5m	N/A	N/A	N/A	2.0m	N/A	3.0m	3.0m
Stormwater Main	3.0m	2.0m	N/A	1.5m	1.5m	N/A	N/A	N/A	2.0m	N/A	3.0m	3.0m
Catch Basins	1.5m	1.5m	1.5m	N/A	N/A	3.5m	2.0m	N/A	2.0m	N/A	3.0m	3.0m
Manholes	1.5m	1.5m	1.5m	N/A	N/A	5m	N/A	N/A	2.0m	N/A	3.0m	3.0m
Hydrants	N/A	N/A	N/A	3.5m	5m	N/A	2.0m	3.5m	2.0m	3.5m	3.0m	3.0m
WAT/STM/SAN Services	N/A	N/A	N/A	2.0m	N/A	2.0m	N/A	2.0m	2.0m	2.0m	3.0m	3.0m
Street Poles	N/A	N/A	N/A	N/A	N/A	3.5m	2.0m	N/A	2.0m	3.5m	3.0m	3.0m
Gas Lines	2.0m	2.0m	2.0m	2.0m	2.0m	2.0m	2.0m	2.0m	N/A	2.0m	1.5m	1.5m
Trees	N/A	N/A	N/A	N/A	N/A	3.5m	2.0m	3.5m	2.0m	N/A	3.0m	3.0m
Pedestals (1)	3.0m	3.0m	3.0m	3.0m	3.0m	3.0m	3.0m	3.0m	1.5m	3.0m	See Note (1)	See Note (1)
Transformers (2)	3.0m	3.0m	3.0m	3.0m	3.0m	3.0m	3.0m	3.0m	1.5m	3.0m	See Note (1)	3.0m

Change to:

Table 3.2.1: Summary of Minimum Horizontal Clearances

	Water Main	Wastewater Main	Stormwater Main	Catch Basins	Manholes	Hydrants	WAT/STM/SAN Services	Street Poles	Gas Lines	Trees	Pedestals (1)	Transformers (2)
Water Main	N/A	3.0m	3.0m	1.5m	1.5m	N/A	N/A	N/A	2.0m	N/A	3.0m	3.0m
Wastewater Main	3.0m	N/A	2.0m	1.5m	1.5m	N/A	N/A	N/A	2.0m	N/A	3.0m	3.0m
Stormwater Main	3.0m	2.0m	N/A	1.5m	1.5m	N/A	N/A	N/A	2.0m	N/A	3.0m	3.0m
Catch Basins	1.5m	1.5m	1.5m	N/A	N/A	3.5m	2.0m	N/A	2.0m	N/A	3.0m	3.0m
Manholes	1.5m	1.5m	1.5m	N/A	N/A	5m	N/A	N/A	2.0m	N/A	3.0m	3.0m
Hydrants	N/A	N/A	N/A	3.5m	5m	N/A	2.0m	3.5m	2.0m	3.5m	3.0m	3.0m
WAT/STM/SAN Services	N/A	N/A	N/A	2.0m	N/A	2.0m	N/A	2.0m	2.0m	2.0m	2.0m	3.0m
Street Poles	N/A	N/A	N/A	N/A	N/A	3.5m	2.0m	N/A	2.0m	3.5m	3.0m	3.0m
Gas Lines	2.0m	2.0m	2.0m	2.0m	2.0m	2.0m	2.0m	2.0m	N/A	2.0m	1.5m	1.5m
Trees	N/A	N/A	N/A	N/A	N/A	3.5m	2.0m	3.5m	2.0m	N/A	3.0m	3.0m
Concrete Swales	1.0m	1.0m	1.0m	N/A	N/A	2.0m	1.0m	0.5m	2.0m	2.0m	3.0m	
Pedestals (1)	3.0m	3.0m	3.0m	3.0m	3.0m	3.0m	3.0m	3.0m	1.5m	3.0m	See Note (1)	See Note (1)
Transformers (2)	3.0m	3.0m	3.0m	3.0m	3.0m	3.0m	3.0m	3.0m	1.5m	3.0m	See Note (1)	3.0m

Existing: Section 3.2.1.1

.2 Fire Demand:

- a) Fire demand conditions shall be analyzed based on the criteria provided in *Water Supply for Public Fire Protection, A Guide to Recommended Practice*, Fire Underwriters Survey, latest edition.
- b) For commercial, institutional, and multi-family residential lots with internal fire suppression systems, the Design must include hydraulic analyses to determine the required system configuration and sizes to provide direct flow to the fire suppression systems in combination with hydrant flows.
- c) The Designer is responsible for satisfying themselves as to the available fire flow to, or near, the site prior to completing the Design. It shall be the Designer's

responsibility to complete a hydrant flow test on a nearby hydrant to determine available fire flow if deemed necessary. Hydrant flow tests must be coordinated through the City's Utilities department. A copy of the hydrant flow test results must be provided to the City.

