

# Metro Vancouver Regional GPS Service

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[www.metrovancouver.org](http://www.metrovancouver.org)

## Background

- *The Regional GPS was established in 2004 at member municipalities' request and in partnership with the Crown Registry and Geographic Base of the BC Government.*



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## Purpose

- *To provide a highly consistent real-time GPS based geo-spatial reference system in the Metro Vancouver that supports surveying, engineering, mapping, Geographic Information Systems, and other positioning activities.*



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## What is GPS Service?

- A network of five continuously operating GPS Active Control Points (ACPs) where GPS corrections are generated and transmitted in real-time to Service users.
- An authorized service users with a high-end GPS receiver and a wireless handset can achieve highly accurate and regionally consistent positions in real-time.



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## Why Use MV GPS Service?

- Consistent with Provincial Standards  
*Horizontal* - NAD83(CSRS)  
*Vertical* - CGVD28<sub>GVRD</sub> Datum
- Category I Certified  
 "Legal Surveys must be integrated with active or passive geodetic control monuments...."  
 "Active Control Point means a Category I GPS base station..."

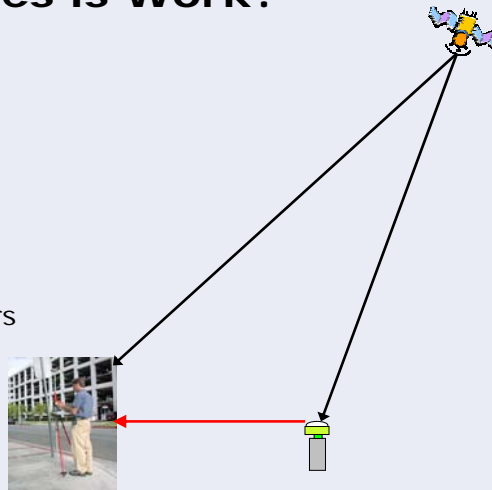


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BCLS – General Survey Instruction Rules

## How does it Work?

- An Active Control Point occupies a known location, computes the error or corrections, and transmits to Service Users over mobile Internet.



Service User

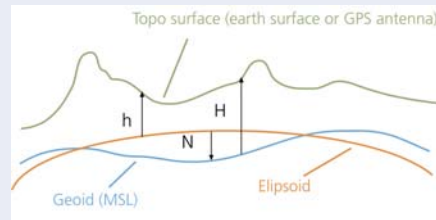
Active Control Point



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## Ellipsoidal vs Geodetic Elevations

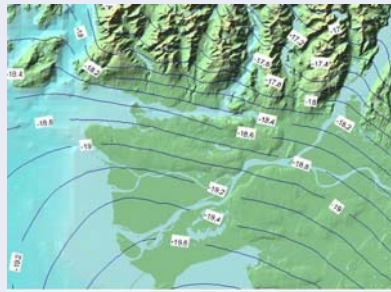
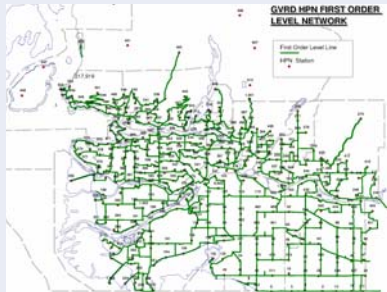
- GPS provides ellipsoidal elevations ( $h$ ).
- A Geoid Model is needed to calculate geodetic elevations ( $H$ ) by applying the offset ( $N$ ),



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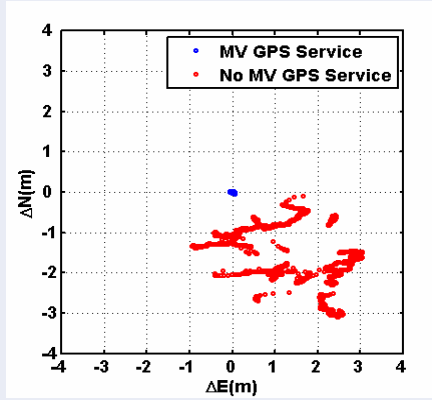
## Geoid Model

- The Geoid Model was derived from the 2003 Metro Vancouver funded GPS and levelling survey projects and is available to the public.



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# How Accurate?

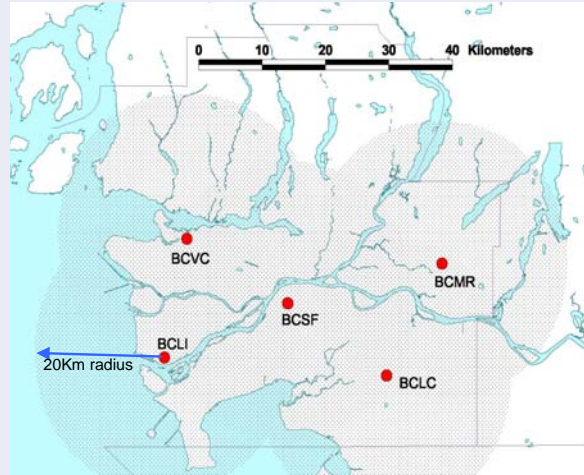


4cm horizontal @ 95%  
6cm vertical @ 95%  
Within 20Km from an Active Control Point



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# What is the Service Coverage?



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## What Do I Need?

### A Subscription Plan –

- In an effort to offset the ongoing operating cost, users, including municipal contractors, are charged at either \$2,400 per year or \$250 per month.

### A Rover System -

- Users are responsible for their own equipment including a GPS system and wireless network access (i.e. Bell, Roger, Telus or etc)



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## Require More Information?

- For service access, contact service operator  
Global Minds Inc. (604) 675-2000
- For general information, visit Metro Vancouver website  
<http://www.metrovancouver.org>
- For technical information, visit CRGB website  
<http://ilmbwww.gov.bc.ca/bmgs/>



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# Questions ?



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