CONTENTS

3 ASPE National President
4 The Key to More Efficient Construction Projects is Collaborative Contracts
11 HTETCO a Vegetated Green Roof
20 A Week in the Life of An Estimator - Part I
26 The War Room
27 Standards Committee Recap
29 Scope it Out ... Machine Excavation
34 Chapter Meetings

Contact Us

Society Business Office
American Society of Professional Estimators
2525 Perimeter Place Drive
Suite 103
Nashville, TN 37214
615.316.9200
www.ASPEnational.org

Elaine Cersosimo
Ecersosimo@ASPEnational.org
Operations
Annual Summit

Jennifer Cochran
Jennifer@ASPEnational.org
Membership / Social Media
Online Classes / PIE Exam

Natasha Crumbliss
Natasha@ASPEnational.org
Education Committee
Annual Summit

Tina Cooke
Tina@ASPEnational.org
Standards Committee
Publications / Website

Cinder McDonald
Cinder@ASPEnational.org
Certification Committee

Industry Directors

Allan Hauck, Ph.D., CPC
Department Head + Professor
Construction Management
California Polytechnic State University

Ann Ludwig, MPP
Consultant
The American Society of Professional Estimators is amid a transformation. Significant changes have been made in the National organization since the fall of 2015. As a Society, we must be as efficient and effective as possible. Your National Board of Directors is gleaning tools from different organizations and businesses to make our own. Some of the tools being implemented is based on the Entrepreneurial Operating System (EOS) as presented in the book *Traction* by Gino Wickman. One of the elements of EOS is that everyone in your organization must understand the Core Focus and Values you represent and promote.

EOS defines a company’s mission statement as the statement of what you do and why you do it. Values are your guiding characteristics defining the organization’s culture. They should be repeated often and become the rules by which you play.

As part of the Strategic Planning process that was undertaken by the national Board of Directors in 2015 we defined a Mission, Vision, and Values for the Society. These statements guided our decisions over the last two years. In planning to move forward with our next goals, we realized that they needed to be refined. The Strategic Planning Committee had a work session in January 2018 to refine our Mission Statement/Core Purpose and values as well as to create a work plan for the initiatives planned over the next eighteen months.

**CORE PURPOSE**
ASPE is the construction industry’s leader and recognized authority in professional estimating through excellence in Education, Certification, and Standardization.

**CORE VALUES**

*Education*
- We educate and mentor professional estimators for the sustainability of the construction industry.

*Professionalism*
- We promote the lifelong pursuit of excellence and credibility in professional estimating.

*Fellowship*
- We develop a fellowship of professional estimators that connects and leads the construction industry.

I encourage you to reflect on the Society’s purpose and values and to internalize them. When someone asks you what ASPE is, the Core Purpose and Values are your answer.
**Summit at a Glance**  **Schedule to be finalized**

**June 27 - Wednesday: Registration**
- 03:00 pm – 06:00 pm  Event Registration
- 06:00 pm – 08:00 pm  Welcome Reception

**June 28 - Thursday: Tech Day**
- 08:00 am – 09:30 am  Conference Welcome Keynote: Mark Breslin
- 09:30 am – 10:30 am  Quantity Surveying: Introduction
- 10:45 am – 11:45 am  Quantity Surveying: Architectural + Structural
- 12:00 pm – 01:00 pm  Quantity Surveying: MEP
- 01:00 pm – 02:00 pm  Lunch
- 02:00 pm – 02:30 pm  Demonstration 1
- 02:30 pm – 03:45 pm  RACI: Taking a Project from Conceptual Estimate to Completion: Brian Wright
- 04:00 pm – 05:30 pm  Tech Tools

**June 29 - Friday: Professional Development Day**
- 08:00 am – 09:00 am  Strengths Finder: Brent O’Bannon
- 09:30 am – 10:30 am  Building a Succession Plan: Scott Lesnick
- 10:45 am – 11:45 am  Mentoring Your Replacement: Scott Lesnick
- 12:00 pm – 12:30 pm  Demonstration 2
- 12:30 pm – 02:00 pm  Lunch: Keynote: Evans Nwankwo
- 02:00 pm – 04:30 pm  Improv Skills for Workplace Communication + Team Building: Steel City Improv
- 06:00 pm – 06:45 pm  Cocktail Reception
- 06:45 pm – 10:00 pm  Awards Dinner: Celebrating ASPE

**June 30 - Saturday: Society Business Day**
- 09:00 am – 10:00 am  Fiduciary Responsibility in Estimating: Ujjval Vyas
- 10:00 am – 10:15 am  Regional Breakouts
- 10:15 am – 11:15 am  Closing Keynote: James Benham
- 11:30 am – 12:30 pm  State of Society Address: Board of Directors
- 12:30 pm – 01:30 pm  Lunch
- 01:30 pm – 02:30 pm  Regional Breakouts
- 06:00 pm – 07:00 pm  Shuttle Service to President’s Party
- 07:00 pm – 11:00 pm  President’s Party @ PPG Aquarium

Learn More -- ASPEnational.org
Mark Breslin  
Breslin Strategies

Mark is noted as the number one industry speaker in the nation on change management, leadership, strategy and labor-management relations. He is also the author of five bestselling books.

Brian Wright, CPE  
JLL

Brian is the Chief Estimator & Coach Trainer at JLL for an over 60 person Construction Team covering a Worldwide High Tech account with his territory of North and South America. Brian holds 2 training sessions a month for his entire Team. As the Chair of the ASPE National Education Committee, Teacher at ASU, CPE, Mechanical Engineer & Sr. PM.

Brent O’Bannon  
Strengths Coach

Master coach Brent O’Bannon is a world renowned coach, speaker, and workshop leader. His latest book, Selling Strengths, is about helping professional coaches use their unique strengths to get paying clients. The book challenges you to take a look at what you are especially good at, then actively insert those God-given talents into your selling process. Stop hiding your genius.

Scott Lesnick  
Successful Business Solutions

Scott’s motivational, educational and inspirational messages center around topics including: mentoring, increasing productivity, succession planning, HR, generational and cultural inclusion, excellence in leadership, and administrative excellence. Additionally, maximizing performance, maximizing operational performance and excellence, and managing change through great leadership.

Evans Nwankwo, CPE  
Megen Construction Company

Evans founded Megen Construction Company, Inc. in 1993, and has successfully led the firm in its 20-plus year history. Evans is a Certified Professional Estimator, and has over 35 years of construction experience with a strong emphasis on preconstruction services including estimating, value engineering, cost benefit analysis and constructability.

Ujjval Vyas  
Alberti Group

As principal of Alberti Group, Ujjval possesses a unique combination of experience and strategic vision, connecting people and developing new ideas with the power to change clients’ businesses. Dr. Vyas was an attorney representing contractors, design professionals, and others in the construction process, with special focus on issues related to sustainable design, building performance and technology.

James Benham  
JBKnowledge

As CEO of JBKnowledge, a professional speaker, and lifelong technologist, James is an ambassador for technology adoption and innovation in the construction and insurance industries.
Business Solutions according to the United States Bureau of Labor Statistics, the architecture, engineering and construction (AEC) industry is the only industry that has become less efficient and productive since 1964.

Albert Einstein said that doing the same thing repeatedly and expecting different results is the very definition of insanity. The way we traditionally contract, design and interact in the AEC industry fits this definition.