- d) The Designer must ensure that the City's requirements are met with respect to onsite hydrant requirements based on the type of the proposed development and the layout of the site. The City will provide input in this regard during its review of the Design.

Change to:

.2 Fire Demand:

- a) Fire demand conditions shall be analyzed based on the criteria provided in *Water Supply for Public Fire Protection, A Guide to Recommended Practice*, Fire Underwriters Survey, latest edition.
- b) **Interim fire demands, as approved by the City, may be permitted to allow minimum flows of 90 l/s while meeting system pressure of 140 kPa.**
- c) For commercial, institutional, and multi-family residential lots with internal fire suppression systems, the Design must include hydraulic analyses to determine the required system configuration and sizes to provide direct flow to the fire suppression systems in combination with hydrant flows.
- d) The Designer is responsible for satisfying themselves as to the available fire flow to, or near, the site prior to completing the Design. It shall be the Designer's responsibility to complete a hydrant flow test on a nearby hydrant to determine available fire flow if deemed necessary. Hydrant flow tests must be coordinated through the City's Utilities department. A copy of the hydrant flow test results must be provided to the City.
- e) The Designer must ensure that the City's requirements are met with respect to onsite hydrant requirements based on the type of the proposed development and the layout of the site. The City will provide input in this regard during its review of the Design.

Existing 3.2.1.1

.3 Water System Looping required: F

- a) For all single family developments of 20 or more residential lots.
- b) For all multi-family and commercial site developments.
- c) On an interim basis, as approved by the City, allowances up to 150 units may be serviced on a single feed as noted in section [Horizontal Alignment]

Change to:

- .3 Water System Looping required:
 - a) For all single family developments of 30 or more residential lots.
 - b) For all multi-family and commercial site developments.
 - c) on an interim basis, as approved by the City, multi-family, allowances may be made for multi-family units, commercial/industrial units or up to 150 single family units to be temporarily serviced on a single feed as noted in section 3.2.1.2.8

Existing 3.2.1.3

Hydrants

- .1 Hydrants shall be located within the road right-of-way in accordance with the Engineering Standard Drawings in Appendix A.
- .2 Refer to the Engineering Standard Drawings in Appendix A for a typical hydrant detail.
- .3 The centre of the hydrant barrel shall be a minimum of 0.3 m in front of the sidewalk and a maximum of 1.5 m from the face of the curb. Hydrants shall not be perched above sewer mains.
- .4 The maximum distance between hydrants shall not exceed 150 m in single-family residential areas and 120 m in commercial, institutional and multi-family residential areas.
- .5 Wherever possible, hydrants shall be located at the projection of property lines to avoid potential conflict with driveways. At intersections, hydrants shall be located adjacent to corner cut-offs. Where hydrant placement must be immediately adjacent to a potential driveway location, the City may direct that bollards be installed to protect the hydrant.
- .6 For cul-de-sacs, a hydrant must be installed at or near the entrance intersection. Cul-de-sacs exceeding 120 m in length require a hydrant and looping of the water main in accordance with Articles 3.3.1.5 and 3.2.1.2.
- .7 Hydrants shall be located a minimum of 5 m from any sewer manhole. Hydrants shall have a minimum clearance of 3.5m otherwise.
- .8 Hydrants shall be located such that the distance from any building to a hydrant shall not exceed 75 m of unobstructed distance. For commercial, institutional or multi-family residential buildings with standpipes, there must be a hydrant located within 45 m of the standpipe with unobstructed vehicle access provided between the hydrant and the fire department connection to the building.
- .9 If deemed necessary, the City may require additional hydrants be installed at high-value or high-risk properties.
- .10 All hydrants shall be off-line type. Hydrant leads shall include a valve, located on the boulevard area adjacent to the hydrant within the road right-of-way.

