Section I – Data Acceptance Standards

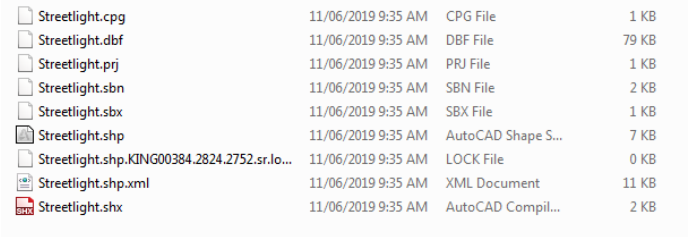
File Geodatabase Acceptance Standards: A file geodatabase is a collection of various file formats in a single location. The file geodatabase is the desired filing structure for municipal GIS data shared with the Township of King during or upon completion of Township projects. File geodatabases maintain schema aliases and enables ideal data interoperability. If the Township shares geospatial data to complete a project, file geodatabases should be returned containing updated versions of the geospatial data, while maintaining the same schema (or data structure). File geodatabases can store:

- Feature datasets
- Feature classes
- Tables
- Relationship classes
- Raster datasets
- Mosaic datasets
- Toolboxes

Feature datasets organize geospatial data within the preferred filing structure of the file geodatabase. Feature classes consist of points, lines, polygons, among other features. For more information on file geodatabases, read the following Esri documentation.

All GIS data accepted by the Township of King should be provided in a file geodatabase, opposed to the simpler shapefile format. For organizations using ArcGIS Pro, Project Packages or Map Packages will suffice. Some organizations may operate using basic GIS software licenses may be unable to provide the level of detail requested.

Shapefile Acceptance Standards: The shapefile (*.shp*) is a geospatial vector data format accepted almost universally across various GIS platforms. Shapefiles store nontopological geometry and restricted attribute schema. Shapefiles can store the geometric data types of points, lines, and polygons. A shapefile consists of three mandatory files *.shp* containing the feature geometry, *.shx* shape index/positional index, and *.dbf* attribute format information such as column attributes. However, a shapefile is likely to consist of a variety of other supporting files including but not limited to: *.shp.xml* relating to geospatial metadata and *.prj* which defines the projection for the shapefile. Shapefiles can be exported to CAD files, and vice versa:



(Image 1: shapefile contents post CAD conversion example)

Section II – Coordinate System Standards

Coordinate System Standards*:* All shapefiles submitted to the Township of King must adhere to the coordinate system standards stated below:

Geographic Coordinate System: GCS North American 1983
Angular Unit: Degree (0.0174532925199433)
Prime Meridian: Greenwich (0.0)
Datum: D North American 1983
Spheroid: GRS 1980
Semimajor Axis: 6378137.0
Semiminor Axis: 6356752.314140356
Inverse Flattening: 298.257222101
Projection: Universal Transverse Mercator
Zone 17N
False Easting: 500000.0
False Northing: 0.0
Central Meridian: -81.0
Scale Factor: 0.9996
Latitude Of Origin: 0.0
Linear Unit: Meter (1.0)

In most GIS and CAD software packages, this specific coordinate system-projection combination will be recognized simply as, NAD_1983_UTM_Zone_17N

Section III – Schema Standards

Schema Standards: While the data files must adhere to the formatting and coordinate system standards stated above (*Section I and Section II*), the data stored in the attribution tables (also referred to as tabular data) must mirror the schema standards presented in the tables below. These standards include geometry type, column naming conventions/field names, units, data type, length, precision, and scale. These tables are organized by subject matter, which include: roads and infrastructure, water, utilities, and parks and landscaping.

Transportation Network and Infrastructure:

Table 1

Signs	**Signs (point)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			6	
Type	String		255		
Category	String		255		
Barcode	String		50		
Support_Number	Short Integer			5	
Install_Date	Date	yyyy-mm-dd		10	
Pole_Type	String		50		
Road	String		100		
Description	String		250		
Location	String		50		
Address	String		50		

Install_Date	String		10		
Date_Assumed	String		10		
Code	String		50		
Inspected	String		50		
Sheeting	String		50		

Table 2

Road Surfaces	**Road_Surfaces (polyline)**						
Field Name	***Definition***	***Data Type***	***Unit***	***Options (Domain)***	***Length***	***Precision***	***Scale***
Asset_ID	Asset ID	String			50		
Citywide_ID	Citywide ID	Long Integer				6	
Citywide_Link	Citywide Link	String			100		
Full_Name	Road Name	String			40		
Surface_Type	Surface Type	String			50		
Boundary_Road	Boundary Road	String			5		
Road_Width_RNS	Road Width	Double	m			38	8
Platform_Width_RNS	Road Platform Width	Double	m			38	8
Surface_Area_RNS	Road Surface Area	Double	m^2			10	
MMS_Class	MMS Class	String			50		
Patrol_Frequency	Patrol Frequency	String			30		
Roadside_Environment	Roadside Environment	String			12		
Functional_Classification	Functional Classification	String			10		
Curb_Shoulder_Material_Even	Surface material of the curb/shoulder on the side of the road with even numbering.	String		Granular A, Partially Paved, Barrier Curb, Mountable Curb, Gravel or Stone, Grass, Combination, No Curb, No	20		
Curb_Shoulder_Material_Odd	Surface material of the curb/shoulder on the side of the road with odd numbering.	String		Granular A, Partially Paved, Barrier Curb, Mountable Curb, Gravel or Stone, Grass, Combination, No Curb, No	20		
Shoulder_Width_Even	Shoulder width of the shoulder on	Double	m			7	1

