

CivicSpatial Grant Program Project Proposal

Scope

The scope of this project is to continue the establishment of a network of GPS survey control points that will provide the Sunshine Coast Regional District (SCRD) with accurate measurement points necessary to adjust the accuracy of its cadastral fabric.

Background

In 2007 the SCRD received a grant from the ICIS CivicSpatial Grant Program for \$14,500.00. This grant was used to contract a BC Land Surveyor to establish 91 GPS control points. These points were established with a horizontal confidence of plus or minus 2 centimetres. From these points, SCRD staff used coordinate geometry and survey adjustments to accurately enter cadastral information. The SCRD estimates that these control points will provide enough survey information to accurately adjust approximately 4200 parcels or 20% of the SCRD's cadastral base layer.

The SCRD has provided the resources to advance the development of the accurate cadastral base. These resources include purchasing 2 licenses of AutoCad 2008, hiring a temporary position for 3 months and using internal staff. To date approximately 2000 parcels have been adjusted using internal staff. The temporary position recently started work on the project and is making good progress. Phase 1 of this project should be completed within the 3 month period.

Proposal

Recently, the Integrated Cadastral Information Society (ICIS) announced that members of ICIS can make a second application for funds from the CivicSpatial Grant Program. This initiative is intended to help local governments improve the accuracy of their cadastral base by funding data improvement projects. The SCRD is applying to ICIS to once again participate in the CivicSpatial Grant program.

Through this grant program, the SCRD intends to continue the establishment of survey control points using GPS technology. Building on the points established in Phase 1, new points will be surveyed to complement existing control points. With the new points it is estimated that the SCRD will be able to accurately locate 10,000 parcels, over 70% of the parcels within the developed area of the regional district

The SCRD has budgeted \$10,000.00 in its 2008 Budget for this project. This does not include using existing staff who will be assigned to the project as operational constraints allow.

Methodology

The methodology for Phase 2 will follow that of Phase 1. New GPS control points will be established in identified areas that will be used to adjust existing surveys and tie in new surveys to NAD 83 UTM coordinates. Control will be established on existing legal pins or monuments to avoid setting field ties to existing surveys. Each area will be accessed on the quantity of points required as a more detailed study of legal evidence is completed. The intent is not to tie every survey to a control point, but to use the integrity of the legal survey plans and coordinate geometry to extend the accuracy of the cadastral layer. This worked well in Phase 1, depending on the quality of the surveys we were able to extend 3 or 4 blocks in each direction from a control point and still maintain the desired accuracy. Orthophotos are used to confirm the results. As the cadastral data is corrected, it will be flagged and added to the base layer for use in the SCRD's production GIS data. ICIS will receive this data as part of the quarterly updates.

Specifications

Specifications for this project are:

- GPS control point accuracy of plus/minus 0.1 metres;
- Cadastral layer accuracy to be plus/minus 0.3 metres;
- Survey work to be completed by a registered BC Land Surveyor (BCLS, and;
- Control points to be established on existing monuments, pins or DL posts where possible.

Discussion

The CivicSpatial Grant Program for Local Government Cadastral Maintenance is an ICIS initiative that will help the SCRD improve the accuracy of its cadastral base. Through this partnership, the SCRD will supply the technical expertise to manage the project and to produce the desired deliverable. The SCRD will also commit to continued support of the project through technical and financial resources in future phases. Ultimately the SCRD will be able to deliver an accurate cadastral database to ICIS for use in the Integrated Cadastral Fabric.

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