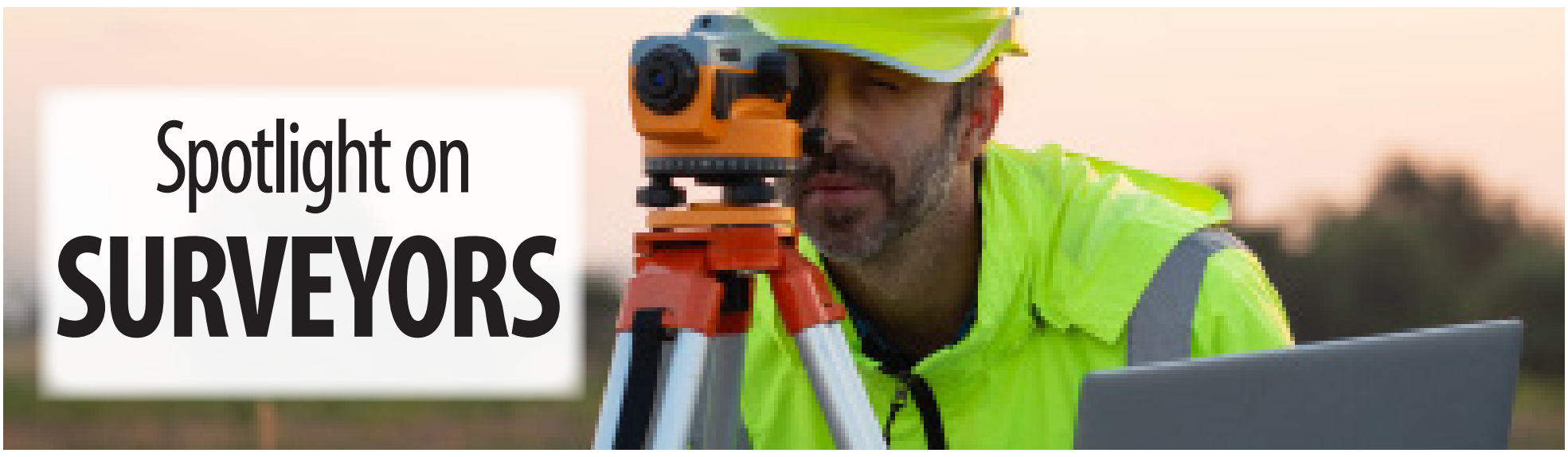



A special advertising section highlighting New Hampshire's surveying industry.

# Protecting New Hampshire's land

JOE KLEMENTOVICH VIA HEB ENGINEERS

In support of the Upper Saco Valley Land Trust's efforts to conserve the Chain of Ponds property in Madison, HEB Engineers provided comprehensive boundary surveying and marking services to prepare the approximately 625-acre landscape for permanent conservation.

## The hidden role of surveying

Provided by HEB Engineers

From the trails we hike to the rivers that supply our drinking water, New Hampshire's conserved land is essential to the health of our communities and natural resources. It helps keep water clean, reduces flooding, supports wildlife, and ensures that generations to come can enjoy the outdoors.

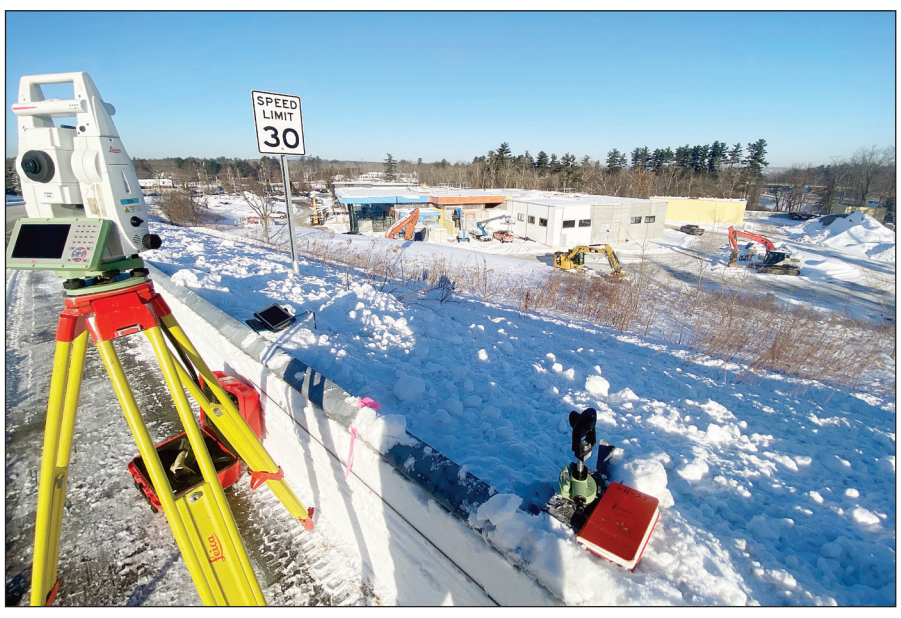
But before land can be protected, we need to understand it. Where does it begin and end? How does it fit into the surrounding landscape? What natural systems are present, and how do they connect? This is where land surveyors come in.