The AEC industry is one of the most important drivers of current and future success of the U.S. economy. It’s a homegrown industry and probably still the best way for someone to start their own business. Construction jobs have a great home field advantage to create the infrastructure foundation we need for future success. But, if we don’t get out of the old ways of doing things we will lose a golden opportunity.

Creating change

The AEC industry is fragmented and slow moving. The legal industry, which drives the structural relationships in construction contracts, is even slower to change. The combination has us stuck in the morass of contractual silos that create confrontation. Some wear this as a badge of honor. They follow a similar pathway that has been around for over a hundred years and have a mountain of case law dissecting the corpses of dead projects gone wrong interpreting this approach. A siloed approach is done in the name of protecting one party over another. But the studies demonstrate that this leads to busted schedules and costly overruns, followed by claims and litigation. Success in today’s world requires communication and collaboration; fortunately, things are changing. However, they’re changing too slowly.

Fueled by a combination of frustration with current results, a desire to improve and a technological revolution, the industry is trying new things. The most expensive and complicated construction per square foot, the hospital market, has been a market leader for change. The change comes from searching for a better way of doing things. And that better way is through collaborating... really collaborating.

Improving the foundation

A better foundation to build requires three things: trust, collaboration and innovation. If you don’t have trust, you don’t have anything. To build trust you need to be understood and act in accordance to what you’ve agreed to in letter and spirit. You can’t say “general contractor” without saying “contract.” The words that bind you matter, so use them wisely. Good legal writing is simply good writing. Don’t try to address all contingencies up front, you are more likely to muddy the water. Vague and broad responsibilities that place all the risk on parties that are not able to control or mitigate the risk is the antithesis to trust. Ambiguities will naturally arise. Don’t hide in your turtle shell when they do. Communicate constructively and avoid the blame game.

The common thread of failed projects is a lack of communication. Parties in a construction project often meet as strangers and leave as enemies. That’s not a recipe for repeat business. Traditionally, contract structures funnel all information and most decisions to the architect. A better approach is to encourage parties to communicate directly and positively.
Empowering people in-field who are most familiar with the information can be transformational. Creating a communication structure in which parties must talk to one another about timely issues before claims become intractable leads to less litigation. Early involvement by builders incorporates a practical constructability analysis that enhances overall project value. A race to the bottom to slash an impractical budget that becomes bloated with what might be labeling value-engineering (but is anything but) should be avoided.

The key is innovation

Innovation is what is really driving a great opportunity to change. There has never been a time when there was a greater incentive to build more efficiently. Execution is so much better, safer and more valuable to the end-user when you maximize the impact of technology. To deploy these technology tools, it is necessary to build better teams early. Treat a project as an opportunity to learn and gain efficiency each step of the way, rather than to simply avoid the blame game. Then, and only then, can you yield the most out of the today’s wave of incredibly powerful and time-saving construction technology devices.

Today, the technology has arrived, is proven and is very powerful.

To build a better way, you must try something new. Structure your next project to truly collaborate by building trust, encourage the flow of timely information and embracing the maximum power of technology. Don’t just pull out the same contract from the drawer and sign it without thought. Use the contract as opportunity to memorialize a business relationship that gets better results.

---

Get Connected

Brian Perlberg
AGC Senior Counsel & ConsensusDocs Executive Director editorial@media.planet.com

---

Excel in Building

- Bid List Software: Organize, send, and track all critical subcontractor contact and project bid information using smart Excel.
- Scope Sheet Software: Quickly level bidding subcontractors and minimize your project scope gap risk exposure using smart Excel.
- Custom databases and consulting work.

Free demonstration available at 14Fathoms.com

312.600.4414  contact@14Fathoms.com
Introducing …..

Karla Wursthorn, CPE
Philadelphia #61 Chapter President
T.N. Ward Company
Estimator

The best advice I ever received: Work in an estimating department for a few months in order to become a better architect (this was at a design/build company). I fell in love with estimating and never returned to architecture; this was the best career decision I ever made!

The best advice I share with young (& not so young) estimators: Work hard, but also stretch beyond your comfort zone and continually seek new types of projects to estimate. This will allow you to learn faster and possibly become a subject matter expert in a particular area.

My 2018 Goal for Chapter 61: Introduce ASPE as a relevant organization and plant the seed of becoming an estimator to local college students. We have partially met this goal this fall with a very successful panel discussion hosted at Drexel University. We hope to bring a similar event to additional higher education institutions in 2018.

If I wasn’t doing this I would be..... Something in the field of genetics; this seems like an interesting new frontier in science that holds a lot of promise for solving disease and improving the lives of people.
ASPE Annual Awards

Categories:

- Chapter Achievement Award
  - Platinum
  - Gold
  - Silver
  - Bronze
- Chapter Champion Award
- Chapter President of the Year
- Estimator of the Year
- Fellow Award (FCPE)
- Industry Award
  - Best Estimate
  - Best Project
  - Most Innovative Project
- Legacy Award
  - Frank E. Young - Excellence in Education
  - Howard S. Prout - Founder of Certification
  - Merle W. Heckenlively - Founder of Standards
- Technology Award

Intent to Submit March 15
All Award Application Submittals April 1st
For more information Visit www.ASPEnational.org
Select: Resources/Awards Requirements
The industry standard for search!

Exclusively for commercial construction professionals, like you!

- Quick & easy access to over 1 million qualified commercial construction professionals
- Find exactly WHO you need – when you need them
- Always available – Always up-to-date

TheBlueBook.com/ASPE
(844) 617-2478
Table of Contents

- Introduction
- Types and Methods of Measurements
- Specific Factors to Consider in Takeoff & Pricing
- Overview of Labor, Materials, Equipment, Indirect Costs and Approach to Mark-Up
- Special Risk Considerations
- Ratios and Analysis - Testing the Bid
- Conclusion
- Sample Plan & Details
- Sample Takeoff & Estimate

Christian Adams, CPE
Brightview Landscape Development
Atlanta # 14
Christian.Adams@brightview.com
**SECTION 1: INTRODUCTION**

**Main Master Format Divisions & Subdivisions**
- 07 00 00 Thermal and Moisture Protection
- 07 21 00 Thermal Insulation
- 07 33 00 Natural Roof Coverings
- 07 55 63 Green Roof Systems
- 32 00 00 Exterior Improvements
- 32 84 00 Planting Irrigation
- 32 91 00 Planting Preparation
- 32 92 00 Turf and Grasses
- 32 93 00 Plants
- 32 94 00 Planting Accessories

**Brief Description**
Vegetated green roofs are becoming increasingly popular in urban landscape design. With the escalation of vertical construction, and the emphasis on sustainability, green roofs are becoming as prevalent and elaborate as the surrounding on-grade landscape. The specialization of the green roof industry requires a competent and thoughtful estimate which takes into account the intricacies required to provide an efficient and aesthetically pleasing project, and at the same time capturing the costs associated with such a specialized product. This paper will discuss the requirements for providing a detailed and competent estimate for these complicated projects. These details will be presented from the point of view of an estimator who is preparing an estimate as a subcontractor and installer. It will take into account a thorough review of the plans and specifications, any specific challenges that may affect production rates, direct and indirect costs associated with the project, logistics, seasonal limitations and schedule affecting the project. In addition it will cover general means and methods for completion of the project. The following assumptions are taken into account, the drawings are at construction document (CD) level, and that the estimator is using digital takeoff and estimating software.

