

Appendix "B" - Q25: Respondent Additional Comments

Comments submitted by the respondents are presented "as-is"

Adhere to the rules and standards of the profession at all times.

Kids decide by 5th grade to enter a science related field or not. Spending money after that point needs to be targeted at only science/math folks or it is a waste. (you lumped K-12 in one category) You didn't address a major issue that I see as a young business owner and that I heard at my state convention this year. "Don't retire till you die" needs to stop. How else can the new folks come along. There are waaaaaay to many people over 70 still surveying and charging not much. Your survey didn't address that. Us new folks had to buy equipment at 21st century prices and haven't depreciated them yet. Old folks need to transition to QC and training roles to let the young folks (who want to be very independent) start up. I find it sadly laughable that you in no point of this address the gender disparity in the profession and only mention diversity in one place. I have met one non-white. I am one of 3 active Lady PLS in WV and 1 of less than 10 in KY, TN, and GA. Look at Europe's surveyors, look at equipment reps. They have ladies. Are we really that backward???? We've got to get 50!!!% of the population to start considering this profession or we really won't meet demand. (really it's more like 80% of the population that we are probably excluding since we have basically no women or minorities and that the majority race inside of 5 years will be hispanic/nonwhite. Do the math. One particular partnership you may not have realized is with the RLA-Registered Land Arch college classes. They teach an entire class on contours. I encourage all college folks I know to take it. You also did not address political lobbying. We as a profession basically don't do this. Most of the other professional do a much better job of this than we have. I strongly believe that's why our area of practice has been eroded by other related entities and will continue to be. (GIS groups, SW groups, etc) Also, no big goals are set in this discussion. If we set a political goal that we can get big support (and easier, cheap press), such as ACCESS TO CHINA'S COMPASS GPS CONSTELLATION, I think the general population would then realize how high-tech we really are and all sort of positive fall-out would occur. I would personally love to help negotiate that, BTW. Seriously. -Owner of 8 person Survey/Engineer firm, just celebrated 5th anniversary -working to get all my staff licensed. one is sitting currently.

It seems that surveying is becoming a "lost" profession due to advancements in technology. Surveys are not required anymore on many projects, so there is not a "need" for as many surveyors. If a licensed professional surveyor was required to be involved in more projects (such as GIS), then there would be more jobs for surveyors...as well as competitive wages. Also, it appears that the dbe/mbe/wbe requirements have changed the dynamics of surveying over the past 5-10 years. That seems to be more important than anything else when it comes to obtaining projects any more...whereas it should be about knowledge, experience, and integrity. Something to think about.

1. remove construction layout from the realm of surveyors 2. end ALL relationship between surveying and unions; significant conflict between professional and "tradesman"; 3. work to ensure full compliance of QBS selection in public work, and PPP work. promote value of QBS on the private side, too.

Can I have your address and dates and times of future events please?

There is misunderstanding among the general public as to what constitutes a professional land survey. Home Buyers are signing disclaimers at closing stating that they have verified survey boundaries on the property they are purchasing and that they will be responsible for any encroachments that may occur. This is a form of surveying without a license and should be addressed. Also Real Estate Professionals are declaring that tax map drawings are actually a bonified land survey. Also Land Surveys are being duplicated without the Professional Surveyors permission over and over for new transactions and conveyances. All of these problems need to be addressed if we truly want to protect the future of our Profession and the safety and welfare of the Public.

Surveyors need national marketing to make the general public aware of the profession and its value. if we create a national ad campaign (such as the Realtors have) the recruits will follow.

Surveying must continue to attract dedicated people who have a professional desire to do professional work. But educational requirements must allow significant credit for apprentices working under professional mentors and the specific number of years of formal education required needs to be thrown out the window. If the entrance exams do their job, the uneducated would never get into the profession. We need to form a lobbyist group to work at rescinding such silly laws like the "learned profession" concept has created (designed by politicians, lawyers and judges who are nothing more than over-stuffed lawyers). We just don't need to be led around by the nose by laws and judgements created by law profession idiots. Other than that comment, the concepts of promoting surveying as a unique profession as delineated herein are fully supported.

Recruiting focus - Junior College Responsibility for answers provided to clients

It seems we are dancing around re-branding the profession of surveying by avoiding that third rail name, "Geomatics". As a student at CSU Fresno in the mid 90's (in my mid 30's at the time), for the four years that I attended, I had the opportunity to participate in outreach to high schools and 2-year colleges through school visits, career days, professional conferences. The University had just changed the name of the program from Surveying Engineering to Geomatics Engineering. The first career day that I worked our program booth had the name Surveying Engineering on the banner and we had a difficult time steering students and their parents to the booth. They don't want their kids to go to a 4 year program for a trade. For the next and successive opportunities, the banner had been changed to Geomatics Engineering and the foot traffic increased dramatically. Parents and students were suddenly interested in this new "discipline" that was still, it's core, the same historic and honorable profession that we love and by re-branding it we were able to share the role it has played in the order of society the world over from the beginning of ordered society. The public's perception (at least as I have observed it) is that the term surveyor, professional or otherwise, is a term associated with a tradesman and not a professional. Re-branding just presented more opportunity to dialogue about our profession. This played out time and again when I spoke at high schools at the request of guidance counselors and teachers (occasionally still do it today in various venues). I have also come to believe that the term "Geomatics Engineer" better reflects the changes in who we are in this technologically driven world, with the addition of very technical equipment and procedures such as Terrestrial and Aerial LiDAR, GNSS, Digital Photogrammetry, etc. The monuments we observe may not always be on the ground but may be orbiting the globe and need to be mathematically located with each survey or our measurement platform may be mounted to the bottom of a jet mapping large areas with each measurement being made at the speed of light. We can make millions of three dimensional measurements with a rotating cylinder emitting laser pulses from a machine that is lighter than the total stations we still use, and do it in minutes! I am proud to be a surveyor and carry that PLS title at the end of my name, and most days, that is how I introduce myself as a Land Surveyor; however, I have also found the value of being a Geomatics Engineer as well, (especially in court, for forensic surveys). At times, using this title has brought me ridicule (some friendly, some not) from some in my own profession who see a re-branding as a betrayal of all that have come before us. I believe it is my duty to adapt to this catch phrase sound bite digital world to save my profession and demand that it receives the respect it has earned from the beginning. We are not the only profession that is being re-defined as an example just look at the medical field, MD had many disciplines/specialties within that primary name. Re-brand we must, not to diminish our history, but prevent us from becoming history. Submitted Respectfully

Educators at existing institutions need to work to recruit students into the program, The need better salesmanship.

I noted that many of the questions and thoughts appear to be from those with college degrees. They often think that button pushing (hi-tech) resolves problems. Also the inclination is a degree requirement for surveyors. I think this is wrong and leaves out the opportunity for those working in the field to advance. With PLS average nationwide being in the \$67k range for salary it is hard to make the claim it is a well paying profession. Therefore how do you justify spending \$30k and up for a degree when you won't be making diddly-squat in comparison to engineers, etc. I also believe that many of the professions noted, real estate, construction, engineering, already have a fairly good knowledgebase of what surveyors are and how they can help. Agreed this is NOT ALWAYS the case. I have been to MANY CE gatherings thru the years. Most have been an exercise in staying awake. Needless to say I believe these are typically a waste of time. I have encountered a FEW good and interesting speakers but definitely not many. I think degree only paths for the future of surveying lends to the death of the profession due to academicians not knowing how to survey....most have never been surveyors. Also this lends itself to non-licensed "professions" such as GIS (Get It Surveyed) offering solutions without taking true consideration of the public welfare except the disclaimer on their Cartoon-like Maps. The questions and apparently the "FORUM" are leaning towards taking the surveying profession along a path in which it has never traditionally traveled. Many things that should have been SURVEYING were captured by ENGINEERS (controlling the BOARDS of Licensure) and others even though BOUNDARY and measurement, the purview of PLS's, is definitely involved. Look at FEMA forms, Architects are allowed by FEMA to do an elevation report- RIDICULOUS !. I could go on.....

I come from a background of learning by example and was very fortunate to have had some good mentors that demonstrated the importance and significance of land surveying. Not everyone picks up on the problem solving part of it, but that's what pulled me in. Advances in technology has been a double sided sword in that we have gained so much in our ability to do more in less time, but then we lost the ability to work through the reasons for solutions that are solved by pushing a button on a keyboard. Now no one has time to mentor or recruit because we are too busy being productive.

I believe we need to look into including more areas of surveying under the scope of the licence. It used to be that surveyors did the surveying, now the construction companies and other organizations are doing the surveying, taking projects away and hurting our profession. You can't make a good enough profit doing just boundary surveying to justify the effort of getting a license. This is why people aren't "attracted". People are willing to endure the difficulty of becoming a surveyor IF the result is worth the work. We need to focus on expanding the scope of work that requires a license beyond just protecting the public in boundary surveying. There are other areas the public needs protecting.

Tiered licensing with mandatory continuing education is the way. We have too many people in our profession that won't continually adapt to change. Requiring a 4 year degree will be the death of the profession. Some of the worst licensed surveyors I know have a Geomatics degree.

Boundary surveying is our most professional task. A special licence should be required to perform boundaries, not merely the standard test. Many registered surveyors cannot boundary survey their way out of a wet paper bag.

I am primarily a lawyer-I believe student lawyers need to be made more aware of surveying and its tangents is and can be and how it can be used

To help recruit: Don't BS people about high paying jobs. Employment is cyclic and takes years to move up. Education: We already have too many requirements. Best way to bring in more people: Internship. Pay them and show them it's a cool job. Might work. History will bore the crap out of them.

Be careful not to overstep claims of good pay when some surveyors are not getting paid that well.

I needed further elaboration of some of the points to fully understand. A succinct and broad definition I have used for surveying is "primary mapping," meaning mapping & spatial information that is derived directly from physical observations.

Two things: You have to ask yourself what the future of the survey profession is. The ability to capture high accuracy data from a large variety of sensors is changing the industry dramatically. Unless surveyors avail themselves of these technologies, the growth of their individual businesses will suffer. The second thing; why in the world are more surveyors NOT involved in GIS? Who better to oversee, lead, and mentor GIS professionals than those who are formally educated in the measuring sciences? There are some surveyors who have embraced GIS, but the majority of them still look upon it with suspicion. By implementing GIS data capture services, the survey firm could expand their customer base and increase revenue when traditional survey tasks are not in demand.

While technology makes our jobs easier, it doesn't change our responsibility to follow in the footsteps of our predecessors. We are SURVEYORS, not expert measurers! We may be more precise today, but the original monuments are still without error and control the survey.

There should be better controls in place to protect the public in the State of Florida. There are many negligent surveyors that are not doing what they should.

Pertaining to the note: It is hard to get others to perceive that you are a professional society by using poor grammar in your writings.

Campaign/lobby against Title Insurance P.S. I'm not from NY but there was no option for Canadian Input

I don't think the "Survey in a box" in Canada is a land surveying promotional kit. I believe that licensure mobility needs to be addressed by the NCEES to the States, as future generations will be even more mobile than we are today. Boundary surveying should be considered the only practice that requires a State-specific exam, and non-boundary practice would be modeled by the current format of Professional Engineer license reciprocity.

Brilliant! Years overdue but I am tremendously excited to see that we are finally - as a profession - addressing this fundamental obligation to the profession. I think the work done thus far is both well targeted and boding great success. Looking forward to being part of the future of Surveying.

this is the worst, longest survey I have ever seen. Doubt if many bother with it.

Here in Brevard County Florida, surveyors are not viewed as professionals, rather trades and are lumped into the "Construction guys" Surveyors do not do anything to change this view and portray themselves as professionals. We are viewed as construction bums not professionals and are not paid accordingly

Advancing technologies are both a blessing and a curse to the profession. I started my surveying career in 1970 while in the Navy Seabees. I've witnessed staggering changes in the instruments, methods and procedures of how we perform our day to day task. A lot of the advances have been beneficial, some haven't. It seems that the software developers are in control of how we do what we do. The profession has succumbed to the idea we have to upgrade our software periodically which requires us to continually relearn how to do our job. The continual learning curve is expensive, time consuming and inefficient. By and large the only beneficiaries are the software developers. Surveyors as a group are their own worst enemy. This is one of the few professions where a person can be a sole proprietor without any employees. This leads us down the path of acting like contractors instead of professionals. As a group we don't regard our services as highly as we should. Nor do other professions, i.e. civil engineers who aren't also licensed as land surveyors and architects. We can't do what they can but they are partially licensed to do what we do.

The reality is surveying graduates are not being produced as in other professional based curriculums. The goal of the profession and educators to create a higher educated professional compared with the historical associates degree requirement has resulted in a gross shortage of surveying graduates. Requirements for professional registration need closely reviewed and modified to ensure professional registration is an option for those interested in a surveying profession. The idea of creating super surveyors needs cushioned to focus more rather on producing capable surveyors for which tasks are most commonly required by the public. The fact that the average age of registered surveyor is 58 in Pennsylvania should lend support to this opinion.

I have been surveying now for over 37 years and have seen a lot of changes, and the biggest thing I have seen and still continues today is doing a survey as quick as you can and get paid so as to move on to the next survey as fast as they can. There is no effort or pride in the surveyor to take the time to research, investigate and do the job right, no money in that I guess. No matter how many times it is a topic at seminars it still does not get through. And the public will hire the cheapest surveyor to do the job whether it's done right or not, somehow the public needs to be educated on the importance of the hired surveyor doing the job right and handing over a finished product to them with the confidence it was done right. But again the public will pay the least amount for a survey and the surveyor will undercut the next surveyor to get the job.

Land Surveyors need to start setting fees for service commensurate with the knowledge, experience, liability, etc. necessary to do the job properly. Low fees and less than professional work are very damaging to our chosen profession.