At its most basic level, land surveying is the science of measuring and mapping land, determining points on the Earth's surface, and the distances and angles between them. Surveyors verify boundaries, locate natural and manmade features, and provide the data needed to make informed decisions about land use.

► See **Surveying,** Page B2

PROVIDED BY HEB ENGINEERS

In 1993, HEB was engaged by the National Park Service to survey New Hampshire and Vermont boundaries of the Appalachian National Scenic Trail corridor.




PROVIDED BY ALLEN & MAJOR ASSOCIATES

Allen & Major on the job at Autofair Genesis in Bedford. Without accurate survey information, decisions about grading, drainage, utilities and building placement become guesswork.

## Land survey: Where every project begins

Provided by Allen & Major Associates

For over five decades, Allen & Major Associates, Inc. in Manchester has played a critical role in shaping communities throughout New England by executing integrated land surveying, civil engineering and landscape architecture services that support thoughtful land development.

At the core of the firm's approach is a belief that successful projects begin with a deep understanding of the land, a perspective that only experienced surveyors and site design professionals can deliver.

Land surveying is where every project begins in the development process, establishing property boundaries, documenting existing conditions and providing the precise data that engineers and designers rely on.

Without accurate survey information, decisions about grading, drainage, utilities and building placement become guesswork. By delivering reliable field data and translating it into actionable design information, A&M helps identify risk, streamline permitting and move projects efficiently from concept to construction.

What distinguishes A&M is not only its technical expertise, but also its integrated, collaborative approach. Surveyors, engineers and landscape architects work closely together from the earliest stages of a project, ensuring that site constraints, regulatory requirements and development goals are addressed as a whole.

This coordination allows the team to anticipate challenges, develop practical solutions and create sites that function well both technically and visually.

The firm's impact can be seen across a wide range of commercial, health care and

► See **Development,** Page B2

# Surveying

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While surveying is often associated with development, its unsung role in conservation helps communities identify and protect the places that matter most.

According to The Forest Society's NH Land Conservation Report, more than 1.8 million acres in New Hampshire, about 32 percent of the state, enjoy some form of conservation protection.

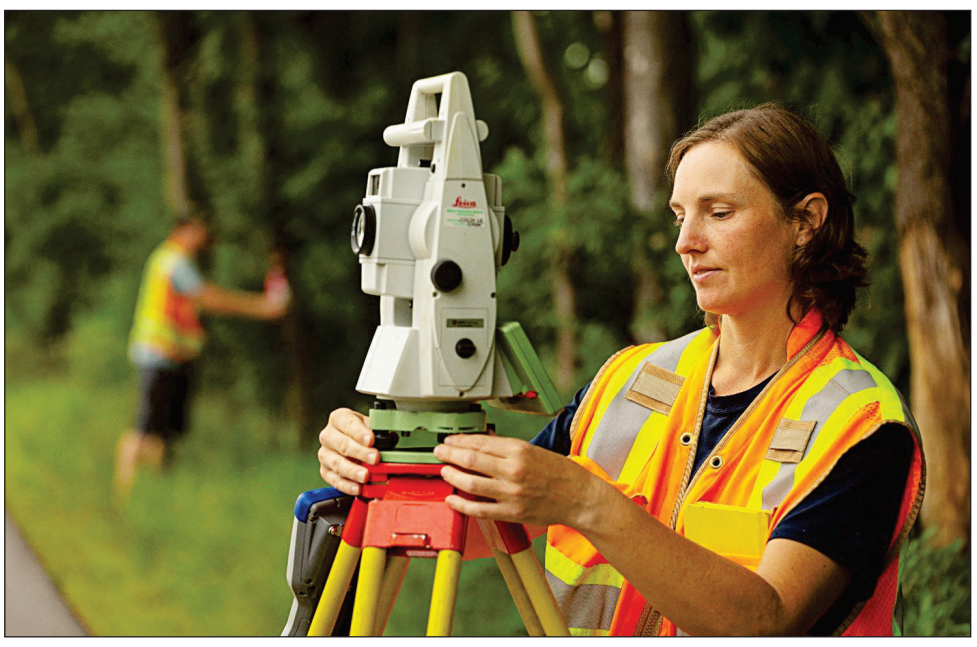
Unlike Western states, where most conserved lands are publicly held, New Hampshire's protected land consists of a mix of public and private ownership. This creates a patchwork of forests, wetlands, farms and waterways that work together to deliver public benefits, whether public access is permitted or not.

