Today is about

Seeing possibilities

Eliminating the #1 barrier between where you are and where you want to be

You’re leaving a lot of money on the table
If you’re trying to be the best Apple in the bunch

Think and act like everyone else

You become a commodity product
And have to compete on price

Be an Orange
Avoid the apples-to-apples comparisons

No commodity products; only commodity thinking
Out smart ‘em not out spend ‘em
Create a difference that matters

BELIEFS create the BEHAVIORS that drive PERFORMANCE

THE ORANGE STRATEGY
Change the Battlefield
Challenge Conventional Wisdom
Change the Battlefield

Whoever defines the battlefield dictates the terms of battle.

Battlefield strategy

- Don't be drawn into a battle that's not worth losing
- Force an apples-to-oranges comparison
- Just say “No” to “bad drugs”

Begins with knowing what business you are in

Apple?
Brennan’s?
Yours?
Challenge Conventional Wisdom

Conventional wisdom is an oxymoron

True or False?

1. Life isn’t fair
2. Golden Rule
3. The customer is always right

The biggest barrier between where you are and where you want to be

The 5 inches between your ears
“Emotions rule decisions almost completely”

“The brain’s wiring emphatically relies on emotion over intellect in decision-making.”

“Our education system ignores the role of emotion in learning and decision-making.”

How the waiter gives candy substantially influences the tip

<table>
<thead>
<tr>
<th>Description</th>
<th>Tip Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average tip</td>
<td>15.1%</td>
</tr>
<tr>
<td>1 piece of candy</td>
<td>17.8</td>
</tr>
<tr>
<td>2 pieces of candy</td>
<td>21.6</td>
</tr>
<tr>
<td>2nd piece given</td>
<td>23%</td>
</tr>
</tbody>
</table>

Rationally irrational

A $20,640
The Core Belief

If their lips are moving they’re lying.

“Price is what matters”

WHY BUYERS VISIT A TOYOTA DEALERSHIP

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>24%</td>
<td>Prior Experience</td>
</tr>
<tr>
<td>19%</td>
<td>Word of Mouth</td>
</tr>
<tr>
<td>13%</td>
<td>Internet</td>
</tr>
<tr>
<td>12%</td>
<td>Radio or TV ad</td>
</tr>
<tr>
<td>7%</td>
<td>Newspaper ad</td>
</tr>
</tbody>
</table>

Experience accounts for 43% of visits

J.D. Powers

“Those who sell the hardest will sell the most”

CLOSE RATES

- Low Satisfaction: 56%
- Mid Satisfaction: 65%
- High Satisfaction: 79%

70% Nissan buyers walk off the lot due to pressure and rude treatment.

J.D. Powers
“If I sold cars the way the customers say they want to buy them, I’d never sell any.”

“Satisfaction” by Chris Denove and J.D. Powers IV

THE ORANGE STRATEGY

Change the Battlefield

Challenge Conventional Wisdom

 Everybody’s got a strategy until they get hit.

Mike Tyson
The business strategy of helping clients find the money to pay for your services
- Hunt It – Identify applicable funding source(s)
- Kill It – Acquire the money for your client
- Cook It – Be retained to manage/spend the money
- Eat It – Enjoy the tasty revenues

OVERVIEW
- Markets
- Funding Sources and Money Flow
- Brownfield Market
- Water and Wastewater Infrastructure Market
- Insights and Realities
MARKETS
- Brownfield redevelopment
- Water and sewer infrastructure
- Storm water management
- Community planning
- Alternative energy and conservation
- Land banks
- Urban farming

FUNDING SOURCES
- Sources
  - Federal government
  - State government
  - Local government
  - Foundations

FUNDING MECHANISMS
- Grants
  - Without match
  - With match (20% – 50%)
- Loans
- Tax increment financing
- Tax credits and abatements
WHERE TO HUNT (FOLLOW THE MONEY)

FEDERAL

STATE

COMMUNITY

PROJECT

BROWNFIELDS MARKETPLACE

The term “brownfield site” means real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.