**SECTION 2: TYPES AND METHODS OF MEASUREMENT**

There are various methods and quantity takeoffs for measuring the various elements on a green roof project. Quantity takeoff for a vegetated green roof can be measured in several ways including Square Feet (SF), Cubic Feet (CF), Cubic Yards (CY), Tons (TON), Count (EA), and Linear Feet (LF).

Area takeoff is used to measure the SF area of a particular area section to be planted. An area takeoff can also be used to quantify other areas that will receive different materials. The initial SF takeoff will then be converted to the appropriate quantity and unit based on the type of material. For example, an area takeoff can be used to quantify the initial SF of an area designated to receive polystyrene foam insulation. The known quantity can then be converted to CF, based on the depth required per plan. An area takeoff will also be used to quantify the root barrier, protection fabric, drainage layer, and filter layer in a built up system.

If the system requires a modular tray system as opposed to a built up system, than an area takeoff will be required and later converted to an EA quantity based on the specifications of the proposed system. The modular system can be produced in various size trays, and can be adapted to fit within a specific layout. Additionally, an area takeoff is required to determine the amount of planting medium required in both the built up system, and modular tray system. The area for the planting medium is converted to CY or TON, depending on the required material and depth noted on the plans. A compaction factor needs to be considered when calculating volume of planting medium. Typically, the soil supplier can provide a compaction factor to take into account, which could be anywhere from 15-20% of the total volume.

The area takeoff (SF) is also used to quantify the amount of mulch required to cover the planting beds. Typically, green roofs will incorporate the use of a wood fiber mulch or rock mulch. Pine straw mulch which is typically used in an on-grade landscape application is too light, and is susceptible to blowing away with high
winds on an elevated roof. Finally, there is typically metal edging that helps separate landscape areas from hardscape areas on the green roof. Metal edging is measured in LF, and when calculating, overlap needs to be considered as the metal edging overlaps anywhere from 6-8” at the joints between pieces.

Plant material takeoff is determined by how the architect identifies the material on the plans. If the architect designs the plans with individual symbols, the estimator will quantify the plant material with a count takeoff (EA). If the architect identifies the landscape material by species specific planting areas, the estimator will quantify the plants with an area (SF) takeoff. The estimator will then convert the area to individual plants using industry or company specific calculations based on the on-center spacing identified on the plans.

An owner or architect will occasionally incorporate the use of an automatic irrigation system for the planted areas. The items associated with an irrigation system can be quantified in several ways. The layout of pipe, sleeves, and wiring is measured in Linear Feet (LF). If subsurface drip irrigation is required, an area (SF) takeoff of the required areas can be performed, and later converted to LF of drip tubing based upon on-center requirements identified by the irrigation designer. Control valves, isolation valves, quick coupler valves, and spray heads will be measured by a count takeoff (EA). The irrigation controller and point of connection will also be measured by a count (EA) takeoff.

Section 3: Specific Factors to Consider in Takeoff and Pricing

Logistics and Access

From a logistics standpoint, estimating a vegetated green roof on an elevated deck is more complex than estimating an on-grade landscape area. The most important concern is delivering and staging the required materials to the roof deck where the work will be performed. In most cases materials such as planting media, drainage aggregate, and mulch will be provided by the material supplier in bags or sacks. Each sack will hold approximately 1.5 Tons or CY dependent on the material. The sacks can be hoisted by crane on to the roof deck and staged, or dumped directly into the work area. It is imperative that the estimator understand when the contractor’s tower crane will be removed in relation to schedule of the work to be performed. If the tower crane will not be available at the time of construction of the green roof, the estimator will need to include the cost of a crane rental to move materials onto the roof deck. The cost of the crane needs to be determined during the bid process as to not create any unnecessary cost surprises once the contract has been awarded. There are several factors that will affect the cost of the crane including, what floor the roof deck is on, if there are any overhead obstructions to clear, weight of the loads being lifted, and the number of mobilizations required. All of these factors need to be considered when calculating the price of the crane.

There are other means for delivering planting medium, mulch, and drainage aggregates to the roof deck, but there are limitations. Bulk landscape materials can be blown onto to the roof deck, but the process is limited by the height above grade of roof deck, and the position of the deck in relation to the to the position of the blower truck. Either method used will add cost to the estimate in the form of slower production, direct costs of the crane rental, truck blower, and sacks for the bulk materials.

Another option for delivering materials onto a roof deck is by use of the contractors buck hoist. The buck hoist has its limitation as well, and will add cost to the estimate in the form of slower production, and the amount of material that can be loaded into the hoist at one time. Bulk materials are not applicable with the use of a buck hoist, and all materials will need to be palletized. The amounts of time to load the hoist, travel in the hoist, and unload the hoist to the appropriate work area must be considered in the estimate. The estimator needs to know the location of the hoist in relation to the work area as it will take added time to move the materials from the hoist to the work area.

Whether using the tower crane, mobile crane, or buck hoist the estimator must determine the logistics of materials delivery at the street level. Many vegetated green roof projects are located in urban environments, and along busy travel corridors. It is imperative to know before the estimate is prepared if there are any special requirements for traffic control, lane closures, and delivery times. If the green roof contractor is responsible for providing traffic control and lane closures, than the cost for those services need to be included in
the estimate. Material delivery time is often mandated by the contractor or owner as night time or early morning deliveries. Delivery times need to be taken into account, and any overtime costs included in the estimate.

**Geographic Location and Seasonal Effect of Work**

The geographic location of a project and the seasonal effect on the work can impact the cost of the green roof project. In higher temperatures, production rates are impacted and construction tends to slow down. On an elevated roof deck, the temperatures can be magnified, and there is limited shade, and exposure to the elements effect production. The hotter temperatures during the day can lead to more night work, and increased overtime work. Conversely, projects located in more moderate climates will have milder temperatures during the day. This factor increases production and cut down on the amount of night work required.

Colder climate projects will impact production rates as well. Cold weather naturally slows production of both man and machine. On an elevated roof deck, exposure to the elements will limit production and be detrimental to the safety of the employee. The work schedule must be taken into consideration when estimating the work, and production premiums should be included depending on the geographic location and the time of year that the work will be performed.

**Coordination with Other Trades**

Working on a roof deck often means working in a smaller work area with many different trades working concurrently. It is important to have qualified supervision and crew members that can work effectively with other tradesmen. Having multiple trades working in a small space may limit the areas of work that are ready to receive the vegetated green roof. For instance, irrigation pipe and wiring will be run through the interior of the building. It is important to know which areas to be planted and irrigated are ready so the crews can be scheduled accordingly. If specific areas will not be ready, and the sequencing of the work is not concurrent, than multiple mobilizations may be required. Multiple mobilizations will add cost to the estimate, so it is imperative to know beforehand.

The coordination with the waterproofing contractor is another area of concern when preparing the estimate. Knowledge of the waterproofing subcontractor's scope of work is important, and could cause a potential scope gap or overlap if there is not appropriate coordination between the trades. Depending on the type of system required for the green roof, some elements of the green roof system may be picked up in the waterproofing scope. If this is the case, and the green roof subcontractor carries the same portions in their scope it could cause an overlap of scope. This would add unnecessary costs to the general contractor, and could price the green roof subcontractor out of the job. Conversely, if the contractor makes the assumption that the water proofer is picking up a specific scope, but in reality it is the responsibility of the green roof contractor, than it could cost the subcontractor during the construction process. It is crucial that the estimator qualify what is included or excluded in his bid so as to avoid this problem. A detailed scope meeting with the general contractor's representative, one who is knowledgeable of the waterproofing scope, is an important aspect of the bid process.

