TOWNSHIP OF LANGLEY

DIGITAL LEGAL SURVEY PLAN STANDARDS

January 10, 2005

General Notes:

1. This standard is based on the Surveyor General's Digital Plan Standards for Municipal Mapping Purposes (Version 1 July 1996, see Circular Letter No. 391). Changes and clarifications have been made to suit the Township's needs and to reduce the effort required to generate and process digital submissions. The digital file produced in accordance with these standards is intended to augment the hard copy plan; it is not intended to replace it.

2. The preferred data format is AutoCAD .DWG (release 2004 or earlier), .DXF is also acceptable. No other data formats will be accepted.

3. Individual files are required for each hard copy plan intended for registration (e.g. two subdivision plans cannot be included in one digital submission).

4. Lines and arcs must start and stop at each angle of a parcel and at intersections with traverse lines such as a traverse along a natural boundary. All layers are spatially relevant (i.e. the coordinate locations of all line endpoints and vertexes must be correct). The line elements that together define a parcel shape must form a closed polygon. No truncations for hollow symbols are allowed.

5. All survey evidence shown on the hard copy plan should be included in the digital submission and connected to the survey with line work on the appropriate layer.

6. No duplicate or coincident lines are allowed (i.e. lines are never duplicated on a different layer).

7. If your CAD system does not support the linetypes and colors specified below please use the closest alternative. If you use an alternative you must include a schema outlining the parameters used in your plan.

8. Layer numbers shall not be zero filled for layers less than 10 (i.e. layer one shall be "1" and not "01"). Layer names shall be "1","2","3"... not "one", "two", and "three"...

9. Files shall be two-dimensional (2D) files and elevations/Z values shall always be "0".

10. Only Layers 1, 3, 4, 5, 9, 10, 11, 12 and 13 shall be present in the file, all other layers must be purged.

11. The digital plan must be prepared by a British Columbia Land Surveyor.

I. **LINEAR FEATURES**

Layer 1 Properties	Description
name = **1** linetype = continuous colour = cyan	**Parcel Lines (new parcels being created by the plan including rights-of-way, easements, covenants, etc.)** • This layer contains all boundaries of parcels being created by the plan, excluding the lines shown on Layer 5 (Heavy Outline). Natural boundaries shall be polylines that terminate at their intersections with parcel boundaries. • Lines and arcs must start and stop at each angle of a parcel and at intersections with traverse lines and symbols. Description

Layer 3 Properties	Description
name = **3** linetype = hidden colour = light blue	**Miscellaneous Survey Ties and Natural Boundary Traverse Lines/Offsets** • This layer is used to show ties to all survey evidence indicated on the hard copy plan that are not already shown on layers 1, 4, 5, or 9, and, to complete any ties necessary to connect the survey to the ISA control monuments. • This layer includes any spatially correct line that is relevant to the survey plan that does not fall precisely within the definitions of layers 1, 4, 5, or 9. • Where applicable these lines should be drawn to parcel corners (e.g. For a witness post referencing a corner that is not on or within the heavy outline; instead of showing a single ray tie to the post, show a layer 3 line to the corner and another layer 3 line to the post).

Layer 4 Properties	Description
name = **4** linetype = hidden colour = yellow	**Control Monument Ties** • This layer shall show the tie between the control monument pairs as well as the ties connecting the control monuments to the survey. • Within the Integrated Survey Area at least two survey monuments must be shown. • At least one monument must have a perfect coordinate match with the published value (NAD83 CSRS). • There must be at least one control monument pair bearing within 1” of the published value.

Layer 5 Properties	Description
name = **5** linetype = continuous colour = red	**Heavy Outline** • Layer 5 is generally the same as the heavy outline shown on the hard copy plan (i.e. the perimeter or perimeters of the lands being dealt with by the plan). There are no Layer 1 lines coincident with Layer 5. • Occasionally, a hard copy plan may show one area within a heavy outline and another separate area shown hatched. In this case even the hatched area perimeter should be shown on Layer 5. There is no hatching allowed in the digital submission. • Lines and arcs must start and stop at each angle of a parcel and at intersections with traverse lines and symbols.