	the side of the road with even numbering.						
Shoulder_Width_Odd	Shoulder width of the shoulder on the side of the road with odd numbering.	Double	m			7	1
Drainage_Type_Even	Drainage type on the side of the road with even numbering.	String		Storm Sewer, Open Ditch	15		
Drainage_Type_Odd	Drainage type on the side of the road with odd numbering.	String		Storm Sewer, Open Ditch	15		
Speed_Limit	Speed Limit	String			50		
AADT_Range	Average Annual Daily Traffic Range	String			12		
AADT	Average Annual Daily Traffic	String			5		
AADT_Method	Average Annual Daily Traffic Method	String			15		
AADT_Count_Year	Average Annual Daily Traffic Count Year	String			4		
Truck_Traffic_Percentage	Truck Traffic Percentage	String			3		
Projected_AADT_10Years	Projected Average Annual Daily Traffic	String			5		
Projecte_AADT_Range_10Years	Projected Average Annual Daily Traffic Range in 20 Years	String			10		
Install_Date	Installation Date	Date	yyyy-mm-dd				
Life_Status	Life Status	String			30		
Source	Source	String			30		
Source_Type	Source Type	String			25		
Road_Class	Road Class	String			25		
Laserfiche_Link	Laserfiche Link	String			300		
Ownership	Ownership	String			50		
Flow	Flow	String			6		

Location	Village / Hamlet Area	String			100		
Street_Location	Road Location Range	String			100		
Plow_Route_1	Plow Route 1	String			50		
Plow_Route_2	Plow Route 2	String			15		
TrafficVolume	Traffic Volume	Short				5	
Class	Road Class	Short				5	
MaintainedBy	Maintained By	String			255		
Notes	Notes	String			100		

Table 3

Sidewalks	**Sidewalks (polyline)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			10	
Surface_Type	String		50		
Path_Type	String		50		
Width	Double	m		38	8
Install_Date	Date	yyyy-mm-dd			
Condition	Short			5	
Direction	String		2		
Location	String		50		
Ownership	String		50		
Assumption_Date	Date	yyyy-mm-dd			
Road	String		50		
Street_Location	String		100		
Condition_Assessment	String		3		
Winter_Maintenance	String		3		
Decorative	String		3		
Citywide_Link	String		100		
Notes	String		50		

Table 4

Curbs	**Curbs (polyline)**				
Field	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Type	String		50		
Condition	Short Integer			5	
Ownership	String		15		
Length	Double	m		20	2

Direction	String	Cardinal Bearings	2		
Road	String		50		
Location	String		10		
Install_Year	Double	yyyy		16	0
Useful_Life	Double	yyyy		20	2
Cost	Double			20	2

Table 5

Retaining Walls	**Retaining_Walls (polyline)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			10	
Type	String		50		
Install_Date	Date	yyyy-mm-dd			
Description	String		100		
Ownership	String		50		
Location	String		20		
Street_Location	String		100		
Street_Name	String		50		
Manufacturer	String		50		
Colour	String		20		
Citywide_Link	String		100		
Laserfiche_Link	String		300		
Notes	String		50		

Table 6

Safety Systems	**Safety_Systems (polyline)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
System_Type	String		50		
Install_Date	String		10		
Road_Name	String		50		
Location	String		50		
Surface_Type	String		50		
ROW_Width	String		50		
Road_Width	Double	m		20	2
Address	String		50		
Ownership	String		15		
Managed_By	String		50		

Table 7

Structural Culverts	**Culvert_Structures (polygon)**					
Field Name	***Data Type***	***Unit***	***Options (Domain)***	***Length***	***Precision***	***Scale***
Asset_ID	String			50		
Citywide_ID	Double				38	8
Culvert_Number	String			50		
Culvert_Material	Long Integer		CIP – Cast-In-Place, CSP – Corrugated Steel Pipe, PCC – Precast Concrete		10	
Material	String			50		
Culvert_Status	Short Integer		Active		5	
Status	String			50		
Specification	String			50		
Depth	Double	m			38	8
Length	Double	m			38	8
Diameter	Double	m			38	8
Upstream_Elevation	Double	m			38	8
Downstream_Elevation	Double	m			38	8
Span_Length	Double	m			38	8
Deck_Width	Double	m			38	8
Deck_Area	Double	m^2			38	8
Address	String			100		
Street_Name	String			255		
Street_Location	String			254		
Install_Date	Double	yyyy			38	8
Ownership	Long Integer		King 50%, Town of Caledon 50%, King 50%, Town of BWG 50%, King 100%		10	
Managed_By	Long Integer				10	
Drainage_Commission	Short Integer		Yes, No		5	
Span_Diameter	String			255		
Number_of_Rehabilitations	Long Integer				10	
Number_of_Linings	Long Integer				10	
Number_of_Replacements	Long Integer				10	
Measured_DiameterSpan	String			255		
Measured_Length	String			255		