- Total incentives acquired: >$90,000,000
- Total redevelopment supported: > $1,000,000,000
- Managing programs for >30 communities and coalitions in 3 states
- Typical revenues
  - Grant and loan programs: 15% – 90%
  - Tax increment financing programs: 5% - 100%
  - 2010
    - $3,000,000 - $3,500,000 environmental
    - ~ $500,000 other services
WHAT TO HUNT

- USEPA brownfield program: $80,000,000 - $90,000,000/year
  - Site Assessment Grant: $200,000 - $1,000,000
  - Cleanup Grant: $200,000
  - Brownfield Revolving Loan Fund (RLF) Grant: $1,000,000 + supplemental
  - Area-Wide Planning Pilot Grant: $175,000
  - RCRA Brownfield Pilot
  - Job Training Grant

WHAT TO HUNT

- Other federal brownfield programs
  - Clean Water State Revolving Fund Loan
  - HUD Brownfield Economic Development Initiative (with a Section 108 loan guarantee)

- State brownfield programs
  - Grants
  - Loans
  - Direct services (EPA grant funds to states)
  - State and local tax increment financing

WHAT TO HUNT

- Other federal programs
  - Community Development Block Grants
  - USDA Rural Development Grant
  - EDA Infrastructure Grant, Title IX RLF Grant
  - DOT (various)
  - EPA Clean Water Grants
    - Storm water
    - Watershed protection
OTHER PROJECT FINANCING

- Low income housing grants and loans
- DOE grants and loans
- SBA loan guarantees
- Federal and state tax credits
  - Brownfield
  - Historic
  - Low income housing
  - State/local development tax credits/abatements

PREPARE TO KILL (STALKING ISSUES)

- Find a needy client
  - Community looking for development
  - Site developer
    - Community
    - Commercial developer
    - Industry
    - Institution
    - Non-profit

PREPARE TO KILL (STALKING ISSUES)

- Eligibility
  - Community
  - Site
  - Project
  - Funded activity
- Community commitment (and politics)
- Funding and development schedule
- Application process and requirements
- Match?
WATER / WASTEWATER MARKET

WHAT TO HUNT

- Clean Water State Revolving Fund Loan Program: $3 billion/year
- CWA Section 106 Water Pollution Control Grants to states
- Targeted Watershed Initiative Grants
- Section 319(h) Non-point Source Management Program

WHAT TO HUNT

- Drinking Water State Revolving Fund Loan Program: $1.5 billion/year
- US/Mexican Border Water Infrastructure Program
- EPA Source Water Protection Grants
- USDA Natural Resources Conservation Service Grants
PREPARE TO KILL (STALKING ISSUES)

- Find a needy community
- Eligibility
  - Community
  - Project
- Community commitment
- Funding and project schedules
- Application process and requirements
- Match?

KILL IT (GET THE MONEY)

- Verify eligibilities
- Verify community commitment
- Understand application schedule
- Know the application guidelines and evaluation criteria
- Prepare a winning application
- Meet application deadlines

COOK IT (WIN THE CONTRACT)

- Assist client (awardee) fulfill administrative tasks to get the money
- Encourage QBS consultant selection process (most programs require competitive procurement)
- Provide an example RFP/RFQ
- Prepare quality proposal and/or qualifications submission
EAT IT

Tasty CASE STUDIES have been prepared for your dining pleasure

INSIGHTS AND REALITIES

This business approach requires:
- Strategic/big picture/programmatic thinking
- Strong communication skills
- Strong teaming skills (public-private partnerships)
- Excellent writing skills (beyond report writing)

INSIGHTS AND REALITIES

- Invest in your clients and prospective clients
  - Educating
  - Preparing applications
  - In-kind services
- Become part of the team; don’t just wait for assignments
- Manage the client(s) and project
- Be patient
INSIGHTS AND REALITIES

- Government funding ⇒ political and philosophical emphasis can change
  - Program funding priorities
  - Award criteria – current shift to green and sustainable elements, community involvement, etc.

- Key principle is leveraging
  - Assemble multiple funding sources
  - Provide as many services as possible

FAT AND HAPPY

CASE STUDY

Dan Cassidy, CPG
Senior Associate
CASE STUDY – VENTOWER INDUSTRIES

HUNT IT

What’s on the Menu?

