



# The Cornerpost

Journal of the Vermont Society of Land Surveyors

Volume 49, Number 2 | Summer 2018

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## The Cornerpost

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## Send In Your News

The success of *The Cornerpost* depends on all of our members. Please consider making a contribution to an upcoming issue. We would love to hear about your experiences in the field and your thoughts about historic writings or current events. Or, snap a photo while you're at work and send it to [kelly@vsls.org](mailto:kelly@vsls.org).

## About the Cover

Tricia Kules, L.S., sent in this photo of a GPS with a full-moon backdrop taken in Sheffield, Vermont. In the distance, you can see Burke Mountain. Tricia receives a \$50 gift certificate to the restaurant of her choice for sharing this image for the cover. Send your image for the next issue to [kelly@vsls.org](mailto:kelly@vsls.org).



## thank you

We would like to thank the Education Foundation's members-at-large for their many years of service and the scholarships they've helped provide for Vermont surveying students.

■ **Pete Chase**  
BOARD CHAIRMAN

■ **Mike Raboin**  
MEMBER-AT-LARGE

■ **Norman Smith**  
MEMBER-AT-LARGE



Give me your feedback about the Society and how we can improve:

[mark.day@tcevt.com](mailto:mark.day@tcevt.com)

## Volunteerism and the Value of Our Work

**T**HE BOARD OF THE VSLs EDUCATION FOUNDATION has been doing research for quite a while, trying to figure out how to manage the Foundation's funds. Since the Foundation's inception, the moneys have been spread out across various CDs. But with today's low CD rates, the Foundation realized it was actually losing money. So, after several meetings and some interviews with different investors, the Foundation finally voted to invest most of the money into a mixture of stocks and bonds that will be managed by North Country Federal Credit Union. The return should be much higher, and this will make it easier to fund student scholarships into the future. Thanks to all who have been working hard to make this happen.

### A Little Time Goes a Long Way

While I am on the topic of the Education Foundation, I need to make a plea to the membership: please step up and help out by joining the Foundation as a member of the Board of Directors. All three of the members-at-large (Pete Chase, Mike Raboin and Norm Smith) will be signing off soon. These positions are not demanding – typically the Foundation meets a couple times a year – but they need to be taken seriously, with dedication and an interest in attracting more students through scholarship assistance.

Along with the Society, the Education Foundation has had a difficult time bringing in new blood. Standing up in front of the membership and asking folks to join a committee has been unsuccessful. If anyone is interested or has an idea on how to reel in volunteers, please let me know.

### The Value of Our Work

I wanted to mention a personal milestone I have reached in my career. I finally have learned how to kindly turn

down a request to perform services when I know I'm being price hacked. Maybe it's just because work is so busy that I am having a hard time keeping up as it is, but it's nice to have the confidence to remain strong without taking every job that comes through the door. It recently dawned on me that most other service professionals charge a higher hourly rate than the average surveyor, and we are carrying at least equal, more, or a whole heck of a lot more liability.

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**"I finally have learned how to kindly turn down a request to perform services when I know I'm being price hacked."**

---

A relative of mine recently shared an experience where he took his generator in for service at a small engine repair shop and was charged \$110 dollars per hour for labor. It's not that I'm arguing the rate, but it does irritate me that I have had many occasions where I have given someone an estimate over the phone for a survey, and I could actually hear them fall out of their chair. Even after I've explained the process in detail, they still cannot wrap their heads around the cost. I guess it proves that we all need to continue to work hard to educate the public and level the standard of service that we all provide.

As I head back into the field, I have to say this has been one of the hottest summers I can remember. Keep cool out there and stay hydrated! 🧊

Sincerely,

**Mark**

MARK DAY, VSLs PRESIDENT



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# Recollections

## *of Using a Steel Tape, and Electric Fence Encounters*

The Knud Hermansen article, “Measuring a Distance by Taping,” that appeared in the Spring 2018 issue of *The Cornerpost*, brought back memories of the early days of my surveying career.



The survey party usually consisted of three persons along with a 200 ft. Lufkin Super Hi-Way chrome-clad steel tape. We used a 16 oz. plumb bob, which was more stable to hold over the point on windy days, with at least 6 ft. of string for holding high over the point with the string hung around your neck when not in

“I suspect that if some of us ‘old time’ surveyors got together to tape a 350 ft. line over rough terrain, we would have a fun day trying to remember how it was done and how our results would compare to each other.”

use. When walking through brush or tall grass, the end of the string would occasionally become caught, causing a string burn around the back of your sunburned neck. We also used a hand level when working in flat terrain. In

steep terrain, the slope distance was measured from the axis of the instrument, and the zenith angle was taken to where the head chainperson held the string on the tape when the plumb bob was held over the point.

For lines longer than 200 ft., the process was repeated in reverse direction from the foresight station. Very rarely did we measure steep distances by using the “breaking the tape” method. Distances of traverse lines rarely exceeded 400 ft. in steep terrain.

We didn’t worry about temperature correction in the summer, unless we were working on a very hot day along a paved area. In the winter we figured that the tape was being dragged through the snow and was not subject to the air temperature, so we corrected distances for 30 degrees. If the temperature was hovering around zero degrees or below, we really wanted to be cutting line through the woods rather than measuring traverse lines.

About 1970, Hewlett Packard introduced their

3800 short range electronic distance measuring (EDM) line of products, which would measure a distance of about 5300 ft. Shortly after that, they introduced the 3805 upgraded EDM that would measure a distance of 6500 ft. This equipment allowed smaller surveying firms to modernize and to take on larger projects and start tying into the grid.

The introduction of short range inexpensive EDM equipment was the beginning of the end of individuals needing to tape long lines. I suspect that if some of us “old time” surveyors got together to tape a 350 ft. line over rough terrain, we would have a fun day trying to remember how it was done and how our results would compare to each other.

My late partner, Gordon Harlow, L.S., used to brag that he always used a calibrated plumb bob. Every once in a while, he would check the weight of the plumb bob on the office postage scale.

Encountering electric fences was another adventure, especially when you had a new member of the survey crew. The new member would be sent across the fence to the foresight station. When it was time to measure the line, the rear tape person would only hold the tape by the leather thong on the 200 ft. end of the tape and carefully lay the tape on the electric fence causing the new crew member to receive the jolt of electric current while holding the steel tape.

In the late fall of 2007, I took on a retracement survey of a 30-acre rectangular parcel running in an easterly direction from the highway, with a large stream running northerly through the parcel. The stream was too deep to cross on foot, and the only way was to cross was to drive over a small field bridge south of the property and walk through an overgrown field.

Fall in Vermont brings heavy dew on the ground early in the morning, so walking through an overgrown field, your pant legs become wet in a hurry. Approaching the gate of a two-strand electric fence, I carefully unhitched the wires using the orange plastic hand grips and passed through the opening. Upon reattaching the fence, one of the wires became hidden in the tall grass. As I went looking for the second strand of wire, I came into contact with it. As an individual with a double knee replacement, I could see blue sparks when the current passed through the metal parts in my knees. 🌿





**Top photo, Harris Abbott in 1974 with work-study students Cathy Bigelow and Charles Simpson at a UVM Outing Club survey on Route 100 in Jeffersonville. At left, a 1981 photo of Harris in Shelburne, taken by Terry Harris, L.S. At right, Harris in 2016 using equipment that was purchased in 1986. "I'm not using the most up-to-date equipment," he said, "however it will get the job done when I do my one or fewer jobs per year."**

# COWAN ON “PAROL”

## (Parol evidence, that is...)

BY TIM COWAN, L.S.



Vermont’s Office of Professional Regulation (OPR) maintains an online listing of recent “conduct decisions” for each of the professions under its jurisdiction, including land surveying.<sup>1</sup>

Such cases may have been contested, and result, after hearings, in a decision and order of unprofessional conduct, or they may be resolved by the mutual acceptance of stipulation and consent orders. Either way, these case-closing documents are published on the website.

Just as examining published legal decisions can lead to a better understanding of the law, reading these OPR decisions *should* help us understand how the board of land surveyors interprets specific sections of the rules and standards which it promulgates.

Interested in seeing what the Vermont Board of Land Surveyors had to say about the use of parol evidence in land surveying, I recently reviewed the two cases since 2000 in which the use of parol evidence, or the lack thereof, is cited. Instead of gaining a better idea of the board’s perception of the role of parol evidence, I came away a bit concerned. It is my intent here to neither defend the respondent surveyors nor condemn the investigating board members.

In the first disciplinary action<sup>2</sup> – Enosburg, circa 2002 – a surveyor conducted a survey and prepared a plat, both of which failed to meet standard requirements in a number of ways. Among other charges in the stipulation and consent order, the board states that the surveyor “indicated that he met and spoke with owners/adjoiners” but that “there is no indication/reference to parole [sic] evidence on the plat.” They state that this violates Rules 5.4 A(3) and 5.5 D(7). The board’s order required the surveyor to prepare a new plat which, among other things, needed to address the lack of statements about parol evidence.

In a more recent case in 2008<sup>3</sup> – let’s call it the “Legion case” – the respondent surveyed property abutting an “abandoned” property owned by the American Legion. The complaint seems to be that the surveyor failed to contact a certain Legion commandant who was overseeing that property. The board’s stipulation and consent order indicates that, had the surveyor contacted the commandant, the surveyor would have learned there were “concerns about the location of the line,” presumably meaning the line as located by the surveyor. The document further states:

“The parol evidence of the [commandant] indicated that the boundary line turned southerly at some point and the northeast/southeast corner of the two properties may be located

15 feet southerly of the location shown by the respondent.”

The state seems to charge that the surveyor was obligated to seek out and interview this commandant. The order is silent, as is customary, on whether the surveyor located the correct boundary or whether the line was more accurately described by the commandant.

So, in one case a surveyor may have failed to seek out parol evidence; in the other the surveyor communicated with landowners but failed to report these discussions in his plat notes.

Now let’s look at what common survey texts, Vermont case law, and our board rules say about the use of parol evidence in land surveying.

**Parol evidence.**<sup>4</sup> Oral or verbal evidence; that which is given by word of mouth; the ordinary kind of evidence given by witnesses in court. In a particular sense, and with reference to contracts, deeds, wills, and other writings, parol evidence is the same as extraneous evidence or evidence aliunde.<sup>5</sup>

– BLACK’S LAW DICTIONARY

Black’s goes on to discuss the “Parol evidence rule.” This rule attempts to prevent parties from changing the intent of contracts, including deeds, by statements made after the initiation of the contract.

“...when parties put their agreements in writing, all previous oral agreements merge in the writing, and a contract as written cannot be modified or changed by parol evidence, in the absence of a plea of mistake or fraud in the preparations of the writing.”<sup>6</sup>

**“INSTEAD OF GAINING A BETTER IDEA OF THE BOARD’S PERCEPTION OF THE ROLE OF PAROL EVIDENCE, I CAME AWAY A BIT CONCERNED.”**



A fairly recent example of this rule being held in Vermont case law is found in 1991 in *Tilley v. Green Mountain Power Corp.* 156 Vt. 91, where it was found that a trial court had “erred in admitting parol evidence saying that [GMP] would not enlarge an easement [when a] later written agreement made no such promise.”

“Clark on Surveying & Boundaries”<sup>7</sup> and other similar texts tell us that parol evidence can be used to clarify latent ambiguities in deed descriptions, or to explain unusual words that may occur in a deed. It cannot be used to change the meaning of a description. A latent ambiguity in a deed description is one which is normally un-noticeable until an attempt is made to retrace the description on the ground. Clark suggests that, sometimes, such ambiguities may be “explained away” by parol evidence.

For example, a 1960 deed calls for a line which “passes 3 feet south of the old barn....” Parol evidence might be sought to learn which barn would have been the “old” one in 1960. By definition, evidence would not likely be allowed which claimed the deed spoke of some other barn 400 feet away.

Supreme Court decisions in Vermont have traditionally strived for a narrow

and limited use of parol evidence in boundary determination. In 1835, for example, in *Hull v. Fuller* 7 Vt. 100, the court stated emphatically: “When the original monuments are found, no testimony can be received to show that the surveyor intended to locate the boundary elsewhere. Were it otherwise, the boundaries of the whole state might be disturbed.”

In 1914, *State v. Heaphy* 88 Vt. 428 admonishes that: “Where a description of land is apparently sufficient, conjecture will not be indulged to make it doubtful.”