Change to:

Hydrants

- .1 Hydrants shall be located within the road right-of-way in accordance with the Engineering Standard Drawings in Appendix A.
- .2 Refer to the Engineering Standard Drawings in Appendix A for a typical hydrant detail.
- .3 The centre of the hydrant barrel shall be a minimum of 0.3 m in front of the sidewalk and a maximum of 1.5 m from the face of the curb. Hydrants shall not be perched above sewer mains.
- .4 The maximum distance between hydrants shall not exceed 150 m in single-family residential areas and 120 m in commercial, institutional and multi-family residential areas.
- .5 Wherever possible, hydrants shall be located at the projection of property lines to avoid potential conflict with driveways. At intersections, hydrants shall be located adjacent to corner cut-offs. Where hydrant placement must be immediately adjacent to a potential driveway location, the City may direct that bollards be installed to protect the hydrant.
- .6 For cul-de-sacs, a hydrant must be installed at or near the entrance intersection. Cul-de-sacs exceeding 120 m in length require a hydrant and looping of the water main in accordance with Articles 3.3.1.5 and 3.2.1.2.
- .7 Hydrants shall be located a minimum of 5 m from any sewer manhole. Hydrants shall have a minimum clearance of 3.5m otherwise.
- .8 Hydrants shall be located such that the distance from any building to a hydrant shall not exceed 75 m of unobstructed distance. For commercial, institutional or multi-family residential buildings with standpipes, there must be a hydrant located within 45 m of the standpipe with unobstructed vehicle access provided between the hydrant and the fire department connection to the building.
- .9 If deemed necessary, the City may require additional hydrants be installed at high-value or high-risk properties.
- .10 All hydrants shall be off-line type. Hydrant leads shall include a valve, located on the boulevard area adjacent to the hydrant within the road right-of-way.
- .11 Hydrants shall not be located on walkways (allow 1.8m of unobstructed walking space for concrete and asphalt surfaces).
- .12 Maintain Minimum Clearance of 1.75m From driveway edge to edge of nearest hydrant (minimum clearance of 1.25 m may be permitted in single family residential areas).

Existing:3.2.1.4

Water Main Valves

- .1 Wherever possible, water main valves shall be located at the projection of property lines to avoid potential conflict with driveways. At intersections, valves shall be located at the beginning of curb returns.
- .2 Valves shall be located such that, in the event of a shutdown, no more than 1 hydrant will be out of service, no more than 3 valves shall be required to achieve the shutdown, and no more than 20 single-family residential units will be affected by the shutdown.

Change to:

Water Main Valves

- .1 Wherever possible, water main valves shall be located at the projection of property lines to avoid potential conflict with driveways. At intersections, valves shall be located at the beginning of curb returns.
- .2 Valves shall be located such that, in the event of a shutdown, no more than 1 hydrant will be out of service, no more than 3 valves shall be required to achieve the shutdown, and no more than 30 single-family residential units will be affected by the shutdown.

Existing: 3.2.2.4.9

- .9 Service connections shall be located such that they do not conflict with driveway locations. (When possible in cul de sac locations.)

Change to:

- .9 If the connection is more than 6.5m Deep (measured at invert of main), then servicing must be accomplished through use of a conveyance main qualified upon acceptance by the city engineer. Secondary mains must abide to a 0.3m offset.

Existing: 3.2.3.1.2

- .2 Refer to Article 3.2.3.1 for details regarding stormwater management system design for infill or redevelopment projects.

Change to:

- .2 Refer to Article 3.2.3.12 for details regarding stormwater management system design for infill or redevelopment projects.

Existing: 3.2.3.7.2

- i) Where services are required to connect to mains more than 4.25 m deep, risers shall be installed at the time of construction of the sewer mains and in accordance with the standard drawings. Risers shall be firmly supported and anchored to the trench wall in a manner that will minimize the possibility of damage to the riser by the backfilling operations. Supports and anchors to be to the satisfaction of the Engineer. If the connection is more than 6m deep, then servicing must be accomplished through use of a conveyance main qualified upon acceptance by the City Engineer. Secondary mains must abide to a 0.5m offset.

Change to:

- i) If the connection is more than 6.5m deep, then servicing must be accomplished through use of a conveyance main qualified upon acceptance by the City Engineer. Secondary mains must abide to a minimum 0.3m horizontal offset.

Existing: 3.2.3.5.11

None

Change to:

- .1 Grated Catch basins shall not be located within pedestrian crosswalks, curb ramps, or sidewalks without providing 1.8m of unobstructed walking space

Existing: 3.2.3.3.4.b

- b) The parameters for curved sewers are summarized in Section 6.2.5.c.

Change to:

- b) For parameters for curved sewers see Table 3.2.2.2.8.

Existing: 3.2.3.8.2

- .9 .2 The City will require OGIs be installed on new or redeveloped commercial, institutional and industrial sites larger than 0.4 Ha. Any sites that would function with petroleum products, soaps, or any other product deemed harmful to the storm system by the City Engineer will require OGIs regardless of site area. The City Engineer reserves the right to enforce OGIs on any site at his/her discretion.

