

# Profile

## An Interview with Tom Merrill of Greenhorne & O'Mara

This is the first in a series of portraits of contemporary American surveyors and the companies they work for. You'll learn about who they are, how they do their work, what kind of equipment and software they use, what works for them and what doesn't, what challenges they face, and what they think about the future. We invite you to c'mon in, pull up a chair, and enjoy your visit!

Greenhorne & O'Mara (G&O), headquartered in the Washington, D.C. metro area has 700+ employees and 25 branch and project offices. It is the second largest firm in the Washington area, however, many of the branch offices are typical of an average survey firm. The survey department in the Germantown branch office employs two survey crews and six office people.

First, a bit of G&O's history. Marcus F. H. Greenhorne and A. James O'Mara opened their two-man, one-room office in 1950, doing road engineering and design for one of the counties in Maryland. Within the next ten years, the company grew to provide surveying, engineering and planning for the growing D.C. area. Although Greenhorne retired in 1965, O'Mara continued. In subsequent decades, G&O added other disciplines,

including transportation, photogrammetry, and military science. They hired archaeologists and historic preservation specialists, and did work for all levels of government. Today, G&O handles anything involving development or remediation. Of special significance is the fact that the privately-held, management-owned firm recently ranked 103rd in the ENR Top 500, and was recently



Survey Department Head Tom Merrill  
in the Germantown, Maryland office  
of Greenhorne & O'Mara.



>>> By Marc S. Cheves, LS

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selected by *CE News* as one of the 50 top-rated civil engineering firms to work for.

Coincidentally, I worked for G&O from 1987-1995, and I appreciated the fact that, Mr. O'Mara himself is a surveyor. As others will readily attest, O'Mara always demonstrated a warm, friendly and professional nature. He retired in 2000 after 50 years of service. To this day, pictures of O'Mara and Greenhorne hang on the wall in nearly every office.

On a blustery winter day this past December, it was a pleasure, therefore, to pay a visit to the Germantown branch of G&O where I interviewed Tom Merrill, the current Department Head of Surveys.

Merrill, a 51-year-old native of New York, began surveying in 1970. He worked summers for the USGS updating quad-sheets, and worked on a precise level crew for control surveys on the Nuclear Energy Plant at West Valley. He spent a year studying engineering science at Corning Community College. At that time the military draft was still in effect, and based on his low lottery number (2), he enlisted in the Army in 1971. Merrill's military occupational specialty (MOS)



*Technical Director Chris Adams, a ten-year employee of Greenhorne & O'Mara, at work on a topo survey in MicroStation.*

started out as engineering equipment maintenance and repair, but he ended up training and serving as a military records specialist, and spent the next four years both in Okinawa and with the Army Security Agency in Massachusetts.

Upon leaving active duty in 1975, Merrill continued his military service by serving in the Army Reserve until 1983. During this time he enrolled in the Associates in Applied Science in Surveying program at the State University of New



*Whatever happened to the transit and steel tape? How do we survey if the power grid goes out for any length of time? Where's the generator?*

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York (SUNY) in Alfred where he obtained his degree in 1977. He went to work for the Sear-Brown Group, an engineering/surveying firm that did land development in the Rochester area. In 1984 he obtained his New York license. While with Sear-Brown, Merrill entered an in-house engineering training program and became a site development project manager. In October 1988 Merrill was hired by Boncke Mueller Eldred Associates, PC in Fairport, New York, to start up and run

ing licenses. To keep them challenged and remunerated Merrill envisions possibly moving them into engineering project manager positions.

Merrill feels that today's high-tech equipment, and the move toward geospatial information requires a formal surveying education, not on-the-job-training or an apprenticeship. He acts as a recruiter for G&O and conducts yearly interviews in New York at SUNY Alfred, the Ranger School in Wanakena, and Paul Smith's

College. He has been successful in recruiting five additional survey graduates for G&O offices in Annapolis, Atlanta, and Fredericksburg, Virginia. G&O is also close to hiring a sixth graduate at its corporate headquarters in Greenbelt, Maryland. The skills of the graduates have proven to be beneficial. One of them had written a routine for Arc Info that saved countless hours of processing time on a recent project. Another used his personal PDA in the field, saving one-third of the time that the project would normally have taken. With a little planning each night before going out the next day, he plotted on a scrolling map where he was going to work, thereby eliminating much of the time normally wasted trying to find his way between points to be collected.

