

Contents

On the Cover



10

New technology is allowing surveyors to “see underground” and create 3D models.



20



36

Features

- 10 Subsurface Modeling**
New technology that employs GNSS and the capability to “see underground” holds promise for surveying utilities.
By Les MacFarlane, LS, and Jim Waite
- 20 The Elevation Certificate {translated} Part 1**
FEMA certifications continue to provide work for surveyors. Unfortunately, some fall short of properly completing the paperwork.
By C. Barton Crattie, LS, CFM and Wendy Lathrop, LS, CFM
- 36 Reconstructing an Accident Scene**
GNSS RTK from Altus Positioning Systems helps the Royal Canadian Mounted Police reconstruct collision scenes.
By Daniel C. Brown
- 50 How Precise is OPUS? Part 1: Experimental Results**
Thousands of surveyors are using OPUS. Do they understand the legal ramifications of the underlying accuracy and precision?
By Richard Snay, Kevin Choi, Gerald Mader, Charles Schwarz, Tomás Soler and Neil Weston

Departments

- 44 Product Review: Sokkia SRX**
Our expert product reviewer examines this popular robotic total station.
By Shawn Billings, LS
- 56 BookMarks: Burt’s Solar Compass: It Conception, Development, Manufacturing, Marketing and Daily Use** by Robert C. Miller
A Michigan surveyor calls attention to Miller’s ‘stories behind the story’ of this important instrument.
By Jack N. Owens, LS

In This Issue

- 6 Editor’s Corner: Military Surveying, Then and Now**
Military surveying has played a critical role in battle strategy since the dawn of early weapons. Take a look at where it is today.
By Marc Cheves, LS
- 55 Advertisers’ Directory**
- 53 MarketPlace**



>>> Are You Receiving Our eNewsletter?
Subscribe @ www.amerisurv.com