Official Publication of the South Dakota Society of Professional Land Surveyors
Affiliate of the National Society of Professional Surveyors

BACKSIGHTS & FORESIGHTS

Volume #23 Number 4

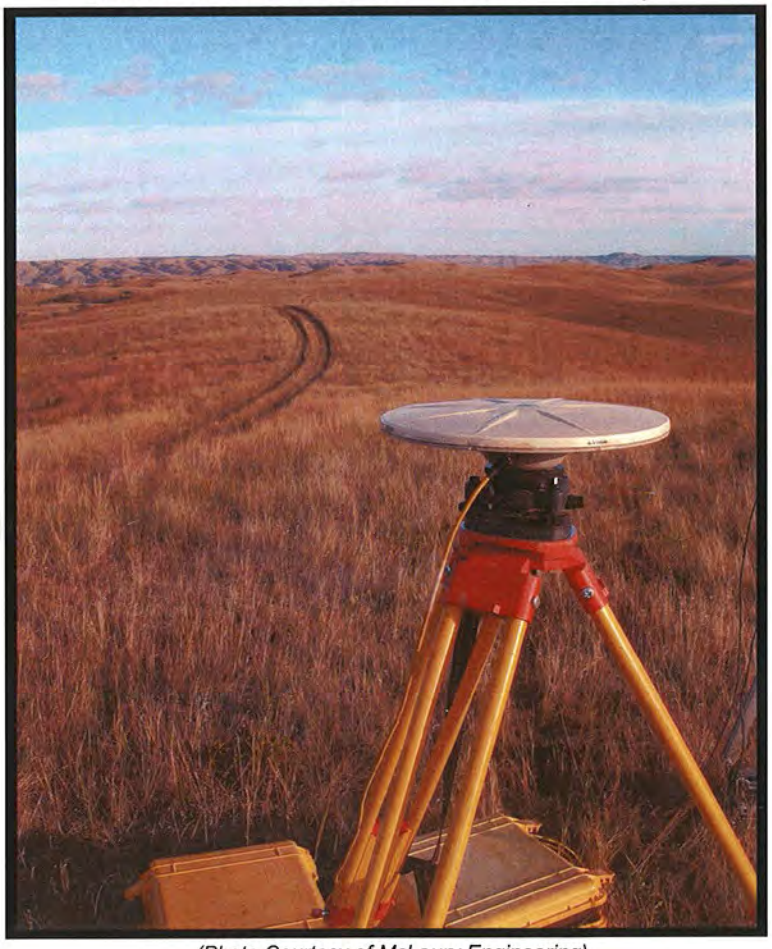
November 2013

Celebrating 30 years!
1983 - 2013

IN THIS ISSUE:

SDSPLS 31ST ANNUAL CONVENTION

January 9, 10 and 11, 2014
Cedar Shore Resort - Chamberlain, SD



(Photo Courtesy of McLaury Engineering)

Convention Registration Information Inside
and
Membership Renewals & Proposed Bylaw Revisions Attached

PLEASE VISIT US ONLINE FOR MORE INFORMATION ON SDSPLS

www.sdspls.org

2013 SDSPLS BOARD OF DIRECTORS

2013 COMMITTEE CHAIRPERSONS

ADVERTISING FEES

Size	*Rates*
3 1/2" x 5"	$25 per issue
7 1/2" x 5"	$50 per issue
7 1/2" x 10"	$90 per issue

Backsights and Foresights accepts advertising from equipment suppliers and others offering surveying related services. There is no charge for help wanted or positions wanted, employment ads or equipment for sale by practitioners whose main business is not equipment sales or rental.

PUBLICATION DEADLINES

Material Cutoff	*Publication*
January 15	February 1
April 15	May 1
July 15	August 1
October 15	November 1

Backsights and Foresights

Backsights and Foresights is the official publication of the South Dakota Society of Professional Land Surveyors. It is published quarterly. Material published is not copyrighted and may be reprinted without written permission as long as credit is given. All material must be submitted by the middle of the month preceding the issue date, and should be directed to: The Executive Director.

Articles and columns appearing in the publication do not necessarily reflect the viewpoint of SDSPLS but are published as a service to its members, the general public and for the betterment of the surveying profession. No responsibility is assumed for errors, misquotes or deletions.

FROM THE PRESIDENT:

I have always loved the fall season. For those of you that know me, the fall always gets me excited for hunting pheasants and deer. But with the good comes the bad. For the love of fall also comes my dislike for winter. It seems like everything is harder in the winter.

With fall nearly over and winter approaching, one word comes to mind: **Change**. The seasons are changing; construction seems to be winding down; health care changes; and for me an employment change.

So let's talk a little about change. In the past couple of articles I asked "What have you done to make the profession better"? I hope that this statement has made you stop and think. Have you - filed a corner record or two; helped or mentored a younger person; improved the way you do things; changed any habits personally or professionally; or surveyed a little extra to avoid any problems or clarify something for the next guy/gal? In a way surveying is a lot like paying it forward. You leave large enough tracks to make sure the next guy/gal can figure out what you did or what you were trying to do.

As surveyors, change isn't always well received. We tend prefer to do things the way that we always have. Personally, if I find a way to do something I'm not always receptive to change.

Today I am challenging everyone to try something new. I'm working on modernizing our Recommended Guidelines. This may not be well received by everyone, but I am confident that this will improve our profession and better serve the public. I believe that if we would show more of our work, set proper monuments, complete corner records, and file a few more records, we would improve the quality of the work in our state. This would also improve communication between surveyors and boost our overall image in the public.

Now, rather than later, is the time to improve our methods and procedures. I believe that it is the right time to update our guidelines and improve the quality of our work. Our survey is only as good as the amount of work that we show and the records that we make public. We should also continue to work with and educate our county officials, educate the public, and mentor our fellow younger surveyors and students.

In conclusion I will challenge everyone to make some sort of positive change in the next year, and keep in mind "What have you done to better the profession"?

I hope that as the year is coming to the end everyone is having a safe and bountiful fall and hunting season. I also hope that your business ends on a good note and I can't wait to see everyone at the convention.

Eric Meyer, LS
SDSPLS 2013 President

31st ANNUAL CONVENTION

Cedar Shore Resort, Chamberlain, SD
For reservations call: 1-888-697-6363

****

Thursday - January 9, 2014

Interior Board of Land Appeals
180 IBLA 388 Decision Review – Part I
Ron Scherler, CFedS

Scholarship Auction

****

Friday - January 10, 2014

Interior Board of Land Appeals
180 IBLA 388 Decision Review – Part II
Ron Scherler, CFedS

LSIT Course
ALTA/ACSM Land Title Surveys
Route Surveying Basics
Mark Lippincott, PLS & Chad Dodds,, PLS

SD Army National Guard
927th Survey & Design Team
SGT Jordan Hanssen
SFC Ron Harris
CW4 Ken Schoenfelder

Quality Based Selection – QBS in SD
Mark Grebner, PE

Southeast Technical Institute
Custer State Park
Rod Breitling, PLS

Annual Business Meeting
Banquet, Awards & Entertainment

****

Saturday – January 11, 2014

Introduction to Riparian Surveying
Joshua Alexander

****

See enclosed flyer for registration and additional information or contact Janelle at 605-348-1538, janelle@fisklandsurveying.com or visit the SDSPLS website at www.sdspls.org

SDSPLS – Board of Directors Conference Call
Friday, October 25, 2013

(This report subject to BOD approval)

Participants: President Eric Meyer, Past-President Mark Lippincott, President-Elect & Missouri River Chapter President Diane Aas, Treasurer Steve Thingelstad, NSPS Governor Tom Berkland, Education Committee Chair Kristi Goehring, Legislative Committee Chair Gary Andersh, and Executive Director Janelle Finck.

