

**The Seven Deadly Sins  
of Surveying**

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**The Seven Deadly Sins of  
Surveying**

Learning Objectives

- ☞ Learn Seven things that surveyors do that greatly increase their liability exposure
  
- ☞ Learn how you as a professional can:
  - a) Avoid the liability
  - b) Decrease the liability
  - c) Cover the liability

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**The Seven Deadly Sins of  
Surveying**

What do we do that subjects us  
to liability?

Just how much liability are we  
talking about?

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# The Seven Deadly Sins of Surveying

“I Don’t Worry About These Things. I’ll Never Have a Problem”

The Industry averages 12 cases per 100 firms each year.

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“I Don’t Worry About These Things. I’ll Never Have a Problem”

NC had approximately 100 E & O Cases in 2006

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“I Don’t Worry About These Things. I’ll Never Have a Problem”

This means that over the course of a 20 year career the odds of being sued are much better than 50%

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The Seven Deadly Sins of Surveying

1. Pride/Arrogance
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

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1. Pride/Arrogance

Mark Moeller Surveying \*\*

\*\* The cases we are about to discuss are real. The names have been changed to protect the innocent.

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1. Pride/Arrogance

Mark Moeller Surveying

Moeller Surveying does a boundary survey of a small lot in a subdivision.

Moeller uses the wrong corners to stake the lot.

This caused problems for the unhappy clients.

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# The Seven Deadly Sins of Surveying

## 1. Pride/Arrogance

Mark Moeller Surveying

Clients called to discuss the problem but were dismissed as kooky and disgusting because they were lesbians.

A lawsuit was filed.

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## 1. Pride/Arrogance

Mark Moeller Surveying

Initial suit	\$6,500
Attorney Fees	\$5,600
Indemnity Cost	\$5,000
Case fees	\$4,000
Lost time	6 months

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## 1. Pride/Arrogance

How do we avoid this problem?

1. Treat others as you want them to treat you.
2. Do NOT assume you are right when someone complains about a problem.
3. Do not assume you have to have done something wrong to have a problem.

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1. Pride/Arrogance

How do we avoid this problem?

- 4. Clients will have questions. Be prepared to answer them.
- 5. Treat your clients problems like they were your problems.

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1. Pride/Arrogance

*ENGINEER'S CERTIFICATION*

I, MOHAMMED M. SIDDIQUI, HEREBY CERTIFY THAT I AM A PROFESSIONAL ENGINEER IN THE STATE OF ARIZONA. THAT THIS MAP, CONSISTING OF 1 SHEET CORRECTLY REPRESENTS A MINOR LAND DIVISION FOR NEW HOMES MADE UNDER MY SUPERVISION DURING THE MONTH OF DECEMBER, 2005. THAT THE SURVEY IS TRUE AND COMPLETE AS SHOWN; THAT ALL MONUMENTS SHOWN ACTUALLY EXIST AS SHOWN; THAT THEIR POSITIONS ARE CORRECTLY SHOWN AND THAT SAID MONUMENTS ARE SUFFICIENT TO ENABLE THE SURVEY TO BE RETRAGED. STRUCTURAL ENGINEERS ARE THE MOST EDUCATED CIVIL ENGINEERS. CIVIL ENGINEERS SUPERVISE AND INSTRUCT REGISTERED LAND SURVEYORS. THIS MAP IS INCIDENTAL TO NEW BUILDING CONSTRUCTION.



MOHAMMED M. SIDDIQUI  
PROFESSIONAL ENGINEER  
(STRUCTURAL) REGISTRANT  
ARIZONA LICENSE 34178

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1. Pride/Arrogance

Case No. Respondent Summary of Findings Summary of Board Action February 26, 2008

On or about ... Respondent sealed numerous surveys with his P.E. (Structural) seal. Respondent's work on the projects was not necessary and incidental to his professional engineering registration. .... Respondent agrees to voluntarily surrender his Professional Engineer (Structural) Registration .....

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# The Seven Deadly Sins of Surveying

## The Seven Deadly Sins of Surveying

1. Pride/Arrogance
2. Sloth
- 3.
- 4.
- 5.
- 6.
- 7.

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## 2. Sloth

Moe Rivers Surveying

Rivers hears an old friend (a General Contractor) has just gotten the contract to build a massive hotel and casino.

Rivers contacts his old buddy the GC and asks for the stake out job.

GC helps out old pal by telling local surveyor his control is off 3/8".