Contract_No	String			50		
File_No	String			50		
Citywide_Link	String			100		
Laserfiche	String			254		
Notes	String			50		

Table 8

Bridge Decks	**Bridge_Decks (polygon)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			10	
Number	String		50		
Surface_Type	String		50		
Length	Double	m		23	5
Width	Double	m		23	5
Deck_Area	Double	m^2		23	5
Road	String		50		
Description	String		250		
Location	String		255		
Install_Date	Double	yyyy		16	
Useful_Life	Double			20	2
Citywide_Link	String		100		
Notes	String		50		

Water, Wastewater and Stormwater Network and Infrastructure:

Table 9

Hydrants	**Hydrants (point)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		60		
Citywide_ID	Long Integer			10	
Make	String		50		
Model	String		50		
Pressure	String		50		
Install_Date	Date	yyyy-mm-dd	50		
Self_Draining	String		50		
Status	String		20		
Contract_Number	String		100		
Ownership	String		50		
Managed_By	String		50		
CCTV_ID	String		50		
Location	String		20		
Street_Location	String		50		
Street_Name	String		50		
Validated	String		5		
Laserfiche_Link	String		300		
Notes	String		50		

Table 10

Water Meter Chambers	**Water_Meter_Chamber (point)**				
Field	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Type	String		50		
Ownership	String		50		

Table 11

Water Sampling Stations	**Water_Sampling_Stations (point)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			6	
Sampling_Type	String		30		
Status	String		20		
Install_Date	Date	yyyy-mm-dd			

Contract_Number	String		100		
Ownership	String		50		
Managed_By	String		50		
Notes	String		255		

Table 12

Water Valves	**Water_Valves (point)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			6	
Valve_Type	String		30		
Diameter	Long Integer	mm		10	
Status	String		20		
Make	String		4		
Modulator_Valve_Type	String		60		
Install_Date	Date	yyyy-mm-dd			
Street_Location	String		100		
Street_Name	String		100		
Location	String		20		
Contract_Number	String		100		
Ownership	String		50		
Managed_By	String		50		
Validated	String		5		
Laserfiche_Link	String		300		
Notes	String		255		

Table 13

Curb Stops	**Curb_Stops (point)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			6	
Diameter	Long Integer	mm		10	
Valve_Type	String		30		
Valve_Function	String		60		
Status	String		20		
Install_Date	Date	yyyy-mm-dd			
Street_Location	String		50		
Street_Name	String		50		
Location	String		20		
Contract_Number	String		100		
Ownership	String		50		

Managed_By	String		50		
Validated	String		5		
Laserfiche_Link	String		300		
Notes	String		50		

Table 14

Water Services	**Water_Services (polyline)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			6	
Service_Type	String		125		
Material	String		4		
Main_Diameter	Long Integer	mm		10	
Install_Date	Date	yyyy-mm-dd			
Status	String		20		
System_Name	String		50		
Contract_Number	String		100		
Ownership	String		50		
Managed_By	String		20		
Street_Location	String		255		
Street_Name	String		255		
Location	String		255		
Validated	String		5		
Laserfiche_Link	String		300		
Notes	String		50		

Table 15

Watermain	**Watermain (polyline)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			6	
Install_Date	Date	yyyy-mm-dd			
Material	String		4		
Main_Diameter	Long Integer	mm		10	
Status	String		20		
System_Name	String		50		
Contract_Number	String		100		
Ownership	String		50		
Managed_By	String		50		
CCTV_ID	String		50		

Relined	String		50		
Year_Relined	String		50		
Street_Location	String		100		
Street_Name	String		50		
Location	String		20		
Validated	String		5		
Laserfiche_Link	String		300		
Notes	String		50		

Table 16

Wastewater Pumping Stations	**Wastewater_Pumping_Stations (point)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			6	
Install_Date	Date	yyyy-mm-dd			
Number_of_Pumps	Long Integer			10	0
Rated_Capacity	Double			38	8
Well_Type	String		10		
Bottom_Elevation	Double	mm		38	8
Overflow_Elevation	Double	mm		38	8
CHEMPT	String		3		
Facility_Name	String		100		
System_Name	String		50		
Contract_Number	String		100		
Status	String		20		
Ownership	String		50		
Managed_By	String		50		

Table 17

Wastewater Connection Points	**Wastewater_Connection_Points (point)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			10	
Connection_Type	String		40		
Status	String		20		
Install_Date	Date	yyyy-mm-dd			
Ownership	String		50		
Managed_By	String		50		
Contract_Number	String		50		
Validated	String		5		
Laserfiche_Link	String		300		

Notes	String		50		

Table 18

Wastewater Fitting	**Wastewater_Fitting (point)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			6	
Install_Date	Date	yyyy-mm-dd			
Type	String		60		
Status	String		20		
Ownership	String		50		
Managed_By	String		50		
Contract_Number	String		50		
Notes	String		50		