• Downriver Community Conference (DCC)
  ▫ Provide access to a war chest of funding
  ▫ Provide technical support to member communities
    ▪ Experienced Economic Developers
    ▪ Retained Brownfield professionals

HUNT IT

What’s on the Menu?

• City of Monroe
  ▫ New jobs/new tax revenue
  ▫ Spark future investment in area
  ▫ $3,500,000 for infrastructure costs
HUNT IT

What’s on the Menu?

- **Ventower Industries**
  - $19 million capital investment cost

---

HUNT IT

What’s on the Menu?

- **SME**
  - Revenue
  - Marketing visibility
  - More revenue

---

KILL IT

- Acquire the money for your client
  - **DCC**
    - SME helped fill the “pantry”
    - Acquired over $10,000,000 in USEPA grants
  - **City of Monroe**
    - SME helped setup funding strategy
    - Obtained $8,000,000 in state tax increment
  - **Ventower Industries**
    - SME helped to obtain financial incentives to fill $17,000,000 funding gap
    - Educated them on brownfield redevelopment and financing
KILL IT – BRINGING IT ALL TOGETHER

ENVIRONMENTAL
- Isolation zone construction…………………………… $2,000,000
- Environmental Compliance ………………………………. $50,000
- Management of excess soils from construction……….. $1,000,000
- Storm water detention pond liner……………………… $1,000,000
- Field monitoring of caisson/pile installation…………… $50,000
- Documentation of environmental response…………… $20,000
- Environmental planning and inspection……………….. $50,000
- Owner’s Oversight and Inspection……………………… $75,000
- Contingency……………………………………………… $75,000
- BF Work Plan……………………………………………… $11,000

KILL IT – BRINGING IT ALL TOGETHER

NON-ENVIRONMENTAL
- Geotechnical engineering costs………………………… $50,000
- Soil stabilization (CMCs) ……………………………… $1,200,000
- Transport area construction…………………………….. $2,000,000
- Manufacturing areas construction……………………… $1,000,000
- City-owned water main loop…………………………… $300,000
- Port-owned railroad spur……………………………… $500,000
- Railroad trunk improvements…………………………… $800,000
- Dock infrastructure improvements……………………… $1,100,000
- Interest on public infrastructure bonds @ 7%………… $830,600
- Brownfield Work Plans…………………………………. $11,000
KILL IT – BRINGING IT ALL TOGETHER

FEDERAL

STATE

COMMUNITY

PROJECT

Environmental - $4,070,000
  - EPA RLF Grant loan (DCC) - $2,000,000
  - State assessment grant - $70,000
  - State brownfield grant - $1,000,000
  - State brownfield loan - $1,000,000
  - State/local brownfield TIF - $3,000,000

Infrastructure - $8,000,000
  - State DOT grant - $800,000
  - State/local brownfield TIF - $2,000,000
  - Other infrastructure grants - $1,000,000
  - Private Use bonds - $2,000,000
  - Unfunded - $2,200,000 - $3,200,000

Financing - $11,000,000
  - SBA Section 504 loan (DCC) - $5,000,000
  - State equity fund - $4,000,000
  - Private equity - $2,000,000

KILL IT – BRINGING IT ALL TOGETHER

Environmental - $4,070,000
  - EPA RLF Grant loan (DCC) - $2,000,000
  - State assessment grant - $70,000
  - State brownfield grant - $1,000,000
  - State brownfield loan - $1,000,000
  - State/local brownfield TIF - $3,000,000

Infrastructure - $8,000,000
  - State DOT grant - $800,000
  - State/local brownfield TIF - $2,000,000
  - Other infrastructure grants - $1,000,000
  - Private Use bonds - $2,000,000
  - Unfunded - $2,200,000 - $3,200,000

Financing - $11,000,000
  - SBA Section 504 loan (DCC) - $5,000,000
  - State equity fund - $4,000,000
  - Private equity - $2,000,000
COOK IT

- Be Retained to Manage and Spend Money
  - DCC
    » Provide grant management support and brownfield consulting services
  - City of Monroe
    » Apply for local and state tax increment financing
  - Ventower Industries
    » Provide grant/loan and TIF management support
    » Provide environmental and geotechnical services

EAT IT

- SME feasting on revenue buffet
  - Environmental Assessment………………………….$65,000
  - Environmental Construction Monitoring/Design……………………………………………………………………………….$30,000
  - Geotechnical Assessment and Design…………………………………………………………………………………………………….$50,000
  - Pavement Design………………………………………………………….$10,000
  - Brownfield Consulting and Management……………………………………………………………………………….$50,000
  - Construction Materials Testing Services…………………………………………………………………………………………………….$200,000
  - Future projects w/ DCC and City………………………………………………………….???????