Change to:

- .2 The City will require OGIs be installed on new or redeveloped commercial, institutional and industrial sites larger than 0.4 Ha, unless it can be demonstrated that a downstream OGI that is upstream of the natural drainage course has been adequately sized to accommodate expected flows from a total catchment area that includes this site. Sites that are considered high risk for hydrocarbon contamination as per Alberta Environment shall be required to install private on-site OGIs. A deviation request can be submitted for evaluation. In addition, the City Engineer reserves the right to enforce OGIs on any site at their discretion.

Existing: 3.2.3.10.1 (Section Headings)

3.2.3.10 Major System General Design Criteria

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3.2.3.10.1 Stormwater Management Facilities

Change to:

3.2.3.10 Major System General Design Criteria

...

3.2.3.11.1 Stormwater Management Facilities

Existing: 3.2.3.10.1

Current wording:

All-weather vehicle access must be provided to all inlet, outlet, and control structures, and other works in or around the facility which may require maintenance, with suitable provision for launching boats into the pond. A single boat launch/access point is acceptable as long as a minimum access width and depth of 5m and 2m respectively is maintained between the boat launch and all inlet, outlet, control structures/ other works to facilitate access of City personnel.

Proposed wording:

Minimum 3.5m wide all-weather vehicle access must be provided to all inlet, outlet, and control structures, and other works in or around the facility which may require maintenance. Minimum 3.5m wide all-weather vehicle access for a 23 tonne tandem truck must be provided to oil and grit interceptors/separators. Suitable provision shall be made for launching boats into the pond with a 3.5m wide boat ramp extending from 0.5m above the NWL to 0.5m below the NWL with erosion control blocks that matches the contour of the SWMF (minimum 7H:1V above NWL and 5H:1V below NWL – approximately 6.0m in length). Boat ramp is to be located at least 3m from all inlet, outlet, control structures/ other works to facilitate access of City personnel and must connect NWL surface of pond to accessible non-naturalized area (grass or hard surface).

Existing: 3.2.3.10.2 (Major System General Design Criteria)

h) Culverts

- i) Culverts may be provided to connect swales and drainage channels across roadways and other surface improvements.
- ii) Culverts shall be IPEX Ultra-Rib PVC, or an approved equivalent.
- iii) Refer to the Engineering Standard Drawings in Appendix A.
- iv) Energy dissipation and sediment and erosion control must be considered in culvert design.
- v) Culverts must include gratings for public safety. Gratings shall have a maximum clear bar spacing of 150 mm and shall be suitably anchored to the outfall structure. Grated outlet structures must be designed with twice the required hydraulic capacity in order to prevent plugging and designed for a maximum flow velocity of 1.0 m/s through the grating. Gratings must be designed to allow maintenance access.

Change to:

h) Culverts

- i) Culverts may be provided to connect swales and drainage channels across roadways and other surface improvements.
- ii) Culverts shall be polymer coated corrugated steel pipe with field applied polymer end treatments or pre-cast concrete (corrugated steel pipe without coating is not acceptable)
- iii) Where concrete or fibreglass inlets and outlets are being installed, IPEX Ultra-rib or standard PVC can be utilized for sizes up to 600mm
- iv) Where field testing has confirmed that soils are non-corrosive (pH higher than 5 and resistivity higher than 1500 ohm-cm),
- v) Culverts shall be a minimum size of 300mm
- vi) Culverts shall have a minimum burial depth of 300mm
- vii) Refer to the Engineering Standard Drawings in Appendix A.
- viii) Energy dissipation and sediment and erosion control must be considered in culvert design.
- ix) Culverts must include gratings for public safety. Gratings shall have a maximum clear bar spacing of 150 mm and shall be suitably anchored to the outfall structure. Grated outlet structures must be designed with twice the required hydraulic capacity in order to prevent plugging and designed for a maximum flow velocity of 1.0 m/s through the grating. Gratings must be designed to allow maintenance access.

Existing:

Erosion control must be provided around the perimeter of wet ponds. Such shall be compatible with adjacent land use and provide for low maintenance and public safety.

Change to:

Erosion control must be provided around the **perimeter** of wet ponds. Such shall be compatible with adjacent land use and provide for low maintenance and public safety.