1. Call to order at 8:09 am (central) by President Meyer.
2. Acceptance of Agenda. ++Motion by Aas to accept the agenda as printed, 2nd by Berkland. Motion approved.
3. Secretary's Report – Eric Howard. Minutes of the July 26, 2013 BOD meeting distributed for review. ++Motion by Berkland to approve the minutes as printed, 2nd by Lippincott. Motion approved.
4. Treasurer's Report – Steve Thingelstad. Written report submitted for review. Expenses in general are tracking per budget. Goehring notes that the $15,264.50 raised in 2013 has been transferred to the Education and Development Fund checking account. ++Motion by Lamke to approve the report as submitted, 2nd by Aas. Motion approved.
5. President's Report – Eric Meyer. Meyer will continue to work with Dean Scott and the Big Sioux Chapter on updates to the Recommended Guidelines.
6. Committee Reports
   a) Education Committee – Kristi Goehring. Goehring received confirmation that the SDSU EWB trip was completed, with SDSU member Bruce Berdanier in attendance and the $2,000 grant can be disbursed. Discussion regarding the distribution of the $15,000 transfer of funds raised in 2013. Finck notes that the Mutual Fund account is over $93,000 as of the last statement. Berkland recommends that we wait until the January BOD meeting to discuss and finalize the distribution of the 2013 income. Andersh mentions that the applications on the website need to be updated and Goehring will check and revise the applications as needed.
   b) Legislative Committee – Gary Andersh. No activity and report at this time. Andersh will watch for issues and concerns in the upcoming legislative season.
   c) DPC Report – Don Jacobson. No report. Aas indicates that she is not aware of any pending meetings.
   d) Standards Committee – Dean Scott. No report.
   e) Public Information Committee – Mark Lippincott. No activity and no report.
   f) Membership Committee – Ron Fisk. Membership summary distributed for review. Finck notes that we have lost 20+ members this year and that Trimble and Fugro Horizons have not renewed their 2013 Sustaining Memberships. She has attempted to make contact with Trimble and Fugro but communication is poor. She will continue to seek contact before their memberships are terminated.
   g) NSPS Governor – Tom Berkland. NSPS will have their fall meeting in November in Baltimore. 33 states (including SD) have joined NSPS and there are 5 +/- more that are awaiting approvals of the MOUs. Four states are uncommitted at this time, but there have been no rejections to date. Iowa has a difficult situation in that they need 75% of their membership to approve the change in dues. There won't be a Lobby Day this year, but Berkland expects an interesting meeting.
   h) Trig Star – Dan Britton. No report
7. Chapter Reports
   a) West River Chapter – Ben Lamke. No activity to report. A fall meeting has been considered but no date set. Lamke did attend the SDACO meeting with Diane Aas and there was good discussion there.
   b) Big Sioux Chapter – Nathan Nielson. No report
   c) Missouri River Chapter – Diane Aas. No activity to report, but looking to schedule a meeting.
8. Old Business
   a) Minnesota Land Surveyors Foundation Update - No report or recent contact. Mark Johnson was to be our liaison and we need to contact them for information. It was thought that they were considering a rewriting of their bylaws to allow SD a seat on their Board.
   b) SDSU Grant – It was confirmed that the Bolivia trip did take place and a summary was sent by Bruce Berdanier. ++Motion by Lippincott to release the grand funds, 2nd by Berkland. Motion approved.
   c) Recommended Guidelines Update. No report.
   d) SDACO (South Dakota Association of County Officials) Meeting - Aas and Lamke attended the fall meeting in Spearfish. The discussion went well and it was agreed that it is good to keep communications open between SDSPLS and the Registers of Deeds. Lamke reported that there were a lot of platting questions, particular from some of the smaller counties.
9. New Business
   a) By-Laws Amendments – Modifications are considered to update member classifications, allow conference call and electronic or email votes and to provide more current and gender neutral language. Suggestions from Lippincott and Berkland were incorporated to provide continuity through the document. ++Motion by Lippincott to approve the revisions with updates, to distribute to members as required prior to the Annual Meeting and vote by the general membership, 2nd by Lamke. Motion approved.
   b) 2014 Preliminary Budget – Finck distributes very preliminary budget projections for 2014, noting the change in membership numbers and the potential impact. More formalized numbers will be available towards the end of the year as renewals and convention registrations come in.
   c) 2014 Election of Officers – Discussion regarding candidates for President-Elect. Recommendations made and Meyer to make contacts.
10. Next Meeting – January 9, 2014 at 9:00 am at Cedar Shore Resort.
11. Meeting adjourned at 9:11 am.

Respectfully Submitted
Janelle Finck on behalf of Secretary Eric Howard

**** Proposed By-Law Amendments ****

Attached to your membership renewal forms and convention registration are proposed SDSPLS By-Law amendments.

The Board of Directors has reviewed and recommended the following modifications:

Include current LSIT and Technician membership categories
Modify required payment dates to match with payments due to NSPS
Provide consistent language in reference to SDSPLS throughout the document
Provide gender neutral language
Miscellaneous grammatical corrections
Make provisions for communication, meeting and voting by phone, email or other electronic options
Allow the Board of Directors to engage the services of and delegate duties to an Executive Director
Allow the Board of Directors to serve at the Bylaws and Nominating Committees
Allow for communication and notice to members to include email and posting on the SDSPLS website

The proposed changes will be included in the agenda of the Annual Meeting on January 10, 2014 for vote by the general membership.

Deeds:
A Primer for Surveyors

By: Knud E. Hermansen, PLS, PE, PhD, Esq

During the course of searching the records, surveyors will review numerous deeds. I've often had surveyors ask about the difference between the various types of deeds. This article is an overview of the common forms of deeds used to convey title to property.

Most current deeds fall into one of four categories: 1) General Warranty, 2) Special Warranty, 3) Quit Claim deed, and 4) Bargain and Sale deed.

General Warranty Deed – The General Warranty deed is often referred to simply as a warranty deed. It is a deed conveying title where the seller (grantor) makes six covenants or promises to the buyer (grantee) as part of the conveyance. (Some states have limited or eliminated one or more covenants in a warranty deed by statute.) The six covenants that are part of a warranty deed are further divided into present and future covenants. The three present covenants are the following;

1) Covenant of Seisin – The grantor covenants to the grantee that the grantor has title and possession of the property. If a grantor conveys property burdened by a valid and current lease, the grantor would breach this covenant because the grantor had the title to the property but not the possession.
2) Covenant of Right to Convey – The grantor covenants that the grantor can validly grant or convey both title and possession. A life tenant that delivers a warranty deed to the grantee is in violation of this covenant. The life tenant had the right to convey the possession but not the right to convey the title to the property.
3) Covenant Against Encumbrances – The grantor covenants that there are no encumbrances against the title. Encumbrances could include easements, mortgages, trusts, and limitations on the title. A landowner that conveys property where the neighbor has secured an easement across the property by prescription is in violation of this covenant.

The three future covenants are the following:

4) Covenant of Warranty – The grantor covenants that the grantor will protect and defend the buyer against anyone who comes and claims a superior title to the property. Under this covenant, the grantor will have to defend any claim against the title of the grantee if and when a person comes forward with a claim to the title to the property the grantor conveyed by warranty deed.
5) Covenant of Quite Enjoyment – The grantor covenants to the grantee that the grantee will have unimpaired use and unrestricted enjoyment of the property. For example, this covenant would be breached if someone obstructed the easement that provides access to the property (based on a claim of right).
6) Covenant of Further Assurances – The grantor covenants to the grantee that the grantor will take actions reasonably necessary to perfect the grantee's title if found defective. For example, if a grantor delivered a deed to the grantee where the acknowledgement was found to be defective (e.g., notary commission expires), the grantor would be required to take the steps necessary to deliver a deed with a valid and effective acknowledgement.

The distinction that often arises between present and future covenants involves when the breach of a covenant occurred and when the statute of limitations begins to run. A breach of the present covenants will occur, if at all, at the time of conveyance. If a breach occurred, the time period of a relevant statute of limitation will commence at that time. On the other hand, the breach of a future covenant will occur after the time of conveyance, perhaps decades later.

The grantor may limit any of the warranties within the deed by expressing wording in the deed. For example, a grantor may state within the deed that the property is subject to an easement. Because the grantee is put on notice of the easement, the covenant against encumbrances would not apply to the easement cited in the deed.

The warranties that are included in a warranty deed extend back in time to the inception of title. The warranties made by earlier grantors also extend to future owners of the property. For example, assume a title defect occurred in 2001 when Ames owned the property. Ames conveys the property to Betty by quit claim deed. Betty conveys the property to Chad by special warranty deed. Chad conveys the property to Diane by warranty deed. Diane conveys the property to Edgar by quit claim deed. In 2013, Edgar discovers the 2001 title defect. Edgar can sue Chad for breach of warranty for the title defect occurring in 2001. Edgar can sue Chad even though Chad was not Edgar's grantor. The title defect that Chad had warranted occurred before Chad owners the property. Because of the long reach of the warranties back in time and future predecessors in title,[1] warranty deeds are losing popularity in favor of title insurance to protect the grantee. Warranty deeds may now be rare in certain states.

The title found at the top of the deed is not determinative if the deed is a warranty deed unless the state has a *Short Forms Deed Act* that allows for abbreviated wording in the deed to determine the covenants present in the deed.

Under the common law, a deed had to state the following or similar words in the habendum clause in order for the deed to be a warranty deed and the six covenants to be present:

> *To Have and to Hold, the premises hereby conveyed, ... and the Grantor(s) do for themselves, their heirs, successors and assigns covenant with the Grantee, their heirs, and assigns that the Grantor(s) are well seized of the premises as a good indefeasible estate in fee simple; and have good right to grant and convey the same ... and the same are free from all encumbrances whatsoever ... and the Grantors do by these presents bind themselves and their heirs, successors and assigns forever to warrant and defend the premises hereby conveyed to the Grantee and its assigns against all claims and demands whatsoever ...*

Special Warranty Deed – The category of special warranty deed is similar to a general warranty deed with one important difference. The covenants in the special warranty deed only extend to any breaches in title that were caused by the grantor or occurred during the time the grantor owned the property. In other words, the grantor in a special warranty deed only warrants the title against the grantor's own actions or omissions.

The habendum clause for a special warranty deed would have wording the same or similar to the following:

> *To Have and to Hold, the premises hereby conveyed, ... and the Grantor(s) will warrant specially the property thereby conveyed, .. and that he, his heirs and personal representatives, would forever specially warrant and defend the property unto the grantee, his heirs, personal representatives and assigns, against the claims and demands of the grantor and all persons claiming by, through, or under him.*

Because of the phrase "specially warrant" and other words found in the special warranty deed, an uninformed grantee tends to believe "specially warrant" is better than "generally warrant." Some states have eliminated special warranty deeds or changed the name or language in the deed to prevent heightened and mistaken expectations by the grantee. For example, Maine law has changed the name of a special warranty deed to a quit claim deed with covenants of warranty. Many states have also limited the number of covenants that arise in favor of the grantee by a special warranty deed.

Quit Claim Deed – A quit claim deed is also known as a "release" deed. As the name states, a quit claim deed does not actually state or claim that title is being conveyed. Rather, the grantor is quitting or releasing any claim they have in the title to the property against any present claims made or that can be made by the grantee for the title against their grantor.

In theory if Sally had title to the property and quit any claim she had in the property to Sam, Sam would not have gained title to the property. However, Sally who does have title would be estopped from denying that Sam doesn't have title after delivery of the quit claim. Sally has by delivery of her deed to Sam asserted that she would not claim title to the property against Sam, his heirs, or assigns. Because Sally is merely quitting her claim she is making no covenants to Sam that she in fact actually has title.