**Impact of Working Hour Requirements on the Estimate**

Occasionally, projects in urban and high rise environments will require off–hour or shift work hours. These restrictions are often mandated by the owner, general contractor, or municipality. It is important to know the work hour restrictions during the bid process. Night work will add labor cost to the estimate in the form of shift differential, and overtime pay. Material deliveries will most likely be night time or early morning deliveries. The estimator must communicate the delivery schedule with the supplier during the quote solicitation process, any cost associated with night time, or early morning deliveries needs be included in the estimate.

**Section 4: Overview of Labor, Material, Equipment, Indirect Costs, and Approach to Mark-Ups.**

Labor for a vegetated green roof is calculated on a per hour basis, based on a 40 hour work week. The estimator must determine if the work will be off hours, and apply the appropriate per hour wage rate. Prevailing wage rates are seldom seen in the vegetated green roof market due to most projects being privately funded. In the rare case that the project does require prevailing wage rates, than the estimator shall adjust the estimate accordingly, based upon the prevailing...
wage sheet included as part of the bid documents. The estimator must examine the bid documents closely for any items not normally included in a typical project. For instance, often contractors or owners will choose to enroll the subcontractor in their insurance program. In this case the estimator must examine the manual provided by the contractor that explains the subcontractor insurance program. The manual will identify what insurance costs are covered by the program, and the estimator will deduct the appropriate costs of insurance required.

Material costs are based on the quantity survey performed by the estimator. Discrepancies between the survey and the plant list or legend often occur. These discrepancies should be brought to the attention of the general contractor prior to submission of the bid. The general contractor can direct the estimator which quantities take precedence. Material price quotations are solicited from material vendors based on the quantity survey or material legend. The estimator must verify shipping costs and include these costs in the estimate. Material suppliers that will be solicited for a vegetated green roof include, but are not limited to: Plant material, planting medium, drainage aggregates, mulch, drainage layer materials, filter fabrics, metal edging, irrigation materials, and vegetated green roof trays.

Equipment requirements are typically minimal in a green roof project. With the exception of a crane rental (if required), most of the work will be performed using various small tools. With the weight requirements of the roof deck, and small spaces, most construction equipment is not applicable on a green roof project. Most of the work can be performed using various small tools or by hand, but this will add costs to the estimate in the form of slower production. If the general contractor’s crane or buck hoist will not be available, the green roof contractor will be required to provide their own method of conveyance to the roof deck. It is crucial that the estimator identify the availability of the means of conveyance to the roof deck prior to the bid date. Material conveyance will add costs and need to be accounted for in the estimate.

Lastly there are additional indirect costs that are to be included in the bid. These costs include any permits required, parking fees, material taxes, supervision, project management, and bonds.

Once all of the direct costs are calculated, production rates estimated, and all indirect costs are assembled into the estimate, management will review the estimate and assign the appropriate markup to apply to the estimate. The manager will take into consideration the risks factors associated with the project, current backlog and project schedule, and the level of competition involved in the bid process. These factors will determine the amount of markup applied to the estimate.

**Section 5: Special Risk Considerations**

Working on an elevated roof deck is inherently risky, both financially and physically. A vegetated green roof project can be financially risky due to factors effecting production such as weather, geographic location, material conveyance, and working in a small space with other trade contractors. The estimator must accurately estimate the amount of production required to efficiently perform the work and provide a competitive bid.

Physical risks are increased as well when working on a green roof. It is important to assign work crews, based on the particular project. The crews will require a higher level of specialization than the typical crew, and will need to include workmen that are knowledgeable of the safety considerations involved in working on a roof deck. This in turn will add cost to the estimate, with the increase in specialization there will also be an increase in wage rate.

**Section 6: Ratios and Analysis — Testing the Bid**

Vegetated green roof projects can differ drastically for project to project. Therefore it is not possible to formulate estimates based on standard unit rates. Each project has special considerations that will affect the unit prices. However, tracking past green roof projects can help provide historical data which can be used to test unit rates. The estimator will need to factor in the special circumstances of the current project, and not rely on the historical data alone. Based on previous unsuccessful bids and contractor feedback, the estimator can make adjustments to markup and indirect costs that could create a more competitive bid. It is useful to construct and keep a database of projects.
lost and projects won. After the database is populated with several bids, the estimator can easily track trends in pricing that will benefit future estimates.

**SECTION 7: CONCLUSION**

Vegetated green roofs are growing in popularity among urban projects. With more projects being constructed vertically and lack of green space available at the grade level, a vegetated green roof is a space that can be created to add a landscape experience for the owner. With the continued advancement of LEED certification, green spaces are important elements of the certification and can be obtained through a vegetated green roof. It is crucial that current estimators, as well as future estimators be able to accurately estimate green roof projects.

**SECTION 8: SAMPLE PLAN AND DETAILS**

Figure 1 shows a typical elevated green roof. There are several types of plant material including, trees, shrubs, and groundcovers. The estimator would use area (SF) takeoffs for the planting medium area, mulch area, groundcover area, and green roof system (drainage layer, filter fabric, geofoam). The area takeoffs would need to be converted, in necessary, in the estimate to the appropriate unit. The trees and shrubs would be taken off by using an individual count (EA). The estimator would also need to determine delivery access, and roof access.
**Figure 2**

Figure 2 shows a detail of a built-up green roof system. Profiles differ slightly between manufacturers, but this detail shows a typical system. It is important to note where the scope of work for the green roof subcontractor originates. Typically it will begin at the drainage layer and move up through the filter fabric/root barrier, and planting medium. Sometimes the general subcontractor will require the green roof contractor to pick up the insulation layer as well. The drainage layer will be taken off in an area takeoff (SF), and the insulation foam and planting medium will be taken in off in an area takeoff (SF), and then converted to the appropriate volume quantity (CF or CY).

---

**SECTION 9: SAMPLE ESTIMATE (THIS TAKEOFF AND ESTIMATE IS NOT REFLECTIVE OF THE PLANS SHOWN IN FIGURE 1)**

**Figure 3 Sample Takeoff**

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TREES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ornamental Tree 2&quot; Caliper</td>
<td>5</td>
<td>EA</td>
</tr>
<tr>
<td>Deciduous Tree 2&quot; Caliper</td>
<td>8</td>
<td>EA</td>
</tr>
<tr>
<td>Evergreen Tree 8' Height</td>
<td>15</td>
<td>EA</td>
</tr>
<tr>
<td><strong>SHRUBS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Gallon Shrub</td>
<td>65</td>
<td>EA</td>
</tr>
<tr>
<td>3 Gallon Shrub</td>
<td>85</td>
<td>EA</td>
</tr>
<tr>
<td>1 Gallon Shrub</td>
<td>250</td>
<td>EA</td>
</tr>
<tr>
<td><strong>GROUNDCOVER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4&quot; Pot Groundcover</td>
<td>500</td>
<td>EA</td>
</tr>
<tr>
<td><strong>TURF</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Synthetic Turf</td>
<td>2500</td>
<td>SF</td>
</tr>
<tr>
<td><strong>PLANTING MEDIUM</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tree Planting Area</td>
<td>200</td>
<td>SF</td>
</tr>
<tr>
<td>Shrub Planting Area</td>
<td>2500</td>
<td>SF</td>
</tr>
<tr>
<td>Groundcover Planting Area</td>
<td>3500</td>
<td>SF</td>
</tr>
</tbody>
</table>