Table 19

Wastewater Valves	**Wastewater_Valves (point)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			6	
Install_Date	Date	yyyy-mm-dd			
Diameter	Long Integer	mm		10	
Status	String		20		
Contract_Number	String		100		
Ownership	String		50		
Managed_By	String		50		

Table 20

Wastewater Manholes	**Wastewater_Manholes (point)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			6	
Install_Date	Date	yyyy-mm-dd			
Diameter	Double	m		38	8
Rim_Elevation	Double	mm		38	8
Status	String		50		
Plugged	String		50		
CCTV_Date	String		50		
CCTV_Contract_Number	String		50		
CCTV_Report_Number	String		50		
CCTV_Laserfiche_Link	String		300		

Street_Location	String		100		
Street_Name	String		100		
Location	String		20		
Contract_Number	String		100		
Ownership	String		50		
Managed_By	String		50		
Validated	String		5		
Laserfiche_Link	String		300		
Notes	String		50		

Table 21

Wastewater Services	**Wastewater_Services (polyline)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			10	
Service_Type	String		125		
Install_Date	Date	yyyy-mm-dd			
Material	String		4		
Diameter	Long Integer	mm		10	0
Status	String		20		
System_Name	String		50		
Contract_Number	String		100		
Ownership	String		50		
Managed_By	String		50		
Validated	String		5		
Laserfiche_Link	String		300		
Notes	String		50		

Table 22

Wastewater Main	**Wastewater_Main (polyline)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			10	
Pipe_Type	String		30		
Pipe_Material	String		4		
Main_Diameter	Long Integer	mm		10	
Upstream_Invert	Double	m		38	8
Downstream_Invert	Double	m		38	8
Slope	Double			38	8
Status	String		20		
Install_Date	Date	yyyy-mm-dd			

Upstream_Manhole	String		10		
Downstream_Manhole	String		10		
System_Name	String		50		
CCTV_Date	String		50		
CCTV_Contract_Number	String		50		
CCTV_Report_Number	String		50		
CCTV_Laserfiche_Link	String		300		
Flushing_Area	String		10		
Contract_Number	String		100		
Condition	String		50		
Ownership	String		50		
Managed_By	String		50		
Street_Location	String		100		
Street_Name	String		50		
Location	String		20		
Validated	String		5		
Citywide_Link	String		100		
Laserfiche_Link	String		300		
Notes	String		255		

Table 23

Stormwater Connection Points	**Stormwater_Connection_Points (point)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			6	
Connection_Type	String		50		
Status	String		20		
Install_Date	Date	yyyy-mm-dd			
Ownership	String		50		
Managed_By	String		50		
Contract_Number	String		50		

Table 24

Discharge Points	**Discharge_Points (point)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			6	
Install_Date	Date	yyyy-mm-dd			
Status	String		50		
Diameter	Long Integer	mm		10	
Type	String		50		

Headwall	String		30		
Contract_Number	String		50		
Ownership	String		50		
Managed_By	String		50		

Table 25

Stormwater Fitting	**Stormwater_Fitting (point)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			6	
Install_Date	Date	yyyy-mm-dd			
Status	String		20		
Type	String		60		
Township_File_Number	String		24		
Contract_Number	String		50		
Ownership	String		50		
Managed_By	String		100		

Table 26

Catch Basins	**Catch_Basins (point)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			6	
CB_Type	String		50		
Status	String		20		
Install_Date	Date	yyyy-mm-dd			
Elevation	Double			38	8
Cover_Type	String		8		
Diameter	Long Integer	mm		10	
Parking_Lot	String			30	
Contract_Number	String			50	
Ownership	String			50	
Managed_By	String			50	
Street_Name	String			150	

Table 27

Catch Basin Manholes	**Catch_Basins_Manholes (point)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			10	
Status	String		50		

Install_Date	Date	yyyy-mm-dd			
Diameter	String	mm	50		
CBMH_Type	String		50		
Cover_Type	String		50		
Contract_Number	String		50		
Ownership	String		50		
Managed_By	String		50		
Citywide_Link	String		100		

Table 28

Stormwater Manholes	**Stormwater_Manholes (point)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			6	
Install_Date	Date	yyyy-mm-dd			
Diameter	Double	mm		38	8
Status	String		50		
Contract_Number	String		100		
Ownership	String		50		
Managed_By	String		50		

Table 29

Culverts	**Culverts (polyline)**					
Field Name	***Data Type***	***Unit***	***Options (Domain)***	***Length***	***Precision***	***Scale***
Asset_ID	String			50		
Citywide_ID	Long Integer				10	
Install_Date	Date	yyyy-mm-dd				
Material	String			20		
Diameter	Long Integer	mm			10	
Type	String			125		
Contract_No	String			50		
FileNo	String			24		
Laserfiche	String			254		
Notes	String			50		
Culvert_Number	Long Integer				10	
Location	String			100		
Street_Name	String			50		
Street_Location	String			100		
Citywide_Link	String			100		
Upstream_Elevation	String			254		
Downstream_Elevation	String			254		