LESSONS LEARNED

This business approach required:
- Strategic/big picture/programmatic thinking
- Strong teaming skills (public-private partnerships
- Strong communication skills
- Investment in clients and prospective clients
  - Educating
  - Preparing applications
- Patience
Getting More From Your Geotechnical Consultant

ASFE Fall Meeting
Portland, Oregon
October 9, 2010
By Rick Heckel, P.E.
TTL, Inc.

• [Video Removed]
Which peanut butter is better?

Potential Differentiators

- Quality
- Experience and capability
- Timeliness/schedule
- Responsiveness
- Fee

Ending Illiteracy
Call to Action

Seize the Opportunity

• Develop more business
• Educate your client organizations
• Define your competitive advantages

Key Presentation Themes

• Choosing the right consultant
• Managing risk
• Getting value
• Engineering the entire project
About the Audience

• Mid- to large-size A/E’s with multiple decision makers
• Lunch and learn format
• Continuing education credits

To download a copy of the presentation, visit www.asfe.org

Like to share an idea or suggestion for this presentation?
Contact Rick Heckel: rheckel@ttlusa.com
Legal Issues with Social Networking

Antoine Cobb, Partner
Troutman Sanders LLP
850 SW Broadway, Suite 1560
Portland, OR 97209
503-290-2315
@cobah

A few examples...

Facts

- Facebook
  - 300 Million active users
  - 56% log in each day
- Twitter
  - 1 Billion Tweets to date
  - 3 Million daily
  - 138% growth in Jan & Feb
- YouTube
  - 76 Million videos
  - 100 Million view each day
  - 75 Billion in 2009
- Linked in
  - 48 Million members
  - 1 new one each second
- Blogs
  - 133 Million blogs
  - 1 Million posts each day
- Digg
  - 296 Million visitors a year
- Flickr
  - 3.6 Billion images
- Wikipedia
  - 2.4 Million English articles
  - 13 Million in 260 Languages
Statistics

• More popular than email
• 10% of time on Internet
• Used by 3 of 4 Americans

• 85% think companies should use Social Media to interact

Current Business Policies

Telephone Survey of 1,400+ CIOs from US companies with >100 employees

• 54% ban social networks
• 19% allow social networks for business purposes
• 16% permit limited personal use
• 10% full access during business hours
• 1% don’t know or no answer

Source: Robert Half Technology, October, 2009

New Event: ASFE Fall 2010 Meeting.
The event features ASFE-awarded professional-development hours (PDHs) for... http://bit.ly/9pkF33
Overarching Problem:
Ease by which anyone can:
• Post inappropriate or offensive content;
• Freely copy what they see on the internet;
• Bad-mouth a company on personal blogs; and
• Use technology to invade other’s privacy.

Classic Example
• NJ Law Firm Levinson Axelrod
  • http://www.levinsonaxelrod.com
• Former Associate: Edward Heyburn
  • http://www.levinsonaxelrod.net

Classic Example
Considerations

- What are employees doing now?
- What policies should be adopted?
- What is at risk?

Social Media Policy

- Option 1:
  - Block social media sites / prohibit access

- Option 2 (better):
  - Establish social media presence and have documented social media policies
  - Major benefits:
    - Gives everyone the necessary information
    - Builds online social connections.

Social Media Policy

- Should have one
- Discuss on the job use of Social Media
- Include Proactive “Best Practices”
- Distinguished sponsored or company affiliated content from personal content
- Emphasize the need to protect confidentiality and commercially sensitive / proprietary information
- Explain personal risks (defamation, copyright …)
- Monitor
Employer Considerations

- Examples of “famous/infamous” tweets:
  - “CISCO just offered me a job! Now I have to weigh the utility of a fatty paycheck against the daily commute to San Jose and hating the work.”
  - Ketchum public-relations exec who said of client FedEx’s hometown: “I would die if I had to live here!”