Most states, as a practical matter, do view a quit claim deed as the conveyance of title. There are no warranties in the quit claim deed other than what a state law mandates. The quit claim deed is usually recognized by the use of the words "quit claim" or "release" rather than words such as "grant," "convey," "give," or similar words found in warranty deeds. There is usually no habendum clause in a quit claim deed. A "Sheriff's Deed" or a "Tax Deed" are categorized in most states as a form of quit claim deed.

The quit claim deed is often used where the grantor does not want to be held to warranties and the grantee is in no position to demand warranties from the grantor. This is usually the case when the property is being conveyed for less than the fair market value or the grantee is faced with a "take it or leave it" situation.

For example, assume a spouse dies without a will leaving a surviving spouse and two adult children sharing the title to the decedent's property. It is not uncommon for the adult children to quit claim their interest in the state to their surviving parent so the surviving parent will have full use and control of the property. The generous nature of the children toward their surviving parent would not go so far as to include warranties that the children may be called upon later in their lives to defend to a successor-in-interest to the surviving parent (i.e., later owner of the property).

A quit claim deed is often used to affirm a boundary line agreement. The owner on each side of the agreed boundary is willing to quit any claim to the owner on the other side of the agreed boundary. Given the uncertainty in the boundary location, the owner is not willing to warrant the conveyance made to the neighbor.

Bargain and Sale Deed – A bargain and sale deed does not usually warrant against any encumbrances. The bargain and sale deed does mean that the grantor claims to have title to the property. This type of deed has often been supplanted by the quit claim deed in many jurisdictions. The bargain and sale deed was used frequently in tax sales and for foreclosure actions. Other covenants may be made a part of a bargain and sale deed if the covenants are specifically stated.

(continued on Page 16)

The Land Surveyor's Guide to the Supreme Court of South Dakota

Part 4 – 1896

This article represents the fourth in a series of excerpts from a book prepared by South Dakota licensee Brian Portwood. The complete book is available for review in PDF form on the SDSPLS website and covers 120 years of historic South Dakota cases, answering fundamental land rights questions of potential interest to land surveyors, which are being presented in chronological order here in Backsights & Foresights.

How much value can a road have as boundary evidence?

Webster v White (1896)

Returning us to the subject of PLSS boundary resolution, this case again illustrates that the Court did not view section lines in isolation during the early years, striving instead, as it always does, to strike an appropriate balance between public and private land rights, the Court here again deals with the section line at issue in the context of it's role as a part of the section line right-of-way. While highly aware of the need to support the development of an efficient network of infrastructure for public travel throughout the young state, the early Court was also intensely focused on protecting private land rights, and here we find a specific example of that, which is equivalent to the scenario that was presented in both the Van Antwerp and Randall cases, already reviewed herein, on a smaller and more detailed scale, relating to one particular section line. In the years prior to the licensing of land surveyors as professionals, the work of county surveyors was generally afforded a level of respect that was equivalent to professional status, and many county surveyors were undoubtedly among the most respected members of their communities, and were rightly acknowledged as being highly valuable contributors to the development of their respective counties. This inevitably resulted in some uncertainty and some misconceptions about the authority of county surveyors, their deputies, and land surveyors in general however, which the Court sought to clarify in this case. Many local officials apparently believed that they had the authority to alter or rectify original section lines, either through the mere act of authorizing a resurvey and engaging a surveyor, or by leveraging such authority as they believed to be vested in county surveyors themselves, and township officers therefore set out to exercise this alleged authority to relocate numerous section line roads, when alternate locations appeared to be preferable for public purposes. The dispute that resulted in the case we are about to review had it's origin in such misconceptions, requiring the Court to again address the significance of respecting the section line right-of-way, as originally established, and the importance of properly understanding both the operation and the limitations of the legal presumption of correctness that applies to land surveys executed by duly authorized surveyors. In it's wisdom, the Court realized that the public interest was best served through the protection of both public and private rights that had been acquired under the original GLO surveys, and it was thus intensely focused upon limiting the ability of public officials to exert control over private land, quite understandably however, some Justices held diverging views on the relative value of various forms of boundary evidence. As we will observe, a split in judicial thought not surprisingly emerges here, regarding the value of physical and testimonial evidence of original surveys versus survey evidence of record, such as platted measurements and field notes, which was destined to play out over the next several years, demonstrating that while every concept, theory or trend typically meets with some judicial resistance when tested, and that resistance may even take control at some point in time, the pendulum of justice soon returns to a state of normalcy.

Prior to 1893 - Webster was apparently a farmer, who owned an unspecified amount of land located in the east half of Section 26 in Split Rock Township, in Minnehaha County, if not the entire east half of that section. How long Webster had owned his land is unknown, but he was apparently an early settler and an original entryman, who had made note of the location of the original GLO monuments marking the corners of his land, at a time when those monuments, which were evidently mounds in this area, were still present and observable. At an unspecified date, roads were built along some of the section lines in the township, including the east line of Section 26. Webster never made any objection to the location of the existing road along the east boundary of his land, since he was apparently satisfied that it had been built on the true original section line. The monuments marking the original location of the east line of Section 26 were presumably wiped out when the road was built, and there was no indication that any effort was made to perpetuate their locations, leaving the road itself as the only physical evidence of the original monument locations. Who owned the land in the west half of Section 25 is unknown, it may have been either vacant or occupied, but there was no evidence that anyone residing in that section ever protested the location of the existing section line road.

1893 - White, who was the overseer of the township roads, acting under directions from the township supervisors, ordered a resurvey of some, if not all, of the section lines in the township, for purposes of a road construction and improvement project that was being undertaken by the township, and this resurvey was completed by an unspecified deputy county surveyor. No details of this resurvey are known, but the surveyor staked the east line of Section 26 about

300 feet west of the existing road, despite testimony that was provided to him during the resurvey, by Webster and other residents of the area, that the road marked the original section line location. White then informed Webster that the township intended to relocate the road to the resurveyed section line, so Webster filed an action against White and each of the township supervisors as individuals, seeking to prevent them from carrying out their plan to relocate the section line road.

Webster argued that the true original location of the section line in question was marked by the existing road, and that the defendants had no authority to relocate the section line right-of-way from it's original location. He accused the overseer and supervisors of exceeding their legal authority to maintain and improve the section line roads in the township, asserting that by attempting to relocate the existing section line road, they were trespassing on his land. Webster recognized that the four men were legitimate township officials, but he filed his complaint against them as individuals, rather than naming the Board of Township Supervisors in his complaint, because he believed that when they went beyond the boundaries of the existing section line right-of-way, they lost their status as government officials, and were reduced to the status of plain trespassers. White and his fellow defendants argued that they were acting in their official capacity, and could not be charged as individual trespassers. They further argued that they were entitled to rely fully upon the section line right-of-way location indicated by the resurvey, since every survey carries a legal presumption of correctness, therefore their plan to relocate the road to the surveyed location of the section line right-of-way was completely legitimate, and they could not be found guilty of trespassing in performing such a relocation. The trial court ruled that the existing road marked the true original location of the section line in question, and the resurveyed location was not the original section line location, so the township officials had no authority to execute the intended road relocation, awarding Webster the damages he had requested as well.

Separate issues relating to two distinct topics were in play in this case, one being the limitations on the authority of township officials, and the other being whether or not a resurvey should always be treated as controlling. The Court readily disposed of the claim made by White and his co-defendants that they were immune from attack as individuals, regardless of what they had done, including entering Webster's land with the intention of building a new road through his cropland, because everything they had done was premised on their right to carry out their intended functions as public officials. The Court sternly reminded them that they had no authority to relocate, or to extend their construction work beyond, the original limits of the section line right-of-way, so Webster had been fully justified in resisting their attempts to run a new roadway through his field, since that act represented an unjustified taking of a portion of his property that was legally unencumbered by any right-of-way. Having confirmed that the township officials had no authority to relocate any established section line right-of-way, the Court proceeded to assess the validity of the resurvey that had been done by order of the township. A statute had been passed in 1890, the Court noted, expressly providing that all surveys properly executed by county surveyors bear a legal presumption of correctness, and it was on the basis of that statute that White insisted that the 1893 resurvey must be accepted by all parties as controlling the original location of the section line in controversy. The Court concluded however, that the legal presumption of correctness dictated by that statute had in fact always existed, so the statute had merely served to approve and confirm an established legal premise. Furthermore, the Court indicated, the presumption that any given survey is correct amounts only to a starting point for purposes of legal analysis, and is not conclusive evidence in itself, nor does it make any survey binding by default, so evidence calling the validity of any given survey into question, or tending to show that it is inaccurate in some respect, is always worthy of consideration, and is capable of preventing a survey from controlling the boundary location at issue. In this case, Webster had presented compelling evidence, in the form of his own testimony and that of other long time residents of the township, that the original monuments along the east boundary of his section had been located where the existing road was built, and this evidence had been properly found to be superior to the resurvey, which was based solely on measurements of record. Therefore, the Court observed, the statutory presumption that the resurvey had been correctly executed had been successfully overcome and negated, by the prevailing testimony, which had indicated that the resurvey had failed to follow in the footsteps of the original GLO survey, in the view of a majority of the Court:

> *"Defendants contend that the survey made by the county surveyor was the corporate act of the township, and is binding upon all landowners ... we are unable to view it in any such light ... It is claimed that defendants were performing their duty as public officers ... they were not performing any official duty. It was their duty to maintain and work a highway along the section line as established by the original survey, not on a line 18 rods west thereof, and through the land of plaintiff. When they left the section line, they left the highway, and whatever they did beyond the limits of the highway was without authority and unlawful ... Defendants, having exceeded their authority as township officers, might be treated as trespassers, and enjoined as individuals ... The trial court found that the line run by the county surveyor between Sections 25 and 26 does not correspond with the line of the United States survey ... A large number of witnesses were examined ... the evidence is*

(continued on Page 11)

*(**Supreme Court** – continued from Page 9)*

> *conflicting ... the court was justified in finding as it did in respect to the true location of the line in dispute."*