There exists a great lack of knowledge and understanding of the responsibilities and technical expertise required for performing surveying tasks within the general public as well as some of the other technical fields. This is but one area in which the profession may be improved as there are many. This forum covers the many areas for improvement very good.

The new generation of surveyors do not seem to see themselves as professionals. By this, I mean they do not dress professionally when not in the field. They do not participate in local service organizations. They do not seek positions on Planning Commissions or other real estate oriented agencies. In general, they act and look more like tradesmen than professionals. I must admit that my experience and observations are made in a rural community and I am an old retired fart. But at the height of my work career in the 70s thru 90s, we acted and dressed much more professionally than the current surveyors which I observe. Also, another point - Why try to include every measuring endeavor outside of the machine shop, in the definition of surveying? The scope of the "profession" should be limited to those endeavors which have legal or safety considerations. I feel it is not practical to attempt to include all the other measurement endeavors and use of all the ever more complicated devices being used by mankind.

We are heading in the right direction thanks to the NSPS and other related Forums.

I am of the opinion that our industry is in a race to the bottom. Focus is on quantity over quality and more and more companies, large and small, are becoming survey mills. Construction work in my part of the country is fairly lucrative so most surveyors and their crews spend a preponderance of their day as expert measurers. This takes them away from the true understanding and patience (and therefore prosperous execution) of boundary work which is quickly becoming a secondary trait. As I gain more experience, I find myself thinking that certifications for all different aspects of survey work is necessary. In many cases we are already heading there. An example of this is hydrographic work for which I have a lot of experience but are not able to get large projects due to lack of specific training and certification. I believe this is appropriate. Perhaps our trade needs to be broken into several aspects such as construction surveyor, boundary surveyor, cartographic, CFEDS, hydrographer, Aerial mapping, etc. Forcing licensees to acquire and maintain each cert will have them focus on what work is important to them.

Abound in Universities the Land Surveyor profession.

Land Surveying - If it were all Good Times, Every Jackass Would Be Doing It.

We must adjust our marketing to ages junior high to college level. This generation is much different than the older surveyors. The Army recruitment videos are able to capture the imagination of the youth. Perhaps a video interviewing surveyors as to why they enjoy their job and why they got into it and showing conflict resolution between owners and design of large projects with personal satisfaction. Surveying is everyday puzzle solving. I've given talks to junior high girls in science and helped with survey Merit Badges. Although I couldn't get any of my kids interested in following in their mother's footsteps.

My biggest concern is a lack of understanding by the general public in what it is we do. I believe education of our profession to the public is key to our lasting role as surveyors. Locally we used to have a section in the paper that had, "ask an expert" and it featured real estate people, lawyers and such...I always thought it would be cool to include a surveyor in this discussion, but alas that section has been discontinued...the paper route is probably the least desirable way to go since about everything is digital.

Land Surveying is my "second" career. (The first was in geotechnical engineering as a geologist.) In general, although land survey peers are enthusiastic and knowledgeable, overall, I find the majority have sub-professional communication skills. (I work at the State level, where I review and correspond with consulting surveyors.) Emails often are written with incomplete sentences or letters of correspondence are written where content is assumptive or too brief. Personally, I think the inability to effectively communicate our work with different demographics and other professions is a core problem. My answer leans to requiring some education, but from what I've observed it may need to be broadened to more than "surveying". A quality "education" should give a person the ability to not only "do their job" but also adapt with their chosen profession.

Being educated as a Professional Land Surveyor enough so that when asked to perform a job, you know what is needed to be that professional and also to know what people working under you are doing, not just sitting in the office on the computer. Education will help all surveyors make the same decisions on every single job, not just be expert measurers and will help avoid the pin-cushion effect that you find on some surveys.

Just by the questions seems to me you all already know the problem. Also, in testing we need to bring back open book just like engineering has along with their grading system. The ones that pass the national test is the book smart people. I know cause I know a lot of them and the ones that pass right away are book smart but please note THOSE ARENT ALWAYS GOING TO BE YOUR BEST SURVEYORS!!!!!! By the time we get to testing most everyone know their stuff or where to find answers. That is what you should be testing for not if someone who can memorize a book or not. You will get more surveyors that way. You can't expect lawyer type of business men or women to want to be in surveying and you need to know the type of people who love surveying. They all feel like they can't do the schooling. Look within our own industry. But please note, I am not saying take away the 4 year degree. We need that four year degree to keep us moving forward into true professionals.

Look to other countries to see how they do it. I've found very interesting information from Australia on definitions of surveying. We're not exactly like them, but it helps give a good perspective of how we are and how we are not. In the end we might find as a profession a better understanding of ourselves.

Survey monkey surveying - I gave internship programs a low rating because I was displaced by a WA State internship program: how could I as a crew leader compete with somebody who only costs the company eight dollars an hour? I did not find a state sponsored program to help place employees who are displaced by state sponsored internships. Regarding mentors, in my area there are some surveyors willing to mentor but many may see newcomers as a threat. This is also true in engineering. 19) "guarantor of spatial reality"-what is that? Thank you for your efforts and energy in supporting our field!

I believe we need to connect (improve our image) more with developers, engineers, realtors and others that have a hard time recognizing the art we as surveyors have in making what they see as black and white "fit" with the evidence on the ground. They need to understand that we have an obligation to reflect the evidence we find on the ground and written above numbers on a deed or tax map. And work on the perception that no 2 surveyors will ever come up with the same numbers. I have walked in the footsteps of many previous surveyors and while the numbers may vary the location is the same.

We need to attract the RIGHT candidates to the profession. As an individual licensed through experience as opposed to a 4-year degree, I feel that this profession has been both degraded by the degree requirement in some areas while enhanced in others. Too often I see degreed surveyors happy to sell "widgets" to the public as they are more interested in profit than producing a truly professional product. This kind of practice is damaging to the public and our profession and will be our undoing (well, part of it anyway). I bring this up only to point out that attracting additional people to the profession is folly if those new participants have no appreciation for the hard work that takes place in the field (or should I say that ought to take place in the field). On the other hand, I have seen the education requirement cause others to "up their game" in some cases. We should be realistic in our goals in assessing the future of our profession in light of the technological assault that we face and keep a firm foot in the past as technology has not yet been able to replace the knowledge, skills and experience of a competent retracement surveyor.

In regards to question 3, I was only able to make one choice in spite of the directions to "choose all that apply". I am the President of our state organization, (WCCS) and a member of the NACS

The bulk of Surveying is working with Civil Engineers. Since they rely on us to both layout and as-built their designs we need to be able to provide them with accurate as-built volumes, grades, etc.

I believe what is hurting our profession the most is the advancement of technology which allows the untrained and unskilled workers to perform a large amount of our services. The current GPS and laser equipment being used today is too advanced and Lidar is even worse. Today we can do in a day what used to take a week or more. We are advancing ourselves right out of work ! We need more legislation to prevent others without the training and skills to perform what we as surveyors are trained to perform.

Most important: "State Regulatory Support" Rural Area's Still in 1800's-1900 Century Range/Township Description repeat Stinks by Attorneys inaccurate as Hell for one's Diet

I am currently pursuing my PLS after obtaining my engineering degree years ago. I kind of have a solo approach to surveying, utilizing my knowledge and experience in how land use projects are developed and long term land uses (easements, etc.). In my experience, I have seen the surveying profession as a side-line to engineering and have seen it time and time again with industry. I have seen a number of surveyors fresh out of college with a good knowledge that have ability but are not utilized to where they transfer to other job titles basically due to a pay raise and an unwillingness by the company to let them grow and challenge them and advertise that surveyors do more than collect data points. It has taken me a long time to obtain the necessary education through outreach programs. I interview college kids and they always say, well I would rather be an engineer because it pays more. They don't realize how much prespective and knowledge is made when you become a surveyor. You see the whole picture only if you are willing to keep learning, will yourself during project planning and bring up and challenge and provide reality to project planning. I think the field has been bastardized by hand held GPS units for the general public so we have to communicate a professional message and the professional liabilities and expert knowledge in separating a surveyors role versus a general, that's close enough approach and the value of solid surveying. Also, we are at the point where we can't even talk to someone without risk of legal matters. My best approach is surveyors provide the where, and the what is to be decided. I also think older surveyors still know how to talk with people. The newer generation just wants to punch buttons. hear it all the time. I am at the age where there is a bridge between traditional surveying and the use of GIS. It is critical to understand both sides and be willing to mentor use and implement technology with a professional approach to where it is not "close enough." but is professional grade and has standing.

We need tiered college level education coupled with tiered licensing, standardization in just about every area of surveying, and licensure test that truly determine if someone understand boundary law and how to produce professional level documents. Also, we need forward thinking people that will not allow us to miss the boat again as we did on GIS.

to attract new blood you need to get the pay scale up who is going to go to college for four years only to come out and maybe make 50,000 a year when you can go to college for four years for engineering and make 120,000 do the math this is why we have no new blood.

Important to promote skills in technical report writing, essays, and editorial writing. Communication skills put us a notch up and beyond the typical geek quotient.

A fair number of professional surveyors did not choose surveying as their career path. Taking a circuitous employment route, they found their passion in this profession after being exposed to it through work experience. What is it about land surveying that drew them to it? How do we sell that?

The profession pays poorly and will never attract the individuals required due to the poor pay. Better laws protecting the survey monuments and the profession are required. Educational requirements from state to state make a surveyor in one state (California) a professional and in others (Oregon) a high school graduate. Professional Surveyors need a degree and this applies to Land Surveyors.

Surveying in the South Florida area has been decimated over the past 10 years. The few surveyors that are left are having a difficult time existing at all.

1) Push the concept of a high-level profession requiring both wisdom and knowledge. 2) Be very careful if/when choosing mentors or spokespersons. Many surveyors do not convey a strong, positive view of their own profession. 3) High-tech aspects are a good draw, but be sure that the recruitment/outreach message includes connections to all aspects of surveying. 4) Entrepreneurial opportunities (be your own boss) appeal to many but not all potential recruits.

I see salary being the biggest reason students are not interested in pursuing the profession. With the expanding use of advanced technology and liability, salaries must advance to equal engineers and architects to bring qualified candidates into the profession. Lack of knowledge on the importance of a surveyors product and knowledge is helping keep salary low. I have seen this with attorneys, realtors and developers.

Surveying is not a white collar job, stop trying to make it one. The profession is being regulated into being a behind the desk, 9 to 5 role. What good is years of surveying experience, sitting in an office behind a desk, while you are letting a computer whiz run the GPS and make all the boundary decisions in the field?

Attentions need to be grabbed quickly and by using symbols like Mt Rushmore, articles like the Georgia water crisis (TN River), 4 corner monument (NV, CO, etc), tie-in with the popular show "Where States Got Their Shape"

Surveyors need to become more politically active.

in my view, the future is based on the amount of qualified individuals we can bring to the profession. I think this is because they are not getting an education. There are office surveyors and field surveyors but very few have both skills either technically or lack of professionalism. Too many hub pounders from the construction side of the profession. There needs to be more formal retraining of field crews to the office world as a low-hanging fruit approach.

land surveyors need to learn how to be better business owners and learn how to be paid for the work

interest's in the profession, along with a new crop of surveyors will grow once all the powers to be will get off the " Profession vs. skilled Trade" band wagon,,,, the best, simplest solution is to adopt a new eligibility for licensures that fits with the "working" people in the profession now,,, people working in the profession now don't have time to get a 4 year degree,, come on be real... think about it,,, yall are smart people,,,,,, call me a "professional",,, call me,,, a "trades man" , what ever !,,, at the end of the day I want all my present and future clients to know I served there needs and treated them professionally

WE NEED TO BE MORE FOCUSED ON THE BUSINESS SIDE OF OUR PROFESSION. THAT WOULD DRIVE US TO HIGHER LEVELS OF EXCELLENCE AND SERVICE. AS WELL AS ESTABLISH A PROFESSIONAL IMAGE OF SUCCESS IN OUR COMMUNITY. WEALTH OF THE PROFESSIONALS DIRECTLY IMPACTS THE PUBLIC EMPRESSION THE ENTIRE FIELD.

Thank you for these questions. The questions you ask however tend to show the difficulties of the problem facing the survey profession. A simple survey may not be sufficient, but your continued efforts will result in a better future for our profession and Society that we serve.

I have been surveying since I was 16 (20 years). I was brought up with pride in the history and importance of surveying, and participated on jobs that incorporated both of these. Many days retracing original section corners in remote areas of the state. As I grew in my career and finally decided to get licensed my frustrations with the profession began to grow. A major problem with surveying with the "new" generation of surveyors is that the only focus is on the "technology", money, etc. I believe that this is primarily due to the lack of surveying being a job that is learned IN THE FIELD as a young person and having fun and interest in the job, leading to wanting to make a profession out of it and building an actual passion for the profession, its history, and importance. I believe that people going into college choose it for some reason or another with hopes that they will get out and make a bunch of money and get to fly drones around. They don't respect or understand the foundations of Surveying that give them the passion to make it a better profession or understand the importance of learning field procedure and problems that you only can learn how to handle properly by field work. There is a large amount of students that went through the surveying program here at University of Florida and did not get a job after graduation in Surveying or pursue getting licensed. I own a business now and have interns show up to work with flip flops on and wanting to learn GPS. I put them on a wetland job and have them cut line for days on end. If you want to learn and respect the profession you have to understand the very basics of the land and how the original surveyors had to lay out boundaries, then you can capitalize on that knowledge and incorporate new technologies that are growing within the profession. Different levels of licensing should also be available and different levels of work experience and education. The general public has no knowledge or understanding of surveying or the importance and that is a major issue. Everyone relies on Surveyors as the basis of anything to do with land. Mining, building, engineering, buy/selling property, etc., none of that can be done without some kind of surveying prior to provide information, but Surveyors get paid the least and are bullied around. The profession needs to gain more respect due to its major importance and not have to scratch for dollars when we are an absolute necessity.