**MULCH**

- Hardwood Mulch 3" Deep  6200 SF
- Mexican Beach Pebbles  500 SF

**EDGING**

- Aluminum Edging 3/16" x 6"  250 LF

**IRRIGATION**

- Irrigated Area  6200 SF
### Figure 4 Sample Estimate

<table>
<thead>
<tr>
<th>Description</th>
<th>QTY</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TREES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ornamental Trees 2&quot; Caliper</td>
<td>5</td>
<td>EA</td>
<td>$417.80</td>
<td>$2,089.00</td>
</tr>
<tr>
<td>Deciduous Tree 2&quot; Cal</td>
<td>8</td>
<td>EA</td>
<td>$292.81</td>
<td>$2,342.48</td>
</tr>
<tr>
<td>Evergreen Tree 8' Height</td>
<td>15</td>
<td>EA</td>
<td>$317.81</td>
<td>$4,767.15</td>
</tr>
<tr>
<td><strong>SHRUBS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 gallon Shrubs</td>
<td>65</td>
<td>EA</td>
<td>$29.69</td>
<td>$1,929.85</td>
</tr>
<tr>
<td>3 Gallon Shrubs</td>
<td>85</td>
<td>EA</td>
<td>$16.11</td>
<td>$1,369.35</td>
</tr>
<tr>
<td>1 Gallon Shrubs</td>
<td>250</td>
<td>EA</td>
<td>$7.35</td>
<td>$1,837.50</td>
</tr>
<tr>
<td><strong>GROUNDCOVER</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4&quot; Pot Groundcover</td>
<td>500</td>
<td>EA</td>
<td>$2.81</td>
<td>$1,405.00</td>
</tr>
<tr>
<td><strong>TURF</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Synthetic Turf</td>
<td>2500</td>
<td>SF</td>
<td>$13.00</td>
<td>$32,500.00</td>
</tr>
<tr>
<td>Polystyrene Foam Insulation 4&quot; Depth</td>
<td>825</td>
<td>CF</td>
<td>$5.88</td>
<td>$4,851.00</td>
</tr>
<tr>
<td>Drainage Layer</td>
<td>2500</td>
<td>SF</td>
<td>$2.94</td>
<td>$7,350.00</td>
</tr>
<tr>
<td>Filter Fabric</td>
<td>2500</td>
<td>SF</td>
<td>$0.55</td>
<td>$1,375.00</td>
</tr>
<tr>
<td>Sand layer 2&quot; Depth</td>
<td>31</td>
<td>TRS</td>
<td>$66.73</td>
<td>$2,068.63</td>
</tr>
<tr>
<td><strong>TREE PLANTING AREA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polystyrene Foam Insulation 4&quot; Depth</td>
<td>67</td>
<td>CP</td>
<td>$5.88</td>
<td>$399.96</td>
</tr>
<tr>
<td>Drainage Layer</td>
<td>200</td>
<td>SF</td>
<td>$2.94</td>
<td>$588.00</td>
</tr>
<tr>
<td>Filter Fabric</td>
<td>200</td>
<td>SF</td>
<td>$0.55</td>
<td>$110.00</td>
</tr>
<tr>
<td>Lightweight Planting Medium 24&quot; Depth</td>
<td>15</td>
<td>CY</td>
<td>$101.73</td>
<td>$1,525.95</td>
</tr>
<tr>
<td><strong>SHRUB PLANTING AREA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polystyrene Foam Insulation 4&quot; Depth</td>
<td>825</td>
<td>CF</td>
<td>$5.88</td>
<td>$4,851.00</td>
</tr>
<tr>
<td>Drainage Layer</td>
<td>2500</td>
<td>SF</td>
<td>$2.94</td>
<td>$7,350.00</td>
</tr>
<tr>
<td>Filter Fabric</td>
<td>2500</td>
<td>SF</td>
<td>$0.55</td>
<td>$1,375.00</td>
</tr>
<tr>
<td>Lightweight Planting Medium 12&quot; Depth</td>
<td>93</td>
<td>CY</td>
<td>$101.73</td>
<td>$9,460.89</td>
</tr>
<tr>
<td><strong>GROUNDCOVER PLANTING AREA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polystyrene Foam Insulation 4&quot; Depth</td>
<td>1155</td>
<td>CF</td>
<td>$5.88</td>
<td>$6,791.40</td>
</tr>
<tr>
<td>Drainage Layer</td>
<td>3500</td>
<td>SF</td>
<td>$2.94</td>
<td>$10,290.00</td>
</tr>
<tr>
<td>Filter Fabric</td>
<td>3500</td>
<td>SF</td>
<td>$0.55</td>
<td>$1,925.00</td>
</tr>
<tr>
<td>Lightweight Planting Medium 6&quot; Depth</td>
<td>63</td>
<td>CY</td>
<td>$101.73</td>
<td>$6,512.45</td>
</tr>
<tr>
<td><strong>MULCH</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardwood Mulch 3&quot; Dp-6,200 SF</td>
<td>38</td>
<td>CY</td>
<td>$68.45</td>
<td>$3,070.10</td>
</tr>
<tr>
<td>Mexican Beach Pebbles</td>
<td>500</td>
<td>SF</td>
<td>$10.94</td>
<td>$5,470.00</td>
</tr>
<tr>
<td><strong>EDGING</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aluminum Edging 3/16&quot; x 6&quot;</td>
<td>250</td>
<td>LF</td>
<td>$10.61</td>
<td>$2,652.50</td>
</tr>
<tr>
<td><strong>IRRIGATION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irrigated Areas</td>
<td>6200</td>
<td>SF</td>
<td>$1.10</td>
<td>$6,820.00</td>
</tr>
<tr>
<td><strong>CONVEYANCE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hoisting Labor (400 MH)</td>
<td>1</td>
<td>LS</td>
<td>$9,380.48</td>
<td>$9,380.48</td>
</tr>
<tr>
<td>Crane Rental</td>
<td>13</td>
<td>DAYS</td>
<td>$3,500.00</td>
<td>$45,500.00</td>
</tr>
<tr>
<td><strong>MANAGEMENT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Management</td>
<td>10</td>
<td>DAYS</td>
<td>$369.00</td>
<td>$3,690.00</td>
</tr>
<tr>
<td>Supervision</td>
<td>20</td>
<td>DAYS</td>
<td>$552.00</td>
<td>$11,040.00</td>
</tr>
<tr>
<td><strong>TRAFFIC CONTROL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lane Closure Permits</td>
<td>13</td>
<td>DAYS</td>
<td>$2,000.00</td>
<td>$26,000.00</td>
</tr>
<tr>
<td>Plagmen (2 EA/DAY)</td>
<td>13</td>
<td>DAYS</td>
<td>$240.00</td>
<td>$3,120.00</td>
</tr>
<tr>
<td><strong>BID SUBTOTAL:</strong></td>
<td></td>
<td></td>
<td></td>
<td>$232,801.69</td>
</tr>
<tr>
<td>Material Sales Tax 8%</td>
<td></td>
<td></td>
<td>$6,005.36</td>
<td></td>
</tr>
<tr>
<td>Overhead and Indirect Costs 16%</td>
<td></td>
<td></td>
<td>$38,209.13</td>
<td></td>
</tr>
<tr>
<td>Profit 15%</td>
<td></td>
<td></td>
<td>$35,821.06</td>
<td></td>
</tr>
<tr>
<td>Payment and Performance Bond 1%</td>
<td></td>
<td></td>
<td>$3,128.37</td>
<td></td>
</tr>
<tr>
<td><strong>BID TOTAL:</strong></td>
<td></td>
<td></td>
<td></td>
<td>$315,965.61</td>
</tr>
</tbody>
</table>
Stay ahead of the curve with updated standard contracts. The revised contracts address insurance changes, legal developments, and refine terminology.