Existing:3.3.1.4.7 Table:3.3.5

.10 Minimum corner cuts for intersections are based upon the roadway types and are summarized in Table XX below:

Table 3.3.5: Minimum Corner Cuts for Intersections

<u>Minimum Corner Cuts for Intersections</u>	Local	Collector	Arterial
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Local	6m	9m	N/A
Collector	9m	15m	15m
Arterial	N/A	15m	15m

Change to:

- .7 Minimum corner cuts for intersections are based upon the roadway types and are summarized in Table 3.3.5 below:

Table 3.3.5: Minimum Corner Cuts for Intersections

<u>Minimum Corner Cuts for Intersections</u>	Local	Collector	Arterial
Local	6m	6m	N/A
Collector	6m	6m	15m
Arterial	N/A	15m	15m

Existing: 3.3.1.5

Cul-de-sac

- .1 Culs-de-sac are a maximum of 120 m in length, as measured from the adjoining roadway's nearest curb line to the start of the cul-de-sac's bulb. Culs-de-sac which exceed this may be approved at the discretion of the City. Culs-de-sac which exceed 120 m but that are less than 170 m in length require an additional hydrant and looping of the water main to the cul-de-sac. Cul-de-sacs which exceed 170 m in length require a minimum 6 m wide public utility lot (PUL) for emergency vehicle access and looping of the water main. Any PUL which is required for emergency vehicle access shall be developed to a standard acceptable to the City and shall include provisions for limiting public vehicle access. Refer to the Engineering Standard Drawings in Appendix A.
- .2 In the case where the cul-de-sac cannot be graded to drain towards the adjoining road, a PUL must be included to provide an outlet for overland flow.
- .3 Cul-de-sac bulbs shall have a minimum radius of 12 m from the centre to the curb face. Bulb road surfaces may be crowned or cross fall sloped for drainage, at a minimum grade of 1.0% and maximum grade of 3.0% outward from the centre of the bulb.
- .4 The use of culs-de-sac is dictated by the most current St. Albert Land Use Bylaw.

Change to:

- .1 Cul-de-sacs are a maximum of 120 m in length, as measured from the adjoining roadway's nearest curb line to the start of the cul-de-sac's bulb. Cul-de-sacs which exceed this may be approved at the discretion of the City. Cul-de-sacs which exceed 120 m but that are less than 170 m in length require an additional hydrant and looping of the water main to the cul-de-sacs. Cul-de-sacs which exceed 170 m in length require a minimum 6 m wide public utility lot (PUL) for emergency vehicle access and looping of the water main. Any PUL which is required for emergency vehicle access shall be developed to a standard acceptable to the City and shall include provisions for limiting public vehicle access. Refer to the Engineering Standard Drawings in Appendix A.
- .2 In the case where the cul-de-sacs cannot be graded to drain towards the adjoining road, a PUL must be included to provide an outlet for overland flow.
- .3 Cul-de-sacs bulbs shall have a minimum radius of 12 m from the centre to the curb face. Bulb road surfaces may be crowned or cross fall sloped for drainage, at a minimum grade of 1.0% and maximum grade of 3.0% outward from the centre of the bulb.
- .4 The use of **cul-de-sacs** is dictated by the most current St. Albert Land Use Bylaw.

Existing: 3.3.2.2.8

- .8 All trails, shall be constructed of asphalt concrete in accordance with the Engineering Standard Drawings in Appendix A. Asphalt concrete shall meet the applicable articles of Section 3.0.
- .9 All trails are to be constructed to a minimum width of 3.0 metres.

Change to:

Removed.

Existing Articles .10 & .11 are now listed as .8 & .9

Existing: NONE

Change to: New subsection 3.3.4.3

3.3.4.3 Accessible Pedestrian Signals and Pedestrian Activated Warning Lights when Warranted

- .1 Accessible Pedestrian Signals provide audible guidance to locate the pedestrian crossing button, provide crossing queues and indicate directional information for pedestrians.
 - a) Accessible Pedestrian Signals shall be placed as follows:
 - i) At all fully signalized intersections.
 - ii) At pedestrian signal crossings that have been deemed warranted by a Traffic Control or Pedestrian Crossing Control Warrant Review.

- iii) Be mounted on separate posts (where reasonably possible) with a minimum separation distance of 3000mm
- b) Push buttons for Accessible Pedestrian Signals to be located within 1500mm of the edge of curb crossing (where possible).