From those two cases alone, it is clear that the verbal statements of a landowner or neighbor alone should be insufficient to cause a surveyor to veer from the lines and corners expressed in a deed.

Such testimony can be taken, however, to better understand certain details that are not obvious from the written deed, or in the case of unwritten title. In the adverse possession case of *Lawrence v. Pelletier* 154 Vt. 29 in 1990, the court explains

## PAROL V. PAROLE

Many writings, including the state’s conduct decisions referred to in this article, frequently confuse the spelling of these two words. Both words apparently derive from the same Old French root, meaning “promise.” But “parol,” as in “parol evidence,” is an adjective meaning “by word of mouth” or “verbal.” “Parole” is a noun for the release of a prisoner (“on his word”) before a full sentence is served. A mnemonic device I use to try to keep the spelling straight is that a “parolee” is on parole.

that parol evidence was admissible concerning unwritten land transactions between the parties, particularly as to the chronology of possession.

In another adverse possession case in 1986, *Whittemore v. Cooley* 147 Vt. 529, the Supremes say that a lower court was mistaken to disregard “...photographic and parol evidence regarding existence of fence during a crucial time...”

So what do the board rules, or standards, require of surveyors in this regard?

“Procedural Standards” Part 5.4(a) (3) states: “**If necessary**, obtain and document from knowledgeable and credible persons parol evidence which may control the location

**Finding two (or even three!) similar monuments, where one is called for, is an example of a latent ambiguity, and may (if you’re lucky) be resolved by parol evidence.** PHOTOS BY TIM COWAN



of the corners and the boundaries of the property under survey.”

Then, in Part 5.4(c) (7) we are advised that our plats shall include:

“Inscriptions noting the specific evidence **used** to locate the corners and land boundaries. List sources of information **used** as the basis for boundary location...”

In the Enosburg disciplinary action, the board found that a surveyor failed to comply with 5.4 (c)(7) because he didn’t

was unprofessional in that he failed to contact a certain person who might be knowledgeable about a particular boundary. Admittedly, all of the facts behind the case are not published. Perhaps there were patent ambiguities in the deeds or latent ambiguities on the ground that should have alerted the surveyor that he needed to seek out and consult this third-party person of interest, the commandant. If so, the stipulation and order is silent on the matter.

representing each and every abutting property, to determine if they “have concerns.” Admittedly, this might be an excellent, if time-consuming, practice to carry out, but it is not what is required of the standards. Our standards require the collection of parol evidence “when necessary” and to provide notes on our plats as to what information is used in our boundary determinations.

Law and convention define what parol evidence is and when it may be admissible. As professionals, we need to use our best knowledge and judgement as to when it is necessary to seek out this extraneous information, and whether or not it is acceptable to use it in the context of our survey. The two conduct decisions reviewed reveal what I hope does not become a trend – a broadening of the reading of the standard requirement of collecting parol evidence in order to extend the list of charges made against a respondent. Professionals on the board must strive to provide careful oversight and review of conduct decisions prepared by OPR staff in order to avoid this potential, and probably inadvertent, overreach. 🌐

Tim Cowan is a licensed land surveyor living in Vergennes, Vermont. He is employed by Civil Engineering Associates in South Burlington. Please direct any comments on this article to: [tcowan@cea-vt.com](mailto:tcowan@cea-vt.com)



## “SUPREME COURT DECISIONS IN VERMONT HAVE TRADITIONALLY STRIVED FOR A NARROW AND LIMITED USE OF PAROL EVIDENCE IN BOUNDARY DETERMINATION.”

include notes on his plat indicating that he had used parol evidence in locating boundaries. But their findings (as written) say only that he “indicated that he met and spoke with owners/adjoiners.” They fail to state whether he actually used any information gleaned from those conversations to determine any boundaries. Perhaps this is just a shortcoming in the actual writing of the stipulation and order. In which case, the respondent had a chance to ask for a correction. It’s likely that this particular charge was added on, like ornaments on a tree, to the other charges of misconduct in order to make a more substantial-looking case. Either way, the manner in which the document is written could lead a reader to believe that the mere act of speaking with someone during a survey constituted collection and use of parol evidence!

Certainly that is not the intent of the standards. The standards only require such plat notes appear if that “specific evidence [was] used to locate the corners and land boundaries.”

So, either this stipulation and order was poorly written, which is inexcusable considering it was prepared by OPR legal staff, or it documents a frighteningly broad reading of the procedural standards by the board and OPR staff.

In the second disciplinary action (the Legion case) the board found a surveyor

Instead of describing a particular piece of evidence the commandant held, the order states merely that he “had concerns” that the boundary might “turn at some point” and that a corner “might be” 15 feet from that which the surveyor ultimately set. Where this knowledge came from is unexplained.

From the stipulation and order, it is clear that the state believes the surveyor should have done additional research. But, instead of citing this shortcoming directly, they chose to take the position that an interview of the commandant, “may have led Respondent to information that should have been included on the survey plan and included in the abstract.”

This seems like a long way around the issue – but more importantly, it doesn’t sound like the problem was a lack of parol evidence.

Did the surveyor not consult the controlling deed, which would lead him to the missing “turn” in the boundary? If so, a lack of parol evidence wasn’t the hinge-pin. Did the surveyor simply leave out a line from the deed where this “turn” was supposed to take place? If so, the lack of parol evidence was not to blame.

Again, from reading this order and stipulation by itself, one could conclude that it is considered unprofessional practice to fail to interview someone

## Footnotes

- 1 [www.sec.state.vt.us/professional-regulation/conduct-decisions.aspx](http://www.sec.state.vt.us/professional-regulation/conduct-decisions.aspx)
- 2 Office of Professional Regulation Docket LS02-0402
- 3 Office of Professional Regulation Docket LS02-1108
- 4 Black’s Law Dictionary. (5th Ed.) West Publishing Co. (1979).
- 5 “Evidence aliunde” means evidence “from outside” or “from elsewhere.”
- 6 Black’s Law Dictionary. (5th Ed.) West Publishing Co. (1979).
- 7 Clark on Surveying and Boundaries. (6th Ed.) The Michie Company. §15.03.





## Educating the Next Generation

Paul Hannan, L.S., spent an afternoon in June talking with Northfield High School students as part of a mini-course in environmental careers. Paul spoke with the group on GPS and GIS work and led them through a field exercise on the full cycle of data gathering and viewing on Google Earth. "Paul was amazing," according to the science teacher, Shane Heath. "The students really enjoyed it." The students also visited Vermont Tech, Vermont Fish and Wildlife, The Nature Conservancy, and SunCommon, as well as doing an overnight trip to Paul Smith's College.



## Visiting Our Neighbors to the North

Harris Abbott, L.S., sent in some photos from a summer trip to Alberta, Canada. From left to right: drill head fence posts in Black Diamond; an interesting water fountain in Calgary; a control station in Calgary; and survey equipment at Lake Minnelane in Bamff.

# Survey Gathers Input on Rules for Land Surveying

VSLs distributed an email survey in June to gather input in regard to changes in the statutes and rules that govern land surveying in Vermont, specifically, changes that more closely mimic the abutting New England states and New York.

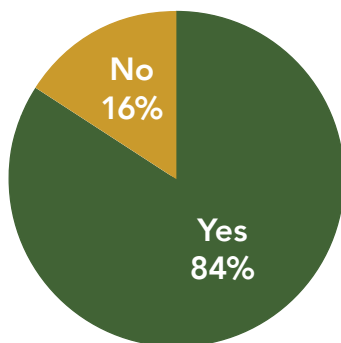
Thirty-eight people responded to the survey, and their responses are shown, in part, on these pages. We will discuss these findings and gather more input during the Fall Conference in September. To see the complete survey responses, contact Kelly at [kelly@vsls.org](mailto:kelly@vsls.org).



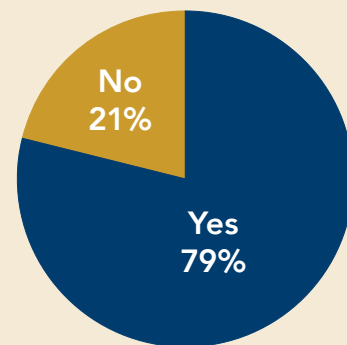
**Do you think the surveying profession encompasses more than boundary surveying? If yes, please explain.**

- Surveying generally covers anything that measures a points location relative to other points.
- Surveying should and needs to encompass the "Body of Knowledge"
- One has only to look at any survey magazine to see what the profession now looks like. topo, layout, drones, etc.
- Of course it does. This is a silly question!!
- Construction layout, mapping, hydrographic surveying, GIS data collection, etc.
- TOPO surveys required on subdivisions, flood certifications
- I think any type of higher accuracy mapping should be conducted by surveyors because we are experts of measurement based on what we've learned through education, experience and mentoring.
- The public believes that a surveyor is an expert in all disciplines of surveying, not just boundary. This includes topographic, construction, elevation certificates, etc.
- Due to changes in technology, integration of GIS, and a need to understand how all the parts interact, surveying is a broad umbrella that should handle all map making. Not just the boundary.
- Should contain construction layout, control and topographic surveys.
- I think that other types of surveys should be included: FEMA filings and geo-referencing specifically.

To see all the responses, contact Kelly at [kelly@vsls.org](mailto:kelly@vsls.org).



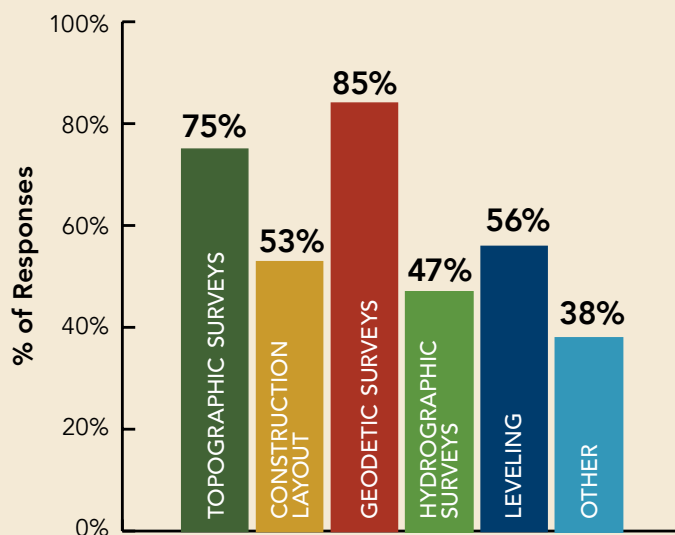
**Do you feel that the current rules and statutes protect the health, welfare and safety of the public? If not, please explain.**



- The current rules only cover boundary surveying which is only part of what a land surveyor does.
- Better rules for corner monuments are needed. (materials used, depth, etc.)
- It only protects the public from deficient boundary surveys. The purview of a surveyor is often only partially boundary.
- Not entirely. Engineers and Site Techs and Attorneys still seem to be able to practice some of the work that should be sole responsibility of a surveyor. Things like preliminary plats, deed description, WW permits, easements.
- Inept and ineffective Office of the Secretary of the State.
- Currently the State allows "Survey" by others such as Site Designers to create boundary lines. Statues should be alter to address this loop hole.

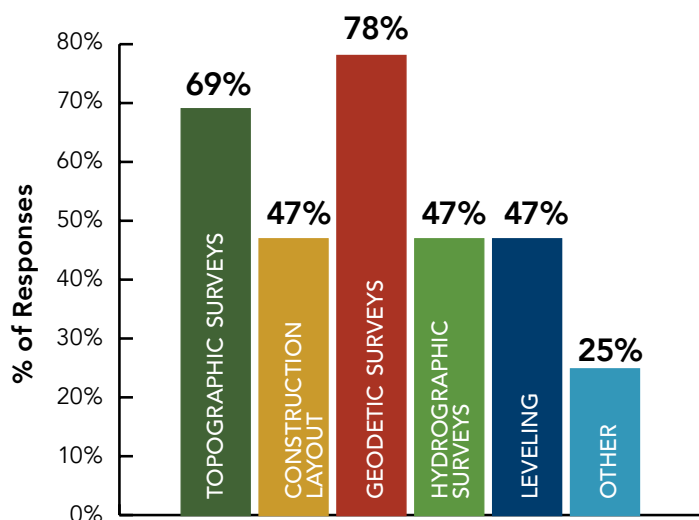
To see all the responses, contact Kelly at [kelly@vsls.org](mailto:kelly@vsls.org).