Culvert_Status	Short Integer		Active		5	
Managed_By	Long Integer		York Region, TRCA, King, Drainage Commission		10	
Ownership	Long Integer		York Region, TRCA, King, Drainage Commission		10	
Culvert_Type	Long Integer		Culvert, Cross Culvert		10	
Specification	String			255		
Culvert_Material	Long Integer		PVC – Polyvinyl Chloride, PCC – Precast Concrete, HDPE – High-Density Polyethylene, CSP – Corrugated Steel Pipe, CP – Concrete Pipe		10	
Length	Long Integer				10	
DrainageCommission	Long Integer		Yes, No		10	
FinanciallySignificant	Long Integer		Yes, No		10	
Number_of_Rehabilitations	Long Integer				10	
Number_of_Linings	Long Integer				10	
Number_of_Replacements	Long Integer				10	
MeasuredLength_m	String	m		255		
Measured_Span_Diameter_m	String	m		255		
Deck_Area_m2	String	m^2		255		
CoverDepth_m	String	m		255		
Inspection_Notes	String			255		

Table 30

Catch Basin Leads	**Catch_Basin_Leads (polyline)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			6	
Install_Date	Date	yyyy-mm-dd			
Status	String		20		
Pipe_Type	String		30		
Pressure_Type	String		12		
Material	String		64		
Main_Diameter	Long Integer	mm		10	
Contract_Number	String		100		
Ownership	String		50		
Managed_By	String		50		

Township_File_Number	String		24		
Notes	String		50		

Table 31

Stormwater Services	**Stormwater_Services (polyline)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			6	
Install_Date	Date	yyyy-mm-dd			
Material	String		4		
Main_Diameter	Long Integer	mm		10	
Service_Type	String		125		
Contract_Number	String		100		
Status	String		20		
Ownership	String		50		
Managed_By	String		50		

Table 32

Stormwater Main	**Stormwater_Main (polyline)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			10	
Install_Date	Date	yyyy-mm-dd			
Material	String		4		
Main_Diameter	Long Integer	mm		10	
Status	String			20	
Type	String		64		
Upstream_Invert	Double	m		38	8
Downstream_Invert	Double	m		38	8
Slope	Double	%		38	8
Pipe_Type	String		50		
Pressure_Type	String		12		
Consumption_Percent	String	%	50		
Contract_Number	String		100		
Ownership	String		50		
Managed_By	String		50		
Laserfiche_Link	String		300		
Street_Location	String		100		
Street_Name	String		50		
Location	String		20		
Validated	String		5		

Notes	String		50		

Table 33

Stormwater Ponds	**Stormwater_Ponds (polygon)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			10	
Install_Date	Date	yyyy-mm-dd			
Status	String		255		
Contract_Number	String		100		
X	Double			38	8
Y	Double			38	8
Laserfiche_Link	String		300		
Ownership	String		50		
Type	String		10		
Warning	String		10		
Address	String		100		
Citywide_Link	String		100		
Notes	String		255		

Table 34

Stormwater Catchment Boundaries	**Stormwater_Catchment_Boundaries (polygon)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Outlet	String		50		
Area_ha	Double	ha		38	8
Tributary	String		50		
Watershed	String		50		
Level	String		10		
City	String		50		

Table 35

Easements	**Easements (polygon)**				
Field	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			6	
Purpose	String		50		
Primary_Plan	String		50		
Secondary_Plan	String		50		
Concession	String		50		
Lot	String		50		
Location	String		50		

Instrument_No	String		50		
Ownership	String		50		
Expiration	String		50		
Data_Quality	String		50		
Laserfiche	String		120		
Notes	String		255		

Utilities:

Table 36

Pedestals	**Pedestals (point)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Ownership	String		50		
Standard	String		50		

Table 37

Transformers	**Transformers (Point)**				
Field	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Source	String		50		

Table 38

Streetlight Fixtures	**Streetlight_Fixtures (point)**					
Field Name	***Data Type***	***Unit***	***Options (Domain)***	***Length***	***Precision***	***Scale***
Asset_ID	String			50		
Citywide_ID	Long Integer				10	
Fixture_Type	String		Standalone, Hydro Pole Attachment	30		
Control_Nodes	String		Yes, No	5		
Street_Name	String			254		
Lat	Double				38	8
Long	Double				38	8
Ownership	String			50		
Height	Double	m			38	8
Wattage	Double	W			38	8
Luminaires	String			50		
Head_Type	String			50		
Pole_Number	Double				38	8
Address	String			50		
Location	String			50		

Citywide_Link	String			50		
Install_Date	Date	yyyy-mm-dd				
Notes	String			50		

Table 39

Streetlight Poles	**Streetlight_Poles (point)**					
Field Name	***Data Type***	***Unit***	***Options (Domain)***	***Length***	***Precision***	***Scale***
Asset_ID	String			10		
Citywide_ID	Long Integer				10	
Street_Name	String			254		
Lat	Double				38	8
Long	Double				38	8
Ownership	String			50		
Height	Double	m			38	8
Luminaires	String			50		
Pole_Type	String			50		
Pole_Colour	String			50		
Address	String			50		
Location	String			50		
Citywide_Link	String			100		
Install_Date	Date	yyyy-mm-dd				
Notes	String			50		