*Changed Numbering font must be color matched for header

Existing:3.4.15.1 Table:

Infrastructure Designation	* Setback Distance for Trees
Fence Lines	2.5m
Median and Road Curb Face (Arterial)	2.0m
Median (Collector and Local Roadways)	1.5m
Bull nose of Median on Primary Street	4.5m
Driveways	1.5m (2.0m preferred)
Fire Hydrants	3.5m
Street Lights (Arterial Roadways)	3.5m
Street Lights (Collector and Local Roads)	3.5m
Buried Utilities (power, cable, telephone, traffic signals)	1.0m
Power Hardware	3.5m
Telephone Pedestals	1.5m
Water Valves	1.8m
Buried Gas Mains and Services	1.5m
Street corners (distance from intersecting curb)	12.0m
Yield and Stop Signs (Arterial Roadways)	7.5m
Yield and Stop Signs (Collector and Local Roadways)	3.5m
Bus Stop Signs and other signs	3.5m
Other signs	2.0m
Sidewalks and trails	1.0m
Trails	3.0m
Buried Storm / Wastewater / Water Services	1.8m
* Minimum tree setbacks can be adjusted by the City based upon the species and placement.	

Change to:

Infrastructure Designation	* Setback Distance for Trees
Fence Lines	2.5m
Median and Road Curb Face (Arterial)	2.0m
Median (Collector and Local Roadways)	1.5m

Bull nose of Median on Primary Street	4.5m
Driveways	1.5m (2.0m preferred)
Fire Hydrants	3.5m
Street Lights (Arterial Roadways)	3.5m
Street Lights (Collector and Local Roads)	3.5m
Buried Utilities (power, cable, telephone, traffic signals)	2.0m
Power Hardware	3.5m
Telephone Pedestals	1.5m
Water Valves	1.8m
Buried Gas Mains and Services	1.5m
Street corners (distance from intersecting curb)	12.0m
Yield and Stop Signs (Arterial Roadways)	7.5m
Yield and Stop Signs (Collector and Local Roadways)	3.5m
Bus Stop Signs and other signs	3.5m
Other signs	2.0m
Sidewalks and trails	1.0m
Trails	3.0m
Buried Storm / Wastewater / Water Services	2.0m
Concrete Swales	2.0m
* Minimum tree setbacks can be adjusted by the City based upon the species and placement.	

Existing: 3.4.6.1.6

- .6 All paving stones, paving stone headers, concrete, or other special hard surfaced verge or walkways shall be subject to the review and acceptance of the City.

Change to:

- .6 All paving stones, paving stone headers, concrete, or other special hard surfaced verge or walkways shall be subject to the review and acceptance of the City. **Accessibility shall be considered.**

Existing: 4.3.2.1.10.3

- v) Representative Cores: A single core is initially taken representing the quantity of SGC hot-mix in not more than 1,000 m² of mat, with a minimum of one core taken from a day's production. If the initial core density is below specified, that initial density is discarded, and 3 new cores will be taken within 10 m of the original core location at a minimum spacing of 2.5 m between cores. The average density of the 3 new cores represents that area.

Change to:

- v) Representative Cores: A single core is initially taken representing the quantity of SGC hot-mix in not more than 1,000 m² of mat, with a minimum of one core taken from a day's production. If the initial core density is below specified, that initial density is discarded, and 3 new cores will be taken within 10 m of the original core location at a minimum spacing of 2.5 m between cores. The average density of the 3 new cores represents that area. **asphalt re-coring must be completed with same lab as initial cores**

Existing: NONE

Change to:

4.3.5.1 Accessible Pedestrian Signals and Pedestrian Activated Warning Lights

4.3.5.1.1 Accessible Pedestrian Signals should include the following features:

- .1 Push buttons that are mounted a maximum of 1100mm above ground level (minimum 900mm).
- .2 Tactile arrows that are aligned with the direction of crossing.
- .3 Have a locator tone that is distinct from a walk indicator tone. The locator should be active at all times and adjust to ambient noise levels.
- .4 Include both audible and vibro-tactile walk indicators. Audible and vibro-tactile crossing indications should only be active if the crossing button is activated.
- .5 Shared connection to local electrical grid or solar powered.
- .6 Include both manual and automatic activation.
- .7 Where two accessible pedestrian signal assemblies are installed on a single post, a method must be provided to clearly differentiate which crossing is active (clear tactile or audible description of the crossing direction being serviced).
- .8 Placement of signals to be determined by TIA

Existing: NONE

Change to:

4.3.5.1.2 Pedestrian Activated Warning Lights shall include the following features:

- .1 Push buttons that are mounted a maximum of 1100mm above ground level (minimum 900mm).
- .2 Tactile arrows that are aligned with the direction of crossing.
- .3 Shared connection to the local electrical grid or solar powered.

Existing: 4.5.1.1.2

- .17 McAvity, Mueller/Canada Valve, or AVK.
- .18 Where geotechnical or other studies identify a high water table the hydrants must be consist of an all stainless steel operating shaft such as those produced by AVK or accepted alternative.