As much as everyone wants our profession to be college grads only we are hurting our profession by not letting those smart individuals that gain MORE knowledge by actually working and mentored under great licensed surveyors. Colleges are NOT teaching real world following footsteps because they don't know themselves. We are losing the art(or science) of using our 'accurate" data to resolve old school boundary issues. Young "college" surveyors as well as the public are not learning common sense, grass roots if you will methods of retracement. This applies to small residential just as well as large tracts. I see it EVERY day, hence the new term "pin cushion" corners.

surveyors are fooling themselves if they think they can raise their public image, most are just bunch of crackers.

Need to be involved in "Drone Path Surveys" or Easements for the Flight Paths, that would require a survey to register your Flight Plan.

We fight to be recognized as Professionals yet we have little or no unity as a Profession by the licensee's. We need to maintain and encourage a consistent standard of practice among all licensee's to keep the Profession growing and to be perceived as respectable by the public.

I do NOT agree with all the doom-and-gloom talk. The future for S&M is WONDERFUL! I would love to be 30 years old and entering the profession today! Love It! Sell It! Quit grumbling and get back to work!!

Training opportunities for field staff to improve their skills. The most expensive hi-tech data gathering instrument is useless if the data point is incorrect. Also, having model law for recording public records such as ROW maps, Plats and deeds readily available and readable would in my opinion be a great resource to have

Our profession was highly regarded in the past. We need to regain that status in the future.

I am happy to see this effort taking place. Here, in Florida, there are about 3,000 licensed surveyors. Over 2,000 are near retirement age. I'm sure it's the same else where.

Thank you for working on this. I look forward to seeing results. Word to the wise: try to stay away from any discussion of costs for surveys or increasing fees.

One thing that has hurt the surveying industry in Florida and perhaps other states as well, is the requirement for a 4 year college degree as a requirement to sit for the state surveyors exam. I do think a college education is a great thing, but because of the requirement there has become almost no good field help to find anymore because without a college degree it's a dead end job. Plus why would anyone spend for years in college to go into a career that pays much less than other 4 year degrees would.

2 things I see happening, the new licensees learned nothing in regards to common sense practice in the field, and the old school folks have no youth coming up behind them to pass the torch to. In 10 years, a vast amount of know how will retire or die. The new licensees see technology as the answer to all, but if they know not how to apply it, the entire industry will flounder and something else will replace the traditional Surveyor.

Talk to Wilson Phillips, chair of the Professional Surveyors Canada, about their media campaign. Showing a tripod and instrument does nothing for the general public.

There needs to be more diverse teaching. I have worked with several 2 year degree students who think they know all about surveying and actually know very little. From what I can tell they get book learned but not real world taught. There needs to be emphasis on communication between surveyors also. Many look at each other as friends off hours but enemies when it comes to business. I have scene many contractict and set extra pins rather than try to resolve a difference with a call. This makes the surveying profession look dumb, that we can't even agree with ourselves. There needs to be some outreach to high school students and even in the scouts. There is a surveying badge, but the troop I was to talk to cancelled me and had an engineer come in. I'm not even sure how that qqualified as surveying since he was a mechanical engineer. The public only sees land surveyors as the guys in the road with the cmera on a tripod, having no understanding what is going on. I an watched those home fix-it shows that talk about puting fences up, never mentioning that it should be kept inside the property or to have it surveyed either. No public perception at all.

As an "Old Timer" in the profession there have been many times that I feel I'm being pushed out the door by the new technology. Younger folks lack the experience but have a good grasp of the new technology. I think Mentorships are very important and can work two ways. Licensure should not be easy but it also should be attainable which I think it is. I don't have a degree but I worked hard, studied hard, took some college classes and seminars. I worked hard to get my license and I work hard to keep it. That means doing good work, protecting my reputation and the profession. I got interested in Surveying from a seed planted by my HS Guidance Councilor that lead to completing a HS Vocational Surveying Program & a summer job after graduation that paid well for the time. The work was diverse and physical and I found that I enjoyed working outdoors. Planting that seed in my HS years was the single most important event of my HS years and I have a HS Guidance Councilor to thank.

Our Civil Engineering cousins, as they are defending their profession are attacking the surveyor's profession- and that is an ancient and old scenario.

The profession is in serious trouble. Technology has made surveyors lazy. The apprenticeship system that served us so well over the last century is being abandoned and replaced by technical training with an emphasis on education and a diminished value on experience. We no longer make direct measurements as in chaining, but rather locate by electronic measurement and then calculate the distance between objects and then compare the result with the record and ultimately certify a survey without "following the footsteps". Land surveying is but one component of our profession but it is the absolute the most important reason that we are licensed as professionals, period. The education requirement must be paired with experience or we will cause more problems than we resolve when it comes to property line surveys.

It is time for the older surveyors to butt out and let the younger surveyors the opportunity to map out their own course for the future.

We need to get a better understanding of the relationship between land boundaries and land title. This is a fundamental problem with both Surveyors and title professionals. Until that happens, we are both mired in the past by perpetuating an archaic relationship between ownership and title. We also need an entirely new basis for defining land boundaries that relates to the current state of technology, rather than perpetuate a system which has outlived its usefulness. I believe we also need to concentrate on boundaries and boundary law. Surveyor's need to have more authority and be trained to have the courage to make decisions in the best interest of the public. I also think we should provide additional certifications in surveying areas of expertise, such as construction, liar, his, uav's etc.

Something that our profession needs to address is allowing a clear path for multiple licensure similar to that of engineers. I think that instead of difficult exams that utilize concepts from the early 1900s such as manually computing a curve or calculating area by hand, we need to have our States unite to come up with a way that more "teaches us" the difference rather than has us review over the material just to pass an exam. I personally would devote 2 days worth of seminars to be licensed and feel that the information that is provided in state specific information would be more beneficial than these exams by the board. The engineering society does not even take exams and can be licensed in all 50 states with no issue. I think we do need some sort of basis for licensure as law and regulations mandate, but its ridiculous on what it takes to know to be licensed when 90% of us that pass forget what is required when technology supersedes the concepts of originating surveys. NO ONE draws a plat by hand any more, yet several states require that as part of the exam in a pressured and timed environment??

Construction/Engineering Surveying should not be considered a part of the profession of Land Surveying. Land Surveying should be boundary and title issues where the level of professional experience and education is required. Construction and Engineering service do not require the level of knowledge of a Professional Boundary/Land Surveyor.

Survey is way too long.

In order for the profession to grow (and maybe even continue to exist), we need to move away from minimum technical standard requirements and toward professional requirements that include what are now considered "associated" professions. We need to join other geospatial professionals before surveying is eliminated or melded into another profession such as civil engineering.

This survey was confusing and hard to follow. The people who wrote it know what isolated phrases mean to convey (one example: Think globally act locally, relating to advertising) but I don't know what they meant to ask. Had to guess at some, leave others blank as a result of not understanding the intent.

With many groups working in so many directions to boost interest in the profession on all levels, local, state, national and even international, if we could make a solid collaborative effort together we may see better results. We could have a national campaign across all states, sharing materials, websites and action ideas/goals to deliver a common distinct message that could be re-evaluated, re-focused and redirected every couple of years as determined by committee members and approved by board members.

I think the reference to "old dogs" has been abused by the few younger surveyors and/or surveyors who branch into new technologies and think that these are better than an old transit, and rod to perform surveys. I think everything is getting lumped into how close we can measure a line and the whole concept of allowable error has been thrown out the window. Not every surveyor needs to use GPS, Lydar, electronic levels, etc. Why is it that the "old" ways of surveying are frowned on and attacked by the few that think that they are doing better than "old dogs". OR that we all have to use least squares, whats wrong with compass adjustments in surveys, are we all really getting better answers. lets get back to a 0.1' and stop berating each other about 0.01' just because your computer/GPS coord can be calc'd to 16 decimal places. you cant build that close, neither should we be telling other licensed people how to do a boundary based on another's opinion that they are better.

The greatest problem with the future of surveying - in my opinion- is caused by the lack of professional understanding and self image by the surveyors themselves. Hence- charges for services performed do not reflect that which should be charged- sometimes ridiculous under pricing. If charges were appropriate and salaries and wages were allowed to rise to true professional status-- the rest would take care of itself. Surveyors as a whole may have succeeded at the technology of surveying but have miserably failed as businessmen.

The changing world around the profession, as well as the decline in numbers and relevance (compared to overseas) indicates that we need to make deep and radical changes in our world view, and so our view of ourselves. While there is a strong core that we need to maintain, there is a lot of peripheral stuff we can leave at the periphery. So the core comes down to the guarantee that the map matches what's on the ground; that our adjudication of boundaries accords with the law; that we are spatial experts across the board (individuals can specialize once we have the core in place); and that we have a role in spatially-based decision processes. Building that core is about education, both formal in school and informal in the workplace. It is also about the profession recognizing what is core and what is not. The core does not specify equipment, it does not need a museum, and it doesn't need a focus on the glorious past. These are nice, fun peripheral things, not core things. We need a strong theoretical core, a focused experience-education program for after a student graduates, and means to keep professional up to date with a rapidly changing discipline. Just like the medical and legal professions. As far as a recruiting message is concerned, it needs to be focused on where we should be in 2040 or so, as that's where those recruits will be living. It has to be very broad, as focusing on small niches in a shrinking environment is not a strategy for success, and trying to live in silos is counterproductive. Finally, look overseas. Most developed countries have different solutions: some have worked brilliantly, some have not. Don't waste time re-inventing the wheel: get down to doing something!

#22 Rate elements for inclusion in recruitment messaging. Show the Benefit, I think many surveyors enjoy, of working in the beautiful outdoors. In a more general statement I think the topic of personal appearance and image, i.e. wearing a suit and tie to work is not important as it does not relate to the younger generations we are attempting to reach and is not very practical wearing a suit and tie in the field.

I think salaries drive more decisions than any other in today's youth. I think the second is technology, so these items need to be incorporated together to attract talent. We will not prosper as a profession performing lot surveys and considering the public may require the services of a Land Surveyor once or twice in their lifetime, large scale advertising and outreach to the general public will likely produce little results - target the government agencies.

I feel that we should abandon our associations with the design professionals and focus on producing experts and specialists in boundary and conflict resolution. Topographic and engineering work can be done by engineers. Boundary maps are to be done by surveyors. They will make mistakes with their boundaries, then they will bring them to us for assistance. Regulation will follow accordingly.

Surveying firms should recognize the significance of the work they do and demand commensurate compensation. In turn, the industry will be able to pay its people salaries comparable to engineers and technology firms. Until that happens, the surveying profession will continue to lag. It is for that reason I am planning to leave the profession. We continue to accept crumbs for the work we do when there are better alternatives.

Glad someone is asking these questions. Architect associations paid for and campaigned for a market share of the media from the 1970's and 1980's. As a result, there are numerous "arm-chair architects" who have tremendous respect for the profession and a great deal of other professions respect the role they play as a result of their campaign. I encourage our profession to wage a significant campaign on the public to offer up images and stories that include land surveying and mapping professionals.

Given the number of surveyors in California, when will NSPS give us more than one seat for the State to be members.

Promote surveying in high school. Many survey crew members never heard of the profession until they got a job doing it. By the time they work their way up to party chief and realize that this is what they want to do, they are married with children. They can't quit working and go to school. Some can't afford the online courses. You even have college grads that ended up on a survey crew because they just needed a job. They went to school for something else and now wish that they had taken surveying. They owe thousands of dollars in student loans and either can't find a job doing what they went to school for or just don't like it. Most of us in surveying have stuck with the profession through the hard times because we love what we do. We get paid to exercise our mind and body.

I believe the profession has an image problem. In general, I think that most people view surveyors as field guys who are non-educated, blue collar workers, thus they do not see surveying as profession but rather more like a trade, which ultimately leads to not valuing what we do as a professional service. The engineers have done a much better job of protecting their profession. I think that it is worth examining what and how the engineering profession has done, and use this as a foundation to try and better the land surveying profession.

I'm not a GISP but I soon will be. Most of my answers relate not to what surveying is, but what it should and could become. Right now, surveying is NOT a profession, and this is coming from someone who believed for years that it was. Wishful thinking. Proof? Simple: present a difficult boundary problem to ten different surveyors and count the different solutions you get. Unless your getting at least 8 answers that are very similar, then guess what? You don't have a profession. You have... well, I don't actually know what you would call that. Anyway, the profession as it now exists is hopelessly careening towards a slow, painful death. The solution? In my opinion, there needs to be a unification of all geospatial thought into JUST ONE profession, call it geospatialist. Then offer tiered licenses to cover all of the specialties; mapping, GIS, surveying, LiDAR, metrology, construction.

The biggest problem in my opinion is the low prices the majority of the profession charges. We are in a position where we can charge reasonable rates why is it that half or more the the licensed surveyors undercut everything. This is a two fold problem it solidifies the public's opinion of our worth as well as not allowing the surveyor enough time to do a proper job thence also proving our worth. Why is it that realtors whom have much less requirements and liability can charge a percentage of a homes value while we are stuck trying to under cut each other. Maybe if we could agree on some sort of appropriate rates where we could all make money then the clients would pick a surveyor based on quality of work and promptness not lowest price.

The Surveying/Geomatics profession is in need of increased recognition of our changing role(s) in professional practice and the required education/experience to adequately meet these objectives, and to improve our profession's public image and exposure to recruit the next generation(s) of surveyors.

Safety is a big issue.

We need MUCH more exposure to students in jr. high and high school. Very few are even aware of surveying and that needs to change. Many school districts are open to new career paths for their students and we have to ability to provide financial incentives thru scholarships and to provide teaching materials to educators. If we start and concentrate on this age range the demand for more educational opportunities in the college/university system will grow.

Surveying is a profession that builds upon experience. In order to gain that experience, along with perspective, both office and field work is necessary. The challenge is finding college-educated people who are willing to work in an outdoor environment to gain that experience. This is coupled with our experiences over the past decade, in which it is more difficult to find younger people who are willing to work hard. Surveying in the field is physically challenging, and it seems that the work ethic in our nation is declining, at least in our area.