Employer Considerations

- Have a company policy for email, internet usage and other social media
  - Internet usage policies should be updated to accommodate changes in technology
- Have filters/blockers on the company’s network
- Counsel employees on appropriate postings and the consequences of inappropriate postings
- Counsel employees on appropriate and inappropriate use of company equipment, i.e., computers, cell phones, and blackberries

New platforms / Old rules of law

- In most cases, traditional laws will apply to the online context…BUT
- Finding the defamer or infringer requires extra steps.
- Also, explaining context (i.e., what is a blog, a tweet, etc.) may impact legal arguments and rules of evidence
Potential Legal Liabilities:

- Defamation: and false light family of claims
- Privacy: publication of private facts, HIPPA violations
- Interference with Business Relations
- Negligence: assuming a duty, not following through
- Contract: ending up in an enforceable agreement
- Trademark: confusing consumers about a brand
- Copyright: using/sharing something that is not yours
- Sexual Harassment: unwanted postings
- Discrimination: especially as to hiring practices

Privacy

- Can an employer check up on employees through social media?
  - Yes, with some limitations
  - Employers can check LinkedIn to verify information supplied by an applicant or employee on previous work history.
  - Employers can check Twitter, Facebook, MySpace, etc. for postings that may be viewed as harassment of other employees or if an employee who called in sick is really out partying
  - Employers cannot use information found on social media to discriminate against employees or candidates due to race, religion, sexual orientation or other protected class. (Better have screening policy in place).

Privacy

- Whether an individual’s constitutional right to privacy has been violated depends first on a determination whether that individual had a personal and objectively reasonable expectation of privacy which was infringed.
- There remains no established method for determining when an expectation of privacy is reasonable.
Moreno v. Hanford Sentinel, Inc.

- Moreno posts a poem about how much she hates her home town.
- Principal of her hometown high school sees it and submits it to the local newspaper. Her family is ruined.
- The court found no reasonable expectation of privacy because the essay was published on her public MySpace profile.
- But – court did allow count for IED to survive.

Konop v. Hawaiian Airlines

- Konop created a list of coworkers who were eligible to access his website.
- Website contained critical comments about the airline’s management.
- “To gain access, one had to enter an eligible employee’s name, create a password, and click ‘Submit’ indicating acceptance of the terms and conditions, which prohibited users from disclosing the website’s contents and prohibited viewing by Hawaiian Airlines management.”
- Court held that the employer’s secret monitoring of a password-protected website could be a violation of the federal Stored Communications Act.
- Because the employee’s password protected website concerned union activity, the Court rules the employer also may have violated the Railway Labor Act by retaliating or spying.

Pietrylo v. Hillstone (Houston’s)

- In New Jersey, terminated employees are alleging that their employer unlawfully accessed their private MySpace group, used to rant about their restaurant workplace beyond the prying eyes of a supervisor. The employer gained access by demanding one employee’s username and password, which she turned over for fear of being fired.
- Is there a reasonable expectation of privacy in a group that requires an invitation and password access? Konop seems to say so. This case will likely turn on the issue of coercion. A “user” of a private website has a right to grant access to a third party, but what if that access is granted under duress or coercion?
Privacy - Takeaways

• Are postings on social media sites private?
  • A public posting on a public site is generally not private
  • A posting may be private if it is on a password protected site, or the poster has high security settings that prevent outside users from viewing the site (Secured Communications Act)

Digital Millennium Copyright Act

• The DMCA established that certain webcasts are exempt from securing performance rights, or really any rights, so long as they meet certain criteria.
  • DMCA Title II, the Online Copyright Infringement Liability Act (“OCILLA”) creates a safe harbor for online service providers against copyright liability.

What is a service provider?