ConsensusDocs are the only contracts written by 40 leading design and construction industry organizations.

Subscribe now… ConsensusDocs helps YOU build a better foundation for project success!
What a bid day that was. The first one ever. All of the solicited subcontractors had their proposals in well in advance of Bid Hour. Their prices seemed reasonable. No major issues to contend with. As expected, most of the subs wanted to know how their price looked. But the company policy is to not disclose prices until subcontracts are issued, and you were standing pat on that topic. Anyway, you think the price looks good. Hey, it’s a negotiated project; how can you go wrong. Drawings being only at 70% complete, you will be filling in the gaps with plenty of Allowances. The specs were very generic in nature, but you worked through it. You have some really great subs, and they have protected you more times than you care to imagine. Not to worry.

After 7 years of estimating for your company, you finally believe you have a handle on the process and know how to get the best prices during the hectic 3 weeks of bidding. This journey was nothing like you anticipated when you graduated from college with a degree in Construction Management. You wanted to be a Project Manager, but all that was available during this tough economic downturn was an entry level estimating position for an established General Contractor in Ohio.

It turned out that estimating is not what your Professor had portrayed it as. It turns out to be a dynamic process that your company depends on. The Chief Estimator has told you time and time again, “if we don’t do our job in Estimating, no one has a job.”

You turn in the Bid Notebook, containing all your sub proposals, bid notes, take-offs, General Conditions, in-directs, and directs, all outlined and summarized according to Company Policy to the Chief Estimator. As you turn to head back to your office, the Chief Estimator says, “where you going; you’re not through; where’s the proposal?” With a bit of a puzzled look on your face you reply, “I don’t do proposals; that’s the Senior Estimators role in this process.” And your boss retorts, “and what’s your point, Mr. Senior Estimator? Congratulations; you just got a promotion. The proposal is due Monday to the Owner. Get with development and marketing people, and make it a good one. I’ll see you Monday.” “But I’ve never done a Proposal”, you state. “That’s o.k.; you never did an estimate before either, but you figured that out.” “Yeah, I guess you are right about that; how hard can it be”, you add as your boss heads out for a well-deserved bit of time off. Being that it is only Tuesday, you have almost the entire week to get it together. No Problem, you only have another Bid Day on Thursday. Competitive this time; two pre-bid meetings to go to, a couple of site visits, a couple of dozen Scope Letters to finalize, an ASPE meeting to coordinate, and who knows how many phone calls. No problem; I’m a Senior Estimator now.

You have sat in on enough Proposal Presentations to know how the game goes. Pass out the Proposal Binder to the client, listen to Marketing babble about how great the Company is as you watch the same ole Power Point presentation. All the while the Owner is thumbing through the proposal to find the strategically placed price of the project, when all of a sudden the Owner loudly exclaims, ‘You gotta be kidding me. You guys are getting rich on this one. We can’t afford this much. This can’t be right. The architect said we wouldn’t go over his estimate of $3,000,000. He said his prices were accurate; they came from Means!’
And then the game begins. Back and forth. Back and forth. Explaining how Means is good for certain budgeting. How allowances work. Why General Conditions are what they are. Why Fire Extinguishers cost $1,200 when the Owner exclaims he can get them all day long from Home Depot for $45 each. You head down to Marketing (oops, sorry; it’s not called Marketing anymore; its Client Development), only to discover the group is at a Fred Prior Seminar on Public Speaking. Oh well, you can at least start working on the “package.”

As you contemplate how to put this thing together, you keep thinking of how the Owner always responds to discovering the “price”. There has to be a better way.

As you continue jotting down notes on what needs to be prepared, you say to yourself, “self, why don’t we just be upfront about the price and make that the first thing the Owner sees, followed by when the project will be Substantially Complete.”

You were always told to keep your Letters to one page if at all possible, so if you are only telling the Owner what the price is and when the job is going to be done, how hard can that be? One page is easy.

What else does the Owner really want to know? Why not ask him? So you decide to call the Owner and do exactly that. And why not; you seem to be on rather good terms with the Owner. So you make the call, only to discover that he is gone until Friday. Sheryl, his Administrative Assistant, has always been very forthright and more than willing to help, so you ask her want exactly does Mr. Davis want in our proposal.

Sheryl says, “I am so glad you asked. It was just last week Mr. Davis was complaining about how horrible these proposals have gotten. What he really wants to know is the price and can you get the project done on time. He also would like to see some sort of listing of Allowances, a brief schedule of some kind, what you include and exclude that was not part of the project and some kind of outline specification. These preliminary numbers need to be tied down when you guys are initially bidding the project; he doesn’t really want to see the same boring PowerPoint slides he has seen a dozen times. Your sales and marketing people treat him like he doesn’t know who you are; this is only about the 20th project you folks have done for us. HE KNOWS WHO YOU ARE...that’s why he wants you to build this project.”

“You mean he really doesn’t care about all the Client Development material”, you ask. “The what?” Sheryl says. “Oh sorry, Marketing is now called Client Development; my mistake.” “Just give us the important stuff; and oh by the way, Mr. Davis can’t meet with you on Monday. But I have you scheduled for 3:00 PM, this Friday; I hope that works for you. Gotta run; see you Friday.” And with that, Sheryl hangs up.

You are still jotting down notes, when reality strikes fear: (this) Friday ... at 3:00 PM.

**Tuesday, 4:45 PM**

Well that’s a lot of help; you just had the deadline bumped up to Friday; wonderful. Actually after a few minutes of thought, you have come to the conclusion that fear is one heck of a motivator. “It can’t be too difficult; Sheryl told me exactly what Mr. Davis wants,” you think as you wipe the sweat from your forehead. On the side of caution, you decide to go see the Vice-President of Pre-Construction Services. After all, he’s the person who recruited you out of college, and you do remember him saying to visit if you had any questions,” you say to yourself as you walk down the hallway to the “other’ side of the building.

As you turn the corner heading to Mr. Calvin’s office, you are not sure on how to even start the conversation but think, “come on man; just wing-it; after all, you are a Senior Estimator”, you repeat to yourself. Present yourself in a professional manner; be confident, but not arrogant. Be responsible for your own actions. Go the extra mile. Demonstrate personal pride in the work results. Wait a minute; this sounds like another Fred Prior seminar ... oh wait, it is...maybe it did some good.

And as you turn the corner, you see that Mr. Jackson is getting ready to leave. “Hey Curtis, how are you; how are things in estimating; I’m hearing really good things from your Boss. Walk with me; I have to get to the airport. What’s up?”