Change to:

- .17 McAvity, Mueller/Canada Valve, **Terminal City** or AVK.
- .18 All hydrants shall have Type 304 stainless steel operating shafts.**

Existing: 4.5.1.1.3.1

- m) Valve boxes shall be cast iron Type B valve box/casing by Trojan. Refer to the Engineering Standard Drawings. PVC valve boxes may be acceptable if pre-approved by St. Albert Utilities group and if it satisfies the manufacturer's requirements.

Change to:

- m) **Valve boxes shall be cast iron Type B valve box/casing.** Refer to the Engineering Standard Drawings. **Type A valve box/casing may be acceptable on renewal projects** if pre-approved by St. Albert Utilities group and **it** satisfies the manufacturer's requirements.

Existing: 4.5.2.1.1/4.5.3.1.1

- b) PVC pipe and fittings shall meet CAN/CSA-B182.2 with locked-in elastomeric ring gasket and integral bell system joint type.
- c) Minimum pipe dimension ratio shall be DR35. Strength design, considering trench and road loading, shall be integral to pipe design process.

Change to:

- b) PVC pipe and fittings shall meet CAN/CSA- B182.2 **for solid wall pipe or CAN/CSA-B182.4 for profile pipe**, with locked-in elastomeric ring gasket and integral bell system joint type.

- c) Minimum pipe **stiffness shall be 320 kPa (46 psi)**. Strength design, considering trench and road loading, shall be integral to pipe design process

Existing: 4.5.1.2.15

- .3 Water Quality Test Strips:
 - a) Follow the procedure as described by the manufacturer.
 - b) Test strips must be pre-approved by the City before use.

Change to:

- .3 Water Quality Test Strips, **DPD Colorimeters, and Drop-Test QA Kits:**
 - c) Follow the procedure as described by the manufacturer.
 - d) **Contractors may use Test Strips, DPD Colorimeters, and Drop-Test Kits as a non-regulatory screening tool for internal checks during water main flushing and preparation. All tests must follow AWWA Standard Methods.**

Existing: 4.5.2.2.7.2f

- f) If vertical adjustment is required for final grade, use concrete grade rings to a maximum depth of 900 mm. Grade rings shall not deviate more than 50mm from the center of the manhole and/or 25mm from other grade rings.

Change to:

- f) **To provide vertical adjustment for final grade (and to allow for future grade changes), concrete grade rings to include a maximum number of four and a maximum total thickness of 600mm for manholes and catch basin manholes (as a minimum one grade ring with a thickness of at least 75mm is to be provided). To provide vertical adjustment for final grade (and to allow for future grade changes), concrete grade rings to include a maximum number of three and a maximum total thickness of 450mm for catch basins (as a minimum one grade ring with a thickness of at least 75mm is to be provided).** Grade rings shall not deviate more than 50mm from the center of the manhole and/or 25mm from other grade rings.

Existing: 4.5.3.1.6.1

- .1 Oil and grit interceptors shall be as manufactured by Stormceptor or CDS Technologies. Any alternative must be pre-approved by the City.

Change to:

- .1 Oil and grit interceptors shall be as manufactured by Stormceptor, Rainwater or CDS Technologies. Any alternative must be pre-approved by the City.

Existing: 2.6.2

- .1 Applications for a development agreement and/or development permits for infill and redevelopment projects must be accompanied by a design report, lot grading plan, and overall utility plan. For some minor residential infill sites, the lot grading plan and overall utility plan may be combined onto one singular plan and Landscaping plans may not be required at the City's discretion. Please note that Garden/Garage Suites are to be contained all within parcel. There is no tie into City infrastructure.

Change to:

- .1 Applications for a development agreement and/or development permits for infill and redevelopment projects must be accompanied by a design report, lot grading plan, and overall utility plan. For some minor residential infill sites, the lot grading plan and overall utility plan may be combined onto one singular plan. Please note that Garden/Garage Suites are to be contained all within parcel. There is no tie into City infrastructure.

Existing: 3.3.1.3.3c

- .3 Horizontal Alignment
 - a) Roadway alignment shall be centered within the right-of-way.
 - b) Straight or near-straight residential roadways shall have a maximum unimpeded length of 200 m, unless traffic calming measures are provided.
 - c) Horizontal curves shall meet the requirements in Table 3.3.

Change to:

- .3 Horizontal Alignment
 - a) Roadway alignment shall be centered within the right-of-way.
 - b) Straight or near-straight residential roadways shall have a maximum unimpeded length of 200 m, unless traffic calming measures are provided.
 - c) Horizontal curves shall meet the requirements in Table 3.3.4.