• What defines a service provider under the DMCA?
  • An entity offering transmission, routing, or providing connections for digital online communications, between or among points specified by a user, of material of the user’s choosing, without modification to the content of the material as sent or received.
  OR
  • A provider of online services or network access, or the operator of facilities thereof.
  • Includes network services companies such as Internet service providers (ISPs), search engines, bulletin board system operators and even auction websites.
Service Provider Protection

- How does a service provider qualify for protection?
  - In addition to informing its customers of its policies, a service provider must follow the proper notice and takedown procedures and also meet several other requirements in order to qualify for exemption under the safe harbor provisions.
  - Make sure you sign up with copyright office indicating the “registered agent”.

Twitter Parody or TM Infringement/Identity Theft

- Trademark Infringement on Twitter
  - Danyelle Freeman is a restaurant critic for The New York Daily News using the name “Restaurant Girl.”
  - Adam Robb Rucinsky uses Freeman’s writing style and Freeman’s name “Restaurant Girl” for a writing exercise using Twitter and a blog.
  - Freeman is claiming that Rucinsky’s Twitter account and blog impersonating Freeman is infringing on her trademark name.
  - The question is whether readers would be able to tell whether they are reading Freeman’s or Rucinsky’s blog, despite his recent disclaimers on Rucinsky’s Twitter and blog accounts.
  - Does Rucinsky have a valid parody defense.

Intellectual Property – Trade Secrets

- Trade Secrets
  - Trade Secrets can easily be leaked on Social media, often inadvertently.
  - An employee leaking Trade Secrets has breached the duty of loyalty, misappropriation of Trade Secrets, breach of contractual confidentiality, or non-disclosure agreements, which can be grounds for termination.
Intellectual Property – Trade Secrets

• What happens if Trade Secret is leaked?
  • Trade Secret protection is based on “reasonable efforts” to keep information secret
  • Once a Trade Secret is leaked by an employee, it is fair game

Communications Decency Act

• Provides immunity from liability for providers and users of an “interactive computer service” who publish information provided by others
• No provider or user of an interactive computer service shall be treated as the publisher or speaker of any information provided by another content provider.
• Protection for service providers against liability for users’ defamatory statements
• Enhances free speech by making it unnecessary for ISPs and other service providers to unduly restrict customers’ actions for fear of being found legally liable for customers’ conduct.

Communications Decency Act

• In analyzing the availability of the immunity offered by this provision, courts generally apply a three-prong test.
  • Is defendant a “provider or user” of an “interactive computer service”?
  • Does plaintiff’s case “treat” defendant as the “publisher or speaker” of the harmful information at issue?
  • Is information “provided by another information content provider,” i.e., the defendant must not be the “information content provider” of the harmful information at issue.
DMCA – Case Examples

• Ning.com
  • Allows users to create their own social networking sites within the Ning network.
  • Multimedia content was posted on a Ning page by a user that did not have the permission of the owner of the copyright in the content.
  • Ning is immune from liability for copyright.

• YouTube
  • Many videos uploaded infringe copyrights.
  • YouTube not liable for the infringing videos.

CDA Case Examples

• Wiki
  • A wiki is a collection of webpages designed to enable anyone who accesses it to contribute or modify content
  • The provider of a Wiki page cannot be held accountable for defamatory statements posted to the page by a user

• Facebook, Twitter, Ning, etc.
  • Each of these social networking sites are entitled to immunity from liability brought about by users’ libel statements.

CDA Case Examples

• Chicago Lawyers Committee for Civil Rights Under Law, Inc. v. Craigslist, Inc.
  • CDA immunity applied to Craigslist on Fair Housing Act claims based on discrimination in postings

• Doe v. MySpace
  • Social networking site immune from negligence and gross negligence liability for failing to institute safety measures to prevent sexual assaults of minors and failure to institute policies relating to age verification

• Gentry v. eBay, Inc.
  • CDA immunity applied to eBay for claims based on forged autograph sports item purchased
CDA Case Examples

- Craigslist.org
  - Although CDA provided legal protection, consistent pressure from prosecuting community persuaded company to remove “Adult Services” section from website.