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## 2. Sloth

Moe Rivers Surveying

Rivers stakes job with poor oversight and no control network in place.

After the GC has 25 casings driven to bedrock and filled with concrete they discover Rivers has botched the job. Some casings are off as much as 12 feet.

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## 2. Sloth

Moe Rivers Surveying

Local firm is called back in to verify location of casings as built. Designer declares them unusable as built. GC has to tear them out and start over.

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## The Seven Deadly Sins of Surveying



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## 2. Sloth

Cost to GC to start over?

**\$20,000,000**

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2. Sloth

How do we avoid this problem?

1. Have a checklist and independent review of field work, plats, and reports inside your office.
2. Regularly calibrate your equipment at a verified baseline.
3. Do not accept work for which you are not qualified.

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2. Sloth

How do we avoid this problem?

4. Understand your strengths and weaknesses.
5. Supervise!

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# The Seven Deadly Sins of Surveying

## 3. Avoidance

Phil Spence Surveying

In 2000 Spence misplaced a boundary on a small survey.

Client was unhappy and felt they were due \$10,000 in damages resulting from the improper work.

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## 3. Avoidance

Phil Spence Surveying

Spence refuses to talk to the client or anyone else about the project. Client files suit.

Spence ignores all efforts to contact him concerning the suit. (He even ignores a summons to appear in court.)

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## 3. Avoidance

Phil Spence Surveying

After a Sheriff's deputy came to arrest him Spence called his E & O carrier.

Client was awarded \$10,000.

Attorney's fees \$26,000

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3. Avoidance

How do we avoid this problem?

1. Return calls from clients. (Especially the ones mad at you.)
2. Understand that for most people getting a survey is a rare thing. Take time to make sure clients understand what you are doing and why.
3. Call your E&O agent if you even think you might have a claim.

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3. Avoidance

How do we avoid this problem?

4. Your grandmother was right. (A stitch in time saves nine".) Address problems promptly.

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The Seven Deadly Sins of Surveying

1. Pride/Arrogance
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3. Avoidance
4. Graphophobia
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#### 4. Graphophobia

What is Graphophobia?

The fear of....?

- Small children holding pencils?
- Large, hairy, eastern European women?
- Overly complex graphing calculators?
- High School Geometry Teachers?

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#### 4. Graphophobia

What is Graphophobia?

The fear of....?

- Writing things down (keeping a record)

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#### 4. Graphophobia

Tim Stoddard & Assoc.

Stoddard is called to a site to stake a commercial building. He performed the initial boundary so he has control on the site.

He stakes the plan as presented by the designer.

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#### 4. Graphophobia

Tim Stoddard & Assoc.

About the time the county is to issue a C.O., Stoddard is contacted by a neighbor with a complaint.

Turns out the building is 3 feet across the line.

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#### 4. Graphophobia

Tim Stoddard & Assoc.

The county insists the building be torn down and rebuilt within the setback lines.

Stoddard suspects incompetent contract crew moved some of his stakes before actual construction, but can not prove it.

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#### 4. Graphophobia

Tim Stoddard & Assoc.

Lawsuits are filed by building owner against Stoddard and the GC. CG contends the fault lies with Stoddard. Stoddard contends fault lies with GC.

They share the burden to the tune of \$400,000 each.

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**4. Graphophobia**  
How do we avoid this problem?

1. Have a written contract on all jobs.

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**4. Graphophobia**  
Written contract?

This estimate is based on work ordered as shown on the checklist below.

	Yes	No
Check Deeds.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Field Survey.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Non-Record Map.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Record Map.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mark Corners.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Legal Description.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Mark True Line.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Title Insurance Report.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Flood Letter.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Flood Study.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Elevation Certificate.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Subdivision.....	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other: .....		

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**4. Graphophobia**  
How do we avoid this problem?

1. Have a written contract on all jobs.  
2. Each field crew needs a notebook and be required to make notes.  
3. Each field crew needs a digital camera to document work.

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#### 4. Graphophobia



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#### 4. Graphophobia

How do we avoid this problem?

4. Keep a call log at office.
5. Backup and keep email and letters as well as maps and field notes.
6. Locate stakes after they are set. (Gather raw data and save file with the rest of the job.)

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#### The Seven Deadly Sins of Surveying

1. Pride/Arrogance
2. Sloth
3. Avoidance
4. Graphophobia
5. Assumptions
- 6.
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5. Assumptions

Monte Towe Surveying and Planning

Towe is a busy man with lots of business concerns.