Mentorship is imperative. Unification of candidate requirements for the Fundamentals of Surveying exam. Texas requires the same as that for RPLS which takes years and impedes participation. Utilization of associate degree specific to land surveying as there are so few B.S. programs nationally. This is my second time to particiapate

Our profession is rich with the history of building a world society; yet never studied in history and the entertainment industry. I think NSPS should contact Ken Burns and discuss the history, and famous characters that served in our profession. Like Thoreau, Washington, Jefferson, Lincoln, Wyatt Earp, Baneker, and hundreds of others.

We haven't done a good job in recruiting for technician level education or employment, yet they are vital. Licensure is NOT for everyone, nor is getting a 4-year degree, and that seems to be the only recruiting happening in my state. We need educated and trained technicians!

#21 - Target existing college students who may be undecided or unhappy with their current major.

This Forum is very important to the future of our profession. I believe much education is needed within our own ranks. It is imperative that the existing surveyors themselves be educated as to the Professionalism we are trying to attain. As you may have noticed I didn't rate High paying career in the 'high' category due to the fact that it is not a high paying career for many (I am blessed that it is for me). Here's hoping that will change across the profession. As to the importance of the Forum, if we fail to recruit new/young folks to the profession, we will be the 'History' for Historians of the future.

My hopes for the future of surveying is for the profession to be on par with engineers. As it stands now, being an engineer is a more lucrative career than being a surveyor. Second, I would like for this future generation not to make the same mistake as our previous generation and allow technology to leave us behind just because we want to keep things "old school" and "traditional". We should embrace technology and learn how to maximize it's use in our profession.

unable to truthfully answer because the options do not include my situation.

Does not pay well. There have been limited opportunities in the field for years in the West. Some make good money and the rest of us have "day jobs". Too much emphasis on looking busy, throat cutting competition and technology/equipment--this speaks to what surveyors are--high end measurers? I disagree. If realtors can use ad's and various media to call themselves professionals and make the public believe that they are land and property experts, we should be able to do the same or better--take some of that expertise back from them.

Survey was too long and questions were too broad. Not sure how the group is going to be able to analysis anything from the results.

Thanks to all for the effort making this all happen. With thousands of Land Surveyors throughout the nation contributing ideas, we should able to improve the situation.

Interesting Survey. Overall good job. Section 9: Poor wording.-- vendors do not educate, they provide hardware and software training - there is a difference. Section 14: Poorly written. Define perception / misperception of what? Needs more clarification.

Somehow we need to make people aware that Land Surveying is not a sub-category of Engineering. That on occasions we assist Engineers in the work they do.

National Exam questions are needing a more diverse modern application.

Entrenched management? State Board cannot muscle State DOT to conform to State Statute; State DOT says "they're exempt".

Limit direct promotion to older (high school) students. I think "marketing" to an elementary kid could have negative effects. Avoid cheesy-cartoony type media.

I have no education in business so have no idea how to answer most of these questions. I did notice the grammar in one of the questions needs correcting.

Surveying doesn't need a slick advertising program or a PR firm. Surveyors need to step up to the plate and start acting like professionals. While many complain that we don't get the respect that we "deserve" those same individuals forget that we have a responsibility to comport ourselves as professionals.

A surveyor is not a line cutter, a stake pounder, an angle turner or distance measurer. Those are employees. A surveyor is a data analyst, a solver of "boundary" mysteries, a reviewer of evidence and a business person. This are professional traits. Traits that must be utilized every day for a professional land surveyor.

I believe that organizational efforts towards improving image are futile. Allowing the marketplace to get the attention of potential recruits is a more powerful force. Allowing the energy and talents of our existing professionals to flourish and find uses in the real estate/development/construction/infrastructure/legal/regulatory marketplace will promote our profession more than PR or advertising campaigns. Also, the high average age of the professional is a non-issue in my opinion. In other words, I heard this same concern discussed for all 35 years of my career since I was first licensed. Having young talent is great, but age of itself does not speak to the energy or talent of the profession. If the marketplace needs our services and we exercise our energies and talents towards productive ends within the real estate/development/construction/infrastructure/legal/regulatory marketplace, then that marketplace will get the attention of new recruits. To discuss the age of our profession sounds like a terrible argument to convince a young person to join an aging profession. As a case in point aging has not killed our profession yet. Also, just to be clear, I am not disparaging the emerging leader program within NCEES and think that this program is leading to some of the value the Forum is seeking. Looking ahead to maximize our collective energy and talents should involve our contemplation and awareness of (1) current standard of care and responsible use of new technologies, (2) entrepreneurship and (3) defining surveying to include new technologies.

We need to enhance the image of surveying. Most people have a general misconception of what we do. The world today receives most information in quick visual pieces of information on television and the internet. As a profession, we need to do a better job improving our image. When that happens many of the other issues (shrinking work force, wages, perception) will take care of themselves.

The profession is in crisis. Technicians are not trained well anymore. Land Surveyors are not considered and treated as professionals. Our image is badly damaged.

The reality of what we do - realize plans in the ground. Other professions plan and scheme, we actually take those plans and materialize them in the real world.

Regarding the outreach portion of the profession I once gave a presentation to my son's middle school class on the surveying profession along with a hands-on demonstration for use of some surveying tools and instruments. The students seemed very interested with discussion and teachers were most appreciative for my presentation. I have not heard of any others doing this but it would appear that the surveying profession could volunteer their time to develop some programs for early education. I encourage our profession to do more on the education process to support through profession.

I believe the problems we have in our profession stem back to one item. Pay for our services. Until we solve this issue, we will never attract the bright young individuals into our profession. I see it on a daily basis, survey firms sell their services at less than a plumber does. It is sad to say the least. Two days ago, I had a window company replace a window in my house, it took them 15 minutes and I was charged \$195 for labor. We have \$200,000 going down the road at any one time with equipment, vehicle, and materials and we struggle to get what we deserve for our services. The big problem is most, if not ALL, single person survey companies sell their services below cost because they may not have the overhead associated with most companies. It is nothing but frustrating. If we want to solve the lack of people, wanting to come in our profession is all comes back to being able to charge a professional rate for our services. I have a daughter going to college right now, and the going rate for her first job coming out of college is \$95,000 per year. I would venture to say a surveyor beginning their career would be half that. Show them the money; people will flock to the profession. Just as a side note, back when I was growing up in SD in the 1960's the best place to work in the state was a packing plant. This packing plant was paying some of the highest wages in the state and continually got the cream of the graduates from colleges (just because of the pay). If we have a higher wage, we will solve every problem the profession has, but this will not get solved until the one-man firms have a paradigm shift in there thinking and become more professional, and charge more. As one of the people on the panel said, when they see the surveyor driving around in a Porch 911, they will take notice.

Need heavy focus on educating the public on the fact that Land Surveyors are professionals, not trades-people. Focus on ways to require higher levels of professionalism emanating from Surveyors in general.

Participants should be given results of the survey.

Most surveyors that I have run across find it difficult to obtain licensure because they grew to love the profession in later years and are not able to go back to school. We need work exchange(apprenticeships) and/or increased distance learning programs that are cost effective

The push for clear line between GIS and land surveying is needed. The push for the Quasi -judicial aspect should be pushed more everyday. The need to define our legal aspects of the process is of easement writing and description preparation. So, we can have a future that will not be replaced by companies with access to the latest technology. So, anyone can produce a topographic survey and develop the land for any purpose without the need for a surveyor. The increase of construction staking by machine controlled apparatus and a RTK unit, everyday closes one aspect of our business. Boundaries and descriptions will be our only source of income.

Surveyors must be educated!! Why would I employ an uneducated person to survey my 500k\$ property??? If we were all educated, we might not be having this problem

Team, I trust this correspondence finds you well. I've been in so many way blessed by this most honorable profession. In my humble opinion, the historical significance of this profession is our back bone of which to build upon. The always challenging opportunities, the multi-varied work environments as well as the opportunity to improve the society are also very important to me. My focus is primarily boundary resolution, of which I hold in the highest regard. Regards,

Business understanding needs to be emphasized in order to avoid 'low ball' pricing in order to better illustrate surveying as a professional field and also to be able to pay more to employees with better benefit packages

The realtors have a unified fixed fee, unification and fee schedules need to be addressed.

We have convinced ourselves that we have an image problem. We don't. We have a problem of purpose. We have been bullied into a corner by other professions. It's time to Rise up

Forester's are a real problem in surveying. They think they are surveyor's when they go out a cruise ;for forty lines!!!

I have to be honest. I have been surveying for 45 years and for the expertise that I have I am underpaid and there seems to be no respect for the business. Moreover, now a 4 year degree is being required for licensure. I would rather get an engineering degree then spend four years in college getting a degree for a low paying job.

I do take exception to one of the questions as it relates to pay. Without the surveying community educating the public on the exact duties and level of effort for a typical survey, the prices will never rise and thus we cannot offer competitive compensation packages. Right now there are just too many old timers with paid off equipment that continue to depress the price of a survey. It makes it really hard to start a new business and to do it right.

Glad this is in the works. Hiring some very bright young professionals from college programs. Need more. I'm almost to retirement and succession plan looking bleak.

The contractor have taken construction staking away. UAV's will take 3 D scanning, topographic surveys and photogrametry away. So you better make LAWS TO PROTECT THE PROFESSION OR YOU WILL NOT HAVE TO WORRY ABOUT HOW MANY SURVEYORS THERE ARE. Come June FFA will open the UAV's market and volumes, topo, pipeline Etc....will DRY UP... Believe me it is coming...

the use of DRONES or UAV's for performing Aerial Surveying is or can be a huge market. but if we set back and don't get into the FAA's face about what we do and can do if allowed. It will go to someone else. We must educate the public of the GOOD this technology can do.

Look for opportunities to collaborate and add value to other professions and economic propositions. Avoid claims of a right to exclusivity.

Public officials think engineers are better than surveyors at land use solutions, when in reality the surveyor is supposed to be the "Doctor of Land", not the engineer!

The future of the profession lies within the kids in our schools. Participating in kids' career days, offering job shadowing, contact with teachers and counsellors, and the promotion of a high paying and diverse work environment is what will lure this generation to the profession. 17-18 year old kids won't go into surveying when they can make significantly more money in engineering or architecture. Social media could be useful in relaying images and stories of unique projects to young people. Contact with 7-12 grade students is imperative.

Formal education and personal mentoring should be separate activities. I have four years of college but also did a four year correspondence course through the Okla. Soc. of L.Surveyors. Mentoring should be done at work and relate to the education experience. We must create our own specific educational experience that dovetails with mentoring.

The idea of encouraging and making it possible for those in the profession to obtain a license I think is important. The tiered license that was mentioned sounded interesting but there were no details. I feel that the continuation of the low passing rate will just create an extinction of PLS's. Also if there is an inclusion of new technology and other areas of surveying, such as GIS and Data management of Spatial information then perhaps you might consider having specific licenses but with restrictions. It is true that the most important part of Land Surveying is Boundary determination but there are other areas that are just as important that surveyors work in that may not get as much experience in one area as another.

Need real reciprocity like PE's. If a surveyor is educated at the same level as a PE then they should be able to obtain additional licenses in the same way, no test, for most states. Stop other professions from taking surveying work, drones, scanning, construction stakeout are but a few; many firms are providing these services without a PLS or even a certificate of authorization to provide surveying services.

Thanks for working on these important issues. Our profession is in REAL trouble.

There needs to be a surviving path to licensure through apprenticeship/experience. We need to teach the complexities of the law. The profession is, in my opinion, over-focused on technology and measurement rather than critical analysis.

The future of surveying as we know it today and in the past is bleak. Technology is going to replace it like paper maps have been replaced with smart-phone maps. All that will be left is finding monuments.

I feel good mentoring after a formal education is extremely important. A college degree can be the basis for a good foundation, but it cannot give an individual the experience necessary to make correct boundary decisions. I feel a minimum of 4 years after education is necessary.

I am happy to participate. Looking forward to getting our profession into the public awareness.

Promote university programs especially in geographic areas where lacking. Foster survey based competitions and grants for participation of HS and college students.

I was an adjunct Professor at a local community college teaching land surveying for 7 years. Almost every student came into class thinking that surveyors beat sticks in the ground and walked in the woods. After 31 weeks of covering the serious math, technology and diverse directions within the profession, they left the last class with a new outlook. While my classes were only a portion of an engineering associates degree, several students every year went into surveying instead of engineering drafting or construction observation positions. Sadly I did not have them long enough to do more than barely scratch the surface of the land-law half of surveying. There is a serious need for national promotion of the profession to those students in their last 3 years of grade school and the first two years of college. Part of my welcome lecture was stating that Land Surveyors are technology geeks that like to play outside while I was holding a machete AND a GPS rover. It always got their attention. (college security hated me for bringing sharp toys to class)

I would suggest including GIS, Drone Photogrammetry and Orthophotos into the practice of land surveying or changing the title of land surveyors. Also working with DEM digital elevation models, constructing them, comparing them, looking at settlement or volumes should be done by someone professionally licensed because the process can yield different results depending on how things were processed. This is exactly why a professional needs to be involved in the creation and manipulation of DEMs, TINs, DTMs or whatever the format of electronic data representing real world measurements.

There is a natural cycle followed with peaks and valleys. The supply is aging to retire that will leave a gap in mentors, so the demand for capable surveyors will increase. The new surveyors will need the education to fill the gap. The public will demand, and the industry will react behind the curve until the new supply is attracted by higher pay incentive to meet the required level of understanding to be the new professional. Those who understand will succeed and prosper.

don't lump mentoring and education together, mentoring is usually reserved for those who receive preferential treatment. most surveyors don't get mentored at all

****Exploit and Expand Surveying Body of Knowledge**** use as basis for this discussion

The average person doesn't know we exist

Not sure my take on these questions will lead to enhancing the profession and increasing recruitment. What do i know about these things, I'm just an old surveyor.