Existing: Table 3.3.4

Table 3.3.4 – Horizontal Curve Design Criteria (from TAC latest edition)

Change to:

Table 3.3.4 – **Roadway Design Criteria**

Existing: 3.3.1.4.1

- .1 The City of St. Albert prefers the use of roundabouts in design on the basis of improved efficiency, safety and traffic calming wherever possible. Reference the Geometric Design Guide for Canadian Roads, Transportation Association of Canada (TAC), latest edition, for design of roundabouts.

Change to:

- .1 The City of St. Albert prefers the use of roundabouts in design on the basis of improved efficiency, safety and traffic calming wherever possible. Reference the Geometric Design Guide for Canadian Roads & **Roundabout Design Guide**, Transportation Association of Canada (TAC), latest edition, for design of roundabouts.

Existing: 3.3.1.4

- .4 Refer to Table XX. Intersections for local and collector roadways shall be spaced at least 60 m apart, as measured along the road centreline. The City shall review the appropriate location of intersections for arterial roadways.
- .5 Intersection spacing different from Table XX shall be subject to the review and acceptance of the City.
- .6 Where the projected traffic volume on arterial roadways necessitates the provision of acceleration/deceleration turning lanes at an intersection, the Developer shall provide for the widening of the arterial road right-of-way, as required. Reference the Geometric Design Guide for Canadian Roads, Transportation Association of Canada (TAC), latest edition, for the conditions necessitating the use of acceleration/deceleration lanes.
- .7 Minimum corner cuts for intersections are based upon the roadway types and are summarized in Table XX below:

Change to:

- .4 Refer to Table **3.3.4**. Intersections for local and collector roadways shall be spaced at least 60 m apart, as measured along the road centreline. The City shall review the appropriate location of intersections for arterial roadways.

- .5 Intersection spacing different from Table 3.3.4 shall be subject to the review and acceptance of the City.
- .6 Where the projected traffic volume on arterial roadways necessitates the provision of acceleration/deceleration turning lanes at an intersection, the Developer shall provide for the widening of the arterial road right-of-way, as required. Reference the Geometric Design Guide for Canadian Roads, Transportation Association of Canada (TAC), latest edition, for the conditions necessitating the use of acceleration/deceleration lanes.
- .7 Minimum corner cuts for intersections are based upon the roadway types and are summarized in Table 3.3.5 below:

Existing: 3.3.1.4

- .1 The City of St. Albert prefers the use of roundabouts in design on the basis of improved efficiency, safety and traffic calming wherever possible. Reference the Geometric Design Guide for Canadian Roads, Transportation Association of Canada (TAC), latest edition, for design of roundabouts.

Change to:

- .1 **Roundabouts are a useful tool** in design on the basis of improved efficiency, safety and traffic calming wherever possible. **Roundabouts should be considered when signals are anticipated.** Reference the Geometric Design Guide for Canadian Roads, Transportation Association of Canada (TAC), latest edition, for design of roundabouts.

Change request:23-113

Existing:2.7.6.2.2

- .2 Upon issuance of the CCC, the maintenance period shall be:
 - a) Pathways/Trails – 2 year.
 - b) Signage – 1 year.
 - c) Sod – 1 year, or as soon as germination is completely knitted.
 - d) Seed – 2 years, or 95% germination.
 - e) Plant Material – 2 years for all trees (less than 75 mm caliper) and shrubs on public property (Note: 1 year for trees on private property, or as otherwise indicated on the Development Permit), 2 years for all perennials.
 - f) Trees (75 mm caliper or greater) – minimum 3 years (subject to extension proportional to increase in caliper size, subject to review and direction of the City).
 - g) Site Amenities – 1 year.

- h) Landscaping (Development Permit) – 1-year Private property, 2 years Public property.

Change to:

- .2 Upon issuance of the CCC, the maintenance period shall be:
 - a) Pathways/Trails – 2 year.
 - b) Signage – 1 year.
 - c) Sod – 1 year, or as soon as germination is completely knitted.
 - d) Seed – 2 years, or 95% germination.
 - e) Plant Material – 2 years for all trees (less than 75 mm caliper) and shrubs on public property (Note: 1 year for trees on private property, or as otherwise indicated on the Development Permit), 2 years for all perennials.
 - f) Trees (75 mm caliper or greater) – minimum 3 years (subject to extension proportional to increase in caliper size, subject to review and direction of the City).
 - g) Site Amenities – 2 year.
 - h) Landscaping (Development Permit) – 1-year Private property, 2 years Public property.