That patchwork only works when it is clearly defined. Accurate surveys ensure that conserved lands are properly appraised and marked, and that existing rights of landowners are documented and maintained.

Since our founding in 1974, HEB Engineers has worked with public and private landowners to support the conservation of over 10,000 acres across New Hampshire.

On the public side, HEB has worked with the U.S. Forest Service to recover, map and mark the boundaries of the White Mountain National Forest, at times trekking into remote areas to look for evidence that has not been seen in nearly 100 years.

We also help the National Forest grow. In 2015, HEB surveyed and subdivided a 734-acre parcel in the Great North Woods. The work included GPS and conventional surveying, historic deed research, subdivision planning and monumentation to federal standards, resulting in 656 acres being added to the White Mountain National Forest and 79 acres to the Milan Community Forest.



JOE KLEMENTOVICH VIA HEB ENGINEERS

Surveyors help communities identify and protect the places that matter most.

On the private side, much of New Hampshire's land is protected through conservation easements. Landowners may choose to protect their property by selling or donating development rights to a land trust while continuing compatible uses such as farming, forestry or recreation.

In addition to national organizations like The Nature Conservancy and the Trust for Public Land, there are a few dozen local nonprofits, such as the Upper Saco Valley Land Trust, that manage these easements in their respective region for the benefit of the public in perpetuity. These organizations depend on strong partnerships with trusted land surveyors to assist in this process.

Conservation is about more than setting land aside. It is about making sure those protections last. Behind the scenes, land surveying provides the foundation that keeps New Hampshire's conserved lands working for everyone, now and in the future.

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To learn more about HEB Engineers, contact info@hebengineers.com.

# Development

From Page B1

mixed-use developments throughout New Hampshire.

For example, A&M supported the development of IRA Subaru in Manchester, where careful site planning and surveying helped accommodate vehicle circulation, service operations and customer access at the busy dealership location. The dealership serves the Manchester region with vehicle sales and service.

A&M is also providing multidisciplined services for the new Genesis Autofair in Bedford, which is currently under construction.

A&M delivered comprehensive land surveying services for the Silver Square redevelopment in Dover. This included existing-conditions mapping, an ALTA survey, a condominium plan, foundation certifications and the final as-built survey.

A&M also completed a detailed off-site survey for the associated rotary, covering new roadway layout, right-of-way and Urban Compact limits, culvert locations, utility clearances and NH DOT centerline data.

The effort required extensive research to verify boundaries, infrastructure, and regulatory conditions.

The firm is also contributing to residential growth in the region through projects such as the Radburn Street development in Manchester.

This project is creating new housing opportunities while integrating infrastructure, drainage and neighborhood connectivity.

Across all of these projects, the common thread is A&M's commitment to precision, responsiveness, and regional expertise. By combining decades of local knowledge with advanced surveying and design capabilities, the firm continues to provide the reliable foundation that successful land development requires.

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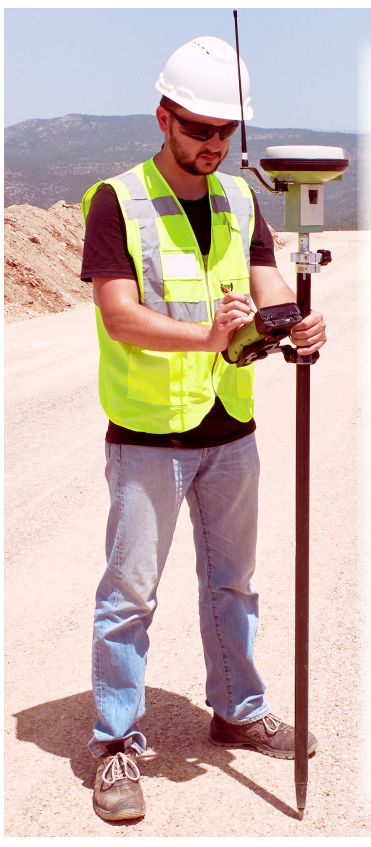
For more information about Allen & Major Associates, go to allenmajor.com.