The resurvey was unauthorized to begin with, the Court determined, but even it had been properly authorized, it could not have controlled the section line location in dispute, because the surveyor had allowed his result to be controlled entirely by the measurements of record, found on the original GLO plat and in the original GLO field notes, rather than recognizing and accepting the superior evidence of the original section line location, which was presented by the physical evidence of the existing section line road, and the testimony that supported it as the authentic original location. The Court therefore upheld the decision of the lower court, that the centerline of the existing road represented the true original section line location, and marked Webster's easterly boundary, so the township could not legally relocate the road 300 feet into his property, without completing a condemnation action against him and compensating him for his loss in accordance with the law. Since Webster had physically blocked White and the township from taking any action however, and no road had actually been built through his land, the Court found that he was not entitled to the damage award that had been granted to him, so the lower court decision was modified to reduce the damage award to the nominal level of one dollar. Very interestingly, one Justice dissented from this decision of the Court, expressing his opinion that in cases where the testimony concerning an original corner location was in conflict, as was apparently the case in this contest, the record information contained in the original field notes should be considered superior to the physical and testimonial evidence relating to the original corner or line locations, and should be treated as the controlling evidence, stating that he would prefer to uphold the resurvey, as it had been performed using the distances found in the field notes. In so stating, he indicated that his position was based on the fact that using the field notes "any competent surveyor can locate the points at which the mounds should have been placed". The fatal flaw in his thinking of course, was the fact that it makes no difference where the corners should have been placed, all that matters is where they actually were placed during the original GLO survey, and this constitutes the reason that physical evidence is always primary, while evidence or record is necessarily secondary, so measurement evidence can only become controlling in the complete absence of acceptable physical evidence of the originally surveyed location on the ground. Fortunately, a majority of the Court had the wisdom to realize that the measurements recorded during the original GLO surveys were frequently inaccurate, and should not be elevated above physical or testimonial evidence effectively locating the corners and lines of the original survey, as it was actually executed, because the monuments set during the original survey form the ultimate basis for reliance by the entrymen, regardless of any measurement error that was present in the original survey work.

This dissent however, though perhaps seemingly insignificant at the time, marked a divergence of judicial thought among the members of the Court, that would only work itself out over the course of many ensuing years, and further evidence of this split very soon appeared, when the case of Dowdle v Cornue, yet another controversy arising from Minnehaha County, arrived before the Court, just 3 months after the Webster case. Dowdle was the owner of the southeast quarter of Section 5 in Mapleton Township, and he was in a position that was analogous to that of Webster, since he was engaged in a battle with Cornue, who was a township official supporting the construction of a road on the east line of Section 5, which was alleged by Cornue to lie west of the original east line of Section 5 claimed by Dowdle. By means of an opinion written by the lone Justice who had stood against the Webster decision, the Court ruled against Dowdle, upholding the right of the township to build the section line road in question following a straight line running all the way from the southeast corner of Section 32 to the northeast corner of Section 5, because the county surveyor had testified that the line was supposed to be one straight line for that full 6 miles. Dowdle quite justifiably protested this outcome, and the Court reviewed the matter again in 1897, but Dowdle was denied a rehearing and was again vanquished, on the basis that the testimony of the county surveyor alone was sufficient to negate any such claim by a private land owner, allowing the presumption of correctness to shield the county surveyor's testimony, rendering it effectively unimpeachable. This decision would not be the last of it's kind, as we will subsequently note, to deviate from the court's normally diligent protection of private land rights, in favor of expediting public use of both land and water, but the Court would soon again reinforce the cogent principles that it had wisely adhered to in deciding the Webster case. In fact, on the same day that the Webster case was decided, two other boundary disputes, Bowman v McGilvray and Olander v Jacobson, were also resolved by the Court, both of which had apparently resulted from the same resurvey that had been analyzed by the Court in the Webster case, and therefore involved conflicts of the same nature, over the location of section lines, in unspecified locations elsewhere in the same township. Both of these cases were summarily disposed of by the Court, stating only that the same principles which controlled the outcome of the Webster case also controlled all other such controversies caused by the erroneous 1893 resurvey, and both of these results were dissented, on the same premise applied in dissenting the Webster decision. Whether or not the resurvey that was rejected by the Court in all of these cases represented the work of Van Antwerp is unknown, but it bore the hallmarks of his independent and corrective approach to resurveys,

(continued on Page 12)

*(**Supreme Court** – continued from Page 11)*

and the treatment of this resurvey by the majority of the Court was in complete accord with the principles that had controlled the outcome of the Arneson, Van Antwerp and Randall cases of the previous few years. There is of course no legal basis upon which to set section corners or run section lines where they "should have been", the challenge facing the truly professional retracement surveyor is to develop the ability to recognize all forms of valid boundary evidence, and to honor both the work of his predecessors, and the rights of all land owners, by respecting all evidence of the original corner and line locations, rather than altering the original lines by setting out new corner positions, in locations that are devoid of original evidence.

Can anyone successfully complete adverse possession?

Seymour v Cleveland (1896)

At this juncture, we reach the topic of adverse possession, and we begin our review of the manner in which it has been applied by the Court, evolving and migrating along the way, from a means of resolving title conflicts, into a factor intruding upon the realm of boundary resolution. There are many social and political factors underlying and supporting the controversial doctrine of adverse possession, but the most basic concept embodied in it is the fact that physical possession of land can hold value as evidence of ownership, and in fact it can often be the best evidence of ownership, eventually becoming conclusive evidence with the passage of time. The core element of adverse possession is not time however, it is the exceedingly powerful principle of notice, since actual occupation and use of land always provides physical notice, because openly productive use of land is necessarily visible to all the world, while time serves merely to foreclose any opportunities to dispute the validity of such affirmative occupation and use of land. In addition, the ultimate goal of the doctrine is to protect those who have acquired land in good faith, from charlatans and opportunists who attempt to exploit questionable or dubious titles, by turning past errors into devices with which to attack and oust innocent parties who hold flawed titles, from land which such occupants have long understood to be their own. It is this quest to assess the motivation of a party in possession that drives the Court to focus upon and scrutinize the intentions of adverse claimants, in search of evidence that their actions can be properly characterized as acts of good faith, in the absence of which title cannot be acquired under any statute of limitations designed to protect good faith possession. In Wood v Conrad in 1891, the two litigants held competing sheriff's deeds to the same two presumably typical adjoining lots in Rapid City, but Conrad had held possession of the lots for a few years and he had made some improvements to them. Though Wood held the junior deed, he successfully asserted that Conrad's deed was invalid, and he was awarded ownership of the lots on that basis by the trial court, but he was required to pay Conrad the value of the improvements that Conrad had made to the land, on the basis that Conrad had occupied and developed the lots acting in good faith. On appeal, the Court utilized this scenario as an opportunity to define the essential linkage between color of title and good faith, pointing out that color of title cannot serve it's intended purpose, as evidence of good faith on the part of an adverse possessor, unless the adverse claimant had valid grounds upon which to rely upon the defective document representing his color of title. The Court remanded the case back to the trial court, and upon retrial it was determined that Conrad had not in fact relied upon his deed in good faith, having been aware that it was invalid, so it could not operate in support of his claim to the lots, therefore he was not entitled to any compensation for his improvements, and the Court upheld that decision upon a second appeal in 1892. In the case we are about to review, we will watch the Court address each of these same basic elements that form the foundation of adverse possession, in the context of a dispute between a grantor and a grantee.

1893 - Seymour was the owner of an apparently typical residential lot in Milbank. The size, location and origin of the lot itself are unknown, but those factors are not relevant in any respect to the controversy that subsequently developed over it, and Seymour's ownership of the lot, which was evidently still vacant at this time, was unquestioned. Seymour agreed to sell the lot to Cleveland, who was a married woman, and a typical contract for deed was entered and signed by both parties, which included the usual provisions for regular payments to be made to Seymour by Cleveland, and for Seymour to deed the lot to Cleveland, upon her completion of the payments. Cleveland made a small down payment to Seymour, she then proceeded to take possession of the lot, and with the assistance of her husband, she erected a house and numerous related improvements on the lot.

1894 - More than a year after the contract for deed had been signed, the Clevelands were living on the lot, but they had made none of their appointed payments to Seymour, so they were in default under the express terms of their contract. Seymour apparently exhausted his patience and grew tired of waiting for his money, so he demanded that the Clevelands begin to make their payments in a timely manner, as they were contractually bound to do, but the Clevelands informed him that they were unable to do so. Seymour then informed the Clevelands that he intended to terminate the contract for deed, due to the fact that they were in violation of it, and he ordered them off the lot. The Clevelands however, claimed that they had the right to remain there, despite their failure to make their payments, and they refused to forsake their new home, so Seymour filed an action against the Clevelands, seeking to compel them to

vacate the lot.

Seymour simply argued that a valid contract had been made, and he had upheld his part of the agreement, but the Clevelands were in violation of their responsibility under the contract, so he had the right to eject them from the lot, without compensating them for any of the improvements that they had made to the lot. The Clevelands admitted that they had entered a contractual agreement with Seymour, and that they had not made any of the payments that they had agreed to make, but they argued that since they had made very substantial and valuable improvements to the lot, their occupation and use of the lot had become adverse to the ownership of the lot by Seymour, therefore he could only recover possession of the lot from them by paying them the full value of all the improvements that they had placed upon the lot. The Clevelands further argued that all of their possession of the lot had been under color of title, by virtue of their contract for deed, which they asserted was equivalent to a deed, for that purpose. The trial court decreed that Seymour was still the owner of the lot, but agreed with the Clevelands that Seymour must compensate them for all of their improvements, in order to legally terminate the contract for deed and require them to turn possession of the premises over to him.