**Which of the following should be included in the statute defining "land surveyors"? Please select all that apply.**

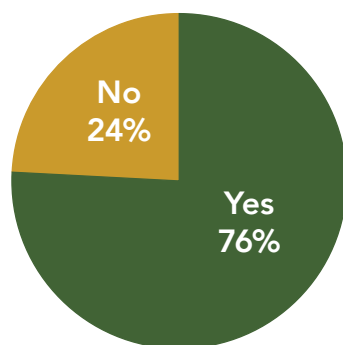




In which of the following areas should Vermont's rules for land surveying have technical standards? Please select all that apply.



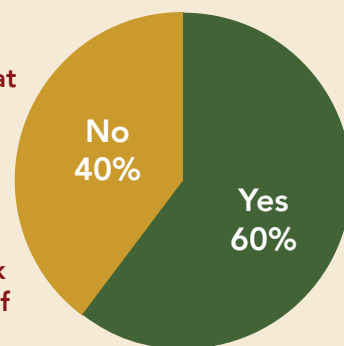
Would you support changes to the rules and statutes for surveying that create technical standards for any of the above disciplines? If yes, please explain.



- Technical standards yes; making them exclusively the domain of surveyors, probably not.
- Standards for all of these disciplines would benefit the public.
- I would support modernization of the boundary rules and statutes, and I would support rules and statutes at all for the others.
- With the possible exception of geodetic surveying, the only reason to regulate the other areas would be to provide more work for LS's. Such regulation would obviously have a negative impact on other professions and occupations and would certainly lead to litigation. I seriously question how many Board members are capable of preparing regulations for construction surveying, or even have any idea how layout is done in the field.
- I feel geodetic surveys should have standards. The other areas would be project specific and I don't think standards should come from the Board. They should come from the client.
- Except for geodetic surveys I am not sure the others need defining if performed by licensed surveyors. They all certainly need to come under the licensed surveyor umbrella if the public is to be truly protected. Right now they are not.

To see all the responses, contact Kelly at [kelly@vsls.org](mailto:kelly@vsls.org).

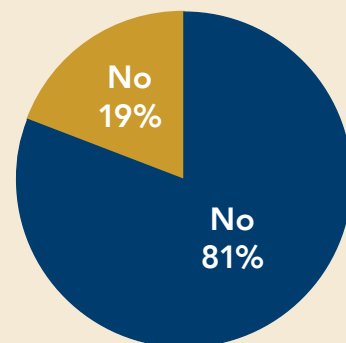
Are you aware of the rules and statutes that govern the practice of land surveying and what is included in neighboring states such as Maine, New Hampshire, New York and Massachusetts? If yes, which states?



- Maine
- All
- Somewhat familiar with all of the states listed.
- New York
- NH, ME
- Ma and NH
- MA, NH, ME
- One of the way lousy regulations come about is over-reliance on what others may have adopted. Why perpetuate bad regulations? Who cares what neighboring states have done?
- MA, CT, NH, NY
- NH, NY

To see all the responses, contact Kelly at [kelly@vsls.org](mailto:kelly@vsls.org).

Have you seen or been part of a civil litigation that involved surveying besides land rights? If yes, was the public harmed?



- A bench mark was erroneously labeled and a lot of money was spent incorrectly grading a site to build a building.
- Yes, vehicular injury.
- This is obviously a "push survey". In every litigation there is a winner and a loser, each of whom is a member of the "public" and each of them will have been harmed, by the cost of litigation, loss of reputation, wasted time and ill-will between the parties. The loser will end up paying some sort of damages. The winner frequently is not made whole by such damages.
- Yes, in my opinion.
- No - Usually miscommunication between designers and contractors.
- It was construction and fixable.
- Both in construction layout and topographic surveys.

To see all the responses, contact Kelly at [kelly@vsls.org](mailto:kelly@vsls.org).

# Experiences & Incidents

## in the Life of

# Samuel Henry Stevens

## as a Land Surveyor

The continuation of  
Samuel Henry Stevens'  
1948 life summary,  
"Experiences & Incidents."

SUBMITTED BY  
TIM ROCKWOOD, L.S.

“September, 1935, at the Carter Country Club, I set a marked bronze pin in the ledge, west of Green No. 2, from which I took the mean of three observations on Polaris and set a granite monument 1,000 feet north on the ridge, west of Green No. 1. September, 1940, John Hershberger, Observer, from the United States Coast and Geodetic Survey, took observations on this line for eight days, which proved to check perfect, and a Coast and Geodetic bronze plate was set in the granite monument. From this point the line was extended 700 feet more north where a granite post was set south of Tee No. 4. Thus a True Meridian, 1,700 feet long is established and marked on the ground, and accepted in Government Records at Washington. The mean Magnetic Declination was found to be 15° 24.75' West, with an increase toward the west. The Dip, from a mean result of 120 readings, using 3 different needles, showed about 74° 16', all very interesting and instructive experiments. Letter from United States Geological Survey dated January 17, 1947, states, that there is now in this location, an annual Magnetic decrease of one-half minute. This change began to show in the southwest part of the U.S. in the early '30s, and oscillates about every 200 years. In New Hampshire, over this last period, since 1750, this increase has shown to be about 7 degrees. To those who have interest in this particular kind of work, it is a privilege to be living through this mysterious change. All important lines in Lebanon are run on, and referred to, the True Meridian. There are recorded plans of both meridians in the Town records and also at the Registry of Deeds.

In 1939, the United States Government established a Weather Bureau on Storrs Hill at the farm home of Harry Townsend, a distance of 2.9 miles from the Town Hall. The exact elevation was desired from which the barometer was to be set, with the requirements of a "closed loop" which means, a line of levels must be run from the United States Standard Bench Mark on the Town Hall, with an elevation of 594,898 feet above mean sea level, to the desired point at Townsend's, and then from this established new elevation, run a line of

levels back and hit the same elevation of bench mark on Town Hall, or 594,898. Bill Clark and I took the job. I always called my 24-inch Gurley "Y" a reliable tool, so we took off from the Town Hall, up through School Street, making seven or eight stations to our first turning point at South Street.

From this new established elevation we started back down School Street headed for the bench mark on the Town Hall from which we started, expecting to hit right on the nose, but it appeared to have moved. There was no hit, no run, but some error. Two or three hundredths in ordinary work could be adjusted, but not in a closed loop. We tried several different methods which proved hopeless.

**When Herb Bartlett worked with me and things seemed to bother, he would always say it was time to smoke, knowing quite well neither of us ever did. It may have helped.**

What Bill and I finally settled on was to close every station before we left it. A series of closed loops may be combined into one closed loop at any desired place. The columns must add together and balance same as an account. This is the only reliable method to obtain a fine degree of accuracy. Some use the double-rod system, but with this there is never a closure, and both lines are run with the same "height of instrument" that actually does not make a loop. It is better to go out somewhere and then come back exactly where you started. In this way we ran elevations through to the Townsend house, up over the porch roof, and into the second-story window to a mark on the wall for the ivory point of the barometer, at an elevation of 1124.660, with a total of 5.8 miles and 154 set-ups.

In 1941, during the construction of Lebanon Air Port, I was rodman in a survey crew to establish elevations at the airport. We started from the United States Standard Bench Mark on the Town Hall and ran along the State Highway toward West Lebanon, about two miles, to the road leading

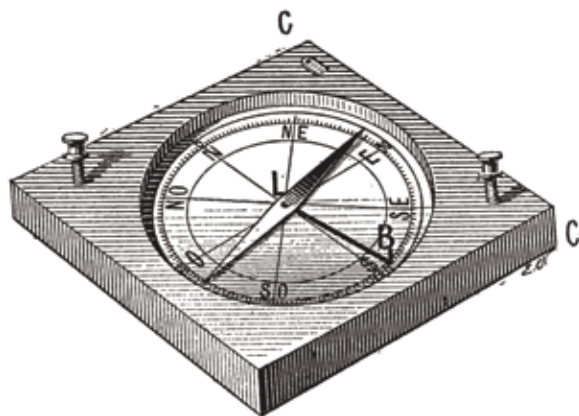


to the airport, then the return back to the town hall for the loop. The error of closure came to be too great, and this line of two miles was re-run five times which then showed a minimum difference of 0.22 feet that the party chief told them to close. And they called themselves Engineers. I suggested the one-station method that I had used, that they had never heard of, and would not accept, which in this case could have saved time with better precision. Neither would they believe I held the rod bottom-upwards. From this point to the airport still caused them trouble which was run over several times.

Elevations were then carried through to standard bench marks in White River Junction from which was finally determined a mean result. Many miles were needlessly worked over, which should have been prevented. These boys surely had their troubles with elevations, but were good on their plain surveying. There was one circuit in the field that closed to within three minutes, with a distance of nearly two miles and 19 hubs. Every angle was read and then doubled, after which the deflection was checked, thus, there were three readings on each angle. It is always safe to double your angles. I have found it better, if possible, to first read the angle and make note of it, then after vernier is doubled, let someone else read it, not knowing the first reading. If one man reads both, he will unconsciously think what to expect, and fool himself. If an angle reads  $40^{\circ} 25'$ , you know the double must be  $80^{\circ} 50'$  and are looking for it, which may vary, unobserved. All angles when added together, must make a closure, depending upon the number of sides.

Their distances were all measured with a 100-foot steel chain and checked by stadia. Wooden stakes were used for hubs with tacks at the exact point, replaced later by iron pipes. To set these iron pipes, they used the four-stake cross-string method, rather complicated and troublesome, especially through frozen ground. I have discovered another way which seems to me to be a time-saver. Set transit safe distance away from hub, tip telescope down to line on point and clamp, measure from point to plumb bob. There can be no way to go wrong. If new elevation on hub is required, it may be observed from this one set-up. One night at the Air Port, Jack Madden, Chief of Party, and I took six observations on Polaris from two different locations, that checked together within  $0^{\circ} 0' 06''$ . He said we must have been looking at the same thing.

George Moore and I worked together before he entered Annapolis in 1935. He said when he used some of our methods down there, his instructor liked them.



A well-established base line for village work is good to have. In 1944, I laid out a line in Meriden 2,000 feet long with 100-foot stations and an observed True Bearing, from which I can "pick off" co-ordinates from any desired station to tie in contour or property lines, that can always be re-located.

John Hershberger told me that the Government had a base line in Arizona that was more than 100 miles long.

A surveyor is often called upon to set batters for the construction of new buildings. Instead of the most common way of setting three stakes at every corner and nail boards across, I have simplified this method. First, always lay the building out on the ground to size, with nails in stakes. Set on any one corner and line on another corner, raise telescope and set high stake beyond excavation, turn over  $180^{\circ}$  and set similar stake. Then turn  $90^{\circ}$  and check on nail at corner and set two stakes as before. With the level set up at a convenient place, saw off stakes to elevation. Then with transit, put nails in top of stakes on which to line the string. Carry out the same procedure at the opposite corner and you are finished. The old way required twelve stakes and eight boards, while this way the job can be done complete with only eight stakes and less labor.

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**Your Hand Book should be your memory for reference and aid. Don't ever try to memorize anything to occupy your mind that you can find by index. There is enough of which you must think, and will automatically become to know, without the effort to remember certain tables, charts or formulas.**

If possible, complete your schooling. It can be, and is, the most helpful of anything throughout your whole life. Nothing can take it away nor replace it. It consists of much not found in books, both socially and ethically. It is an accepted fact that practical experience is necessary with the book learning, but the basic, technical, original principles are forever essential and indispensable. A surveyor, must to some extent, have a knowledge of certain of these fundamentals upon which to depend, and apply in his work.