Table 40

Light Wiring	**Light_Wiring (polyline)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Wire_Type	String		50		
Wire_Colour	String		50		
Duct_Type	String		50		
Duct_Size	Double	mm		18	2
Ownership	String		50		
Contract_Number	String		50		
Elevation	Double	mm		18	2
Collected_By	String		50		
Install_Date	Date	yyyy-mm-dd			

Table 41

Conduit	**Conduit (polyline)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Size	Double	mm		18	2
Material	String		50		
ContractNu	String		50		
Occupied	String		50		
Location	String		50		
Cost	Double			18	2
Install_Da	Date	yyyy-mm-dd			
Address	String		50		
UsefulLife	Double			18	2

Parks and Landscaping:

Table 42

Park Assets	**Park_Assets (Point)**				
Field	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			10	
Ownership	String		50		
Type	String		50		
Material	String		50		
Description	String		50		
Park_Name	String		50		
Address	String		50		
Location	String		50		
Install_Date	Double	yyyy-mm-dd		38	8
Condition	String		50		
Subtype	String		20		
Citywide_Link	String		100		

Table 43

Trails	**Trails (polyline)**				
Field	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			10	
Name	String		100		
Surface_Type	String		20		
Type	String		50		
Trail_System	String		50		
Location	String		50		

Cars_Trucks	String		3		
ATVs	String		3		
Motorcycles	String		3		
Horseback	String		3		
Cycling	String		3		
Hiking	String		3		
Pedestrian	String		3		
Z_Min	Double	m		38	8
Z_Max	Double	m		38	8
Z_Mean	Double	m		38	8
Max_Slope	Double	m		38	8
Mean_Slope	Double	m		38	8
Difficulty	String		10		
Ownership	String		50		
Maintained	String		50		
Winter_Maintenance	String		3		
DC_Study	String		20		
Notes	String		50		

Table 44

Facilities Footprints	**Facilities_Footprints (polygon)**				
Field Name	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			10	
Building_Name	String		255		
Address	String		250		
Classification	String		50		
Type	String		50		
Location	String		50		
Postal_Code	String		10		
In_Service_Date	Date	yyyy-mm-dd			
Major_Renovation_Year	Long Integer			10	
Stationary_Generator	String		10		
Heritage_Designation	String		10		
Total_Recreation_Area	Long Integer	ft^2		10	
Total_Gross_Floor_Area	Long Integer	ft^2		10	
Number_of_Floors	Long Integer	ft^2		10	
Basement_Floor_Area	Long Integer	ft^2		10	
Mazannine_Floor_Plan	Long Integer	ft^2		10	
Loft_Floor_Plan	Long Integer	ft^2		10	
Portable_Space_Rented	Long Integer	ft^2		10	

BCA_Completion_Year	Long Integer	yyyy		10	
Laserfiche_Link	String		255		
Portion_1_Name	String		50		
Portion_1_Type	String		50		
Portion_1_Area	Long Integer	ft^2		10	
Portion_2_Name	String		50		
Portion_2_Type	String		50		
Portion_2_Area	Long Integer	ft^2			
Portion_3_Name	String		50		
Portion_3_Type	String		50		
Portion_3_Area	Long Integer	ft^2			
Evacuation_Centre	String		255		
Notes	String		50		
Label	String		50		
Leased_Area	Long Integer	ft^2			
Leased_Status	String		50		
Leased_Notes	String		50		
Citywide_Link	String		50		
Install_Date	Date	yyyy-mm-dd			
Number_of_Pumps	Long Integer			10	
Rated_Capacity	Double			7	1
Well_Type	String		255		
Bottom_Elevation	Double	m		7	1
Overflow_Elevation	Double	m		7	1
CHEMPT	String		255		
System_Name	String		255		
Contract_Number	String		255		
Status	String		255		
Ownership	String		255		
Managed_By	String		255		
Staffed	String		255		
AODA_Compliant	String		255		
Electricity_Conn	String		255		
Natural_Gas_Acc_No	String		255		
Water_Conn	String		255		
Water_Acc_No	String		255		
Bookable_External	String		255		
Public_Access	String		255		
Publi_Access_EV_Charger	String		255		
Seasonal_Closure	String		255		
Electricity_Acc_No	String		255		

AMP_Recreation_Area	Long Integer	ft^2		10	
AMP_Tax_Funded_Municipal_Area	Long Integer	ft^2		10	

Table 45

Parks	**Parks (polygon)**				
Field	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		15		
Citywide_ID	Long Integer			10	
Facility_ID	String		50		
Park_Name	String		254		
Land_Type	String		60		
Description	String		254		
Public_Access	String		50		
Address	String		100		
Location	String		50		
Ownership	String		50		
Maintained	String		50		
Acres	Double			38	8
Park	String		5		
Park_Type	String		30		
Ward	String		1		
Notes	String		50		

Table 46

Park Assets Areas	**Parks_Assets_Areas (polygon)**				
Field	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		15		
Citywide_ID	Long Integer			10	
Type	String		50		
Ownership	String		50		
Park_Name	String		50		
Location	String		50		
Category	String		50		
Install_Date	Double	yyyy-mm-dd			
Citywide_Link	String		100		
Notes	String		50		

Table 47

EV Charger Stations	**EV_Charger_Stations (point)**				
Field	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		