At the time this case took place, a statute was already in place which required any owner of record, such as Seymour, to compensate any party who had adversely possessed any real property owned by him in good faith for a length of time that was insufficient to acquire the land, for any improvements made upon the land at issue by the adverse possessor, before recovering the land from the adverse possessor. This statute was applicable to those situations where an adverse possessor was unable to successfully acquire title, due to being discovered and confronted with ejection by the record owner, prior to the completion of the ten year statutory period, that was required to perfect title and to bar any claim for recovery of the land, through adverse possession. For this reason, although she knew that she had not been occupying the lot nearly long enough to have acquired it by adverse possession, it was nevertheless advantageous for Cleveland to paint herself as an adverse possessor, because if she could successfully do so, Seymour would be legally required to compensate her for all of the improvements that existed on the lot in question. Unfortunately for her, the Court readily saw through her scheme, and pointed out to her that there were three reasons why she could not qualify as an adverse possessor acting in good faith. The first and most basic reason was that her possession of the lot was never adverse in nature to begin with, because she had taken possession of it pursuant to a fully documented agreement with the lot's record owner, and in order to be adverse, possession must be antagonistic to the title of the record owner. Upon entering her contract with Seymour, Cleveland had formally recognized him as the owner of the lot, so all of her subsequent actions were subservient to his ownership of the lot, and they were made in subordination to Seymour's title to the lot, nor had Cleveland's failure to make her payments created any adverse relationship between Seymour and herself, therefore no genuinely adverse condition had ever existed between the litigants. The second reason, the Court indicated, was that in order to show their good faith, an adverse possessor must show evidence supporting their belief that they own the land in dispute, in the form of some document supporting that belief, which is known as color of title, but a contract for deed cannot serve as color of title, because it does not represent a completed conveyance, so Cleveland had no document that could serve as a basis upon which she could claim ownership of the lot. Finally and most importantly, the Court observed, in view of her utter failure to meet these two statutory requirements, she had clearly not acted in good faith, and no party who has acted in bad faith can ever obtain the protection of a statute that was intended to reward only those who have acted in good faith. The Court took this opportunity to expound upon it's view of these basic ground rules, relating to all claims of adverse possession performed in good faith, for the edification of Cleveland and others, as follows:

> *"One who enters upon real property under a contract of purchase occupies the position of a licensee ... Cleveland's entry into possession was under and by virtue of the contract ... In such cases the vendee cannot dispute the title of the vendor anymore than a lessee can question the title of his lessor ... Upon default in payment ... the possession becomes tortious, and the vendor may at once bring ejectment ... defendants do not claim under color of title, as they do not set up or claim any other title than that of a contract for deed ... one holding under color of title must show a conveyance apparently valid upon it's face ... color of title is that which in appearance is title, but which in reality is no title ... which by reason of some defect, not apparent on it's face, does not in fact amount to title ... the claim of the defendants is not adverse to the claim of the plaintiff, but under and in subordination to such claim ... they claim under no conveyance, but simply an agreement to convey ... they do not come within the provisions of the statute ... they had no title or claim of title adverse to the plaintiff ... The evident purpose and design of the provisions of the statute referred to are to protect one who has made improvements upon land which has been conveyed to him, and which he in good faith believes vests the title in him, but which, upon investigation, proves to be an invalid title."*

As indicated above, the Court had quite readily observed that Cleveland's actions were not those of an

(continued on Page 15)

ANNUAL SDSPLS SURVEY *Photo* CONTEST

Bring a print of your favorite survey project photograph to the convention with your name and a short description of the photo or project.

(8" x 10" maximum please)

Winner to receive a $100 CABELA'S GIFT CARD!

SDSPLS reserves the right to post entries on the SDSPLS website and/or print in Backsights & Foresights (with appropriate credit).

*(**Supreme Court** – continued from Page13)*

innocent party acting in good faith, and this perception of her real motivation doomed her chances of prevailing, when she was finally brought before the Court, by Seymour's legal action against her. It was obvious that she had entered the contract with Seymour intent upon defrauding him, by leveraging the existing statute protecting good faith possession of land, which could not otherwise be legally protected. She had apparently never intended to make any payments on the lot, instead she and her husband had set out to take deliberate advantage of Seymour's kindness and patience, by hastily constructing as many improvements upon the lot as possible, in an effort to increase it's value to such an extent that he could not afford to compensate them for what they had done, hoping that he would then essentially be cornered into allowing them to go on occupying the lot indefinitely without making any payments. The Court never looks kindly or charitably upon such schemes however, and invariably finds a legal or equitable pathway by which to negate the impact of any such acts, once they have been exposed in the light of justice. Those who desire the protection of the law, or who would seek shelter under any of the many principles of equity, must come before the Court with clean hands, and must be prepared to demonstrate that the balance of equity and good faith is on their side, which Cleveland very clearly failed to do in this instance, and this highly important lesson should be very well noted and heeded by all prospective litigants, particularly those whose arguments rest upon legal technicalities. On that basis, the Court upheld the lower court's ruling that Seymour was the owner of the lot, but struck down the award that had been granted by the lower court to the Clevelands for their improvements, since they had been exposed as perpetrators of a fraud, so they failed to qualify for the compensation that was legally due to legitimate but unsuccessful adverse possessors. The most important concept illustrated by this case is the basic idea that adverse rights must truly be adverse in character, which means they cannot emanate from, or develop as a result or consequence of, any form of agreement. Where an agreement of any kind has been reached, entered or made, no adverse rights can exist between the parties to the agreement, because agreement and adversity, by definition, represent directly opposing concepts. The existence of a state of agreement represents the elimination of any previously existing adverse relations, while an adversarial relationship represents the absence of any agreement, so in theory the two concepts are mutually exclusive. Nevertheless, since reality is always far more complex than theory, agreements can play a role in modern adverse possession cases, particularly when there is evidence that a mistake of some kind was made, or that an unknown error was involved in the making of an agreement, and we shall later examine how the Court has chosen to deal with such situations.

A few other cases from the early years of the Court, that are highly relevant to the basic principles underlying the doctrine of adverse possession, are also noteworthy at this point, including the 1886 case of Gale v Shillock, which was a typical title conflict, involving competing deeds to a quarter section, which had passed through many hands and had been claimed by various parties, leaving the litigants in contention over whose title was truly superior and therefore signified genuine ownership of the land at issue. Gale, who was the party in possession, prevailed at the trial court level over a group including Shillock who had challenged the validity of Gale's chain of title, and the Court initially upheld that result, but just two days later the Court revisited the matter, addressing in greater detail the charge made by the Shillock group that Gale's title was invalid, and his possession was insufficient, because he had made actual use of only a fraction of the land comprising the quarter section at issue. Upon this second review of the controversy, the Court again upheld Gale's ownership of the entire quarter, taking the position that his use of any portion of the quarter, however limited in extent, under color of title to the entire quarter, had served as effective notice to all the world of his claim to the entire quarter, making the validity of the origin of his title irrelevant, because the Shillock group had physical notice of Gale's presence upon the land, making it impossible for them to successfully claim to have legitimately acquired the quarter. In so holding, the Court cited several decisions to the same effect from California and New York, adopting the powerful principle of inquiry notice, which would go on to form a cornerstone of the legal responsibilities of all grantees of land, constituting a decisive factor in several cases that we will subsequently encounter, and in 1892 this ruling of the Court was upheld by the Supreme Court of the United States on further appeal by the Shillock group, conclusively establishing the gravity of the concept of inquiry notice.

In 1890, the Court again placed great reliance and emphasis upon the concept of notice, in deciding the case of Betts v Letcher, in the specific context of a dispute over the efficacy and applicability of recordation statutes. Betts and Letcher were friends who decided to go into business as partners, so they entered a written but unrecorded agreement, stating among other things that Letcher would acquire a certain lot from Betts and build a store on it, and he would then grant a half interest in the store and the lot to Betts. Betts conveyed the lot in question to Letcher, the store was built as agreed, and the partners went into the hardware business together, but business was poor, putting Letcher in financial difficulty. In apparent desperation, Letcher decided to bail out of the situation, so he conveyed the store and the lot to his mother, without informing Betts, and the property was then lost to creditors. Betts then filed an action against his former partner, asserting that the conveyance from Letcher to his mother had been null and void, being in violation of the unrecorded conveyance agreement, seeking to obtain the half interest in the property that Betts maintained was due to him under that agreement. The Court upheld a lower

court decision in favor of Betts, on the grounds that Letcher's mother was not an innocent grantee acting in good faith when she acquired the property from her son, because she had knowledge of the business partnership, including the unrecorded agreement, between her son and Betts. Nullifying the conveyance to Letcher's mother, and restoring ownership of a half interest in the property to Betts, the Court very eloquently explained that:

> *"Notice of a prior unrecorded conveyance, or of any title, legal or equitable, to the premises, or knowledge and notice of any facts which would put a prudent person upon inquiry, impeaches the good faith of the subsequent purchaser ... inquiry ... springs from the apparent, not the true, relation that the person in possession bears to the title. It rests upon the theory that actual and visible possession ... cannot properly escape the observation of a subsequent purchaser ... failure to make such inquiry, however, is regarded as an intentional avoidance of the truth ... and voluntary ignorance ... deprives the subsequent party of the character of a bona fide purchaser."*