Former President Ernest Hopkins, D.C., said that going to school was not the only way to get an education, but the best and quickest. It is unbelievable, the volume of learning and understanding that was driven into those boys during World War II, and another miracle that they were able to take it. Father Hogan once said if he were to educate a boy, he would send him to school two years, and then let him travel the other two. What he meant was for Priesthood. Treffly Capistran, an official of the New England Power Association, said when he left Worcester Tech, he knew nothing. It seemed like that to him after his rapid advancements, due largely to his Technical Training. Sometimes I feel that if I could have a boy after his first two years in school, with me the other two, he could go back as an instructor. Seriously, I know this motive to be falsely exaggerated, but to actually execute and do the work is a different feeling than

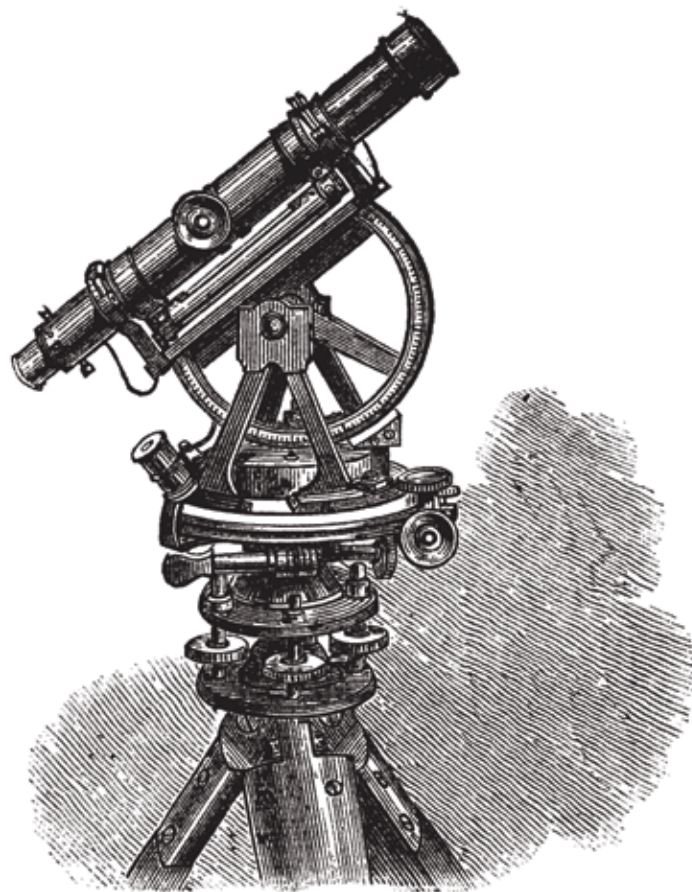
to hear it talked or read about. A little rough work will hurt no boy and may help him to understand when he gets out of school, that perhaps after all, the world may not owe him a living, and should he fall overboard, be better able to swim. Regretfully, I have no boy, and our Coat of Arms, dated 1525, shows me as the last male descendant of this branch. Kipling's advise to a young man was "work, Work, WORK". Many who work their way through school have the best marks. Warren Kendall, Chairman, Car Service Division, Association of American Railroads, in Washington since World War I, has won two wars, but earned most of his own money to get through Dartmouth. Edith Johnson, who, by her own good will and ability, has worked her way through to become an essential and most efficient Research Executive, for the New England Electric System. At our house, work always came first, which has been days, nights and Sundays with no thought or time for relaxation or society, either socially or religiously, in which I am a member of none. All through the years I have stayed with the work and slept with it until finished. Charlie Taylor, at the age of 103, still drove horses. He slept with his black pacer Robert B, won 70% of his races, and never used a whip. No young man should ever start this way nor take his work too seriously. He must take time out for his recreation, then he will come back and do better. If there is a problem that appears unsolvable, do something harder, then the other will seem easy. I have found this true when there was difficult music to master. Storms make mariners. Almost anything can be carried beyond reason, even to technicality. "Non-Coms" from Ethan Allen have told me that "ShaveTails" from West Point would come over there for target practice and instructions on their field pieces. When all was set by the book and contact made, they of course were sure of a hit, when a red flag would show up, impossible for them to understand, because the book said so. During the flood of 1927 and the washout in West Lebanon, there was cause to close the hydrant on Bridge Street. Lucien Haverstock, then Supt. Hartford Water Co., looked in his book which gave just ten turns to close it, which he counted off precisely, but the water did not entirely stop which he could not understand. A.C. Benjes, Manager, Granite State Electric Co., and Harry Manson, Supt. Lebanon Water Works, were both there, and Harry told Benjes to take Haverstock away somewhere and he would shut off the water, which Benjes did, and Harry gave it a couple more turns which stopped the water. After a while Haverstock came back and noticed it had stopped and said, "He knew it would have to, the book said so."

There are those who are good workmen and can't do a poor job, and others who are bad workmen and can't do a good job. This can apply in any line or trade. If, in a machine shop, a dye maker was to set a water wheel gate, he should know it did not require a "ground in" fit. I have always said that one who could adjust himself to both extremes was a valuable man to have, which in my observation are few. If I were to work out the Bank Block, I would measure in hundredths of a foot, and double angles to divide down into seconds of arc. In 1936, I worked a wood lot of 215 acres in a rough, uneven section in Enfield. Center for Sadie Winslow, and measured to the nearest foot. Later, a one-trend, high-salaried construction engineer had occasion to look over

my plan to remind me that my measurements showed to be all even feet, to which I replied, that is exactly what it measured, and felt my lie permissible. I didn't remember to tell him that I had once set bolts in a concrete foundation with less than one sixteenth of an inch clearance, upon which four large oil tanks were to be set, that went together. I have found that a little "horse sense" proved to be good logic.

If you ever have the desire to become a land surveyor, don't let them put C.E. on the end of your name, you are better than that, and on a higher degree of standing. A civil engineer may come out of school with that rank, but his work will take him on a different course. His, is largely mechanical from the start. There is a certain thing to do, so go and do it. Cause and effect. He may try surveying, but is not likely to become a land surveyor in its true sense of consideration and justice. While, in the duties of a surveyor, he may have many ways of meaning to consider, before he can

finally determine which should rule. With no knowledge of law he would be a complete failure. He becomes to like people, with a developed feeling to help them, and is worthy to be called "One of the chosen few." To the architect, highest profession in construction, goes the deserving credit of design, which then he hands down to his engineers. To me, a construction engineer is to his architect, much the same as a land surveyor is to his lawyer. Somebody has to pick off their chestnuts, You never know what may show from plans, any more than where you own on the ground, until the jobs are completed. The legal definition for Civil Engineer is. a person versed in construction of roads. bridges.





buildings or other works which involves the safety of the public. And requires a license in most states, including New Hampshire. Land Surveyor, a person who must interpret the meaning and work out the intent of deeds. To measure and determine exactly the area, contour, dimensions, elevations, etc. of a tract of land. Requiring no license in New Hampshire because no public safety is involved.

Land surveying is not always with your feet on the table or a pencil over your ear. In 1924, when we ran the Lebanon Center Precinct lines of 7.65 miles, containing 1366 acres, we found much rough going. The rocks, thorns and blackflies were pretty numerous and our dinner pail was down the hill a mile back. I remember Bill Haslett, who was helping me, set himself down on a log and said, if this was what surveying was, he had got enough of it.

I think he said something about a girl who said that she would probably die an old maid, but nobody could make her say she liked it. Anyhow, Bill stayed and was glad when we finished to have something to talk about all winter.

If someone showed me in a book some of those big words they talk about in school, it would scare me because I have never learned about them. I suppose that by the hard way, I continually make use of their meaning when co-ordinates are lined in from a base line to the meander of a stream from which to locate its boundary or calculate an area, or perhaps to figure the volume of an irregular shaped reservoir from elevations of 10-foot intervals, borrow pit, or a large pile of coal.

Somebody who knew their business, might talk about some sort or geometry or may be calculus in a mild form. I wouldn't know. Somebody once gave me an old book said to contain the first tangent table in America in 1835, and then told me about the side opposite divided by the hypotenuse equaled the sine, so I have stumbled through that too. Believe it or not, I still have my old black covered Thomson's Complete Arithmetic, with 1888 on the inside cover, here in my room, and willingly reach for it when I am asked the meaning of compound proportion. There are some who refuse to hire any help who know more than they do for fear that they might lose their job. I never felt that way, that is the only way I ever found out about things. I could be like the small boy who was continually asking his father questions, until finally the old boy disgustingly replied, "I have told you all I know... and now you don't know anything."

Last summer I did a survey job of 45 acres in Meriden for Annie Duncan. Nearly all the lines were obstructed by a growth of trees or under brush, and the use of triangulation became necessary. There were 24 sides and we made 16

outside triangles with angles doubled on the ground, that made a closure on paper. A reliable method saving time and labor. In 1937 at Randolph, Vt., I ran out a tract of 52 acres with seven sides, for a court case to determine the exact area. There was not one side available that we could use exactly on the line, and it was all worked by triangulation entirely, from which the desired area was computed that was accepted by the Superior Judge in the Court at Woodstock.

It may be largely because my mind is on the work, but I always was a poor sportsman and never think of wild game or their signs while in the woods. I walk over everything from snakes to hedgehogs that those following me find, and are continually talking of tracks they see. Once near Corbin Park, I found a hole the wild hogs had got out and made, because I fell into it. We saw many trees showing marks made by elk where they rub their horns and buffalo were in the Park. Two years ago, while working in Sherburne, Vt. at the foot of Killington Peak near the source of the Ottaquechee River, hunters followed our line in the woods and shot an old bear and cub in the ledges where we had just come through. They took three deer out of there that day, and said they caught trout that reached across the rain barrel.

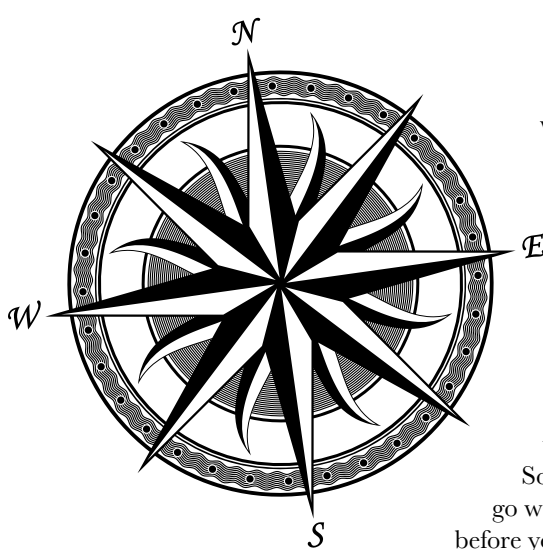
All equipment is to help you in this particular kind of work, just the same as a slide rule or cant hook each in their respective requirements. Give your transit a chance and it will do its part, depend upon it and you will become to like it. I have thought my Gurley Dumpy Level is my best friend. It will stick 'em in there for me. Sometimes I can understand why Lindbergh said "WE" got to Paris. Learn to like your tools and talk to them. Fred Kilburn used to call his transit "Nancy" and from the results of his work, she must have understood what he meant. I never had any special name for mine, but have called it many different names that didn't sound like Nancy, that without doubt, should have applied to me instead of my "gun."

If possible, do all essential work with bearings referred to True North, which will never change, and can always be re-established.

Elevations should always be based upon a reliable datum above mean sea level, and not an assumed elevation, which will be found helpful to determine the difference between any two points of location.

During the years of 1931 and '32, we set more than 100 granite monuments to re-establish and properly mark, property lines or new developments, in this vicinity, with corresponding plans. I have buried many glass bottles containing papers, names, etc. and usually a coin. When the Post Office was built in 1938, we buried a glass jar filled with papers, maps and other matters of interest, encased within a concrete block on the outside footings at the northwest corner, for which a special permit was required from the Post Office Dept. at Washington, where the record is now preserved.

Some successful business men have advised a young man to get himself into debt, and give him something for which to work. If he shows guts, he will come out of it to be a better help for himself in after life for the gained knowledge, if not, it is very likely he will fail at other possibilities. David Butterick, one of the largest milk dealers in Boston, told me, there was twice in his life that he was broke flat, and started in again



with a corner store  
in Cambridge.

Personally, I know  
exactly how it  
feels to be without  
a cent or know  
where to get one,  
but am unable to  
show any signs of  
having guts, and  
will never die rich.

Some think you have to  
go wrong or find trouble,  
before you know the difference  
between right and wrong. I hope

that statement to be a little too strong. But, I do think, that  
when there are mistakes or tough spots, that must be overcome  
and mastered, and when you finally come through whole, there  
is an experience gained that not otherwise could have been  
understood, and you step up a round. "Storms make

Mariners." Many times it is better for certain people to  
help themselves, rather than to offer too many suggestions.  
That was what one man thought who tried to separate the  
Irishman and his wife who were fighting. They both pitched  
on to him. But corrections are always helpful and should  
be received as such. I recently finished a "Write-Up" on

Musicians of Lebanon, and showed it to my "Pal"  
Doris Mollica, an experienced teacher and musician, who  
wistfully said, "wonderful." I knew that was spread on a  
little too thick, so I then took it to Ruth Randall, also a  
musician, who brought it back covered with errors, and for  
which I gratefully told her it was a help. Fred Carr once said  
my plan would not hold in Court because there was a mis-  
spelled word in the Legend. Some may disapprove of this  
method, but at times when showing a boy about angles on  
the instrument, I would purposely read it wrong, and then  
argue it out with him. He will never forget that he caught me  
in a mistake, and is more likely to remember the principles.  
A teacher would not do that, but I am not a teacher.