“Well Mr. Calvin, I’ve got to put together a proposal for Mr. Davis; and I just spoke with his assistant and he wants it a little different from what we have done in the past,” you say half jokingly. “Is there anything special I should put into it?”

“Well if Mr. Davis wants it a certain way, give it to him that way; he’s paying the bills. Just don’t screw it up; we really need this project.”

“Hey Curtis, you’ve had a pretty hectic day; why don’t you take the rest of the day off, you deserve it.” I guess Mr. Jackson is right; it is 4:45 PM (I hate leaving work so early). We’ll hit it hard tomorrow morning.
Wednesday 6:30 AM

At 6:30 a.m. Wednesday morning, your alarm clock goes off. “I don’t remember the last time I slept that late,” you think to yourself. “I’m usually at the office by now.” You scramble to get organized for your first full day as a Senior Estimator.

An hour and a half later, having fought traffic for the majority of that time, you pull into your designated parking spot at the office. While you’d been driving, you’d been thinking about the benefits of your new job and title. A company vehicle? A big raise? Switching off the ignition and exiting your car you decide to drop by HR to see if they need anything from you before you begin your new job.

“Good morning!” Carol the HR Director greets you at her office door. In response to your inquiry about paperwork, forms or other details required to kick off your new position, she says, “Nope, you’re good to go! And congratulations on the promotion. We’ve been hearing great things about you from your boss. Just keep up the good work.” Carol continues, “I knew you would be a great asset to the company. Your mileage allowance will get bumped up to the full IRS allowable rate, and I believe you will be getting a 10% pay increase. You are also going to start training some of the younger estimators”.

You thank Carol for her time and start to your office wondering when you’ll find time to train young estimators. I’ll worry about that later, you decide. “I really need to start working on that proposal that’s due Friday”.

On your way you stop by the Admin’s desk and pick up your handful of messages from subcontractors and vendors. Early on in your career, one of the first things you learned was to return all phone calls within 24 hours. Shuffling through the pink message slips quickly you decide these can wait until this afternoon. “First order of business is that proposal!” you decide. “I’ve got to get started on that right now.”

As you turn on your computer to start the envious chore of writing, no wait, composing your first proposal, you quickly scan your handwritten notes from Sheryl’s conversation yesterday. “…he wants to know the price and how fast we can get done…”

How difficult can this be? The price is $4,350,000, and we can get it done in 420 calendar days. And then the phone rings. And for the next 45 minutes you are in a constant state of answering the phone when you realize you have a 30-minute drive to a pre-bid conference across town. Gotta run.

Scrambling to find a parking spot downtown and then running two blocks to get to the Architect’s office, you arrive with two minutes to spare. You sign in: Curtis Benton, Senior Estimator, Titus Construction. Impressed with yourself and your new title, you strategically sit towards the front right side of the conference room where you can get a good view of your competition. After introductions by the Architect and Owner’s Team, you realize that there are nine other general contractors in attendance.

After some quick math you determine that you have a 1 in 10 chance of winning this bid. Medical office buildings are right up your alley and apparently the alleys of 9 other general contractors. You know what’s going to happen. The low bidder will be the company that either leaves something out or is giving away the project just to keep their doors open (and they will make it up in change orders). The only problem is that the drawings are very complete. “Not much chance of making it up in plan discrepancy or in concealed conditions. I’ll let Mr. Calvin make the decision to bid or not”, you think to yourself.

So after the normal set of questions and answers at a typical pre-bid meeting, “can we get more time to bid; the completion date seems unrealistic, can we get more time; can we substitute this for that, blah, blah, blah.” The meeting is adjourned, and you decide to head to the Brookwood jobsite to pick up the latest job cost data.

You call the job trailer first just to make sure the superintendent is around, and the summer intern answers the phone. You ask if the current job cost data is ready; and the intern snarls, “What are job costs data sheets?” Wonderful! After explaining in simple terms what job costs data sheets are you draw the conclusion that they are not even close to being completed and ready for input. You decide to continue on to the site anyway to meet this new intern.

You enter the job trailer to find the intern plugging away at the computer playing Ultimate General, when you ask, “Where’s Walter?” The intern looks up, narrowing his eyes, “Who the hell are you, and why do you want Walter?” “I’m Curtis Benton from the home office. I need to get the latest job cost data sheets. I spoke to you a few minutes ago,” you reply.
“Oh yeah, nice to meet you. I’m Elvis Grover, the senior intern on this job. I’ve just about got this job wrapped up as far as me learning anything new. Pretty basic job.”

You think to yourself, “Really. And you didn’t know what job cost data sheets were?” You ask Elvis, “Senior Intern? When did we start making summer interns Senior positions after one month.” As if Elvis would know.

Ignoring your question Elvis continues, “I’m going to be going into Preconstruction Services for my next rotation in the office. Estimating doesn’t seem too difficult. How hard can it be?”

It then dawns on you. This is your new junior estimating trainee HR was talking about. “When Walter gets back in, please tell him we need those job cost data sheets.” “I’ll get right on that,” Elvis grumbles as he turns back to his computer to finish playing his important game of Ultimate General.

As you start to head back to the office, you realize you missed lunch and decide to stop by the nearest 7-11 to pick up some of the finest re-packaged, pre-manufactured fast-food known to mankind (frozen burritos: nuke ‘em twice). Ah, life is good.

As you walk into your office, you tell the Admin to please hold your calls for the next 60 minutes so you can return the messages from this morning as well as the 15 additional you just picked up. You figure an hour should do it. So after 1-1/2 hours you have managed to return all the messages, plus the seven new ones that came in while you were on the phone. But at least you are caught up on your “return calls”. You open up the Word document you began this morning and are startled when you realize you haven’t even started the proposal. Again, how hard can it be?

“It’s all about time and money!” you think to yourself. What was it that Sheryl said: he really wants to know the price and can we get the project done on time.

After typing for about 10 minutes, you proudly pat yourself on the back. Can’t get much simpler than that. You decide to let Roberta, the Estimating Admin proofread your work of art and hear what she has to say.

30 minutes later you stand in amazed shock as you quietly scan your now bloodied and horribly disfigured work of art. “Well, Curtis, I hope you’re okay with my changes. Your letter was a little, ummmm, rambling. Are you sure this is what Mr. Davis wants?”

Dear Mr. Davis:

It is with great pleasure that our company be allowed to continue our long-term relationship with your outstanding organization by presenting to you this proposal for the construction of the Stockwood Phase III project. This being our 10th project over a period of 15 years, we consider it an honor to contribute to your organization in this regard.

After careful consideration and analysis of the parameters that will govern the success of this project during construction, and upon careful review of only those subcontractors, vendors, and material suppliers capable of building this wonderful project, we have estimated the cost to be $3,500,000.00.

After carefully examining the plans and specifications prepared by Donaldson Architects, dated July 16, 2018, with the subcontractors and material suppliers, we believe that this project can be substantially completed by September 19, 2019. Substantial completion is the stage in the progress of Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Work is substantially complete in accordance with the Contract Documents.

In order to ease any concerns you may have regarding this project, I have included several Exhibits that define our scope and provide a clear picture of what is being provided.

Wishing you well and continuing our long-term relationship.

Sincerely,

Curtis Benton
Senior Estimator
“I don’t know. This is the first proposal I’ve put together. I spoke with Sheryl and she gave me a little insight on what Mr. Davis wanted.”