The Court had thereby established that physical notice is equal or superior to notice created by virtue of recordation, making reliance upon recorded information alone, as the sole indication of the existence of land rights, quite unwise, since in the view of the Court, the recordation statutes are of no assistance to anyone whose alleged acquisition of any land or land rights was lacking in the most essential ingredient of all legitimate conveyances, which is the element of good faith. The relevance or applicability of a document as color of title was once again in focus in Meadows v Osterkamp, which first came before the Court in 1900, introducing the issues that are created by the issuance of a tax deed that subsequently proves to have been illegitimate, due to the presence of any one of many kinds of flaws that can prove to be fatal to a tax deed, making such deeds a common point of origin of problematic titles, from which a great many adverse possession claims have sprung. Osterkamp was an innocent recipient of a fatally flawed tax deed, who had occupied and improved the subject property in the full belief that he had legitimately acquired it, until Meadows came forth, correctly pointing out that the tax deed was void and thereby successfully retaining his ownership of the subject property. Upon quieting title in Meadows however, the trial court rejected Osterkamp's claim that he was entitled to payment from Meadows for the improvements, including a house, that had been erected by Osterkamp, pursuant to the decisions of the Court in the Wood and Seymour cases. The Court reversed this decision however, finding that Osterkamp, unlike either Conrad in the Wood case or Cleveland in the Seymour case, had possessed the subject property in complete good faith, having been the victim of bungling of the tax foreclosure process by others, so Osterkamp was fully entitled to the compensation that he had requested from Meadows. In so ruling, the Court set forth the important principle that good faith is always presumed, while neither bad faith nor fraud are ever presumed, and must always be proven, holding that a void tax deed represents presumptively valid color of title, unless or until it is proven that the holder of such a deed was aware that it was invalid, and the Court again reiterated this position when the case returned to the Court on a second appeal in 1905. Note that no boundary issues were presented in any of these cases, the sole issue in every instance was the quality of the competing titles and the fact of ownership, while the physical extent of these titles was not a matter in contention, but the fundamental pieces were now in place for the adjudication of future possession based land rights litigation, and with the dawn of the new century, the transition of adverse possession into a means of boundary resolution was on the horizon, as we shall soon observe.

Success has nothing to do with what you gain in life or accomplish for yourself. It's what you do for others.

Danny Thomas

(**Deeds** – *continued from Page 7)*

This review should help surveyors understand the common forms of deed they will encounter as part of their practice. The form of deed is seldom critical in providing surveying services. The form may be an indication of a problem related to a boundary and provides some fodder for thought.

Knud Hermansen is a licensed surveyor, engineer, and attorney at law. He teaches in the Surveying Engineering Technology program at the University of Maine and offers consulting services in boundary retracement, surveyor liability, roads & easements, boundary litigation, and alternate dispute resolution.

[1]Of course the obligations of the grantor imposed by warranties ends with the death of the grantor and probate of the grantor's estate.

As seen in Missouri Surveyor, March 2013

SDSU – Engineers Without Borders

By: Dave Graves

Bolivia trip includes Fairfield students

Engineers Without Borders student members at South Dakota State University have completed their fourth visit to Bolivia in three years.

The most recent visit to Carmen Pampa, a rural, mountainous village in west-central Bolivia, was directed by Bruce Berdanier, who also directed the three previous trips as head of the SDSU Civil Engineering Department. That wasn't his title on the Aug. 5-13 trip.

Berdanier became dean of the School of Engineering at Fairfield (Conn.) University July 1.

When Engineers Without Borders left for South America, four civil engineering students from SDSU were joined by two mechanical engineering students from Fairfield. "It would be nice if we could continue to partner with them," says Deidre Beck, head of the SDSU chapter.

"We all got along great. They were mechanicals. They brought a little different perspective," Beck says.

Making dirty water clean

The group made adjustments to a PVC pipe chlorinator installed by chapter members in December 2012 on the upper campus of Unidad Academica Campesina, "the united college for the peasants," a branch university of the Catholic University in Bolivia.

Also while there in August, the group did survey work to install a similar chlorinator on the lower campus in August 2014.

The chlorinator, housed in a concrete bunker and operated via gravity feed, destroys parasites and bacteria in drinking water that can lead to disease. Previously, the water running off the Andes would collect a lot of soil and other organic compounds as it passed through fertilized fields and livestock ranges.

"The water was so yellowish brown it was hard to see into more than a couple inches," Berdanier said after the December trip. Within an hour after sealing the system and installing the chlorinator, the water was nearly clear. "It was incredible how fast the water cleared up after some piping changes and exclusion of some contaminated runoff," says Berdanier. "Within a short time, there was almost 10 feet of visibility into the water source."

In August, the group also did a topographic survey and testing for adding two new sand filters: one to the current chlorination system and another one as part of the next chlorinator.

Initial site selection, soil sampling and topographic surveying was also completed for a wastewater treatment system.

Berdanier commented, "Although the UN Millennium Development Goal to cut in half the number of people without access to clean water was met about a year ago, there are still 2.5 billion people without access to improved sanitation, and over one billion people are still defecating in the watersheds of the world."

Project, Americans well received

Two students from the University of Colorado-Boulder also were at Carmen Pampa while the SDSU group was there. The CU students presented survey information on student attitudes toward the chlorinator, which was generally positive, Beck says.

There was some measure of health improvement, although water is still being boiled to kill pathogens.

Matt Auch, who has been a part of all four trips to Bolivia, says the people of Carmen Pampa are "welcoming. They made an effort to get to know us even though there was a language barrier." He noted that at a soccer game, a band pulled the group in to sing and dance so they could hear some American songs.

The other SDSU students on the trip were Emily Sumner and Jed Reimnitz.

Reprinted with permission of author and University Marketing and Communications – SDSU

Deidre Beck Is the Engineers without Borders (EWB) president and she serves as the American Society of Civil Engineers (ASCE) recruitment chair. Dee Dee is from Pierre, SD.

Matt Auch is the EWB treasurer and he was recently selected as the "Outstanding Senior" in the CEE Department at SDSU. His hometown is Centerville, SD.

Emily Sumner is ASCE Student Chapter president and past vice-president of EWB. Emily's hometown is Omaha, NE.

Jed Reimnitz is a CEE graduate student. He is vice-president of EWB and he is from Corsica, SD.

Return on Investment
A Formal Surveying Education

By

Knud E. Hermansen†
P.L.S., P.E., Ph.D., Esq.

Carlton A. Brown†
P.L.S., P.E., Ph.D.

As faculty members in the Surveying Engineering Technology program at the University of Maine, we are often asked if it is worth pursuing a bachelor of science degree in surveying. In other words, will a graduate receive a good return on their investment by pursuing academic studies in surveying. Our answer is an unqualified "YES."

THE RETURN FROM THE INVESTMENT

The return from investing in a four-year surveying education has many facets aside from the knowledge itself and the need for the degree in some states for obtaining a professional license. From our observation, graduates from a four-year surveying program are in the top 30% of the starting salaries received by college undergraduates. This surprises many surveyors who often feel they are on the bottom end of earners.[1] The fact is that a large number of college graduates cannot find employment after graduation.[2] What employment is available for many college graduates is not too far above the minimum wage.[3] Some graduates such as those with a degree in social work must often obtain a graduate degree or work as an unpaid intern for one or two years before securing paid employment in their field. On the other hand, over thirty employment announcements were posted for University of Maine surveying students between January and May 2013[4] - almost three times more than the number of surveying students graduating.

A four-year surveying degree has considerable value aside from surveyor licensing. Graduates with a bachelor of science degree in surveying are in an excellent position to multiply their earnings through additional studies. Graduates can go on to earn a graduate degree in the surveying field or a related field such as GIS. Graduates can also pursue graduates studies and earn an MBA,[5] graduate degree in civil engineering,[6] or a law degree.[7]

Most four-year surveying programs are ABET accredited. Graduates with a bachelor of science degree in surveying from an ABET accredited program can seek dual registration as both a surveyor and engineer in most states.[8] Dual licensing as both an engineer and surveyor will add at least 50% to an individual's average salary.[9] Many surveyors also hold other licenses or certifications allowing practice and expanded services in

[1] The average salary of a surveyor in 2012 was $59,180 a year or approximately $28.50 an hour while an elementary teacher was $56,000 per year, a social worker was $47,000 per year, forester was $57,000 per year, and electrical engineering technician was $58,000 per year. "May 2012 National Occupational Employment and Wage Estimates United States" *Bureau of Labor Statistics*. Retrieved May 2013 from http://www.bls.gov/oes/current/oes_nat.htm#17-0000

[2] See Willis, Gerri. (2013 Feb.) "Drowning in Debt: Liberal Arts Graduates" *Fox Business, Gerri Willis Daily*. Retrieved May 2013 from http://www.foxbusiness.com/on-air/willis-report/blog/2013/02/19/drowning-debt-liberal-arts-graduates and Gerber, Scott. (2012 Sep.) "How Liberal Arts Colleges Are Failing America." *The Atlantic*. Retrieved May 2013 from http://www.theatlantic.com/business/archive/2012/09/how-liberal-arts-colleges-are-failing-america/262711/

[3] Notte, Jason. (2013 April) "284,000 College Grads Making Minimum Wage" *MSN Money*, Retrieved May 2013 from http://money.msn.com/now/post.aspx?post=60c2d77c-2d2b-4920-8156-4fb05e443d93

[4] The employment outlook for surveyors is 25% higher than average. (August 2012) "Surveyors", *Bureau of Labor Statistics*. Retrieved May 2013 from http://www.bls.gov/ooh/architecture-and-engineering/surveyors.htm

[5] It is a misconception to believe an individual must have an undergraduate business degree before earning a masters in business administration (MBA).

[6] Most civil engineer programs will allow an individual with a B.S. in surveying to enroll directly into the civil engineering graduate program.

[7] Generally the only two requirements to be accepted into a law school is an acceptable undergraduate grade point average (GPA) and an acceptable law school aptitude test (LSAT) score. All things being equal, nurses and technical majors are often given preference.

[8] NCEES administers both components of the surveying and engineering exams. Individuals seeking licensure as a professional engineer will have to work under a licensed engineer performing engineering services before the individual can sit for the principles and practice portion of the engineering exam.

[9] According to the NSPE 2012 Engineering Income and Salary Survey, a dual licensed individual mean salary is $104,000 a year.

such areas as designing on-site septic systems, forestry, wetlands delineation, flood plain manager, photogrammetry, and city planning, to name a few.