As for equipment, Merrill emphasized the benefit of having a responsive supplier. For many years he has worked with Keystone Precision Instruments, a large dealer that covers the Northeast, and praises it for "keeping him going." The Germantown survey department uses a Trimble 5600 robotic total station with a TDS Ranger data collector, together with Topcon total stations with SDR33 data collectors. Merrill mentioned the difficulty he had shuffling files between the various field and office devices, and although the SDR33 works fine, he has another Ranger

*Crew Chief Jason Howes with Washington Metro train in background.*

*Survey control stakeout for new railroad pedestrian overpass over WMATA and CSX tracks in Silver Spring, Maryland.*



their survey department. Eight years later he left to work with Donald R. Thomas in Geneseo, New York, and in 1999 the Merrills moved to Maryland when Tom went to work for G&O.

One of the benefits of working for a large firm is the ability to share resources. With stiff competition for land development work in the Washington area, Merrill says that GPS helped him improve his bottom line. This past year Merrill got a lot of GPS work from an ad he placed in a trade publication. Using Trimble Geo-Explorers and one-person crews, Merrill sends people all over the region and beyond. His crews have worked on projects as far away as Ft. Irwin, California.

Merrill discussed the difficulties in attracting new surveyors. A strong proponent of surveying degree programs, he has hired four graduates who hold four-year degrees from SUNY Alfred. For some of his one-person GPS work he hired two summer interns, both fourth-year students at Alfred. Of the four-year graduates, two work in the office, and two work in the field. All are planning to get their survey-





*Matthew McAlinn performs a radial stakeout.*

in the budget to enable standardization. These days a two-person crew goes for \$95-105 per hour. For GPS, the office is using a two Trimble 4800s with TSC1s and a 4700 with a TSCe. His department has a digital camera that is used extensively to document site conditions.

G&O is fully committed to providing training for their employees. Tom is an authorized OSHA Outreach Trainer and has conducted the ten-hour Construction Outreach training classes for his survey staff. All new surveyors in the Germantown office receive this construction safety training. The staff has also received training in Confined Space Entry and Awareness, and is supported with air quality and gas monitoring and detection equipment for testing

confined spaces before and during access. Most of the current survey staff members possess "Secret" level security clearances needed to work on certain federal projects.

As for software, G&O was an early adopter of Intergraph, and as soon as it came out, MicroStation. (Back in 1987, I spent my first year at G&O in the Computer Science Division where we developed an in-house mapping program. We were using Intergraph's contouring program—running on a VAX—and I can remember 5,000-point contour files taking hours to process). Today, of course, a 5,000 point file is processed in the blink of an eye.

G&O is a strong proponent of the field-to-finish philosophy. They have a thor-

ough feature coding system that allows 90 percent of the drafting work to be done in the field. Of course, this requires sharp field personnel with good eyes for detail. Utilizing this coding scheme, along with the newly-acquired servo-driven total station, it is not rare for field crews to collect as many as 700 shots on a relatively open site with little need for correction of line work. The office has had excellent results using Intergraph mapping software, and is currently looking at upgrading to the Bentley suite of products. Star\*Net has also played a large part in office computations. With the ever increasing role of GPS in field operations, Star\*Net allows an excellent interface between conventional and GPS measurements. The department has adopted a system utilizing software from various vendors, finding that there never seems to be a complete package from a single vendor that fills the department's needs satisfactorily.

I asked Merrill to list what he considered to be G&O's unique strengths. Being able to move crews to where the work is, the total number of resources that he can utilize, and G&O's reputation immediately came to mind. He also added that as a means of dealing with traffic congestion and a densely-populated metro area, telecommuting is being used on a limited basis throughout the company.

Because it remains difficult to compete and make a profit in the surveying business, a combination of good people—adequately educated and trained—and technology are essential to any company's success. Looking down the road, Merrill believes that hiring and keeping quality staff, together with staying abreast of technology, will be the greatest challenges. *AS*

Marc Cheves is Editor of the magazine, and was Department Head of Surveys in G&O's Rockville, Maryland office from 1988-95.

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