The geospatial revolution reveals the fastest growing segment of the economy. It is everywhere. Surveying as it was is moribund and will soon be completely dead. The path forward is not to promote surveying. The path forward is to wake up and realize the role of we can play in all the facets of geospatial: Remote Sensing, Photogrammetry, GNSS, Computer Vision, GIS - all of them now and in the future. There are only two alternatives, gain the knowledge and expertise to work in these realms or step aside. I have been a practicing surveyor for 50 years and I would not encourage a young person to become a surveyor today, but I would enthusiastically encourage them to join the geospatial revolution. That trajectory is going up at an incredible rate.

To be a professional, one must act as a professional; therefore one must do all the items discussed locally to create a global awareness.

Our society is experiencing a tidal wave in technological innovation and disruption. How will artificial intelligent machines, autonomous vehicles, Internet of things, Virtual\Augmented Reality and the commoditizing of data capture affect our industry? As Moores law continues to double computer processing power every 18 months, what will be the standard survey equipment in five years? Every industry will be affected by this ever connected, commodity based data service economy. How are we prepared as an industry which is based on an apprenticeship model, to adapt to a technological model? Profound changes are going to change the landscape like no other time in history. Are we prepared to face this new future? Our society places a high value on post-secondary education. Until we make education a core value of surveying, we will never be taken seriously as a profession. We need to earn the respect and gain credibility by facing the reality of the day. No amount of outreach or consulting firms will help if we sit back and wait for others to do the hard lift. Look at the engineering profession. Most engineers have a post-secondary degree, and a large number have graduate degrees. This inherent belief in education drives our industries and has a very positive affect on our society. Why should we believe we should garner this same level of respect? We have a great profession, but we need to look inside and face the music that we are moving into a drastically changed world , where our society needs new ideas and skills, not history teachers

Methods of our profession are rapidly changing, but the concept that we're preserving historical data is vital. Sometime modern conveniences outweigh our responsibilities to follow in the footsteps of the guys that laid it out first.

We need to make licensing more available as the old-timers are aging out. We need more review classes and education to teach surveyors to become licensed Professionals in our field at a younger age.

Our profession is never boring. However, we are our worst enemies - we whore ourselves (that's why I'm not as busy as others). Stop whoring to public agencies. Lowest bidder gets it. (And not necessarily qualified.) Pay employees well with compensation, etc. I am sick 'n tired of the "Independent Contractor" status as a way to get cheap labor. Whoring is whoring. Treat the new generation as most of us ol' farts were treated (if we were worth a tinker's damn!). It is hard to compete with those that don't carry Workers Compensation Insurance, Pay decent wages, motivate employees for licensure, E & O insurance, etc.

I believe it is of great importance that we as surveyors communicate the fact that boundary surveying is a skill that takes experience in the field to become a good surveyor and that the basis of surveying is common sense and a good understanding of geometry, algebra, and trigonometry. It is also my experience that most land surveyors are friendly and open to sharing information and knowledge.

Many agencies and public utilities employ Surveyors or people who do surveying work. Those agencies should create their own apprenticeship series or collaborate with existing apprenticeships for recruiting and retaining new young surveyors.

None of these wonderful steps will be of the slightest use until Surveyors are required to have the formal education that real professions do. The Surveying profession has already been stolen by those who are better educated and better able to communicate the value of what they do. To be accepted as a professional it is necessary to be able to look, act, write, and speak like one. Yet the license doesn't even require a baccalaureate degree, let alone good table manners.

Land Surveyors (nearly all) need to broaden their scope of services to include more: land planning and development services, right-of-way engineering and research services, environmental mapping (habitat, veg, wetland, identification and mapping), and also utility relocation procedures. Too much emphasis is placed on field work--when the experience gained from field work is highly subjective due to changes in technology. Lastly, surveyors that can't draft in AutoCAD in this day and age, are severely disadvantaged.

I think this forum is long overdue. Great idea I would like for you to consider adding the corroboration and participation with GIS groups as a high priority item for the profession and its future.

Define terms, using terms without a sense of what they mean isn't helping this survey. Example: "teachers/counselors" is tangible. "Think globally, act locally" doesn't mean anything specific, and is just a flashword.

Being a young surveyor my suggestion is to stop discussing amongst existing surveyors on how to attract youth into the profession but look outward and ASK younger professionals, students, etc. on what would draw them to make a career as a Land Surveyor.

Civil engineering groups, such as ACEC, has been very successful in protecting their profession from encroachment from outside sources at a legislative level. Surveyors need a similar organization to protect their interests. Many times municipalities don't understand the legal requirements to have surveys done by a licensed professional. Likewise real estate agents don't believe it is a value added service. There is also an unmet need for expert witnesses to work with attorney's on land dispute cases. In a world where everyone believes they understand boundaries, we need to remind them that this is what only surveyors can do.

The biggest threat is the Board of registration and their taking away licenses. They set a foundation such that no one should enter this field! No comment as to the current practice of bad surveyors (who think they are legends in their own mind) that prey on the courts to justify their complex! one or two high and mighty men that see all others as uneducated and negligent. The board is the most current problem in the eng and land surveying field. Expert witnesses that are not experts at all! No one should enter this occupation, that is my advice to any young person. Low pay, bullies, public encouraged to sue. Fix board and remove mapps is a good start! You will not use my comments because it does not fit your opinion and the problem is on your team!

More surveying programs needed at the junior college level.

While average pay seems to be quite respectable and appropriate for the private surveyor, government surveyors (at least on the state level) seem to be well below the average. Lobbying efforts need to be made within the states to raise salaries for state government surveyors (i.e. state transportation departments).

Raise the standards for the professional by dress and appearance. Dress for success, not t-shirts in the office.

I think that surveying really needs to start targeting women. Only in the US does it seem like women are the smallest minority in surveying. Start looking at Instagram and follow surveyors around the world and you will be surprised at the number of women in the profession. It is absolutely a profession that a woman can be successful in. I also think that you need to target inner cities and urban areas. Kids need to be exposed to surveying as a possibility at the earliest age.

I can see problems with our future! I can also see an identity crisis. I'm not sure a college degree is the answer. I find my best workers are High School graduates that are not ready or interested in College at the time of graduation. OJT gets them working, good promotions and paid college courses keeps them interested in the profession. I think a good mentor is priceless, I had one of the best. I try to be a good mentor for my employees.

Who are the people and organizations involved in this forum and how were they chosen? Do we have everyone/organization that we should? Can we use linkedin or the NSPS website or other social media as forums for continued input?

I believe we are our own worst enemy. Competition has made us monetarily more acceptable for the consumer. But we continually underappreciate ourselves and tear each other down in pricing. The attention needs to go inward, not outward.

Steps should be taken to remind other professions (realtors, lawyers, engineers, and GIS analysts) that it is a professional land surveyors duty to attest to the location of a property line, easement, and/or right of way. it has been heavily encountered, in the state of Alabama, that some of these professions will exhaust every effort to offer "unofficial representation" of these elements in order to reduce cost for their personal agenda. In doing this, they are not only hurting the demand of professional land surveyors, but introducing conflict and inaccuracies into the general public. These professions should be working together to fulfill and protect the clients needs and wellbeing, not trying to undermine each other.

There's a lot of differing perceptions of what a surveyor's responsibilities are within the profession. As a united group, we should be demanding title reports from clients, be they citizens or municipal. It is not the surveyor's role to address ownership, only the lines on the ground as best determined by monumentation and the evidence of record. Additionally state and county governments should be monumenting all right of ways at the end of construction versus leaving reference marks that may or may not stand the test of time.

The biggest obstacle to the profession is salary. Surveyors traditionally lowball pricing just to keep busy, sometimes working for less than wages. Educate the current professionals how to be good businessmen and women and still sustain a company.

I think a Television or Web documentary could be used to educate the public.

I feel a strong push towards high school aged kids with an emphasis on the technology and pay scale could help grow the profession for the future. I think a better public awareness of everyday tasks that a surveyor can perform (Aerial Images with UAS for real estate, push need for boundary check at closing of new house just like buying title insurance, Municipal as-built for better utility management) and not just boundary and construction stakeout would be a huge help towards growing business opportunities.

The 4 year degree should be eliminated. A 2 year degree should be offered in Surveying, GIS and satellite imagery, & data processing. Surveyors need to be trained and use GIS more often.

n/a

There seems to be the same questions asked more than once. One can not over state the importance of project research before beginning or taking on a project. Be sure you are capable of completing the work with a degree of certainty that one is able to defend.

I unfortunately feel that this survey was much to broad to be able to be effective.

I believe that education and mentoring correctly is very important.

I think the national and state organizations have done a poor job for surveyors given what we have spent on them. I don't bother with them anymore as I am sick of the personal ambitions that drive many involved. We have pushed many out of the profession with some of the licensing requirements as the path to licensure was closed to many great people. A lot of the kids coming out of the colleges have to be retrained to function in the real world. They are no better qualified than someone who started as a rodman and has worked their way up through the ranks without college. The ones out of college often come with a know it all attitude to tell us that we don't know what we're doing. Their work generally has to be redone as they can't apply legal principles to actual field conditions. The apprenticeship model worked better but given fees today, who can afford to put a college grad on a field crew at a high salary to learn and then move off to some govt. agency. We're going backwards.

I have to say that nj land surveyors have it right. Anything related to measurement has to be under the direction of a licensed surveyor. Also when land is transferred a legal description needs to be prepared by a licensed surveyor.

Many items I rated low are being attempted or have been attempted for a long time to low success... The one thing that really hit home with me is the mentoring concept. I love the mentoring concept, yet had almost zero mentoring as I was coming up. In our fast movement away from the "apprenticeship" model, it seems that long ago we abandoned perhaps the strongest bond of brotherhood our profession had in the past. The high tech stuff is a huge draw for those who will be interested, and the diverse working environment is huge too. (That is what made things interesting for me). But, the lack of mentoring has caused many who were coming up alongside me to draw back into other fields, and the confusion over licensing standards from state to state (economy is a culprit for our profession as well, but that is true for many professions in this country). I think the survey stated that there was not much interest in being licensed. That may be true, but I think there could be more interest with a very strong (NSPS sponsored) mentoring laden summer "camp" program, and more online educational opportunities along with Field Camps like Corpus Christi has. Giving the STEM program folks an opportunity to have a three day camp of Hydro, robotic, and UAV survey technologies, and giving those students opportunities for where we need more technical people... That will net the ones we want, especially if they believe they will have excellent support from the Parent Organization (NSPS-or something else). The college courses by themselves are not adequate. Think Medical Doctors and Dentists (residency), engineers (EI to PE) and Teachers (last semester of college is in a classroom...with a mentor) Mentoring should be a major part of the professional curriculum.

The main topic should be addressing entities that are cheapening our profession. Surveyors need to take the reigns of their profession back. Gis gps and row are producing quasi surveying products that should only come from a professional land surveyor.

Idaho is working with the state Dept of Labor to create a surveyor apprentice program to capture high school students and veterans and make the education easier to obtain. It also is looking to work with the profession on placing students in summer and other part time jobs.

We are a profession where the average of a licensed individual is getting pretty up there in age. There is a need for new blood in the industry. For some reason surveyors seem to be behind the curve in recruiting and generating interested in the field in high schools and colleges. Just go to the NCEES FS and PS Exams, when I took the exams there were two surveyors in a ballroom full of engineers. Nobody graduates high school and says "I want to go to school and become a surveyor" I started my education in engineering and got my first exposure to the field in a simple field class that we played around with a total station. The class didn't even scratch the surface of what we do or why we are important. However it piqued my interest in the field and I changed schools to learn more about the field and fell in love. Almost nobody goes this route. I could see college courses teaching about surveying in civil engineering fields being a huge benefit and recruiting tool. New graduates don't understand that we are professionals like them, it is as if we are looked at as simply technicians. In working with a local government I run across a lot of the older generations seem to have a very basic knowledge of what a surveyor does. Younger people almost always just give you a blank stare when you say you are a surveyor. They just don't know what we are, what we do or why any of that is important. For some reason with time people have lost awareness of what we do and how essential we are to the infrastructure of the world. We are in a very technical field that needs to be in the forefront embracing the technology. It seems that there is a serious lag in our profession on embracing technology. Just look at GIS. Surveyors should have embraced it and took it and run with it, instead GIS departments and surveyors are disconnected. Although I will say younger surveyors see the need/ value of the field and how we are so interconnected and essential to each field.

Number 1 priority for attracting new surveyors is to reach out to the K-12 grades. We must make them aware of Surveying before they reach grade 10 in order for surveying to become a legitimate career choice rather than a fall back.

If we want to attract more people to our profession then we need to make more money for our services.

Since I started in the profession, I have found that surveyors tend to want to make everything relate to boundary surveying. That is a weakness within the group as a whole. The definition and rules of boundary surveying get blended into other areas of surveying such as with easements and topographic surveys, causing certification to catch surveyors in a moment of certifying to things they never intended to certify to. The problem is not further identifying "surveying". We need to further identify the purpose of the types of surveying we do. Also, in this environment and economy, pushing more 5 year degrees is adverse to the growth of the group. It becomes elitist. I think that apprenticeships need to be brought back into place. The testing is very difficult, so anyone who wants to pass will educate themselves well before testing whether by school or by mentoring or self study. The pride of history and having something "passed down" to an individual can only come through mentoring and apprenticeship. As far as diversity is concerned, I wouldn't go there at all. It's getting more diversified over time, but that has to happen naturally. Forcing the diversification card is only going to become political in conversation once the public realizes it's one of the least diversified fields for minorities in the United States. It isn't something that happened on purpose. It's just the way it passed down over time from father to son from our explorers and great builders in history. As a minority in the business, I vote to let that subject just mature on its own, as it has been over the past few years. I've been treated fairly and even with curiosity for my point of view as a female in the business, with only a few short and meaningless exceptions. We are not a diverse group. We have a unique place as being very different than any other profession, and that is something to have pride in. Sometimes a lack of diversity is a sign that a group guarded itself well in order to preserve the intent of the profession. As sons (and daughters) of a more diverse nature find themselves interested in the profession, you'd want them also to have that pride of guarding the history of the land because they love what they do and not because they want to be the "face of diversity" within the group. Spend money on encouraging apprenticeship instead of advertising. Give grants to those who make it through a period of apprenticeship and testing. That's where the value will come through. Just my opinion. :)

College Degree requirements has a negative affect on profession. Need to have a mentoring program and experience. My state requires college education but no state college provides the classes.