Surveying graduates also have considerable potential to increase their earnings by hard work and entrepreneurial endeavors. Unlike some professions such as grade-school teaching or social work where individuals most often work within a structured bureaucracy, surveyors usually obtain employment where they can advance based on merit and hard work. Licensed surveyors can start their own firms with minimal investment in equipment and software compared to other startup businesses.

The bottom line is that a graduate with a four-year degree can expect to earn around $600,000 more during their professional career.[10]

THE COST

The second part of analyzing the return on an investment in formal education as a surveyor is to look at the cost of a formal education. Without question, education is expensive. A four-year degree at a public university will cost around $90,000.[11] There are numerous ways to reduce or even eliminate this cost.

One way to drastically reduce costs, available to every student, is to earn a surveying degree at a two-year college.[12] At the University of Maine, a 2+2 option is available for almost all two-year (associate in science) surveying degrees. Even where a two-year surveying degree is not available in a state, a frugal student can earn approximately two years of credit toward a four-year surveying degree at most community colleges. General education courses required for a surveying degree such as mathematics, physics, writing, speech, accounting, economics, business law, ethics, and humanities courses are usually found and can be taken at community colleges found near most communities.

Full tuition payment through scholarships or other avenues are often available to students. The most common source for payment of all tuition costs in the surveying program at the University of Maine is veterans' tuition assistance like the G.I. Bill. Almost 7% of the current students in the surveying program at the University of Maine are veterans receiving veterans' educational benefits.[13]

A major source of scholarship grants come from state surveying societies. Many state surveying societies award student scholarships in excess of several thousand dollars a year. Almost all surveying students at the University of Maine receive one or more surveying scholarships.

Another major source of education financial support is summer employment in the surveying field. Summer often brings an increase in surveying field work with a corresponding increase in part-time surveying employment. Some employers even provide scholarships to summer employees going to college.[14]

THE RESULTS

After examining both the investment cost and return on the investment, the result shows a four-year degree in surveying is a good investment. The college graduate can expect to earn 65% more than a high-school graduate.[15] Based on a 30-year professional career, a graduate can expect a 7% return on their investment.[16] Of course the return on the investment is considerably higher with community college courses, tuition aid grants, and scholarships.

For almost all individuals, pursuing a four-year surveying degree is worth the effort.[17]

† Knud Hermansen and Carlton Brown are professors in the Surveying Engineering Technology program at the University of Maine. The Surveying Engineering Technology program is a four-year program leading to a B.S. degree in Surveying Engineering Technology. It is an ABET/TAC accredited program. A five year B.S./M.B.A. option is available. The focus of the program is to educate students for professional surveying practice.

[10] "2013 College Education ROI Rankings: Does a Degree Always Pay Off?" *PayScale*. Retrieved May 2013 from http://www.payscale.com/college-education-value-2013

[11] "2013 College Education ROI Rankings: Does a Degree Always Pay Off?" *PayScale*. Retrieved May 2013 from http://www.payscale.com/college-education-value-2013

[12] In Maine, community colleges tuition rates are approximately a third of the tuition rates at four-year Universities.

[13] As an aside, without an explanation, almost all at this time are U.S. Marine veterans.

[14] The Bureau of Land Management fell into this category along with many private employers such as Judith Nitsch Engineering, Inc.

[15] Korane, Kenneth J. (2012, Sep.) "Which Engineering Schools Offer the Best Value?" *Machine Design*. Retrieved May 2013 from http://machinedesign.com/news/which-engineering-schools-offer-best-value

[16] "2013 College Education ROI Rankings: Does a Degree Always Pay Off?". *PayScale*. Retrieved May 2013 from http://www.payscale.com/college-education-value-2013

[17] Ibid.

Texting & Cell Use While Driving

By: Joe Breaux – TSPS Safety Committee Chair

This past April was National Distracted Driving Awareness Month. The Texas Department of Transportation (TxDOT) launched their second annual driver awareness campaign titled "Distracted Driving – Talk, Text, Crash." TxDOT also has electronic message boards along many Interstate and US Highways that displayed other messages alerting drivers of the dangers of texting and cell phone use while driving.

The first Texas Distracted Driving Summit was also held then in San Antonio. Hosted by United Services Automobile Association (USAA) along with TxDOT and Shriners' Hospitals for Children, the primary focus of the summit was decreasing texting while driving. Emphasis was placed upon accomplishments made during the past three years in reducing fatalities due to distracted driving in Texas. Plans for continuing reductions in distracted driving in Texas through new legislation banning texting and driving throughout the state were also discussed.

In an effort to decrease fatalities in auto accidents and to increase awareness of motor vehicle safety, local, state and national organizations also conducted driver awareness campaigns during this same time. Many of these organizations have plans to continue adding to their safety campaigns and to implement new distracted driving campaigns.

Why all the concern? Drivers between 16 and 20 years old lead the nation in distracted driving fatalities. This group is ahead of drivers between the ages of 21 to 34. Teens and younger adults are more prone to text or talk on a cell phone. A driver using a cell phone is 6 times more likely to cause an accident. A teen driver is also 3 times more likely to cause a fatal crash with a teen passenger in the front seat than with an adult passenger. Even pedestrians using a cell phone to talk or text are more likely to either cause an accident or to be involved in one and some cities across the nation have passed or are considering laws that allow ticketing pedestrians who cause an accident while using a cell phone.

Here are some facts about distraction by cell phone use from GEICO Insurance Company:

- Distraction from cell phone use while driving (hand held or hands free) extends a driver's reaction as much as having a blood alcohol concentration at the legal limit of .08%. (University of Utah)
- The No. 1 source of driver inattention is use of a wireless device (Virginia Tech/NHTSA)
- Drivers that use cell phones are four times as likely to get into crashes serious enough to injure themselves (NHTSA, Insurance Institute for Highway Safety)
- 10% of drivers aged 16 to 24 years old are on their phone at any one time. Driving while distracted is a factor in 25% of police reported crashes.
- Driving while using a cell phone reduces the amount of brain activity associated with driving by 37% (Carnegie Mellon)

During this years Text, Talk Crash campaign TxDOT issued some alarming information. Distracted driving is a serious issue and is the cause of many traffic crashes and fatalities.

- National data shows that the percentage of drivers texting or visibly manipulating a hand-held device increased from .6% in 2009 to .9% in 2010 (NHTSA)
- The percentage of drivers holding cell phones to their ears while driving stood at 5% in 2010. This means that at a typical daylight moment in 2010 – 660,000 vehicles were being driven by people using hand-held cell phones.
- In 2009 alone, nearly 5,500 people were killed and 450,000 more were injured in distracted driving-related crashes. (NHTSA)
- Nearly one in four crashes involves driver distraction in Texas (TxDOT)
- In Texas in 2011 – 81,103 crashes involved distraction in a vehicle, driver inattention or cell-phone use. 361 of these crashes were fatal (TxDOT)

In Texas and across the nation, cell phone use is one of the major causes of distracted driving related traffic accidents and fatalities.

- Research indicates that the burden of talking on a cell phone – even if it's hands-free – saps the brain of 39% of the energy it would ordinarily devote to safe driving (NHTSA)
- Using a cell phone while driving delays your reaction time as much as having a blood alcohol concentration of .08 - the legal limit for drunk driving (NHTSA)
- Drivers who use a hand-held device are 4 times more likely to get into a crash serious enough to cause injury. Texting drivers are 23 times more likely to get involved in a crash (NHTSA)
- In a recent nationwide study, 54% of drivers said their driving was no different when talking on the phone (NHTSA)
- In Texas, 3,147 crashes were attributed to cell phone use in 2011, and 40 of those crashes were fatal – a decrease from the previous year (TxDOT)
- Distracted driving-related crashes and fatalities are highest among young adults.

- Teen drivers are more likely than other age groups to be involved in a fatal crash where distraction is reported. In 2009, 16% of teen drivers involved in a fatal crash were reported to have been distracted (NHTSA)
- In 2009, 40% of all American teens say they have been in a car when the driver used a cell phone in a way that put people in danger (Pew)
- In Texas, 46% percent of urban teens and 52% of rural teens talk on a cell phone while driving (Texas Transportation Institute)
- In Texas, 42% of urban teens and 48% of rural teens text while driving (Texas Transportation Institute)

What about Texas laws regarding cell phone use and texting by drivers? One law does not allow use of cell phone by school bus drivers while driving if children are present. Driving permit holders may not use a cell phone while driving during their first 6 months. Another law states that cell phones may not be used while driving in a school zone, when school is in session; they may be used only when the vehicle is parked. Another bans the use of wireless communication devices by persons under 18 years of age while driving. And in January 2012, the Texas Legislature did pass a law making cell phone use by a commercial driver illegal while driving.

On a local level, numerous cities have passed laws affecting or restricting use of mobile devices. Some of the cities are Amarillo, Austin, Dallas, El Paso, Galveston, Missouri City, San Antonio and Stephenville. As an example, the City of Austin bans texting while driving. It should be no surprise when other cities are added to the list.

On another level, many major corporations, state agencies and some cities have enacted policies that restrict employees from any cell phone use while driving a company, state or city vehicle, even for business calls. Stiff penalties are often in place for those who violate policy.

Lots of numbers and statistics, but the message is important to remember – using a cell phone to talk or text while driving is dangerous, for all. So what do we do when we receive a call or a text message on our cell phone?

- ✓ Rule Number 1 should be to not take the call. Just wait until a safe location is reached and you can safely pull over into a safe place such as a parking lot, not the shoulder of a highway or busy road. When safely stopped, then take the call.
- ✓ Rule 2 should be to read the above statistics and then refer back to Rule Number 1, for your own safety and the safety of others.