When thinking back, it seems like I must have made acres  
of plans and blueprints, which of course means nothing when  
we think of the tons required for large construction jobs or  
a battle ship. In 1927, I made complete measurements and  
plans of pole lines for the New England Power Association,  
of all Lebanon, Hanover, Lewiston, Wilder, White River  
Junction, Hartland, and Enfield; later, complete sewer  
plans in Lebanon; complete plans of Lebanon Water Works,  
including pumping station and reservoirs, with 22 miles  
of mains and 1100 services, and established their card  
system, that is now 100% metered; plans of Hartford Water  
Co. including White River Junction and West Lebanon,  
four reservoirs and the "Boston Lot"; all subdivisions and  
streets on the Dorance Currier Estate in Hanover (after Bob  
Marsden had done South Main Street) before there was a  
building except the home place, Roman Catholic Church  
and School House, extending east to the top of "Sand Hill."

My friend, Fred Parker, has always given me his best of  
support; plans for the U.S. Government, whose research and

requirements seem endless; surveys and plans for largest of  
oil companies, whose requirements are similar to those or  
the government, which are, as the diving girl said, "A good  
trick if you do it"; plans for many court cases, including four  
murders in Grafton County; and accident cases for insurance  
companies. Last year I made a print 36 X 102 inches, self  
explaining, with heavy lines on a large scale that was plainly  
visible for the Jury, and which Sheehan and Phinney, of  
Concord said, nobody down that way would put as much  
work in. I could well believe that because, I was several days  
in Burlington on a Boston and Maine Bus accident case, with  
an engineer formerly of M. I. T. who "knew his stuff" but  
whose plan was really illegible for a Court Room Exhibit.

Through the cooperation of my good friend, Bill Byron,  
Railroad C.E. of Boston, I have complete detailed plans of  
all railroad rights of way lines throughout Lebanon, and he  
always said to be sure to give him everything I made adjacent  
to their lines. We corrected confusions that I found on land  
of Carter and Churchill adjoining that of the Northern  
Railroad, that Byron said had been in a tangle for years. I  
have a set of twelve maps of Lebanon Township dated from  
1667 down to my last map made in 1945, showing all physical  
features, buildings and contours at 20-foot intervals. Everett  
Hale Whitlock, a map concern in Connecticut, ordered a full  
set, and said they knew of no other town that had so many  
available maps. Most of my plans are in the office of Joseph  
Smith, Town Clerk of Lebanon, also with Fred Shores, at the  
Registry of Deed, and with Harold Rugg at Baker Library.

I have associated directly, with many Judges and more  
than forty different lawyers, either in the Courts or otherwise.  
I find that they differ widely in their opinions on similar  
matters. From such rare professional contacts and privileges, I  
have been forced to conclude, it may be better to combine the  
good basic points from each, that when assembled, become to  
be one effective and logical reason for practical knowledge to  
apply and use. Someone said, "Go to school to everybody."

A carpenter said to make a mark, and  
then saw where you have a mind to.

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On the evening train, Thanksgiving Day,  
1909, I came back to Lebanon, direct from  
the Philippine Islands. My mother had  
kept the chicken pie warm in the hopes  
that this would be the day. And a large flag  
was on the easy chair in the bay window.

Many times while in my room with the pictures of some of  
my boyhood associates who have gone out and become to be  
world-wide noted for their unparalleled, successful, achieved  
career, gained wholly through a motive to work and develop  
their own ability, and from the desire to be co-operative and  
friendly with their fellow-workers, and when there have been  
unsolved problems or even personal essentials to determine,  
it has always been a helpful, satisfying relief, to look at one



of the most choice and say, "Warren what would you do?"

Allen Downs was then Town Engineer, having succeeded his father, Charles Downs, and retired in 1935, and was never replaced. It was the good fortune of Lebanon to have both father and son who could give their entire lives to build the foundation and preserve the sacred principles of this profession.

I became acquainted with Mr. Downs, and suppose must have watched him perform some, and liked his red and white poles and probably asked questions. In 1915, I did my first job with him, which I still have. It was to compute the area of a tract of land containing 245 acres with eleven sides by double longitude. We had no calculating machine and it was all worked out long hand, that I thought would cover a Sunday newspaper. I must have liked it because before long he had me taking elevations for the construction of a sewer main. I well remember going down Elm Street with his instrument on my shoulder and said I hoped everybody was looking. From then on I was with him continually until 1924 when I thought best to have my own equipment, but advised him constantly until his death in 1942. As a man, he was one of the most sound and reliable type of person I ever knew, who always took his work serious, and everything had to be right, square, and honest. I have never had a salaried position in my life, either appointed, elected or otherwise. There is a big zero on my door over my name, meaning, S.H. Stevens, below zero. Another sign under that, "Come in without knocking, go out the same way." Which, being interpreted means, "Free Information." Under all this, someone has written "Joe Push" with no given meaning. It could mean Overalls or, Never noted for Speed.

People have asked where I ever learned surveying. The fact is, I never did learn it. There is continually something new or different to do or short cuts to find on every job. Of course the fundamental principles must be known, that can never change, but for progress, there is no limit for their improvements in actual practice.

It is indeed a gratifying privilege to be able to take a job, make a search of titles, work the lines on the ground, make complete plans, and then draw up and execute the deed. Having been a Notary for nearly 25 years.

It may not be untimely to say, that such effective work can be accomplished only, through the co-operation and support of those for whom it is done, which has been shown by all, and from whom I have received in full measure, through all the years, the highest of respect and recognition.

My work has been of a wide variety which may create a greater interest, having mingled with all classes of people, intending always to remain neutral and square to all.

In 1926, a fatal accident occurred between Hanover and West Lebanon when a car driven by Fred Jones was diverged from the main highway and entirely left the ground at a point near Mink Brook, causing the death of Mildred Presley. Jones was on trial for manslaughter and was accused of reckless and dangerous driving to be unlawful.

From the evidence as shown by tracks of the car, it was obvious that it actually cleared the ground at this spot, for which reason the rate of speed could be reliably calculated from the law of falling bodies by gravitation. Measurements were carefully made and computed, even to the wind

resistance, thus showing absolute reasons for a speed of 18 miles per hour. This testimony was accepted by the Court and was largely responsible for the acquittal of Jones.

In 1941, there was an excellent opportunity to apply a case of this kind when Betrand Hubbard ran his car over the abutment of Staple Bridge and was drowned, the car making a clean jump into the Maacomia River, showing a speed of 30 miles per hour.

In 1947, in Enfield, the car in which Caleb Blodgett was killed was hurled through the air a distance of 29 feet, showing a speed of 45.7 miles per hour.

When there is an automobile accident and it can be shown that the car actually left the ground and hit no other object, the rate of speed may be determined, which can be of great assistance to the Court in settling an important question.

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These pages have been written in a common and natural way in the hopes to explain better the intended meaning to convey. I have used the true and real names of all, in anticipation of no disapproval and for the good of this worthy cause. Above all, may it be understood, that this is offered with no intent of prejudice or boast, and only to state facts exactly as I have found, worked and lived them.

The memories bring back only happiness and pleasure, and my good fortune has been of the best. Any reverses that may have come, seem now like nothing.

If, through the years, there shows any reasons of worthy acts or progress on my part, let it be attributed solely, to the faithful and constant urge of my wife, Mary Jane, who has remained true for nearly 38 years.

And now amid the fading embers,  
These in the main are my regrets,  
When I am right, no one remembers,  
But when I'm wrong, no one forgets.

A Western Rancher once said:

"One way to get to Seventy was to keep your mouth shut."

I don't know how that applies to me...But Here I Am! 🍷

*Samuel Henry Stevens*

February 2, 1948

(Born at Pompanoosuc, Vermont

February 2, 1878)

# Annual Business Meeting Warnings

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## Friday, December 7, 2018 • December Round Tables Seminar Capitol Plaza Hotel & Conference Center, Montpelier, Vermont

Members of the Vermont Society of Land Surveyors will vote on two pieces of business during the Annual Business Meeting in December:

### 1) Increase in Annual Membership Dues

VSLS members will vote on an increase in annual membership dues beginning in 2019, as follows:

- Full member dues to increase from \$150 to \$200; this will include membership dues to the National Society of Professional Surveyors, which beginning in 2019 are expected to be \$50 per year.
- Life member dues (for those who became Life Members after 2012) to increase from \$75 to \$100.
- Out-of-state member dues to increase from \$75 to \$100.
- Associate member dues to increase from \$50 to \$75.
- Sustaining member dues to increase from \$100 to \$125.
- Student member dues to increase from \$5 to \$25.

### 2) Rules Change in Life Membership Criteria

VSLS members will vote on adding the rule shown in red to the criteria for Life Membership.

Life membership may be granted by vote of the Executive Committee to any Full Member:

- 65 years old or older,
- who has held a current dues card as a Full Member for 15 consecutive years immediately preceding,
- who requests in writing to be granted the status of Life Member,
- and who no longer counts surveying work as his or her primary source of income.

Note: Those who have already been approved for Life Membership will retain their status as Life Members.

photos

ARTICLES

NEWS

suggestions

random notes

We want to hear from you! Send your info to [kelly@vsls.org](mailto:kelly@vsls.org).



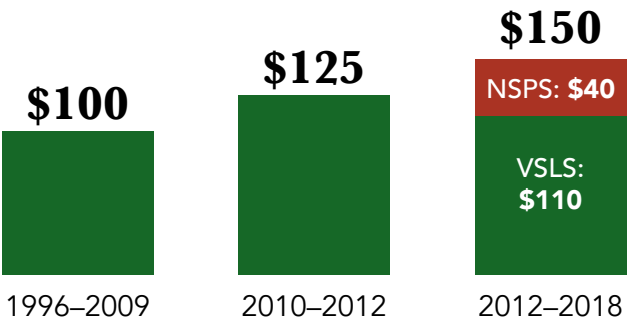
# Why Are We Voting to Raise VSLs Dues?

Info on pages  
21-23

## VSLs Has Been Paying a Portion of Its Members' NSPS Dues Since 2013

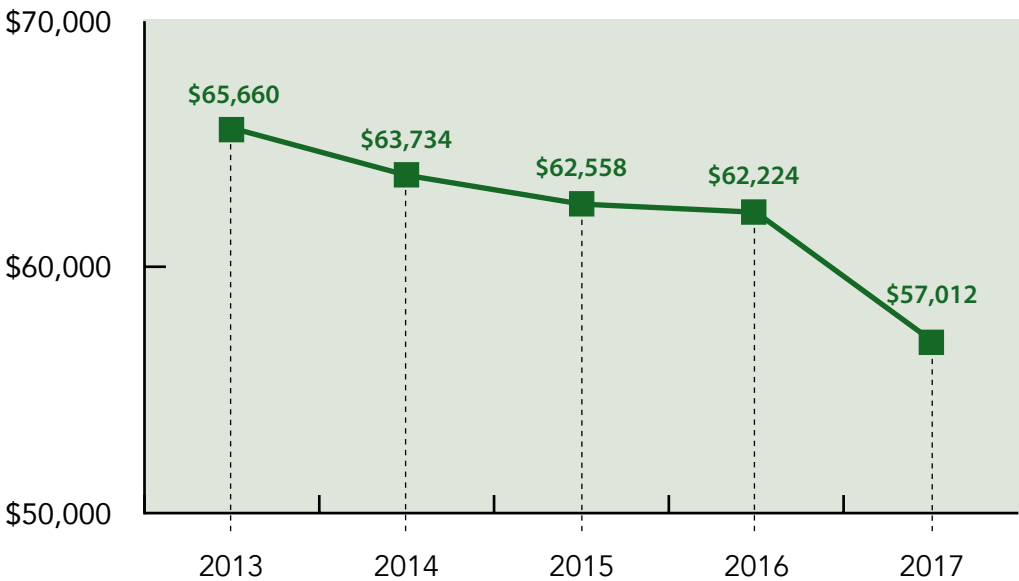
Our membership voted to increase dues in 2013; however, since that time, we have sent \$40 of every full member's dues directly to NSPS for the required NSPS membership, and the VSLs portion of the dues has actually decreased by \$15.