Layer 9 Properties	Description
name = **9** linetype = hidden colour = tan	**Radial Lines of Curves** • These are radial lines to curves, drawn from the BC or EC to the actual curve centre. • Each arc endpoint shall be connected to the curve centre.

II. POINT FEATURES

Layer 10 Properties	Description
name = **10** linetype = continuous colour = blue	**Symbols** • This layer shall contain posts and other symbols. • The standard symbols shall be as found in Section 29 of the General Survey Instruction Regulation. • The insertion point of the symbol should be at the true post location. • Do not show any symbol description text.

III. SURVEY ATTRIBUTES

Layer 11 Properties	Description
name = **11** linetype = continuous colour = black/white	**Survey Attributes** • Survey attributes shall be drawn into the file in a tabular format. The following information shall be included:

Coordinate System	UTM(NAD83 CSRS) or LOCAL(GRID)
Mean Combined UTM Scale Factor	0.99960356 (or N/A)
Surveyor's Commission Number	9999

• Coordinates for surveys within the ISA must be full UTM (NAD83 CSRS), outside the ISA must be local.

• The scale factor must be the same value as specified on the hard copy plan. Explanatory Plans and surveys outside of the ISA are to be presented at ground level, specify LOCAL (GROUND) in the attribute table.

• See Section V for more information on coordinate systems.

IV. TEXT

Layer 12 Properties	Description
name = **12** linetype = continuous colour = orange	**Control Monument Identifier Text** • This layer shall include the control monument identifier (tablet number). • The insertion point of the text shall be in close proximity to the monument symbol.

Layer 13 Properties	Description
name = **13** linetype = continuous colour = cyan	**New Parcel Designation Text** • This layer shall contain the new parcel designation text. • New parcel designation text includes new lot and parcel numbers or letters as well as "ROAD", "LANE", "WALKWAY" etc. • There is no Layer 13 on S.R/W or Easement Plans.

V. COORDINATE SYSTEMS

• Within the integrated survey area untruncated UTM (NAD83 CSRS) coordinates on the projection (not ground level) shall be used. The scale factor given in the attribute data shall be the mean combined scale factor for the survey.

• The scale factor should be suitable for the specific area under survey. Scale factor computation software and scale factor gradient (contour) maps will be provided to Land Surveyor's upon request.

• Where a survey lies outside of the integrated survey area a local astronomic meridian shall be adopted and assumed ground coordinates of not more than 100,000.000 and 100,000.00 shall be used. Coordinates shall not be reduced to sea level or grid, and "LOCAL (GROUND)" must be specified in the attribute data. Similarly, Explanatory Plans shall be provided in ground coordinates.

• See Layer 11 (Survey Attributes) for details.

VI. FILE NAMING CONVENTION

• The file name shall consist of the survey firms preferred file name and the appropriate three letter extension (.DWG or .DXF).

• If the Registered Legal Survey Plan Number is known at the time of submission the files can also be appropriately named (**with the Legal Survey plan registration number (e.g.: BCP12618, BCP03856, LMP40927, LMS03898**).

• Note:

All Legal Survey Registered Plan numbers must be backfilled with zeros for naming consistency. (Each **Legal Survey plan registration number** *should have 3 letters and 5 numeric digits (***e.g.: BCP12618, BCP03856, LMP40927, LMS03898***)*

VII. MEDIA STANDARDS

Legal Survey Digital Plan Files should be forwarded to:

Township of Langley
20338 - 65 Ave
Langley, BC V2Y 3J1
Attention: Manager of Geomatics
Phone: 604-533-6143
E-mail: geomatics@tol.bc.ca

Should you have any questions or require any documentation prior to participating please contact Geomatics Manager directly at the above number.

• Files can also be appropriately named (with the Legal Survey plan registration number or your firms preferred filename (e.g.: BCP12618, BCP03856, LMP40927, LMS03898) and then emailed to the Township at Geomatics@tol.ca.

Notes:

• *All Legal Survey Registered Plan numbers must be backfilled with zeros for naming consistency. (each* **Legal Survey plan registration number** *should have 3 letters and 5 numeric digits* (**e.g.:BCP12618, BCP03856, LMP40927, LMS03898**)

• If using the email option please submit a metadata file (or note on email) including the AutoCAD version you have submitted the files in.