As seen in The Texas Surveyor, September-October 2012

Holiday Eating Tips

1. Avoid carrot sticks. Anyone who puts carrots on a holiday buffet table knows nothing of the Christmas spirit. In fact, if you see carrots, leave immediately. Go next door where they're serving rum ball.
2. Drink as much eggnog as you can. And quickly. Like fine single-malt scotch, it's rare. In fact, it's even rarer than single-malt scotch. You can't find it any other time of year but now. So drink up! Who cares that it has 10,000 calories in every sip? It's not as if you're going to turn into an eggnog-alcoholic or something. It's a treat. Enjoy it. Have one for me. Have two. It's later than you think. It's Christmas!
3. If something comes with gravy, use it. That's the whole point of gravy. Gravy does not stand alone. Pour it on. Make a volcano out of your mashed potatoes. Fill it with gravy. Eat the volcano. Repeat.
4. As for mashed potatoes, always ask if they're made with skim milk or whole milk. If it's skim, pass. Why bother? It's like buying a sports car with an automatic transmission.
5. Do not have a snack before going to a party in an effort to control your eating. The whole point of going to a Christmas party is to eat other people's food for free. Lots of it. Hello?
6. Under no circumstances should you exercise between now and New Year's. You can do that in January when you have nothing else to do. This is the time for long naps, which you'll need after circling the buffet table while carrying a 10-pound plate of food and that vat of eggnog.
7. If you come across something really good at the buffet table, like frosted Christmas cookies in the shape and size of Santa, position yourself near them and don't budge. Have as many as you can before becoming the center of attention. They're like a beautiful pair of shoes. If you leave them behind, you're never going to see them again.
8. Same for pies - apple - pumpkin - mincemeat. Have a slice of each. Or if you don't like mincemeat, have two apples and one pumpkin. Always have three. When else do you get to have more than one dessert? Labor Day?
9. Did someone mention fruitcake? Granted, it's loaded with the mandatory celebratory calories, but avoid it at all costs. I mean, have some standards.
10. One final tip: If you don't feel terrible when you leave the party or get up from the table, you haven't been paying attention. Re-read tips; start over, but hurry, January is just around the corner.

NSPS - News & Views

ALTA/ACSM Standards

When the *ACSM Bulletin* magazine was still in publication it included a column called "ALTA/ACSM Standards." In the column, Gary Kent, who is Chair of both the NSPS ALTA/ACSM Committee and the joint ALTA/NSPS /Lenders Council Committee, responded to questions raised about some aspect of the standards. NSPS has reinstated this column in *NSPS News & Views* on a regular (if not weekly) basis.

Please send questions/comments you may have about the standards to NSPS Executive Director Curt Sumner via email at Curtis.sumner@nsps.us.com

QUESTION:

I have a question about ALTA/ACSM Land Title Surveys for sites that are rapidly changing, i.e. under construction. We are surveying a property that was formerly a large retail store – it was demolished this summer, along with much of the parking lot. Our client's corporate requirements require an ALTA/ACSM Land Title Survey, and they are asking for it now. But at this point, the site is now basically a dirt field at sub-grade, with some curb starting to be built for the new parking lot. For the land title survey, should we "back-date" the survey and show the improvements/conditions that existed before demolition? (We do have that information). Or should we just try to map the site as it exists now, and treat it as a current ALTA/ACSM Land Title Survey based on conditions at the site on the day of survey?

ANSWER:

This is actually not too unusual of a request. An ALTA/ACSM Land Title Survey is intended to show conditions existing as of the date of the survey, so the *former* improvements will probably be considered irrelevant at this point. Showing them would likely serve no useful purpose unless there is some evidence of the continued existence of some utilities, foundations, etc. – which should be shown anyway. Otherwise, the surveyor should do the boundary-related portion of the survey, show any improvements within 5 feet of the perimeter boundary (together with any potential encroachments currently observed), and then simply put a readily observable note on the survey that says something like "Site Currently Under Construction." If there are building foundations in place, those should definitely be shown and dimensioned to the nearest boundaries, but miscellaneous improvements like curbs, walks, etc. that *are still under construction* can be covered by the "site currently under construction" note. After all, who is to say what will actually be in place upon final completion of construction? Putting a couple of color digital photos on the face of the plat or map – or providing them separately, but with the plat/map when delivered – would be helpful for the client, lender and title company to visualize what is currently going on with the property. Of course, as Section 1 of the 2011 ALTA/ACSM Standards states, it is recommended that the surveyor ask the client, lender and title company what their expectations ahead of time are so there are no surprises when it comes to surveys on atypical properties.

Subsequently NSPS received the perspective of another friend, Ed Pagan, an attorney who provides advice to surveyors.

ANSWER:

I read the question about preparation of an ALTA survey on a site under construction and what should be shown etc ... What jumped out at me immediately is the same old problem that has been the "Achilles Heel" of the surveying profession since I first started lecturing and representing the industry over 20 years ago. Communication.

This question of what to do, should be answered before the surveyor's crew ever sets foot on the site to take a measurement. What the question really relates to is the legal principle called "meeting of the minds". I submit the following simplified short list of questions to be considered:

- What does the client think they want?
- After discussion with the client about their desires, needs and expectations, what does the client really want?
- Does what the client really wants meet what the client really needs?
- Are the client's expectations and wants compatible to their needs?
- Can the surveyor provide those desired services in a quality fashion within the time frame and budget constraints desired by the client?

Answers to those questions should dictate nature, character and substance of the professional surveying services to be performed and the price. Those are elements of a "contract". Many times the person ordering the ALTA Survey has no clue what is entailed and only knows that an ALTA surveys is what corporate, legal or management wants. The surveyor needs to educate the client of their options in order to keep the client expectations in check. What may have started out as a single survey of a site under construction could turn out to be multiple progress surveys with a price tag acceptable to all.

Just a few thoughts.

Ed Pagan, Jr., Esquire
Pagan Affiliates, LLC

SOUTH DAKOTA SOCIETY of PROFESSIONAL LAND SURVEYORS

Affiliate of the National Society of Professional Surveyors

APPLICATION FOR MEMBERSHIP

Complete the following

Name:

Last: _____

First: _____

Preferred Mailing Address:
Business _____ or Home _____

Business:

Name: _____

Address: _____

City: _____

State: _____ Zip: _____

Phone: _____

Cell: _____

Email: _____

Home: (Required)

Address: _____

City: _____

State: _____ Zip: _____

Phone: _____

Email: _____

Check one and sign below

Member *(In-State w/NSPS):*	___ $160	**Technician:**	___ $60	**Life Member** *(In-State w/NSPS):*	___ $65
Member *(Out of State):*	___ $125	**Associate:**	___ $50	**Life Member** *(Out of State):*	___ $25
LSIT:	___ $90	***Student:**	___ $25	**Sustaining:**	___ $250

In-State classifications are determined by the home mailing address.
Fees for In-State Members ($160) include NSPS membership.
Fees for Out-of-State Member ($125) do not include NSPS membership.
In-State Life Members have the option of selecting NSPS membership ($65)

Member:
a) Any person licensed to practice the profession of surveying, according to state or provincial statues;
b) A GS-1373 employee classified as a Land Surveyor or Supervisory Land Surveyor;
c) An academician holding a bachelor's or higher degree and the rank of assistant professor or higher rank and teaching in an ABET accredited or a state land surveying registration board surveying program;
d) A practicing surveyor or surveying teacher who has attained a minimum of six years experience in responsible charge of surveying activities or four years of education and two years of experience may submit credentials for consideration.

LSIT:
Any person who has successfully completed the LSIT examination according to state or pro-vincial statutes.

Technician:
Any person who has successfully completed any level of the Certified Surveying Technician program as administered by and through the National Society of Professional Surveyors.

Associate:
a) Pre-Professional: Any person who by their employment is actively engaged in a program leading to a career in the profession of surveying;
b) Subscriber: Any person with an associative interest in Surveying whose qualifications do not meet the requirements of Member, LSIT, or Technician.

***Student:**
Any person who is a full-time student studying surveying or related fields.

Sustaining:
Any person or organization, either individuals, partnerships or corporations, who or which are engaged either in the manufacture or distribution of surveying instruments, equipment or supplies, or in the compilation or reproduction of maps, or in the performance of services for land surveyors.

Life Members:
Any person who has attained 60 years of age and has retired from active practice as a land surveyor and who has paid dues for each of the nine years preceding and also in the year which he or she attained such age or so retired, whichever is later.

_____ _____
Signature of Applicant **Date**
I certify that I qualify for the class of membership I have applied for as outlined below.

_____ _____ _____
*Signature of Faculty Member (required for students) Date Institution
I certify that the applicant is a full-time student. (12hrs or more)

Send complete application & payment to: SDSPLS - PO Box 8154 - Rapid City, SD 57709
***(phone)* - 605-348-1538 *(email)* - janelle@fisklandsurveying.com**

SDSPLS
PO Box 8154
Rapid City, SD 57709

STANDARD
US POSTAGE
PAID
PERMIT #618
RAPID CITY SD

CHANGE SERVICE REQUESTED

SUSTAINING MEMBERS

These 2013 Sustaining Members support YOUR Society. Show your appreciation
Call a Sustaining Member first!

Berntsen International, Inc.
P.O. Box 8670
Madison, WI 53708-8670
608-249-8549
www.berntsen.com

Frontier Precision
2020 Frontier Drive
Bismarck, ND 58504
1-800-359-3703

Fugro Horizon's Inc.
3600 Jet Dr.
Rapid City, SD 57703
605-343-0280

Mathison's Graphics Plus
324 St. Joseph Street
Rapid City, SD 57701
605-341-7370
1-800-658-5422

SURV-KAP, Inc.
PO Box 27367
Tucson, AZ 85713-5220
520-622-6011

Trimble
5475 Kellenburger Road
Dayton, OH 45424
927-223-8921