CitywideID	Long Integer			10	
Location	String			50	
Address	String			50	
Charger_Type	String			50	
Voltage	String			50	
Phase	String			50	
Total_Load	String			50	
Number_of_Stations	String			50	
Number_of_Connections	String			50	
Category	String			50	
Segment	String			150	
Department	String			150	
Name	String			150	
Citywide_Link	String			100	
Notes	String			50	

Table 48

Line_Painting	**Line_Painting (polyline)**				
Field	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	Short Integer			5	
Citywide_ID	Long Integer			10	
Facility_Name	String		50		
Location	String		20		

Table 49

Parking Lots	**Parking_Lots (polygon)**				
Field	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		15		
Citywide_ID	Long Integer			10	
Facility_Name	String		50		
Location	String		20		
Surface_Type	String		20		
Type	String		50		
Accessible_Parking_Spaces	Short Integer			5	
EV_Parking_Spaces	Short Integer			5	
Catch_Basins	Short Integer			5	
Painting_Length	Double	m		38	8
Standard_Parking_Spaces	Short Integer			5	
Total_Parking_Spaces	Short Integer			5	
Light_Poles	Short Integer			5	
Address	String		100		

Department_Ownership	String		25		
Parent_Child_Parking_Spaces	Short Integer			5	
Carpool_Parking_Spaces	Short Integer			5	
Parks_Winter_Maintained	String		3		
Citywide_Link	String		100		
Notes	String		50		

Table 50

Decorative Poles	**Decorative_Poles (point)**				
Field	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			10	
Ownership	String		50		
Address	String		50		
Location	String		50		
Base_Type	String		50		
Banner_Count	Short_Integer			5	
Basket_Count	Short_Integer			5	
Install_Date	Date	yyyy-mm-dd			
Citywide_Link	String		100		
Notes	String		100		

Table 51

Gateway Signs	**Gateway_Signs (point)**				
Field	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			10	
Address	String		100		
Location	String		50		
Description	String		100		
Post_Material	String		50		
Base_Type	String		50		
Install_Date	Date	yyyy-mm-dd			
Ownership	String		50		
Maintaind	String		50		
Sign_Material	String		50		
Citywide_Link	String		100		
Notes	String		50		

Table 52

Entrance Features	**Entrance_Features (polygon)**				
Field	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		50		
Citywide_ID	Long Integer			10	
Description	String		100		
Address	String		100		
Ownership	String		50		
Location	String		50		
Maintained	String		50		
Material	String		50		
Install_Date	Date	yyyy-mm-dd			
Useful_Life	Short Integer			5	
Citywide_Link	String		100		
Notes	String		50		

Table 53

Moving Reduction Locations	**Mowing_Reduction_Locations (polygon)**				
Field	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Park_Name	String		50		
Area_SQFT	String	ft^2	50		
Notes	String		50		

Table 54

Pedestrian Foot Bridges	**Pedestrian_Foot_Bridges (polygon)**				
Field	***Data Type***	***Unit***	***Length***	***Precision***	***Scale***
Asset_ID	String		10		
Ownership	String		20		
Surface_Type	String		25		
Length	String		10		
Width	String		10		
Deck_Area	String		10		
Location	String		50		
Install_Date	Date	yyyy-mm-dd			

Section IV – Geometry Standards

The way geospatial features are provided to the Township is critical for data integration across various Township-wide business systems and processes. Some data records are meant to be segmented or split to match ideal representations for the purpose of finer asset management. The following sub-sections offer guidance as to how the Township expects new data records to be provided for certain layers. Polyline type data records should be snapped to one another for the purposes of potential modelling, unless there is meant to be a break in service. Furthermore, new data records being provided to the Township should be assigned unique asset identifiers based on the Asset ID Nomenclature Standards captured in Section V.

Water, Wastewater and Stormwater Infrastructure:

Watermain
The watermain layer is to be segmented based on pipe:

- Age
- Diameter
- Material
- Tee-to-tee locations

Wastewater Main
The wastewater main layer is to be segmented based on pipe:

- Age
- Diameter
- Material
- Manhole locations

Stormwater Main
The stormwater main layer is to be segmented based on pipe:

- Age
- Diameter
- Material
- Manhole locations

Section V – Asset ID Nomenclature Standards

Asset IDs:

All the tables listed above feature *Asset_ID* as a universal attribute field. *Asset_ID* acts as the primary key for all datasets pertaining to Township assets. Asset identifiers contain a prefix and a unique sequence. A prefix is assigned based on the location (e.g., village), the system it belongs to (e.g., water, roads), and the type of asset (e.g., hydrant, bench etc.). The prefix is followed by the sequence, which includes an underscore, followed by four unique digits. Developers/contractors will be provided a range of these four digits for each asset they are responsible for installing prior to drafting preliminary drawings. The specific nomenclature of these asset IDs are as follows:

Prefix

Digit	Description	Definition	
		Short	Long
1st	Location of the Asset	A	Ansnorveldt
		B	Kettleby
		C	Cold Creek
		K	King City
		L	Lloydtown
		N	Nobleton
		O	All Other
		P	Pottageville
		R	York Region
		S	Schomberg
		W	Snowball
		Y	Laskay
2nd	System the Asset is part of	B	Building
		F	Fire
		G	General
		P	Parks
		R	Roads
		S	Sanitary (Wastewater)
		T	Storm
		W	Water
		U	Utility
3rd and 4th	Type of Asset	AR	Air Release Valve
		AU	Above Utilities
		BA	Ball Diamond
		BB	Bocce Ball
		BC	Basketball Court
		BD	Bridge Deck
		BH	Ball Hockey Pad
		BL	Bleacher
		BN	Bench
		BP	Bike Park
		BR	Bicycle Rack
		BS	Bridge Structure
		BV	Beach Volleyball Court
		CB	Catch Basin
		CD	Conduit
		CE	Creek/Stream
		CK	Crosswalk
		CL	Catch Basin Leads
		CM	Catch Basin Manhole
		CO	Culvert (structural culverts)
		CP	Connection Point
		CR	Curb

		CS	Curb Stop
		CT	Court
		CV	Culvert (small culverts)
		CW	Clean water Collector
		CX	Community Mailbox
		CY	Cemetery
		DB	Double Catch Basin
		DC	Drainage Channel
		DD	Decorative Bollard
		DE	Decorative Poles
		DF	Drinking Fountain
		DH	Dry Hydrant
		DI	Ditch Inlet
		DP	Off-Leash Dog Park Area
		DS	Discharge Point
		EF	Entrance Feature
		EM	Easement
		ES	Electronic Sign
		ET	End Treatment
		EV	Electric Vehicle Charging Stations
		EX	Exercise Equipment
		EZ	Entrance Sign (Parks)
		FB	Foot Bridge
		FD	Foundation Drain Collector
		FE	Fitness Equipment
		FF	Facility Footprint
		FL	Fiber Line
		FN	Fence
		FT	Fitting
		FX	Flexible Bollards
		GB	Geodetic Benchmark
		GL	Gas Line
		GP	Wooden Guidepost
		GR	Garden
		GS	Gateway Sign
		GT	Gate
		HC	Hydro Connection Service
		HF	Hardscape Feature
		HH	Hand Holes
		HR	Hedgerow
		HS	Hydrant Service
		HT	Holding Tank
		HW	Headwall
		HY	Hydrant
		ID	Interpretive Display
		IG	Irrigation
		IT	Infiltration Trench

		LD	Low Impact Development Ditch
		LF	Land Fill
		LL	Parking Lot Light
		LW	Light Wiring
		LX	Light Fixture
		MB	Metal Flex Beam
		MC	Meter Chamber
		MF	Major Closed Facility
		MH	Manhole
		ML	Municipal Lands (Open Spaces, Buffer Blocks)
		MP	Multi-Purpose Court
		MS	Management System (Cistern)
		ND	Node
		OG	Oil-Grit Separator
		OF	Open Facility (Kiosk, Gazebo)
		OS	Open Space and Parks
		OW	Overflow
		PB	Pickle Ball Court
		PC	Picnic Table
		PD	Pedestal
		PG	Playground
		PH	Park Shelters
		PI	Pipe (Sanitary Main, Foundation Drain Collector Sewer Storm Sewer)
		PL	Parking Lot
		PK	Pump Truck
		PN	Planter
		PO	Pond
		PS	Pumping Station
		PT	Play Structure
		PU	Pump
		PW	Pathways
		RA	Road Allowance
		RB	Road Base
		RC	Rear Lot Catch Basin
		RD	Road
		RK	Rink
		RS	Road Surface
		RW	Retaining Wall
		SA	Safety System
		SB	Sign Banner
		SC	Soccer Field
		SD	Subdrain
		SE	Speed Hump
		SF	Secondary Closed Facility
		SG	Sign
		SI	Stairs

		SK	Skate Park
		SL	Streetlight Pole
		SM	Septic Maintenance
		SN	Smart Sign
		SO	Secondary Entrance Sign (Parks)
		SP	Splash Pad
		SR	Service (Water Service, Sanitary Service, Foundation Drain Collector Lateral (Storm Lateral))
		SS	Sampling Station
		ST	Stormwater Management Area
		SV	Service Valve
		SW	Sidewalk
		SY	Spillway
		TB	Triple Catch Basin
		TC	Tennis Court
		TD	Tile Drainage
		TF	Transformer
		TL	Trail
		TP	Tactile Plate
		TR	Tree
		UF	Utility Street Furniture
		UT	Utility Trench
		VA	Valve
		VC	Valve Chamber
		VY	Volleyball Court
		WB	Water Box
		WC	Well/Cistern
		WL	Woodlot
		WM	Watermain
		WR	Waste Receptacle

The prefix is a 4-digit alpha identifier where:

Sequence

The sequence is a 4-digit numeric identifier. There is no particular order for how the sequence value is assigned. However, this field is 4 characters in length and may require leading zeros, for example:

> A **Hydrant** in the **Water Network** within **King City** with a unique identifier of **320** will be assigned **KWHY_0320** as the ID:

King City	Water Network	Hydrant	Separating underscore	Leading zero	Sequence
K	W	HY	_	0	320