### Full Member Dues 1996–2018

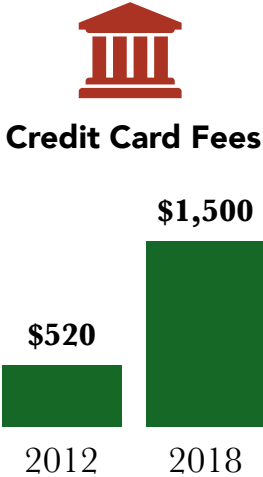
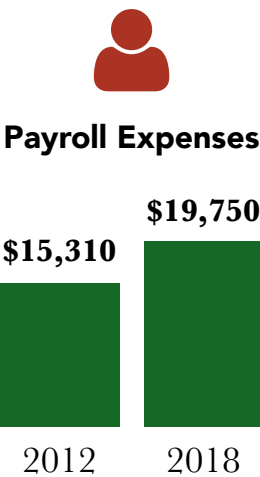


### VSLs Year-End Gross Net Worth: 2013–2017

Our capital reserves have declined over the last several years.



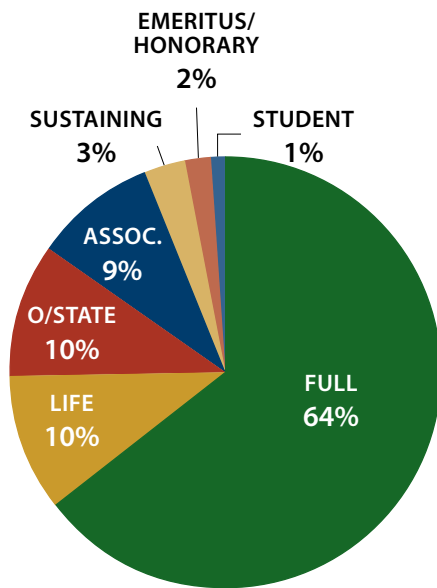
While many VSLs expenses have remained level from year to year, some expenses have gone up over the last several years.



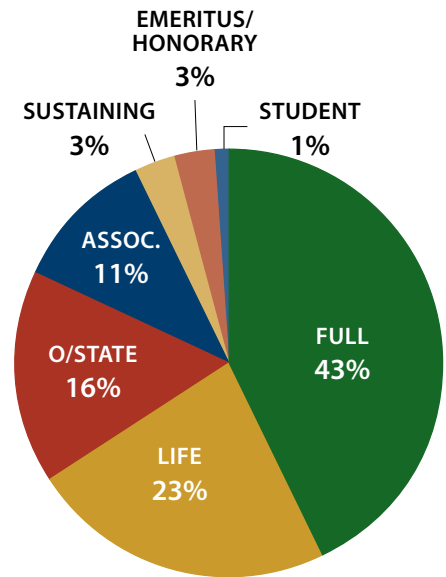
\*Includes NSPS Director, President, Young Surveyor Representative and Administrator

Today, we have more Life Members who receive discounted dues and conference fees. This has the effect of reducing the income we receive from both dues and VSLs education programs.

VSLs Membership Distribution: 2000



VSLs Membership Distribution: 2018

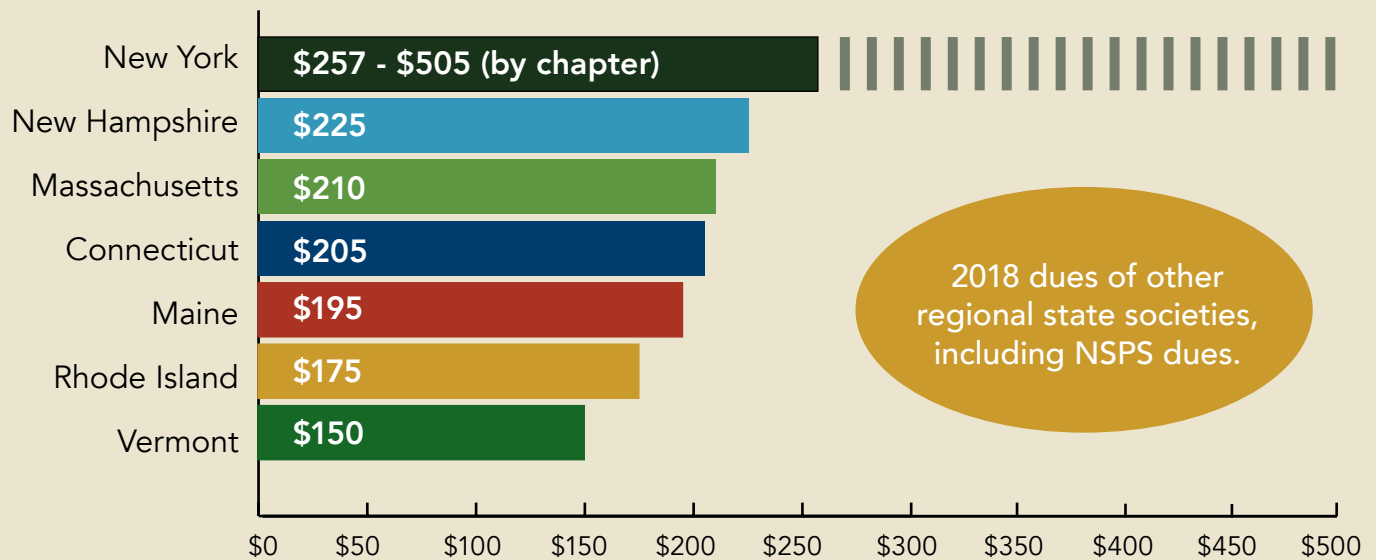


Membership Numbers: 2000–2018

	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18
Full	157	151	156	153	144	137	129	118	115	115	113	98	100	97	94	99	91	89	85
Associate	22	18	20	24	23	24	19	25	25	21	19	19	17	19	18	24	17	21	22
Out of State	25	27	27	26	25	26	31	37	36	34	29	24	26	26	26	31	31	34	33
Sustaining	10	8	12	15	15	13	13	11	11	10	9	7	8	7	8	9	6	7	7
Life	25	22	23	20	33	24	29	38	39	40	31	33	33	37	38	42	40	44	46
Emeritus	4	4	4	3	3	3	3	3	3	3	3	2	2	2	2	1	1	1	1
Honorary	1	3	3	3	3	4	4	4	4	5	4	4	4	5	5	4	4	4	4
Student	2	1	0	0	0	2	1	3	1	1	0	0	0	0	0	0	0	2	2
Total	247	235	245	244	246	233	229	237	234	229	208	187	190	193	191	210	190	202	200



## How Do VSLS Dues Compare With Other States?



## Current VSLS Dues

		# Members	Dues Income
Full members (includes NSPS fee)	\$150	85	\$12,750.00
Life members (through 2012)	\$20	21	\$420.00
Life members (2013 and after)	\$75	25	\$1,875.00
Associate members	\$50	22	\$1,100.00
Out of state members	\$75	33	\$2,475.00
Student members	\$5	2	\$10.00
Sustaining members	\$100	7	\$700.00
Gross Income			\$19,330.00
Less NSPS Dues (at \$40/full member)			-\$3,400.00
<b>Total Income</b>			<b>\$15,930.00</b>

## Raising VSLS dues by \$50 (\$25 for other members)

		# Members	Dues Income
Full members (includes NSPS fee)	\$200	85	\$17,000
Life members (through 2012)	\$20	21	\$420
Life members (2013 and after)	\$100	25	\$2,500
Associate members	\$75	22	\$1,650
Out of state members	\$100	33	\$3,300
Student members	\$25	2	\$50
Sustaining members	\$125	7	\$875
Gross Income			\$25,795
Less NSPS Dues (at \$50/full member)			-\$4,250
<b>Total Income</b>			<b>\$21,545</b>

What will we do with the dues increase?

- Rebuild our capital reserves
- Offset increasing conference expenses, so fees remain as low as possible
- Continue offering group discounts to VSLS education programs

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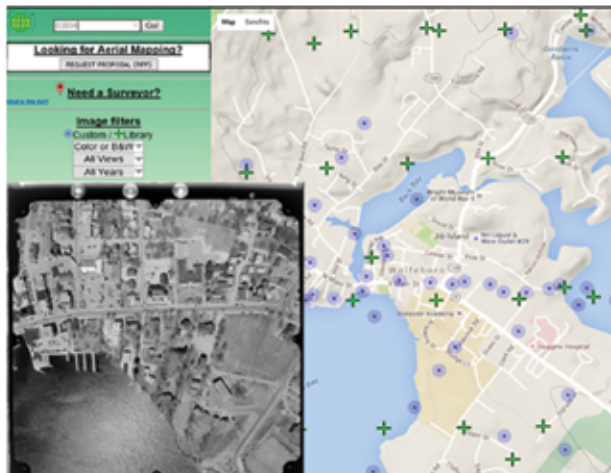
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# NSPS Update: Spring 2018

BY PATRICIA KULES, PROXY FOR  
GAYLE BURCHARD, NSPS DIRECTOR

The last NSPS meeting was held in Las Vegas in February. Although we were in a Las Vegas hotel and casino, the meeting and conference rooms were similar to many other conferences I've been to. NSPS tries to keep expenses down by sharing meeting space with other conferences. This time the space was shared with West Fed, an organization of mostly western states, similar to what we're trying to do with NESS.

The Public Relations Committee held its annual PR contest and considered projects of any size. These included brochures, websites, advertising, job fairs, and presentations – anything that educated the public about surveying

or promoted the surveying profession. NSPS has a video to promoting surveying and we had a discussion about possibly adding state specific sections to the existing video.

The Young Surveyors Group is very active and enthusiastic. We should facilitate using their members for career days and other interactions for those that might be interested in surveying. The FIG Young Surveyors group will be meeting with NSPS in October in Maryland.

National Surveyors Week was the last week of March, and Global Surveyor Day was March 21.

The immediate past president will represent the NSPS members not

associated with a 100% state society.

Government Affairs is actively looking for legislation or events that would concern surveyors. The former Light Squared issue is back. A private company is trying to control frequencies that are very close to and may interfere with the GPS frequencies.

Workforce Development is working to update its publication, "The Future of Surveying." They are also working on online education for those that might become surveyors who started out with other backgrounds.

There was some interesting discussion about the February 23 celebration of Terminalia. See the Wikipedia definition below.

## Festival Honors God of Boundaries

Terminalia was an ancient Roman festival in honour of the god Terminus, who presided over boundaries. His statue was merely a stone or post stuck in the ground to distinguish between properties. His worship is said to have been instituted by Numa who ordered that every one should mark the boundaries of his landed property by stones to be consecrated to Jupiter Terminalis, and at which every year sacrifices were to be offered at the festival of the Terminalia.<sup>1</sup> On the festival the two owners of adjacent property crowned the statue with garlands and raised a crude altar, on which they offered up some corn, honeycombs, and wine, and sacrificed a lamb<sup>2</sup> or a suckling pig. They concluded with singing the praises of the god.<sup>3</sup> The public festival in honour of this god was celebrated at the sixth milestone on the road towards Laurentum<sup>4</sup> doubtless because this was originally the extent of the Roman territory in that direction.

The festival of the Terminalia was celebrated a. d. VII. Kal. Mart., or the 23d of February on the day before the Regifugium. The Terminalia was celebrated on the last day of the old Roman year, whence some derive

its name. We know that February was the last month of the Roman year, and that when the intercalary month Mercedonius was added, the last five days of February were added to the intercalary month, making the 23d of February the last day of the year.<sup>5,6</sup> When Cicero in a letter to Atticus<sup>7</sup> says, *Accepi tuas litteras a. d. V. Terminalia* (i.e. Feb. 19), he uses this strange mode of defining a date, because being then in Cilicia he did not know whether any intercalation had been inserted that year.<sup>8</sup>

The central Terminus of Rome (to which all roads led) was the god's ancient shrine on the Capitoline Hill. The temple of Jupiter, king of the gods, had to be built around it (with a hole in the ceiling as Terminus demanded open-air sacrifices) by the city's last king, Tarquinius Superbus, who had closed down other shrines on the site to make room for this prestigious project. But the augurs had read into the flight patterns of birds that the god Terminus refused to be moved, which was taken as a sign of stability for the city.<sup>9</sup>

—from Wikipedia



**The Feast Before the Altar  
of Terminus, by Giovanni  
Benedetto Castiglione (1642)**

### NOTES

- 1 Dionysius, Roman Antiquities II, 74
- 2 Horace, Epodes II.59
- 3 Ovid, Fasti II.639, &c.
- 4 Ovid Fasti II.682
- 5 Varro, L. L. VI.13, ed. Müller
- 6 Macrobius, Saturnalia I.13
- 7 Cicero VI.1
- 8 Calendarium, pp. 229, b. 230, a.
- 9 Livy, Ab urbe condita I.55





February 15, 2018 • AIV Building, Montpelier, VT • 6 p.m.