4 year degree requirements are the major contributor to the dwindling number of new surveyors. We should address the issue of going to a 2 year degree program and 4 year internship.

An Engineer is NOT a Professional Land Surveyor...an Engineer that is Licensed as a Professional Surveyor may not be geared towards the profession as well as, or nearly as CAPABLE on an analytical level, as a FULL TIME Professional Land Surveyor; ESPECIALLY dealing with ancient boundary or boundary problems in general...A GIS is by NO MEANS WHATSOEVER a Professional Land Surveyor. A GIS is a data entry/ computer software specialist ONLY, unless licensed otherwise.

The problem of licensure is not the pool of candidates, but the archaic definition of surveying that focuses solely on land boundary work. Boundary surveys are important, but most of my time is spent on and profit derived from other aspects of geomatics. Construction layout, hydrography, industrial measurement, GIS, geodesy, etc. are of significant importance to society and value to clients. A standardized national path to licensure, such as is employed in engineering, would increase the number of qualified surveyors and help keep our graduates on the path to full licensure. The college graduate of today is better educated than prior generations of surveyors and have greater technology at their fingertips, yet they have a harder path to licensure. State boards such as Texas only consider boundary experience, to the exclusion of many young people with exceptional skill at a wide range of survey specialties. States such as Florida have taken a much broader view of surveying, which opens a path to young, dynamic surveyors who are willing and able to embrace a modern definition of surveying. A surveyor is a problem solver, who applies both cutting edge and traditional tools to efficiently solve geospatial problems for the benefit of their client and society. The surveyor applies principles of mathematics, law and science to understand spatial relationships on land, in the air and underwater. The profession of surveying includes land boundaries, site development, industrial measurement, hydrography, photogrammetry, and related geosciences.

I am employed at the County level as a mapping and GIS dept. manager. I think there needs to be better understanding between these two fields. GIS is only as good as the data which they use, surveyors can improve the quality of that data with their expertise.

Find a Hollywood script about a super hero surveyor.

The biggest issue facing our profession is a professional image. This begins with the source of the image, the professional. There needs to be an image makeover for many surveyors, which will, in turn, promote the profession by broadcasting a better image, and therefore seek higher wages. These two factors alone will increase interest in the profession. Why does one want to become a doctor? Because of the image and money. A surveyor can hold the same status as a doctor, but it is our image (publicly and privately) holding us back.

This survey seems to focus on geospatial analysis and marketing the profession. Are we missing the main concept of protecting the public, health, and welfare by not considering boundary surveying? Isn't boundary surveying the main concept in accomplishing our professional calling?

On multiple questions, education and qualifications, or edu and mentoring are used synonymously. This distorts the question, they are two totally different things.

In my view requiring a 4 year degree to be able to take PLS test has been a huge mistake. The numbers of Land Surveyors has fallen.

Tiered licensing will move us in the wrong direction.

I have been in this profession since 1976. At the time my surveying career began I had completed 6 full semesters at a state college. I found that surveying and mapping were my true love (the pay has never been a big factor for me) but my path to licensure required 11 years of experience (I was licensed in 1987.) I truly believe that those 11 years were a very valuable teacher; however, I still wanted to complete my education so in 1992 I returned to school and received my civil engineering degree in an additional 4 semesters and continued on to licensure for a PE in 1999. My point is that I am very active in our state's surveying society and a great majority of the current registrants have gained licensure through years of experience. I firmly believe in education to enhance our profession but also firmly believe in the teacher of experience. That being said I feel a path to licensure also needs to be left open for the people who have work from the ground up. Many of them are married so turning to traditional paths of education is really not an option, I see that one of the most viable options for education opportunities is through distance learning that is offered at an affordable cost.

INCORPORATE THE GEOMATICS EDUCATION CURRICULUM INTO/UNDER EXISTING GIS UNDERGRADUATE PROGRAMS AT ACCREDITED UNIVERSITIES. This will help recruit 'technology' students and them provide an option to 'emphasize' in geomatics while gaining a technology foundation

We have hitched our horse to the higher education wagon - now that wagon has stalled. Higher education is big business, a holding tank for young lives, while creating a permanent debtor class. We need industry and jobs to flourish. We need to expand and build or die. No one surveys anything for which there are no plans.

My Stepfather was a Surveyor, as was my brother. My mentor was my stepfather and my first company's Surveyor. One was proficient in the calculations parts and one in the land law part. I've had a nephew that worked as a party chief and was very good in both. He went to College for a degree in Surveying and was disappointed in the knowledge of the instructor in using and setting up the instruments. I believe the discontinuance of using time and experience in the field under those old surveyors has a lot of the new surveyor concentrating on the Cogo more than law knowledge of (ie) why do you accept one found corner marker over another. Mentors and time should not be underated and, in fact have precedent over the degree. I've seen some with lots of book knowledge that couldn't apply it to the field situations. I was told years ago by my mentor, "It's not what you know but know how to find what you need to know, at the time you need it"

Focus on STEM education at all education levels and outdoor work as a key to draw people to profession. There is a critical need for first order survey expertise for land record and civil projects that can't be done without proper education. Having said this, surveyors need to understand the role of GIS that goes well beyond first order and bridges into business intelligence for thematic analysis. Focus should be on getting the best base data sets managed/overseen by licensed surveyors so the accuracy of secondary or tertiary data sets is improved.

Some of these questions were very general and seemed to be the same question reworded several times. Im not sure that the feedback you will receive from this questionarrire will be representative of the surveying profession's thoughts or feelings.

Nice work. Keep up the good fight.

I believe that there should be one general national level license covering all 50 states and its territories granting a licensed surveyor the privilege to perform any type survey that they are experienced and competent in with the exception of property boundary surveys as the laws and regulations for property boundaries vary from each state and territory.

While I believe that a higher education is essential to the future of the surveying profession we are finding that recruiting quality people without a degree is becoming difficult if not impossible. I believe that a path to licensure that does not require a 4 year degree is going to have to return if we are going to continue as a profession.

Surveying is inherently unsexy. Not that it is gross and a turn-off it is just not interesting to someone to hear about applying the atmospheric correction factor to make the measurement THAT much more accurate. Those are the intricacies that only other professionals appreciate that are also working on perfecting their skillset in their own area of expertise. We are the link between the scientific (coordinates floating in space) or paper world (words on a deed) and the average land owner who expects us to authoritatively put permanent marks on the ground (monuments) in the correct locations (legally defensible) protecting or defining their rights as a land owner, easement holder, regulatory enforcer. Because of this exclusive area of expertise we can expand our services into other areas that benefit from our abilities, knowledge, technology, expertise but are not exclusively limited or reserved for land surveyors. We should be able to leverage our credibility and reputation for accuracy and precision into position of authority in other areas. I think the definition is misunderstood inside the profession, both by land surveyors and civil engineers I don't think exposing the general public to the profession is necessarily necessary. How many people want more exposure to dentistry? But who do you go to for teeth care? Either the PLS owns aerial mapping or LIDAR services as an added service to their boundary services or the LIDAR company hires a PLS to add credibility to their mapping services either the expertise brings credibility(value) to the product.

Loosely related to questions 8, 17, 18, & 20. A tiered licensing approach including all geospatial professionals with an association similar to the Royal Society of Charter Surveyors. Where many geospatial and real estate professional are under one umbrella. This would include doing things together like: meetings, pooling efforts on subjects like PR and other licensing issues. Currently the Land Surveyor sits on an island where it is often lonely and there is little opportunity and willingness for cooperation.

I believe a heavy focus should be in the technology and heavy construction working hand in hand with engineers.

The thought that education plays a key role in what young people will choose to dream to do with their lives is a relatively true statement. I believe the trick is to give the students an abundance of real life examples of the subjects being taught and how it can be used in everyday life including our profession. I feel the 10-23 year old age group will be more likely candidates that will see value of what is being taught in relation to how it may be used on a daily basis. The younger the mind the more tangible the relations have to be made. Or you'll hear the same thing that I've heard many young ones say: 'This is stupid. Why do I have to learn that. I'll never use it in my life.' Getting the educators on board with a slightly different take on how to present information to the students and show them how particular tasks relate to different professions might help increase the awareness to Land Surveying in general.

Very good survey - questions are well thought out. Congrats to the Forum on a good job.

Technology is great, but it is just a combination of tools we use to do our job - Land Surveying. More emphasis on boundary law, legal principles, evidence for the location of boundaries, description drafting and interpretation is needed in our schools.

I'd like to see the land surveying community tap into the knowledge of our retirees. This group is growing in numbers and could play an important role in mentoring young professionals, the recruitment of youth, and improving public awareness of our profession.

Need state required services that affect the surveying profession, e.g. township/county requirement for remonumentation and perpetuation, survey disclosure on deeds-much like well disclosure, state aid funding for remonumentation-much like road funding, ear mark state aid funding for surveying if the county has a county surveyor office, etc... The change has to come from legislation activities not from test changes or youth classroom activities.

Charging a standard % fee for title surveys based on the value of the land. (similar of the realtor fee)

We will not move the needle on recruitment until what we pay recruits is commensurate with other professions. And we cannot pay good wages until surveyors respect and value themselves and their work enough to charge appropriately for their services.

One of the reoccurring questionnaire items was marketing the great salary of surveyors, yet that is really not true in Upstate New York. I do believe that salary is a factor in recruitment, but you must deal with the professional issues to drive salaries upward and actually have something to market.

The importance of mentoring is a vital part of the future of surveying. I would like to see investigation into how we can emphasize the its value.

Attracting new surveyors has to start at college/university level. Example - University of Kentucky does not have a Surveying Program.

Item 23; coloring books. Today's youth are very tech savvy. U-tube type videos might be a better choice for youth to find material concerning the surveying profession.

Alternate paths to licensure other than strict education related achievement (e.g. tenure as business manager or manager of office). The ability to say "you too could become registered without going to a prescribed school" may become a career motivation. Formal education as an overreaching requirement has failed us.

It would be good if there was some sort of incentive for mentor-ship...It was one of the most frustrating parts of my path to becoming a Professional Land Surveyor - The lack of assistance ~ For the most part there seems to be an unwritten Glass Ceiling ~ That the the current Licensed individuals do not desire competition from anyone anywhere anytime.

Education, Education, Education. Otherwise we will be a trade and not a profession. You can no longer learn the theory needed in the field or on the job. A four year degree is a must. Include all aspects of surveying, not just boundary and topographic as inclusive of the profession. limiting ourselves is why we are dying. Surveying is the art and science of measuring objects on above or below the surface of the earth, to paraphrase one definition. We have lost much of that. Do not ignore technology until others take it up. Embrace it at its first appearance. Be the ones that make it part of the surveying profession. What I saw missing from this survey, was, determining the which students would be interested. I apologize for being harsh, but programs like trig star do not produce surveyors. Need to find the students that love solving a mystery, love history, love technology, and enjoy being outdoors. Mathematics is a secondary knowledge to recruit and retain surveyors in the future.

There is increasing concern about the lack of enforcement by licensing boards on the practice of surveying, specifically hydrographic surveying and other forms of precision remote sensing by unlicensed professionals providing authoritative mapping products. There will continue to be a decrease in license applications if requirements are not enforced. One of the impediments to some seeking professional licensure is the boundary survey requirement. Land surveying is more than property boundary surveying. States should consider a professional surveying license for geodetic, topographic and hydrographic surveys that can address the issue of cottage industries providing unlicensed surveys in this arena.

As professionals and as members of society, we must first be aware of peoples needs. I'm worried by some of these questions and what they imply. The last thing I would want to be a part of is a profession that is more concerned on the "sale" than satisfying a "need." If i wanted to make my income by selling someone something that they don't need I would be happy to find many other areas of employment. We must also rethink the education requirement of becoming a professional surveyor. If more and more states adopt the "no need" attitude it only weakens how the public and other professionals percieve how qualified we are and whether they truly look at us as an authority in the matter. I believe in the land surveyor as a profession over a trade, but let's not call ourselves professionals when we only have a tradeschool education.

I think that technology is making it easy to obtain a measurement and there are many non-licensed people that are collecting data that are under the description of a registered licensed land surveyor. The State boards don't seem to want to enforce the laws or change the laws to reflect the new technologies in obtaining measurements. Therefore, these rouge unlicensed people performing mapping and measurements used in design, planning, construction, deformation studies, nautical navigation,..... are encroaching on our profession and we cannot compete with them. This is not only risking public safety, but also taking work from the professionals in the science of measurement. I currently specialize in Hydrography, which has the challenge of never seeing what we are measuring. In over 30 years of experience in boundary, topography, geodetic control, construction staking, as-builds and hydrography, I find hydrography to be the most complicated and technically challenging. Oddly the state boards don't seem to recognize this as surveying. It appears that laser scanning and controlling elements in machine control for construction are also not recognized. Due to this recent development of the magic button that provides the measurement and the state boards not enforcing and protecting our profession, I have concluded that I would not recommend this most interesting and challenging profession to anyone. I think our profession is at risk of extinction making the public safety at risk. I really wish that this could be rectified and our profession would accept the current and upcoming technology.

Use Indiana Jones type character for image.

Nationwide distance learning degree that the State Boards can accept. May have to punt on ABET accreditation.

