

GENERAL STATEMENT OF POLICY:

19.01 It shall be the policy of the Region of Queens Municipality to have specifications for the generation of computer-aided drawings supplied as part of any contract released by the Region.

PURPOSE AND AUTHORITY:

19.02 The purpose of this policy is to identify requirements for computer aided drawings for the Region of Queens Municipality.

19.03 This procedure is issued under authority of the Chief Administrative Officer of the Region of Queens Municipality.

19.04 Drafting work prepared for the Region of Queens Municipality must be completed in a format, which is transferable to MapInfo. (File format extension will be .TAB, .DAT, .ID, and .MAP) or AUTO CAD (file extension .DXF) as defined by this procedure. Preference is to have all files come into the Region as readable MapInfo files.

19.05 Consultants preparing Computer Aided Drafting (CAD) drawings for projects initiated by the Region of Queens Municipality must obtain those digital layers identified by the Region of Queens Municipality to ensure acceptable registration with the Corporate GIS. The Consultant will enter a licensing agreement, the terms of which are identified in Appendix "F".

GEO-REFERENCING:

19.06 Nova Scotia Coordinate Survey System

It is required that all computer aided drafting (CAD) work be referenced using real world coordinates (Nova Scotia Coordinate Survey System).

19.07 Map Projection

The Nova Scotia Transverse Mercator projection and grid system (3 MTM Zone 5 Liverpool) will be used for referencing all data.

19.08 Datum

The reference for all coordinates must be ATS 77.

19.09 Units

All coordinates must be specified in metric units.

19.10 Coordinate Accuracy

- a) Absolute coordinate accuracy depends on the source of the data (i.e. total station, digitized, interactive data entry). The source of data must be identified.
- b) Measurements and distances must be cancelled to at least three decimal places (i.e. 245.123 for 245.123 meters). However, most computer software (AutoCAD Surveying packages) store coordinates with greater precision. These numbers should be truncated.
- c) Real world coordinate must be shown correctly (i.e. no front end truncating of coordinates). Real world coordinates must be represented with 10 digits.

19.11 Survey Data

Real world coordinates obtained for field surveys must be located into a CAD drawing file to accurately locate features. This method of data entry is the most accurate and therefore the most desirable form of entry. The surveyor must separate features by layer before the information is transferred to a CAD to simply transfer to the Region of Queens Municipality Corporate GIS.

19.12 Control Drawing

A combination of the extract and survey information (if available) should be used to create a control drawing. This control drawing is used to ensure that the positional accuracy of the data is not lost. The Region of Queens Municipality will provide digital control files, where applicable, to which new development can be added. Survey information (tied to Nova Scotia Coordinate Control) can be merged to check absolute positioning of the data.

COMPUTER AIDED DRAWINGS STRUCTURE:

19.13 All computer aided drawings files must contain a definite structure with respect to layering, linetypes, symbols, lettering and dimensions.

- a) Layers:
Layers have been defined to hold specific features. Each feature must be placed on the correct drawing layer. All layers are defined in the phototype drawing for the specific application.

b) Linetypes:

Standard linetypes must be used in all CAD drawings. Features must be coded with the correct linetype and placed in the correct layer.

c) Symbols:

Standard symbols must be used to identify all features in engineering drawings.

d) AutoCad Data Entry:

i) Automated drafting work done for the Region of Queens Municipality must be done using AutoCad unless otherwise approved by the project supervisor. Drawing prepared using other CAD packages are acceptable if, and only if, they meet the requirements defined in the procedure.

ii) The following guidelines are recommended for data entry using AutoCad:

- Specialized AutoCad functions (e.g. Circle), which may cause problems when translating from CAD to GIS, should be avoided.
- When digitizing is necessary, stream mode should be avoided. In the event that stream mode is used, weeding of point should be applied to a level, which maintains the integrity of the curve. The PLINE command should be used instead of the LINE command if stream mode is necessary.
- If data is obtained through digitizing, document all source map information including: scale, date, file (sheet) numbering, originator, method of data capture / creation.
- Any feature, other than point and line features that can be created as a polygon should be created as a polygon. Further no hatching will be applied to any polygon feature (e.g. buildings, sidewalks, boardwalks, etc.).
- Do not double digitize boundary lines, which separate adjacent polygons. Adjacent polygons (with a thematic layer) should share a common boundary.
- All features outlines will be captured so that the feature lies to the right of the line (right hand rule).