## What surveyors do

Surveyors measure and map the earth's surface to determine precise boundaries for land, water and air spaces. Many different industries require surveyors, including architectural and engineering firms, forensics, government agencies, mining and utility companies, and real estate developers.

Land surveyors research legal records, analyze data and communicate their findings. Surveyors use a variety of tools, technical instruments and computer software. They sketch, plot maps, photograph and write reports.

Construction surveyors are often the first professionals on the job site. They also are integral in rebuilding projects such as reconstructing buildings, roads and bridges after storms, earthquakes and wars.

Hydrographic surveyors measure and map the location and shape of features under oceans, rivers and lakes. They use specialized technology to identify underwater hazards, look for oil and guide dredging.

*— NH Land Surveyors Association*

# From boundaries to build-out: The role of surveyors in land development

Provided by Hoyle Tanner

Our firm continues a legacy of surveying and site development on a grandfathered sand pit property in Pembroke, building on the work originally performed by TF Bernier, who Hoyle Tanner acquired in 2024.

That work, which began in 1997, has guided the property's growth from 116 to over 140 acres. What started in 1997 as a traditional boundary and topographic survey has since developed into a multi-phase collaboration illustrating the vital role surveyors play in responsible land stewardship, adaptive reuse and sustainable site development.

In 1998, the first major milestone occurred with a lot line adjustment that established a new parcel for greenhouse development on a portion of the site that had already been mined and successfully reclaimed.

At that time, the greenhouses occupied just 1.5 acres of the lot, which itself totaled 14 acres. Today, the greenhouse parcel has grown to approximately 50 acres, with the greenhouses covering roughly 14 acres. These greenhouses primarily produce flowering plants and annuals like those sold at garden and farm stores, providing local communities with access to ornamental plants and agricultural resources.

Over the years, property uses have continued to evolve. While the greenhouse operation continued to grow and thrive, another portion of the original tract was developed into a four-lot industrial park.

Initially completed in 2009, the park was fully built out in 2024 with additional expansion potential through the ongoing sand pit operations. This mix of agricultural and commercial activity has created new jobs, occupied business lots and increased the tax base, illustrating how surveying supports not just land management but also broader community growth.

PROVIDED BY HOYLE TANNER

Surveyors play a vital role in responsible land stewardship, adaptive reuse and sustainable site development.

PROVIDED BY HOYLE TANNER

The greenhouse parcel has grown to approximately 50 acres, with the greenhouses covering roughly 14 acres.

The project has required a wide range of surveying and site services. These have included boundary retracements, construction stakeout, earthwork volume calculations, septic system design, state permitting and the creation of a commercial subdivision complete with roadway infrastructure.

In 2009, survey work for the subdivision presented particularly complex challenges. The team navigated a wetland permit for a new large box culvert, coordinated a new conservation wetland buffer with NH Fish and Game, and managed the first months of the state's 2009 Alteration of Terrain (AoT) major rule overhaul — all while ensuring the project stayed on schedule.

Long-term client relationships have been crucial to the project's success. Both the sand pit and greenhouse clients have worked with our firm for roughly 30 years, collectively involving more than 70 projects.

Their collaboration with each other (the greenhouses contracting the other for excavation work) has created a seamless working environment. This continuity allows projects to progress efficiently, with shared trust and clear communication benefiting all stakeholders.

Technological evolution is also evident across the project's decades-long history. Our early fieldwork relied on conventional total stations and two-person crews, requiring extensive manual data collection and processing.

Today, the current AoT update for the mining operation can be completed almost entirely with GPS, significantly reducing time and labor. Over the last 25 to 30 years, these advances have allowed surveyors to achieve higher accuracy with fewer personnel, lowering costs and accelerating project delivery.

Mining operations continue on the original site today. These long-established relationships are a compelling example of how sustained collaboration between property owners and Hoyle Tanner can transform industrial landscapes into productive and economically viable assets.