His field crews are a touch lazy. To the point where they never check records. They just take a deed and go survey.

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5. Assumptions

Monte Towe Surveying and Planning

In 2003 he had an E & O claim for \$126,000 on a Flood zone certification where they failed to find a revised map.

In 2005 he had an E & O claim where they failed to show a culvert under a building. (It was shown on a previous drawing from his office.) Claim amount \$20,000

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5. Assumptions

Monte Towe Surveying and Planning

In 2007 he has an E. & O. claim for \$40,000 relative to an improper finish floor elevation.

In less than 4 years he had claims of almost \$200,000. All because his employees made assumptions. Bad assumptions.

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### 5. Assumptions

Monte Towe Surveying and Planning

To stay in business he has had to make some radical changes. Including adopting as standard procedure the recommended list of how to avoid making bad assumptions.

Your Professional Liability Insurance Company can and will drop you.

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### 5. Assumptions

How do we avoid this problem?

1. Check plans from others before you stake them.
2. Do not blindly take old work as gospel. Check and be sure new work and old work match.
3. Do not assume anything is someone else's job.

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### 5. Assumptions

How do we avoid this problem?

4. Do not certify to things you can not know.
  - a) "all utilities have been located".
  - b) "no disputed boundaries"
  - c) "no cemeteries or burial grounds"

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The Seven Deadly Sins of Surveying

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6. Generosity

Tom Burleson Surveying and Design

In 2000 Burleson hires an outside design firm to help with a special project.

He foolishly signs a "limit of liability" clause with the outside designer.

The outside designer makes huge mistakes.

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6. Generosity

Tom Burleson Surveying and Design

Suits are filed and Burleson is found liable.

His contract designer pays his "limit of liability" amount and walks away. That limit?

**\$3,200**

(The amount of fees paid him by Burleson.)

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### 6. Generosity

Burleson's liability continues for 4 years. He ends up paying \$815,000 to the client and \$196,000 in legal fees.

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### 6. Generosity

How do we avoid this problem?

1. When asked to sign contracts or certifications, do not blindly go along. Ask your E. & O. agent.
2. Do not certify your work to persons who are not your client.
3. Look at the cost of liability when you price a job.

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### 6. Generosity

How do we avoid this problem?

4. Do not restart your liability by "doing a favor" for a client.
5. Understand the implications of being a professional.
6. Learn to say NO.

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# The Seven Deadly Sins of Surveying

## The Seven Deadly Sins of Surveying

1. Pride/Arrogance
2. Sloth
3. Avoidance
4. Graphophobia
5. Assumptions
6. Generosity
7. Exist (Be)

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## 7. Be

D. Thompson Surveys  
(The Hotdog vendor case)

This case is special because it is so well known.

It was featured in American Society of Civil  
Engineering Magazine.

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## 7. Be

In 1987 L'Ambiance Plaza was under construction.

The construction company used a "lift slab"  
technique.

During construction something went wrong and the  
building fell into a tangled mess.

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# The Seven Deadly Sins of Surveying

## 7. Be

National media focused on the tragedy and finding a scape-goat.

A review of available data showed mistakes by the construction workers themselves were the likely cause of the collapse.

An extensive review of the construction drawings showed no design flaws.

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## 7. Be

The NBS report concluded flawed construction techniques were the cause of the failure. OSHA levied large fines against the contractor.

*“...the engineers authority is diminished. Means of construction and safety are the responsibility of the contractor.”*

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## 7. Be

A two Judge panel was appointed to develop a \$40 million settlement fund.

The engineer was placed in the group and asked to contribute \$2 million to the fund.

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7. Be

The engineer told the judge *“I have been found innocent by my peers. This disaster was caused by construction workers whose families will benefit from their actions.”*

The engineer did nothing wrong.

So why is it called the Hotdog vendor case?

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7. Be

The drywall crew paid	\$150,000
The Hot Dog Man paid	\$ 75,000

(The next time you hear someone say *“if you worry about liability maybe you should spend more time doing a better job”* tell them this story.)

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7. Be

How do we avoid this problem?

1. Communicate with clients having problems. Avoiding litigation is much less expensive than paying for it.
2. Treat everyone with respect.
3. You can't make yourself bullet proof. All you can do is purchase the right insurance coverage.

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7. Be

How do we avoid this problem?

Remember the three keys

1. Avoid liability
2. Mitigate liability
3. Cover liability

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Please fill out the class evaluation.

Your honest opinion is important.

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