This meeting was called to order at 6:04 P.M. In attendance were Mark Day, Nate Yager, Lisa Ginett, Gayle Burchard, Becky Gilson and our Administrator: Kelly Collar. Absent: Keith Van Iderstine and Paul Hannan. Also attending were John Adams of VCGI and Joe Flynn, L.S.

## VCGI DIGITAL REPOSITORY SURVEY

John Adams of VCGI attended this meeting to discuss the results of the recent survey regarding what the proposed digital repository of the statewide parcel mapping program should contain. There were 56 surveyors who responded to the survey, which was sent to the VCGI list of GIS professionals and the VSLS membership. The VSLS ExComm talked about the survey in reference to how geo-referenced data would be submitted. Most survey respondents agreed that state requirements of a survey for a subdivision or boundary line adjustment would be a good idea. Putting that requirement in place would require legislative action. Kelly will put the VCGI survey results in the next "Cornerpost".

VCGI is looking at work flow for updating the parcel mapping. Vtrans already has methods for keeping track of their surveys. VCGI is looking at software for use in the project. They have initiated a Parcel Advisory Board, which will include representatives from the League of Cities & Towns, municipalities, surveyors, and pertinent state agencies.

## VERMONT CORS ISSUES

Joe Flynn attended the meeting to speak to the group along with Dan Martin (who attended by phone) regarding the recent loss of the VT CORS network, which was down for several days. There is currently only one person, Brad Herring of Vtrans, who knows how to care for and thus restart the network. Dan says that it is a "use at your own risk" network, but with the ever-growing importance of the network, it might be best if someone at Vtrans was assigned to care for it more full time. Dan mentioned that, if you are planning to use the network, you can check its viability by going to the VOLGIS, looking at the Vector web page and searching for "sensors." Dan will write up a short article for "The Cornerpost." Mark will write a short email to Rob White, the Director of Right-of-Way at Vtrans, informing him of the situation and asking for his assistance in addressing CORS' reliability.

At Joe's request, Dan gave us a short history of the VT CORS network. The network was started to facilitate the survey work to support the installation of the fiber optic network along Vermont's interstates. Various static GNSS observations were required to provide control for lidar and flight work along the interstate corridors. Once this was completed, the State approved filling in the other CORS stations. With the exception of the UVM CORS station, all of the other CORS stations are owned by the State of Vermont and are all housed at State or Municipal buildings or VTrans locations.

## SECRETARY'S MINUTES

Minutes for the Executive Committee meeting dated January 18, 2018 were reviewed. Upon motion duly made and seconded it was unanimously RESOLVED: to approve the minutes of the January 18, 2018 meeting.

## TREASURER'S REPORT

Treasurer's report for the period of Jan. 1 to Feb. 13, 2018: Total income for the period is \$ 15,025.05. Total expenses are \$ 9,125.25 for a Net Income of \$ 5,899.80. Bank Account Total = \$ 60,555.61. At this time approximately 74% of membership dues have been paid.

## ADMINISTRATOR'S REPORT

Kelly just met with the Program Committee and informs us that the spring seminar on April 20th at Lake Morey will have 4 hours of credit in the morning, with Ray Hintz speaking on GPS for Boundary and Construction surveys, and 3 hours of credits in the afternoon with Tim Patch speaking on large project management.

The fall seminar will be one day long only and will be held at the Hilton Garden Inn in Lebanon, N.H. There will be 4 hours of credits in the morning: Michael Carter from Doucette Survey will speak about scanning for 3 hours, and we will have a 1-hour discussion of possible rules changes for the Vermont Board of Land Surveyors. In the afternoon, we will have 4 hours of case studies with Ryan Cloutier and Joe Flynn.

## OTHER BUSINESS

Paul Hannan has followed the Adverse Possession Bill that was broached in the legislature, and he met with the bills' sponsor to discuss the VSLS position against removing Adverse Possession laws. Paul reports that it appears that the bill has a great deal of opposition from attorneys as well as VSLS and is not likely to go further.

Mark will be writing a short contract for Ryan Downey regarding VSLS requirements for his keeping Maurice Winn's records in his possession although they are VSLS property. The group discussed making more available the records that were scanned by Dibo several years ago. We discussed whether there was a second hard drive of these scans, in addition to the one that Brad Holden oversees. This issue needs to be researched further.

There being no other business the meeting was adjourned at 7:39 P.M.

The next Executive Committee meeting will take place on March 15, 2018.

Respectfully submitted,  
Lisa Ginett, VSLS Executive Committee Secretary



**March 15, 2018 • Conference Call • 6 p.m.**

This meeting was held by conference call and was called to order at 6:02 P.M. In attendance were Mark Day, Nate Yager, Lisa Ginett, Gayle Burchard, Becky Gilson, Keith VanInderstine and Paul Hannan and our Administrator: Kelly Collar.

### **SECRETARY'S MINUTES**

Minutes for the Executive Committee meeting dated February 15th, 2018 were reviewed. Upon motion duly made and seconded it was unanimously **RESOLVED**: to approve the minutes of the February 18, 2018 Executive Committee meeting.

### **TREASURER'S REPORT**

Treasurer's report for the period of Jan 1st to March 13th 2018: Total income for the period is \$ 15,425.00. Total expenses were \$ 13,271.93 for a Net Income of \$ 2153.07. Bank Account Total = \$ 57,276.00. At this time approximately 75.5% of membership dues have been paid.

Video update: Brad reports that the VSLs video has been edited with 6 good minutes of video worked up. Brad and the videographer have decided where to put the script and Brad is writing the script. He hopes to have the video ready to preview at the Spring Seminar.

### **ADMINISTRATOR'S REPORT**

Kelly reports that "The Cornerpost" is printed and will be mailed out tomorrow. Registration for the Spring Seminar is now open. Kelly has reserved the Hilton Garden Inn for our fall conference on September 14th. The fall conference will be from 8:00 AM to 5:00 PM and Tim Rockwood will host a bonfire at this house that evening.

NCEES update: Joe Flynn has reported on the spread sheet sent by NCEES (and the group received copies of the spreadsheet for review) detailing many States responses to recent questionnaire about licensure in their states. The spreadsheet shows what types of surveys different states include as needing licensure and is currently preliminary only. VT is one of the only states that regulates only Boundary Surveying. NCEES is trying to decide whether to go back to their older format of modular testing. This pertains mostly to test questions regarding Public Land States versus Colonial States (and might also divide out for Photogrammetrists). Currently surveyors are tested on both public and colonial boundary issues but very few surveyors would be working in both types of states. NCEES is looking for input from the State of Vermont on this issue. Joe would like this information to be presented at the Spring business meeting but the group decided that they would put a survey out on line instead of taking time at the business meeting to air this issue.

### **OTHER BUSINESS**

Brad has been in touch with Mark Day about the hard drive containing all of the scans made by DiBernardo Associates for VSLs. Brad states that we can come and pick up the hard drive (the only one) at any time. We need to decide what to do with it. It should be a project for the Preservation Committee which has not yet met. One idea is to split the contents on the drive by towns and have one of each of the three Preservation Committee members organize the data further. Kelly offered to get in touch with Scott Taylor, Malcolm Moore and Larry Walters to arrange a meeting with them, Brad and Mark to begin to move forward on this enigmatic process.

We reviewed Mark's letter to Ryan Downey in reference to his guardianship of Maurice Winn's survey records given to the VSLs. The idea is that Ryan will create the data and VSLs will provide access to the data, maybe on our Website. It was proposed that Ryan work with the Preservation Committee in order to have the Indexing of the scanned Winn maps have some continuity with the Indexing of the DiBernardo scans. Mark will send out a copy of the letter with the proposed addition(s) and upon review, send it to Ryan.

Paul Hannan reports that to the best of his knowledge the Adverse Possession Bill that was broached in the Legislature is not likely to go forward.

Keith VanInderstine reports that the Boy Scouts are requesting that we help them run a surveyors merit badge. Keith thinks that they will be asking for one 8 hour session during STEM week, August 6th through 10th. The course will include a 5 station traverse run, a level run and some topographic shots. They will be doing the traverse calculations and mapping by hand. Keith would like to see a ratio of 1 teacher to 5 boys and will need some equipment and at least one person to help run the course. Mark volunteered to help but we may need more depending on how many sign up for the merit badge.

There being no other business the meeting was adjourned at 6:52 P.M.

The next Executive Committee meeting would take place along with the General Membership business meeting at the Spring Seminar at Lake Morey on April 20th.

Respectfully submitted,  
Lisa Ginett, VSLs Executive Committee Secretary



May 17, 2018 • Conference Call • 6 p.m.

This meeting was held by conference call and was called to order at 6:01 P.M. In attendance were Mark Day, Lisa Ginett, Gayle Burchard, Becky Gilson, Keith Van Iderstine, Paul Hannan and our Administrator: Kelly Collar. Absent: Nate Yager.

## SECRETARY'S MINUTES:

It was decided that the Minutes for the Spring Seminar Business meeting dated April 21, 2018 should not be voted on until the next Business Meeting in September.

## TREASURER'S REPORT

Treasurer's report for the period of Jan 1st to May 10th 2018: Total income for the period is \$ 29,817.88. Total expenses were \$ 27,155.72 for a Net Income of \$2,662.16. Bank Account Total = \$ 58,349.04. The Spring Seminar had a profit of \$ 6,853.00.

## ADMINISTRATOR'S REPORT

Kelly discussed the feedback from the Spring Seminar which was mostly positive. She also suggested, and the group agreed, that it would be beneficial to some of our members who experience trouble hearing the presenters if VSLS purchased a blue tooth microphone and possibly several headsets (or people could bring their own headsets) to be able to facilitate everyone hearing clearly. Kelly will look into the cost and report next month. It was also requested by one member that Executive Committee members have microphones during the business meeting. Kelly will attempt to provide some microphones for the Executive Committee's use during the meetings.

The Fall Seminar will be held in West Lebanon, NH at the Hilton Garden Inn on September 14th. The Seminar day will offer 8 hours of PDH credits: there will be 3 hours in the morning by Michael Carter of 3D Mapping on scanning, 1 hour (also in the morning) on changes to the VT Board of Registration for Land Surveyors rules and 4 hours in the afternoon by Ryan Cloutier & Joe Flynn on Highway case studies.

It was mentioned that for the first time the VT P.E.'s will require some educational credits in order to renew their licenses. The VT branch of the US Board of Civil Engineers is not very active and so far is not presenting any educational programs for these credits. Perhaps the VSLS can present some programming (and submit it to the Engineering board) to provide some credits toward their new requirements.

## VIDEO UPDATE

Mark reports that Brad and the videographer shot some final scenes for the VSLS video at Mark's office last Friday. Brad is putting on the finishing touches and expects to have the 6-7 minute (longer than the originally planned 2-3 minute) video

ready to send to the Executive Committee to review in the near future.

## NCEES UPDATE

Joe Flynn sent Kelly a poll for potential changes to the NCEES exam rules and questions. He would like us to send the poll to VSLS members for their feed back. Paul mentioned that several of the questions could use some clarification. Mark will fine tune the poll questions and send them out to Ex Comm members for review.

## OTHER BUSINESS

Paul discussed the NSPS article that he sent out to the Ex Comm members about unlicensed practice. Although the article was a cautionary tale only Paul presented a real world VT example about a VT business (VT Land Design) who is advertising Land Surveying and Civil Engineering services although the business does not employ any Registered Land Surveyors or PE's. It is against Board of Registration (for Land Surveyors) rules to advertise land surveying services unless there is an RLS on the company staff. The group agrees that we should send a letter of complaint as a society to the Board of Registration for Land Surveyors about this situation and should copy that letter to the Civil Engineering Board and also the Attorney General's Office. We discussed a similar situation with Luke Hartt who was advertising surveying services and using an out of state surveyor (Steve Brooks who now resides in Alaska) as his licensed survey practitioner. It is believed that Luke Hartt took his site down upon receiving a letter of similar complaint.