Projects such as this highlight Hoyle Tanner's enduring commitment to precision, innovation and responsible land development. Our surveyors provide the foundational data that informs every stage of a project's lifecycle, from initial boundary definition to final site build-out, ensuring that growth is guided by accurate information, thoughtful planning and a deep understanding of both land and community needs.

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To learn more about Hoyle Tanner, go to hoyletanner.com.

## 'Surveyor Says! The NSPS Podcast'

Want to hear from the movers and shakers of the surveying profession? Each week, the National Society of Professional Surveyors brings you conversations with the trendsetters and difference-makers that are helping to shape the world of surveying.

Your host, Executive Director Tim Burch, sits down with various personalities to discuss all things surveying, all bundled in a 30-minute conversation.

Download episodes of "Surveyor Says! — The NSPS Podcast" from your favorite streaming providers or find them at our podcast hosting site, Podbean. Watch NSPS social media outlets for upcoming episode news and contests/giveaways on special occasions.

And remember — "It's a great day to be a surveyor."

Burch is the executive director of the National Society of Professional Surveyors. He served as NSPS secretary for four years and as governor/director representing Illinois from 2007 to 2014.

He also serves as a brand ambassador for the "Get Kids into Survey" initiative created by Elaine and Elly Ball from England.

He is also a longtime member of the Illinois Professional Land Surveyors Association.

Burch is a co-contributing editor for survey in GPS World Magazine and contributor to the various surveying society newsletters.

# Land surveying is key component in a coastal restoration project

**Provided by Eric Salovitch, LLS**
Northam Survey LLC

Land surveying is an important part of any coastal restoration project because it provides the accurate information needed before, during and after construction.

On a project like the Wells Harbor Maintenance Dredging and Dune Restoration effort in York County, Maine, survey data helped guide the work from the first existing conditions survey through final as-built verification.

The project included hydraulic dredging in Wells Harbor, with dredged material transported by pipeline to Wells Beach for dune restoration. The work sequence specifically called for a pre-placement existing conditions survey, construction stakeout of sediment to the design grades, and a post-placement as-built survey to document the finished work.

Northam Survey LLC was hired by Michels Construction Inc. as a subcontractor for York County Emergency Management to support the beach and land surveying portion of the work.

Our first role was to document the existing beach conditions before construction began. That step matters because coastal sites are always changing.

Tides, weather and erosion can all alter the shape of the beach, so having reliable pre-construction survey data creates a baseline for everything that follows. The specifications required a pre-placement survey of Wells Beach, along with photo and video documentation of existing conditions. The survey requirements also called for clearly defined methods, control points and RTK differential GPS procedures so the data would be accurate and repeatable.

As construction moved forward and dredged sand was placed on the beach, surveying shifted from documentation to quality control. The plans and specifications required the fill to be shaped to the design lines, grades, slopes and elevations all within an allowable tolerance.

During this phase, our work included confirming grades and checking the crest elevation of the proposed dune as the beach profile was being built. That kind of real-time survey support helps the contractor make adjustments during construction rather than waiting until the end to discover something is off.

PROVIDED BY NORTHAM SURVEY

A project in Wells, Maine, included hydraulic dredging in Wells Harbor, with dredged material transported by pipeline to Wells Beach for dune restoration.

A major advantage on modern projects like this is the use of drones alongside conventional field methods. Traditional GPS and ground survey remain essential for control and verification, but drone mapping adds speed, safety and coverage. On a long stretch of active beach with soft sand, equipment movement and changing site conditions, drones can capture dense surface data and current imagery much faster than ground crews alone. That makes it easier to visualize progress, monitor changes and support decision-making throughout construction.

Once the dune was complete, the final step was the as-built survey. This phase confirms that the finished work matches the design intent and provides the owner and engineer with a record of what was constructed. The specifications required final compiled post-placement surveys, survey record drawings, and post-restoration photo and video documentation.

In other words, surveying was not just a starting point for the project — it was part of the full construction process from beginning to end.

Projects like Wells Beach show that land surveying does much more than measure points on the ground. It helps establish existing conditions, supports construction as work is happening and verifies the final result.

When drone technology is added to that process, surveyors can deliver even more useful information efficiently and safely, especially in challenging coastal environments.

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For more information about Northam Survey in Dover, go to northamsurvey.com.