It is difficult to convince young men on existing survey crews with several years of experience to apply for the surveyor intern test. With college education now being required it will be even more difficult to convince young people with field surveying experience to take the required college courses.

Survey is a good start and is well thought out and structured

I believe that Surveyors often do not charge enough for the services provided to their clients. We often find ourselves putting in a great deal of time for little pay; however, this is not true for every survey conducted. We are doing this to ourselves. If we come together as a profession to earn "fair" wages for the amount of work done, equipment and material used, and expertise put into every survey we conduct, I believe that we could promote the profession. Doctors are expensive, dentist are expensive, veterinarians are expensive, lawyers are expensive, engineers are expensive, architects are expensive, insurance is expensive, contractors are expensive... Parents and family are the most influential on young adults deciding what profession they should seek. When parents pay for these services, they often persuade their children to go into the professions where a product or service was needed and while "needed" also relatively expensive. We (as people) often believe if a service or product is expensive, then the people providing the service or product are making a great deal of money. I also believe that the general public has no idea as to what we actually do or the level of work that goes into a single survey (especially Boundary work).

First, we need to survive, then propagate. The biggest threat is lack of new applicants for licensure, coupled with massive retirements. In the past, most applicants came from within the profession, not the Universities. We should promote from within - pay the most promising employees to obtain their degree. Truly support continuing education. All the other stuff is good, but by the time we change how the world thinks of us, we may be all but gone anyway.

Professionalism within the Surveying Society. To be respected as a Professional we need to act like a Professional. Until we get to that point, we cannot expect people outside of the Society to treat us like PROFESSIONALS. Example. I saw at annual state surveying convention and the person giving the presentation on our Standards of Practice, said this was the first time he didn't give this presentation Hung Over. The last time I was attend a presentation by this presenter he said that he was Drunk when prepared the presentation and that he was Hung Over during the presentation.

I think about the success advertising has with some industries - beef (in spite of health concerns) and apples (Colo used to produce more than Wash but who does the public associate with apples and Colo industry went bust)

The target group for recruitment is the millennial. The profession needs to figure out how to speak to them using their language and medium. I was surprised to see that social media/youtube was not on the list of mediums to leverage in the communication process.

Think nationally! Surveyors do not need a Board of Licensing on each street corner.

I believe the biggest obstacle that needs to be addressed is education for current working surveyors who wish to pursue their licensure. There are not enough colleges that offer surveying/geomatics curriculums. Distance learning is a priority for a working surveyor with these aspirations.

Mentor ship high importance: suggest states to unify on SIT requirements. While education is important I am convinced that an associate degree in surveying is paramount as lack of baccalaureate programs are impeding educational requirements

I really believe exposure to inform the public that any Joe can be a surveyor should be avoided. This relates to the back yard concept of surveying, losing our professional image.

Excellent start to soliciting comments from surveyors - I look forward to future opportunities.

The "professional image" (dress for success) is all that matters to most citizens. Our firm has every survey crew member dress in conservative black three piece business suits, even when cutting line in a swamp. We have had a wonderful response from the conservative public.

Encourage Tree Farmers to subscribe to Surveying publications and utilize surveying services to manage their forests.

Improve the existing poor labor conditions if you are in anyway able to recognize them.

Please also keep in mind that surveyors are professionals that must be educated and license above and beyond most other disciplined professionals as well as being taxed like any other professional. Surveyors are not only consultant's they are civil engineers, historians and advocates. Surveyors have the right to charge for Time Professional services Consulting Revisions requesting by client-consultant-municipality additional research additional field work certifications amendments to certifications Prints and copies electronic AutoCAD documents and files Additional insurance demands Surveying problems Problems with union Minority firms taking work Out-of-state companies taking work Non licensed activity Fly by night unqualified professionals Loss of respect Loss of education amongst the public and professionals Loss of physical survey evidence and control monumentation Loss of fees Loss of qualified willing help Skyrocketing costs and overhead

I have met the enemy, and he is us. As a profession, until we can all get on the same page of profession vs. trade and education vs. apprenticeship, the surveying industry is doomed to be mired in the state of affairs that exist today. As a profession, we need to truly believe in the value we bring to society and stop cutting each other's throats to see who can lose money fastest. We have allowed our services to become commoditized as opposed to being viewed as an essential part of the engineering world. I commend this group in starting a dialog regarding the future of surveying and hope that those involved are willing to ask the hard questions that are needed to move the surveying profession forward. Best of luck

Avoid coming off as a glamorous profession. We do serious work and its hard work and we earn the money for doing the work correctly, the first time.

Get the survey educational system OUT of the control of PHD Geodests and Engineers. And dump NCEES from any involvement with us.

As someone that operates a fairly large surveying operation (100+), my biggest challenge is finding people to do the work. Not so much licensees, but technicians field and office. If we can find technicians we will find licensees. We need a national level outreach. A focus should be minorities and women, as I believe these groups are under represented. I think we need a bachelor degree requirement in every state for licensure. Once that is in place we can look at a national or more portable license, but not until. I have numerous thoughts on surveying education. Too many to go into here, but surveyors that understand their role and define it in the larger picture is where we need to be heading. When I hear mentoring in this type of thing, I am never quite sure what is meant. We as employers need to always be mentoring our staff and striving to get the best for them. That may be a license, but it doesn't have to be. Licensure is not for everyone, but being the best you can be is in everyone's best interest. Yes, we should want our best to attain licensure, but not through a strictly mentorship program. There is more to learn than any one or two mentors can provide. It does in my opinion require formal academic leaning as well. We are at a pivotal juncture. We need surveyors, but these surveyors need to think big picture and be adaptive to new technologies and opportunities. Surveyors need to define surveying in a broad way. Too many are myopic in their thinking. Last but not least we have to pay our staff a good wage. We will only overcome our staffing issues with competitive wages. With that said my firm pays over market rate to our staff and we still struggle to find good candidates.

I am seeing that since the profession of surveying has changed to more of a definition of Geomatics, we are loosing a large area of possible candidates because the math scares them. I feel that in my home state we are pushing too much TrigStar. I'm a boundary surveyor and got into surveying to be outside in the woods. We are loosing that aspect of surveying and tending to lean too much on technology and construction. We need to keep educating the public that surveying is more than just math and working in the construction industry. What happened to the good old, sniff the dirt days and boundary research?

Licensure requirements are way too strict. This is by far the biggest barrier to the growth and promotion of surveying.

From my perspective there exists disparity between the image of inclusiveness and the sub rosa practice (in reality) of mentoring (apprenticeship) to obtain licensure which, IMHO, is adversely affecting the attraction(i.e.image) of the profession.

It is my belief that the public perception of the surveying profession needs to expand so that we are not just seen as the rugged "guys" standing on the side of a road, or in a field, behind a tripod. The "professional" aspect and technology focus of our jobs can have a positive influence on getting the younger generation involved. Also, as far as educational outreach...I think it needs to start in middle school or earlier. The STEM track starts early and by high school it's too difficult to catch up. Lastly. I'm a HUGE fan of apprenticeships and I think newly implemented and expanded programs would be incredibly beneficial in adding to our ranks. There has been a push towards having a degree only path to licensure, which I think is a mistake. Having wider access to quality, standardized, apprenticeship programs can lead to having many qualified survey professionals who have the knowledge and skill necessary to become successful licenced surveyors. As a bonus, its been my experience that those going thru the apprenticeship program are much more motivated to become a mentor to a new generation of potential surveyors.

We are licensed to protect property rights, therefore we should place that first then other fields second and so on from there.

Suggest a nationwide advertising campaign depicting surveyors and all aspects of the profession from expert witness to agriculture, land use development to large scale infrastructure improvements, mining to aerial photogrammetry and topographic mapping, etc.

This questionnaire is overly long. Many good ideas, I have found it hard to get anyone to do anything except complain! PLSO has open officer vacancies as an example! Using the word "spatial" is a waste of time in relating to the public!

To clarify, I listed myself as a member of NSPS. I about to join in the next month or so but am not presently a member. Branding and marketing of the profession are important but not in the mass market sense. You shouldnt try to reach the masses on this at the org level. Only way to do that is through a TV series and we dont need millions of people in the industry. We need the key outreach in all the feeder organizations that will sort out the future surveyors from the rest. If the marketplace has no surveyors to survey then the regulations governing the profession will collapse and be worthless to the public. We also need to make sure that those regulations are a clear positive plus for the general public and not just a job creator for us. Honesty is key and a bad image will come from regs that force people to spend thousands on something they may not need.

Entrepreneurship in #9 is spelled thusly.

Long survey. Long day of surveying before I started. The meaning of certain items in #9 and #11 were not immediately evident to me (sorry, can't recall specifics. Long survey (maybe put page x of xx on each page?). Clueless on what a "foundation profession" is. Specifically on "tiered" licensure. I believe this would only work if you can first capture all the aspects of surveying (not necessarily traditional) that have been de facto approved for unlicensed individuals to perform. In other words, you don't take what's left to professional surveyors (under current standards) and apportion it between existing and future licensees (even if test/ experience/ certification based). You mandate that those elements currently providing a form of surveying must enter the profession (perhaps grandfathered upon proof) at an appropriately tiered level. After the broad realm of surveying has been (re)-established under appropriate licensure, future work must be performed under the guidance of an appropriately tiered licensee. After whatever grandfathering phase, appropriate: experience, education and testing MUST be demonstrated prior to licensing at any tier. Having just written that, I don't think I've ever heard anyone approach the discussion of "tiering" in that manner. Is that what it means to our industry? Did that become way tangential? It's late, I'm out. Thx,

my interest in surveying came as a result of a high school class "surveying". The class was taught by the math teacher who was a mining engineer. 9-12 students were in the class, two of which later became licensed land surveyors.

The NSPS falsely assumes that declining numbers of Land Survey Professionals is a bad thing. It is for NSPS, the dues are less and less, but for the profession as a whole, it is likely that we have too many. Tech and economic changes require fewer surveyors, and when NSPS starts to understand this, more surveyors will care what they say about recruitment.

With robotic total stations replacing a two man team the mentor model is a failing. Waiting to take the LS test seems rather pointless when the standard field crew is more and more predominantly becoming a one man band; shapelessly because the point of the delay is to build your experience base while studying under somebody. This is why waiting to take the test is frustrating, because there is no one to study under for all practical purposes. If someone is ready to pass the test and prove their knowledge base and ability to make informed and sound legal judgments and decisions, they should be able to. The mentor model is terminally ill at best, it is slowing the advance of the profession too by keeping young tech savvy people out of the decision making process until they are finished waiting out the experience requirement. I would opt for an end to waiting around and an ushering in of doing to keep up with the changing technologies.

I am a big proponent of apprenticeships for surveyors. Reaching out to private engineering firms to step up their hiring and working with schools and organizations to develop apprentices.

I firmly believe that as a profession, Land Surveyors have fallen way behind in promoting what we do. I've never read any newspaper columns or heard news reports that embraced this countries need for our profession. The public has no idea that without Land Surveyors: we would have no roads to drive on, no houses to live in nor Cities to go to work in. They have no clue that Land Surveyors laid out those roads, houses and buildings, bridges, tunnels...etc. Our public persona is poor at best. Our salaries compared to other design enterprises are the lowest. Ours is now a technically enhanced field, but it is rooted in the past when the surveyor had to rely on good surveyor skills to complete the tasks at hand. New surveyors simply push a button to achieve, say Lat & Long information; 25 years ago one would have to spend hours calculating for the same answer. New surveyors need to know what it took to do surveys the old way in order to understand why we do things now. Education, a four (4) year degree should become the norm in all 50 states. Salaries need to be equal to Civil Engineers in order to attract viable new surveying professionals.

For the outreach/education areas I have heard a lot of surveyors discuss college age outreach...that is way too elementary and middle school age kids(scouts, etc) need to be the target so they know what surveying is all about before the high school guidance counselors asks 'what do you want to be'(that is happening earlier today too, post high school plans are rarely decided senior year anymore). Once kids get into high school and college that ship has sailed for the majority and our efforts will be wasted on trying to attract them to a profession they have never heard when they were younger.

Career Longevity. Folks survey for 40-50 years and that says something about the profession. some will say they had to but i say they could have found another way to make a living if it was that bad. it is also a fun profession and thats an angle that doesnt get used alot.

I think that it's important to re-define the Profession as one that deals with property lines and issues. Construction layout and Geodetic Surveying need to be excused from licensure requirements.

Surveying has suffered from a perception of the lack of job security, especially for those just coming into the industry. Also, the low pay compared to the effort to get licensed has kept many people from pursuing our profession. I believe that we are our own worst enemy by not knowing the value of our services. Until we charge appropriately for our services we cannot pay our people what they deserve. We also can't lay them off as often as we do. People thrive on financial security and we as a profession need to do more to provide this. Only then will we attract the top talent we so desperately need.

I was part of a study sponsored by the National Science Foundation for recruiting and retaining students into surveying programs. By identifying related core courses which impede graduation: math classes like pre-calculus, calculus, and physics, it was easy to identify a primary target for recruitment to be high school students enrolled in advanced placement math courses, dual credit math courses or students who had completed College Algebra but had no declared major of study. Interesting we try to throw a wide net hoping to catch many rather than focusing on a target group which will succeed. Every school district has such a program and the directors can be contacted locally.

law should be passed which gives surveyors the authority to determine ownership in land disputes

Personally, I think the one man survey shows need to go away. That's the direction everyone took when the recession hit, and it left a lot of people who used to mentor the up and coming surveyors, not being mentors at all anymore. Plus, we have a real image problem with the public...this starts with our own inability to accept other surveyor's work when we run into their work (and set a rebar 0.2' away from theirs) and we slit our own throats when it comes to prices. Of course with these kind of antics the public would look at us as a trade! Surveyors are our own worst enemy!