- All single line features, which possess a director of flow, will be captured in the direction of flow (e.g. streams, sewer pipes, etc.).
- Features such as utility poles, catch basins, manholes, fire hydrants, water valves, and other such features suitable for display as points should be supplied as point data. Avoid the use of symbols.
- All features shall have a corresponding label file.

GENERAL COMPILATION RULES:

19.14 Point or line features must not be displaced for cartographic enhancement.

19.15 All features, which enclose a defined area between layers, must snap.

19.16 Straight line features must be captured as two point line segments. Vertices should only be present in a line feature when there is a change of direction in that feature.

19.17 All curved line features representing man-made objects must appear cartographically smooth when viewed at 1:500 scale.

19.18 Standardizing Naming and Symbols:

- a) The consultants shall be required to use the Nova Scotia Topo Database Feature Codes, Version 4.00, edited November 24, 1994 and the symbols and codes used by Engineers and Architects for automated drafting purposes as a secondary source.

DELIVERY OF CAD FILES (RE: CONSULTANTS):

19.19 CAD files must be provided for all projects. The following guidelines must be followed for acceptable delivery of CAD files to the Region of Queens Municipality.

19.20 Delivery Media:

- a) 3.5" High Density Disk
- b) CD Rom
- c) E-mail

19.21 Format:

- a) AUTOCAD DXF., or
- b) MAPINFO Format

19.22 Any files that require compression must be supplied with extraction utility and labeled as compressed. Files, which have been backed up, must be supplied with necessary information for restoring files.

19.23 Complete documentation will be supplied which included file names, descriptions of files, size of files, and other information, which may assist. Where information relating to attributes, such as: source, accuracy, collection method and party who collected data.

APPENDIX 1

DATA LICENSE AGREEMENT:

For the _____ File Type
OR ANY PART THEREOF, hereinafter called the "Database"

BETWEEN

The Region of Queens Municipality, Nova Scotia, hereinafter called the "Region of Queens"

AND

(Name of Company, Department or Agency Receiving the Database, hereinafter called the "User")

Conditions of Use:

The following conditions apply to the release of the database by the Region of Queens:

1. The database is a single user copy and will be used only by:

NAME: _____

ADDRESS: _____

PHONE #: _____ FAX #: _____

E-MAIL: _____

2. The database is released to the user to be used exclusively for Contract:

(provide contract number)

3. The user shall not copy, distribute, loan, lease, sell or otherwise make the Database available for any other that the contract number reference in Section 2, or make the database available to any other without the prior written consent of the Region of Queens.

4. The Region of Queens shall not be liable to the User or to any other person acting under the direction of the User for any loss or damage of any kind including the personal injury or death arising from the use of the Database or accompanying written materials or from errors, deficiencies or faults therein, whether such damage is caused by negligence or otherwise. If errors or omissions are found, the Region of Queens will be notified by the User.
5. This agreement is the entire agreement between the parties and supersedes all previous agreements, or understandings between the Region of Queens and the User thereto whether written or oral, in connection with or incidental to the Database.
6. This agreement shall be binding upon the parties hereto and each or their executors, administrators, successors and assigns and shall ensure the benefit of such executors, administrators, successors and authorized assigns.
7. This agreement will be in effect after the signed copy is received by the Region of Queens at the following address:

Region of Queens Municipality
P.O. Box 1264
249 White Point Road
Liverpool, Nova Scotia
B0T 1K0

The above conditions are agreed to:

Signature of User

Date