We spent some time at the end of the meeting discussing the projected dues increase. It was decided that we need to put some sort of chart in the next "Cornerpost" showing where the requested dues increase will be used and why it is needed. Keith will get together with Kelly and they will draft a chart showing the requested increase's usage. The group agreed that we need to review the requirements for life membership in lieu of making the life membership somehow tied to retiring from full time surveying. We see that there are members who have asked for and been granted life memberships under the current rules that are still working full time and should be willing and able to pay the full members dues until they retire. We will try to meet in person next month to review and hopefully revise the life membership rules for the future. We decided that we will propose a dues increase of \$50.00 per year for full members and all others will increase by \$ 25.00 per year.

There being no other business the meeting was adjourned at 7:10 P.M.

Respectfully submitted,  
Lisa Ginett, VSLS Executive Committee Secretary





## Spring Seminar • Lake Morey Resort • April 20, 2018

This meeting was held at the Spring Seminar at Lake Morey, Vermont and was called to order at 1:03 P.M. In attendance were Mark Day, Nate Yager, Lisa Ginett, Gayle Burchard, Keith VanIlderstine and Paul Hannan and our Administrator: Kelly Collar along with the general membership.

### SECRETARY'S MINUTES

Minutes for the Annual Business meeting dated December 15th, 2017 were reviewed. Upon motion duly made and seconded it was unanimously RESOLVED: to approve the minutes of the December 15, 2017 Annual Business meeting.

### TREASURER'S REPORT

Treasurer's report for the period of Jan 1st to April 18th 2018: Total income for the period is \$ 28,849.00. Total expenses were \$ 18,338.9 for a Net Income of \$ 10,510.10. Bank Account Total = \$ 66,126.36.

### VIDEO UPDATE

Brad reports that the VSLs video has been revised to contain a segment filmed in the Land Records and that the text is written. He reports that the video is 80% complete and we hope to have it up on the Website next month.

### EDUCATION FOUNDATION

At the recent Education Foundation meeting on April 17th at the AIV building Pete Chase informed us that the vote taken at last year's Annual Business meeting for the member at large was incorrect. It was thought that Norm Smith's term had expired and he was voted in for another term. It was discovered that it was Pete's term that had expired. A re-vote was required. Upon motion duly made and seconded it was unanimously RESOLVED: to rescind the unnecessary vote for Norm Smith and vote for Pete Chase as member at large for one term of three years retroactive to last December. Mike Raboin will complete his term in 2018 and Norm Smith will complete his term in 2019. Both say that they will not stand for re-election. Pete says that the Education Foundation needs help!

NCEES update: Joe Flynn is a member of the NCEES exam writing committee and has asked for member feed back on certain elements of the exam questions. Kelly will put out some information and a brief poll to the membership.

### OTHER BUSINESS

One VSLs member questioned what exactly the VSLs gets for its membership in NSPS. Trisha mentioned that we get help on the national level with lobbyists to push pro surveying agendas, help with work force development and that NSPS makes various insurance available to its members.

Keith Van Ilderstine reports that the Boy Scouts are

requesting that we help them run a surveyors merit badge during their STEM week, August 6th through 10th taking place at the Boy Scout camp in Eden, Vermont. The date for the Surveying merit badge is August 7th of this year. Keith currently has 16 boy scouts signed up for this merit badge and may need further assistance and equipment to teach the course.

The group discussed the plat scanning. VSLs has purchased two hard drives to make several copies of the plats and maps that have currently been scanned. It is thought that we have around 20,000 scans but there are many repeats. Scott Taylor has agreed to be on the Preservation Committee. It is hoped that the Preservation Committee will find two more members and start to Index the scans by County, Town and perhaps by Highway. The scans now contain too much redundancy and not enough organization. President Mark Day reported briefly on Maurice Winn's records.

A brief discussion about dues was held with Mark Day giving some comparisons of what other state Societies in our New England area pay for yearly dues. Vermont surveyors pay the lowest dues in New England. We will warn a dues raise in the next "Cornerpost" so that we can discuss the issue at our fall Seminar and vote on the dues raise at the December Annual Business meeting. It was suggested by the membership that VSLs puts out a simple pie chart showing our projected expenditures for the next year.

Gayle asked if anyone would be interested in VSLs offering Webinars in order to obtain the necessary PDH to maintain licensure. Only several hands were raised in the affirmative.

There being no other business the meeting was adjourned at 1:31.5 P.M.

Respectfully submitted,  
Lisa Ginett, VSLs Executive Committee Secretary



## ATTENTION MEMBERS!

Executive Committee meetings are held on the third Thursday of every month. All members are welcome to attend. For more information, email [kelly@vsls.org](mailto:kelly@vsls.org).

# Lost in North Newark!

BY DICK BOHLEN, L.S. #7, *retired*

**U**P IN THE NORTHERNMOST corner of the town of Newark, there is a very interesting parcel of ground. It used to contain almost 700 acres of land and was owned and farmed by one guy in the 1800s. I have been told that he had two sons that wanted to farm on their own property, so he subdivided the property and gave each son a couple hundred acres. It must have been quite a family operation back then, and I suspect that they all helped each other out with all of the farm work. I worked on the survey of the entire property in 2002 and was able to find the cellar holes and barn foundations of the three farms, as well as their sources of water. Pretty exciting for a history buff like me! There is a "thrown-up" town highway running through the property that I could drive on, as well as good logging roads in the remote parts of the parcel.

The entire 700 acre property came into the title of a Laramee in the late 1900s and fell into the title of his wife, Emelia Laramee, upon his death. Her son, Roger, contacted me for the survey work. He was the one that was looking after the property. Roger had done quite a lot of logging on the property, built a hunting camp there, and had marked all of the bounds with red flagging. Emelia had moved into the village of West Burke. I told Roger that I had done survey work for the three brothers of Three Brothers Garage in Lyndonville on property that bordered the Laramee parcel and was familiar with the area.

I asked him to take me to see most of the corners, and that I could piece the survey together as he described it to me! (Big mistake!) He did that, and I was confident that I could do the work from what he had shown and told me!

half mile! Not so, the reading called for the truck at 2 ½ miles! Hello! How can that be? What to do? Gets cold after the sun goes down in late October! (I will never know why I did not go back to my rig, just a ½ mile back along the line).

**"Light was failing fast, it was getting colder, we were getting pretty tired, and I was really scared for the first time ever doing the survey work that I loved so much!"**

We were going to do a compass and tape survey of the perimeter, and Bill Willis worked with us to establish "control points" at various points on the perimeter. The bounds were also marked with wire fences, stone walls, and blazed lines. I did the compass and tape work with Charlie Moulton, my helper at the time and also my best friend. Our procedure was to take two 4-wheel-drive vehicles to the job and leave one close to where we expected to come out at the end of the day, and the other one near our starting point.

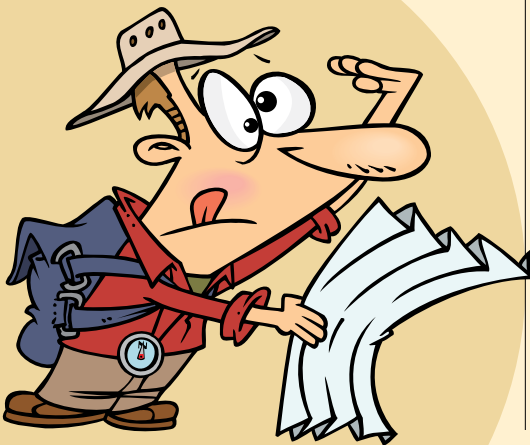
We started the survey by running on the lines of my earlier survey for the three brothers, and then onto the bounds of Laramee. The first and second days went pretty well and we had run about a mile and a half of line by the end of the second day. The third day (It was sunny and cool, and a nice day in mid-October) we parked Charlie's truck at the start of an old logging road near where we planned to come out. I took a GPS reading at Charlie's truck and planned to take a reading at the end of the day to get the direction and distance to the truck. We took my Chevy Blazer to near the start of the day's work. The survey went well that day along stone walls, then wire fences, then blazed line and all the while we were following Roger's flags. The last couple of hours, the blazes and flags led us into swampy ground and brooks that I wondered about, and I also kept looking for a turn to the right, but there was the flagging! So, on we went until about 3:30 and quitting time. We set the final point and I took out the GPS receiver and expected to find the truck within a

So, being bull-headed and stubborn and not wanting to spoil our "battle plan" for the day, I led us on the 2 ½ mile trek to Charlie's truck. We worked through dense new growth (what we call pucker-brush), through swampy land, up and over ridges, over small brooks, etc.

Charlie called to me once and said that he was stuck in the mud and couldn't get out! I went back and was able to pull him out...and on we struggled. We were both in our seventies, and Charlie was lame in his legs. But, regardless, on we went toward his truck. We came to a big blow-down once, and I considered leaving Charlie there under cover of the root-ball, going for help, and coming back for him! Nope!

Determined...on we went, up, over, down, along, up, over, down! Light was failing fast, it was getting colder, we were getting pretty tired, and I was really scared for the first time ever doing the survey work that I loved so much! Finally, yes finally I did what I should have done long before, I bowed my head in prayer! "LORD, this is really bad! I desperately need your help! Please get us out of here and to that truck! I am pretty scared and to the end of my feeble human rope!" Guess what? Not fifty feet from where I said that prayer, we hit the logging road that led to Charlie's truck! We finally got out and to warmth and lights!

Turns out I had missed a corner that Roger had told me about but hadn't shown me. The last of the survey work was off of the property and away from Charlie's truck. Why did I not go back to my rig when I took that reading?!





# Annual Fall Conference

8 PDH

Friday, September 14, 2018 • Hilton Garden Inn, Lebanon, NH

## PROGRAM SCHEDULE

- 7:15 AM** Registration & Continental Breakfast  
**8:00 AM** 3D Laser Scanning and Applications  
**11:00 AM** Discussion: Vermont Board Rules  
**12:00 PM** Luncheon & Business Meeting  
**1:00 PM** Highway Case Studies  
**5:00 PM** Closing Remarks

REGISTRATION FEE	Through Sept. 4	After Sept. 4
Member-in-Good-Standing of VSLS or kindred association*	\$175.00	\$200.00
Life Member	\$131.25	\$156.25
Non-member technical staff attending with member	\$148.75	\$173.75
Three attendees from same firm (one must be a member)	\$148.75	\$173.75
Non-Member	\$250.00	\$275.00

\*Must be current with dues to qualify for the member rate.  
Education credits pre-approved in Vermont and New York.

**HOTEL INFO:** The Hilton is located at 35 Labombard Road in Lebanon. \$159 discounted room rate. To reserve, call (603) 448-3300 and mention the VT LS conference.

## 3D Laser Scanning and Surveying Applications (3 PDH)

*Presenter: Michael Carter, L.L.S.*

This presentation will give surveyors a solid working familiarity with terrestrial 3D laser scanning and its many applications in land surveying. We will illustrate 3D laser scan data from a variety of recent topographic, boundary, and construction surveys to help surveyors understand how and why this technology is being utilized in those areas. We'll explore specific examples of how the 3D laser scan point cloud data is used to create deliverables for clients and discuss the technology's costs and cost effectiveness.

## Possible Changes to Vermont Board Rules (1 PDH)

VSLS President Mark Day will facilitate a discussion about whether changes are needed in the rules governing the profession of land surveying in Vermont.

## Case Studies: U.S. Route 7 and Wallace Road (4 PDH)

*Presenters: Ryan Cloutier, L.S. and Joe Flynn, L.S.*

U.S. Route 7 reconstruction has been an ongoing project for VTrans for the past couple of decades. VTrans performed several advance surveys of U.S. 7 in accordance with 19 V.S.A ss.32-34, but was subsequently involved in two court cases challenging the state's location and width of the historic right of way. This talk will explore the specifics of each case and discuss why the outcomes were different. On Wallace Road, a town-commissioned land survey has yielded some answers in a neighborhood dispute, but it has also raised new questions. This case study will incorporate the processes and techniques used in assembling the record documents, the field survey, the evaluation of the physical evidence with the record documents, the criteria that created the conclusions, the public and municipalities opinions on the outcome and where the survey stands at this time.

**Registration** (please complete this form and mail it with your payment, or register online at [vsls.org](http://vsls.org))

Name \_\_\_\_\_

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Montpelier, VT 05601-0248. Questions? [kelly@vsls.org](mailto:kelly@vsls.org)





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