I think the largest problem with not getting people that want to become surveyors is the low pay compared to engineers and or IT? We are always the ones that get pay cuts while the others get the carrot. Been a real problem for me. Watching others get raises while I get held to a much lower amount because of market surveys. We cut our own throats on this one we are to blame totally.

Unfortunately, the "pays well" isn't applicable to the majority of surveyors unless they are employed by large firms or are decades into their career.

I believe we should make a very concerted effort to recruit military veterans. They possess the talents and skills we need - discipline, work ethic, team work, intelligence. The same goes for middle and high school students involved in FFA and 4-H. Many are farm and ranch kids and possess the same skills listed above plus they have a general conceptual understanding of boundaries and corner monuments.

The loss of mentoring opportunities is killing the profession. No amount of education can replace experience and learning from those who came before us. Technology has changed things dramatically and eliminated a large percentage of mentoring opportunities. I think trying to reach students in middle school and high school should be the target recruitment audience.

I think there are a lot of new technologies and survey related fields that need to be included under the umbrella of Surveying and regulated by our boards of licensure. GIS is one field that the surveying profession shunned when it first started getting traction. Because of that, GIS kind of developed as a separate "profession". Now it holds a high ranking within government circles due to that fact that governments love GIS for the planning aspects. In Arkansas, the State Land Surveyor's Office was moved under the state GIS office. The State Land Surveyor now answers to the GIS people! Kind of like the tail wagging the dog! Surveying needs to regain it's historical prominence in the geospatial world. We should be the movers and shakers in society with regards to geospatial information. We need to embrace the other emerging technologies and include them as part of our profession. The second oldest profession is Land Surveying! The first recognized profession in the U.S. was Land Surveying! It was recognized before engineers, architects, attorneys and even doctors! What happened to us?

Promote licensure among those already committed to the profession. Promote to folks that already have an related/unrelated degree. Proficient reading and writing makes for polished professionals - the future. Stricter enforcement by licensing boards. A to large percentage of our ranks practice negligently. These folks do not have the fundamentals in measurement, boundary law, mapping standards. Negligence citations will promote education.

The surveying industry is in a position where they cannot see the forest for the trees. Too much effort is spent on teaching the "latest and greatest" gee whiz bang technology and giving this to people who cannot perform basic math. Also, too little emphasis is placed on what land surveying actually is. This has created an environment by where people, while book smart, are going out into the field and are more concerned with pushing the "I believe" button on the latest gadgets and completely missing the point of what they are there to do. I see too many instances of monuments set because the field crew didn't or didn't know how to find what was already in the ground. This has got to stop! This country, in general, and this profession, in particular, would be much better served by pushing to move back to teaching children the vital foundations of math and science at an earlier age, before diluting all common sense with technology. This country as a whole is technology savvy and common sense poor.

We have to make it harder for surveyors to moonlight or work out of their homes. This undercuts the ability to achieve the respect and financial reward of a professional. It has gotten 100 times worse in the last 20 years.

The answer is simple, most surveyors are CHEAP! Charge higher rates for services so we can offer competitive pay. Right now I tell kids to become an electrician, way better pay, way better benefits - and you can be home everyday at 3:00!

In my opinion the greatest problem the survey profession has now is the firewall between the engineers and the surveyors especially in the public sector and heavy construction.

I think education for the professional surveyor and the public is the key for the success of the surveying community. As technology increases the professional surveyor must educate themselves with new tools and methods to stay current. That may include requiring a 4 year degree in surveying as a basis for becoming licensed. The public understanding of what a professional surveyor does needs to be promoted as a profession and not a mere labor position. That starts with the understanding of the professionals we work with first, attorneys, engineers, realtors, etc. that the information we provide is professional in nature and not merely data. i.e. professional surveyors should be the only ones to provide property descriptions.

Many good ideas but overly ambitious & confusing to me (i.e. reduce length of survey). Provide clearer (obvious) definitions/statements; avoid double interpretations (i.e. neg + pos); avoid duplicate definitions (ie. image vs. perceptions). However accomplished, I believe that charging more for services is the only way to grow the profession, in numbers and quality. The image will follow.

Surveyors do not respect their self enough nor their fellow surveyors to charge according to the risk and value of service. follow the money. if the pay was there, you would not have this Survey Monkey survey. we are cutting our own throats. If not turned around, the government will do away with Land Surveyors. It will become a trade. Oh, wait a minute, my Plumber charges more than we can.

Why not ask surveyors why did they choose the surveying profession, and pursue that idea?

While surveying is becoming a more technological field, I feel we may be missing the lower tech aspect of the profession such as evidence evaluation and research. Education has lately become a must for surveying professionals, but let us not forget the enormous value of actual field experience. Also, as far as a target audience for future surveyors, those that like and spend much of their time outdoors would be a good target; for example, those that like to hunt/fish would be a likely target audience. Not everyone has what it takes to be a good surveyor as not everyone has what it takes to be a good doctor, lawyer or other professional.

I have always viewed surveying as an honorable profession because we do get our hands dirty with physical labor and interpret boundaries for homeowners. I think it is important to the profession to keep a path to licensure open through apprenticeship and cut off a future surveyor because they lack a four year degree. The knowledge and expectations passed down to the apprentice is what determines the public image of the surveyor in my opinion.

In the process of making our profession more tech savvy and diverse, we are diminishing the art of surveying. I fear that our future, without proper mentoring, will be doomed to a profession of hi tech button pushers that are incapable of understanding the principles of boundary retracement.

I didn't realize that surveying was a high paying position. Every employer I have worked for pays planners, GIS and Engineering staff significantly more.

"Not receiving/paying or charging professional level wages and fees." This is a big problem for our firm as we consistently have to compete with commodity pricing. Pricing that undercuts our fees by up to 50%. We need to be a profession and not a trade or commodity.

The surveying profession as we know it is dead. I have been surveying for 40 years and I have never seen it this bad. Surveyors willingly give away their services, fail to record required documents, double monument corners, and show up for professional meetings in blue jeans and boots. They don't even have the courtesy to remove their hats in a meeting. Good luck with the profession, but I am retiring because I can't stand the race to the bottom any more.

I work at a firm that primarily does engineering. We are looking for another field crew chief and the discussion came up as to why we would want "another licensed surveyor", especially in a crew chief position. Our firm, and many others in the area, generally operate with 1 or 2 licensed surveyors (more or less chained to their desk), and field crews made up of non-licensed personnel. I found the contrast striking, as the various teams at our firm are staffed top to bottom with either PEs or EITs. The exception is Survey group, where well more than half of the team are not licensed, or eligible to become licensed. I realize that there are economic pressures in this decision a PS as a crew chief is "too expensive" to be competitive. Aside from small sole proprietor firms, the likelihood that field personnel are licensed is very low. I think this is a reflection on the value, or lack of value, placed on the profession both by other professions, and internally as well.

Education and public perception are important to any profession. However, land surveying is disappearing because of two main reasons. Land surveyors are the least politically powerful group involved in the real estate industry and land owner rights are disappearing creating no need for delineation of those rights on the ground. I find it distressing, there is little effort to address these issues.

It is my strong belief that surveying is not recognized by educators in general. In early development of American society, Surveyors were well known and respected with status similar to that of Judges. Now, people do not know or understand what a surveyor does. Poor practices by many in our profession has lead to a common belief that Surveyors are a corrupt group of professionals. Education of the public is critical to the future of our profession. Historic values and high integrity should be emphasized over the potential for a higher paying career. Our goals should be to encourage those with high personal integrity, strong moral values and interest in preserving historic integrity. Current Surveyors should be encouraged to help educate and mentor younger people in the rules and practice of land surveying.

today's surveyors have to embrace technology and the changing environment. Stop letting other unqualified people take over areas we should control. We gave away GIS, because surveyors wouldn't embrace it. We have to be better, do better, and prove our value over the other unlicensed providers. And dress for success! It pains me when I got to a state conference and I see surveyors walking around in jeans & sweatshirts. Elevate yourself and your professions!

Boy Scouts already have Surveying Merit Badge. There needs to be more involvement with Scout summer camps. Hundreds of boys attend camp every year.

I got into surveying by accident and have loved every minute of it. I was in my 20's and had never heard of it before. We really need to get the word out in schools when kids are young.

The problem with the surveying profession is surveyors themselves. Most think they are professional, but act as a technician in the most simplest sense of the word. Also, most of the engineering and engineering tech programs in universities view surveying & surveying course work as "bottom of the barrel" type opportunities for a career. Additionally, as long as the state board of registrations keep being "good ole boy" political appointments and not using the best available out of their membership, I am not sure if the surveying profession will ever thrive. There is always a need for a good surveyor to work out the problems caused by the licensed idiot.

It is my opinion that the many older surveyors in the profession need to become more educated, in order to provide quality mentoring. As surveyors' s we need to recognize the problems in front of us before we look to the future. In the great state of Texas, which many consider a land of great opportunity, the opportunity to become registered is a difficult task. There are no complete survey programs in any of the major metro areas. Are we are own worst enemy?

This problem is all economical. Until demand for Surveyors increases to the point which new people see opportunity in Surveying.... we will not have people interested in Surveying. People seek opportunity. We are seeing the simple supply and demand of the market reducing the numbers of surveyors. We have no new entrants because the pay doesn't justify the Cost of becoming a Surveyor. Qualifications need to be raised because we still have too many "Licensed Surveyors" who don't know what they are doing. Yes, we need to fight for our profession or else others outside the profession will continue to "take" our work. So, our task is 2 fold. On the supply side, we need less Surveyors, not more. On the demand side, we need to work on unlicensed Survey work being done and other Survey work being omitted from the processes.

The tiered licensing concept should be a high priority. Our existing definitions of Surveying is too broad and fragmented. No one can be an expert on all the different areas of expertise and it is confusing to everyone outside the industry (and many inside also). How many different "tiers" or classifications is a challenge. Boundary surveying is a very clear and separate classification and many "surveyors" are not qualified for this classification but are qualified for others.

Field work is three times more important than classroom learning. An apprenticeship with a seasoned old timer is one of the most important issues. Technology is only as good as the people using it!

In particular with property, surveying is an art, not a math problem. We need to understand the difference between precision and accuracy, and be able to share that w/clients.

The definition of land surveying needs to be scaled down to what it has always been and NOT to be something it isn't! Land surveyors locate & determine boundary lines. People doing construction layout are consumers of LS services, not providers of it. Recruitment of new entrants into the profession might be more productive by targeting schools that teach archeology--since that is an important aspect of what is required in a land surveyor's training. Too many young folks are dazzled by the high-tech toys and gloss over the purpose for using them; they are little more important than a shovel. As a result, we have schools churning out from their surveying technology program (or whatever they want to call it) a new crop, every year, of techies that still don't know how to analyze a problem situation and provide a defensible resolution for it. Instead of casting a wider net to snag more fish, how about defining what the profession needs to be and fish in those waters--like schools where archeology, law, logic and math are taught? We don't need more numbers; we need more talent.

Local governments need to do more to protect existing monuments

Our biggest problem is lack of diversity, yet we have not even begun to accept or quantify the problem, much less to address it. NCEES should collect data on gender, race, ethnicity, national origin, etc. on applicants for licensure and NSPS should collect data on the same for all member societies. Once we quantify the problem, we could begin to address it. If we looked at ourselves candidly we would see a profession that is overwhelmingly White, male, and old... this is The Problem.

Several of the questions required assuming definition of terms used to resolve ambiguity

I am a minority. I see the biggest threat to the profession as a loss of identity. Surveyors must concentrate on being client oriented humanists who create systems and skills to first prevent boundary disputes and then help to resolve them when prevention has failed. The judicial rule that monuments govern over course and distances must remain paramount. So long as surveyors stay focused on that and are perceived as being focused on that, then we can expand to be more inclusive. But if we lose sight of that basic function, then we risk being lost and inundated by the crush of fuzzy language and images associated with geospatial technologies and coordinate jockeys.

I feel like we've lost the path of a high school graduate to crew chief. We used to start new hires as rodmen. With the use of robotic total stations and one-man crews, there is no opportunity for mentorships by experienced crew chiefs.

I would like to see opportunities for individuals with a different degree to take additional survey courses - offered at community colleges - and work for certified mentors to develop more potential surveyors. Many young people don't understand what surveying is, or that it even exists, and learning of it after having a different degree makes it difficult to become licensed as a surveyor when a surveying degree is the only option. Perhaps if/when surveyors make more than engineers the word will get out that this great profession exists and is worthwhile to enter.

Enforcement and expansion of laws protecting property rights and boundaries from unlicensed fence and landscape contractors.

We need more mind share. Engineers have it. We need a core tool or slogan to emulate their success in reaching significant mind share with young and old alike. A reality show could help (just not a tacky one - if that is even possible these days). Expose viewers to what surveyors actually do. Or other television shows. There is a reason why so many kids/people want to be in law enforcement, health services, or practice law. Every other show in TV is about cops, lawyers, doctors, or emergency personnel. A Ken Burns documentary about surveyors would be helpful. We also need to ask young people what exactly does appeal to them? I'm guessing that descriptions of our field like "High tech/rapidly changing" aren't going to do anything for them. They seem to be more about choice, flexibility, and doing something that seems meaningful to them. And of course some just want to make money. We can do that too. Thx.

#1 issue definitions of surveying/geomatics that are too narrow to include aerial mapping, mapping using GIS, geodesy, etc. #2 issue differing definitions of surveying/geomatics from state to state. Encourage everyone to work towards implementing the NCEES model law definition. #3 License those folks who are mappers but don't consider themselves surveyors.

Some aspects I didn't really see: puzzle-solving, explicitly choices for office versus outdoor (field) work, can work/live in a rural, suburban, or urban area.

As a young surveyor and engineer I am excited about future possibilities and disappointed in folks not embracing change. I would like to be involved with NSPS moving forward.

I think the youth outreach question should be a little less generalized with regard to K-12. High school should be more of a target than K-8.

339

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