Twitter isn’t liable, but you may

- Twitter’s First Libel Suit: Simorangkir v. Love
  - Courtney Love made angry tweets against her former fashion designer
  - Designer, Don Simorangkir, filed claim against Love in California
  - Tweets accused the designer of
    - A history of dealing cocaine
    - Losing custody of her child
    - Being guilty of assault and burglary
    - A nasty, lying hosebag thief
Getting More From Your Geotechnical Consultant

Presented to
<Client Name>
<Date>

Schermerhorn Symphony Center

Geotechnical • Analytical • Materials • Environmental
Your Geotechnical Consultant Can Make You Look Good

- Choosing the right consultant
- Managing your risk
- Getting value
- Engineering the entire project
Geotechnical Engineering:

The practice of taking a statistically insignificant sample from a hidden, heterogeneous environment with the least amount of project information (that will change) for the purpose of determining one number used to design some of the most critical elements in a structure that must perform better than expected at the least possible cost but not missing any unforeseen conditions while assuming the highest professional liability for the least fee of all the design professionals.
It’s a Dangerous World
The Cost of Claims are Rising

<table>
<thead>
<tr>
<th>Year</th>
<th>$ Per Claim</th>
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<tr>
<td>2005</td>
<td>$35,000</td>
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<tr>
<td>2006</td>
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<td>2008</td>
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<td>2009</td>
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$ per claim represents survey results from members of the American Council of Engineering Companies

Source: XL Insurance 2009
Comparing Claims by Discipline

Source: XL Insurance 2009
Top 4 Non-Technical Drivers of Claims Against A/E(s)

Source: XL Insurance 2009
Starting Down the Path to a Successful Project

- Have your voice heard
- Use QBS
- Take your geotechnical consultant with you
- Get and check references
Important Information for the RFP

• Key issues and objectives
• Existing topographic and grading information
• Size and type of building and structural loads
• Site location
• Site history (fill, mining, old buildings, existing reports, environmental concerns, etc.)
What Else?

- Known access problems (woods, existing structures)
- Selection criteria
- Schedule requirements
- Budget constraints
Evaluating the Proposal

- Project understanding
- Adequate scope of work
- Experience of project team
- Value added
- Remaining questions
Why you want the Geotechnical Engineer to Work for the Owner

• Reliance issues
• Conflicts of interests
• Payment
A Good Geotechnical Report Contains . . .

- Project description and key assumptions
- Detailed site reconnaissance
- Site geology
- Specific recommendations (tailored to project)
Are You on Firm Ground?

Fact No. 1: More claims and change orders involve earthwork than foundation issues

Fact No. 2: Academic institutions train geotechnical engineers to design foundations with little focus on earthwork

Look for:
1. Warnings about potential earthwork issues
2. One or more solutions to address earthwork problems
Example of Competent Work

Areas with high moisture contents near the ground surface – The moisture content of the near-surface soils was relatively high in the vicinity of Stations 140+50 through 144+50. This probably is the result of irrigation for the soybean field. This portion of the alignment is planned to receive little to no cuts. Therefore, subgrade instability problems are possible due to the high moisture content of the near-surface soils in this portion of the alignment.
Example of Excellent Work

Areas with a thin soil cover above the bedrock – Based on the cross sections and available boring data, it appears that cuts in the vicinity of Stations 128+50 through 136+50, and 152+50 through 156+50 will result in only a thin soil cover being left over the limestone bedrock surface. While not necessarily indicated by the boring and moisture content data, it has been our experience that the moisture content of the soil is typically the highest and the consistency of the soil is the weakest near the bedrock surface. Some localized subgrade instability problems should be expected in these areas.
After the Report

Important Topics
• Change orders
• Budget contingencies
• Alternatives/value engineering

Extra Services
• Plan and specification review
• Pre-construction conferences

Monroe Carell Jr. Children’s Hospital at Vanderbilt
Keep Your Geotechnical Engineer Involved Throughout Construction

• Integral to the Observational Method
• Keeps responsibility clear if problems develop
• Lessens the likelihood of errors
• Reduces the potential for change orders
• Maintains continuity through materials testing
Raising the Bar

• To get more from your geotechnical engineer, expect more
• A good geotechnical engineer uses experience and judgment, in addition to the data collected to warn of and solve potential problems
Key Learning Points

• Selecting the Consultant
• Managing risk
• Getting more value
• Engineering through construction
Questions?