“Well there you go. But I thought this was a bid, not an estimate. You say the estimated price. Is there a difference?” asks Roberta.

“Yeah, a Bid is what you will do the work for; and an estimate is what you think it will cost”, you quietly say as you are still in mild shock.

“I went ahead and re-typed your cover letter with some of the suggestions. I think YOUR cover letter really shines with YOUR changes,” says Sheryl. “What do you think?”

Dear Mr. Davis:

We are pleased to provide our proposal for completion of the Brookwood Phase III project.

Per the plans and specification prepared by Donaldson Architects dated July 18, 2018, our bid for the project is $4,350,000.00. Upon receipt of a building permit, the project will be substantially complete within 420 calendar days.

Documents in support of our estimate and date of substantial completion are attached and include:

- Exhibit A: Estimate Breakdown (UniFormat)
- Exhibit B: Preliminary Schedule including Milestone Dates
- Exhibit C: Schedule of Allowances
- Exhibit D: Inclusions, exclusions, and Clarifications

Thank you for allowing Titus Construction to provide this bid. If you have any questions or require further clarification, please do not hesitate to contact me.

Sincerely,

Curtis Benton
Senior Estimator

“Sheryl, that’s amazing. That really does read a lot easier,” you state.

“Remember, when you write this type of letter, you are not writing to try and impress your audience. You are trying to help them understand your message,” says Sheryl. “Remember the old KISS principle.”

“I guess that does make the process much easier,” you say in a mild state of embarrassment. “Thanks for your help.”

“No worries. But don’t you have a Bid Day to run tomorrow?” Sheryl asks. “Also, don’t forget to schedule the room for the ASPE Breakfast meeting on Friday at 7:30 am.”

As you leave the office that night at 10:15 PM, after getting all of the Bid Scope Sheets ready for tomorrow, coordinating with the other estimators on the Bid Team, completing the Bid Forms and Bid Bond as far as you can take them, making sure the Estimate Template is running and the backup computer is ready to go, you conclude that estimating really is kind of fun.

“Besides”, you remind yourself as you turn off your office light to leave, “If we don’t do our job in estimating, no one has a job. No worries.”

Get Connected

Chris Ray, CPE
Education Committee
Chapter 33 – Little Rock
csray12@gmail.com
Introducing

Matthew Rasmussen
Denver #5 Chapter President
Hensel Phelps
Senior Estimator

My 2018 Goal for Chapter 5:
Increase member participation

If I wasn’t doing this, I would...
Be a professional traveler

The best advice I ever received:
Solve your bosses issues

The best advice I share with young ( & not so young) estimators:
Over Communicate

Announcements!

ASPE Membership Cycle: In June 2017, ASPE chose to reincorporate in Delaware, providing the Society with a more favorable tax and regulatory environment in which to conduct business. In conjunction with the reincorporation, ASPE also chose to adjust the Fiscal Year to a Calendar Year. As a follow-up to that decision, the Board of Directors has elected to extend Membership through December 31, 2018, with no additional cost to Members.

- Current Membership Cycle: August 1, 2017 thru December 31, 2018 (17 Months)
- Invoices for Membership Cycle January 1, 2019 thru December 31, 2019, will be issued in October 2018

Certification - Open Cycle Update: Improvements to the CPE Program are under consideration, but did you know that candidates are no longer required to wait for enrollment? The CPE Program moved to an Open Cycle that allows interested candidates to begin the application process at a time that is convenient for them. Since implementation in November 2017, twenty-six candidates have enrolled and are advancing through the flexible testing requirements. Options for submitting a technical papers have also changed, with a list of pre-approved topics available for selection by candidates.

Further Program updates will be announced prior to the 2018 Steel City Summit!

Please contact Elaine Cersosimo, Director of Operations, with questions regarding these Announcements.
Every estimator who has worked for a General Contractor knows about the “War Room”. It is where your team traditionally gathers on bid day to receive and compile all the subcontractors’ bids and to finalize the complete package for submitting to the owner. There are phones ringing off the hook, last minute addendums, people sending multiple revised bids, subcontractors who don’t price up the full scope of work so you have to plug in numbers, and bids coming in at the last minute. And that’s when it all goes well.

I have two stories to share.

25 years ago, before estimators used estimating programs, one senior estimator I know would gather his team with each estimator being responsible for their individual bid scopes or tabs. They would run their totals, transfer to a “Green Sheet”, the senior estimator would total it, and double check everything. The senior estimator would then hand it over to the accounting department to triple check, with the theory being that accounting was much quicker and better at using the “Ten Key” calculator. Should they find anything amiss, just verify it. Any changes or alternates from that point would just be a quick addition or deduction from the total.

In this instance, the bid was called in; and the hard copy bid form with all of its breakouts was being submitted on the following day.

Going through the breakouts on the following day, my friend noticed his bid was off by $60,000. Apparently, the accounting department had miss-read a number, changed the total, and didn’t tell anyone.

Lesson: Do not change something and then not tell anybody!

Another estimator tells of overcoming a power outage on bid day. They were without phones, they did not have the ability to print out the bid, and they were unable to email or even fax the bid to the owner.

Yet, there is no such thing as missing a bid! They simply hand wrote the entire bid, then hand delivered it.

Moral: Don’t be intimidated, and don’t give up!

Get Connected

Heather Boulanger
Denver #5
heather@rollingplains.com
The Standards Committee is pleased to present the recently released 10th Edition of the Standard Estimating Practice (SEP) manual. Many thanks to the Committee members who invested their time into the improvements made to this manual including Richard Miller, CPE (Chairman) Bryan Mixer, CPE, and Ron Trawinski, CPE all of whom who have served several years on the Committee, as well as new members Jay Kellogg and Eric Ross. In addition, the Committee extends their thanks to Tina Cooke for her perseverance and organization to ensure the new edition successfully launched. Believe it or not, it's time to start work on the 11th Edition!

In January we met as a Committee at the SBO in Nashville to discuss our vision for the next book. First, we are looking for two new Committee members; so if you or anyone you know is interested, please contact a member of the ASPE Board of Directors.

One idea is to utilize specific Technical Papers written (or to be written in the future) on more broad concepts such as “How to Estimate the Cost of a __ Building”. If you are familiar with the current Standard Estimating Practice manual, the bulk of the publication is written around how to estimate very discrete work, such as footings or brick walls. We will explore adding a second or third volume to address more broad concepts, as well as allow for expansion of current information.

In addition, we will investigate moving towards a subscription option that could be regularly updated for an annual fee. We would still publish in print form, but an electronic subscription will allow for greater flexibility and the ability to make quick and timely updates for subscribing members.

The Standards Committee members agreed for the need to communicate and work more closely with both the Higher Education and Certification Committees to see how the SEP manual may have synergy with their respective Committee goals. For example, we discussed creating standardized HTECO Word and Excel templates for technical papers written by certification candidates. In addition to a new vision, we will seek to continually improve and standardize our current product which may include identifying opportunities for CPEs to earn PDUs. We would also like to see how the Standard Estimating Practice manual could be integrated into the Work of the Higher Education Committee as a teaching tool for aspiring estimators!

The Standards Committee is excited about the future of ASPE and being an integral participant of its growth! If you have any questions regarding the Standards Committee, please contact the Nashville Business Office or a member of the Committee.

Get Connected

Karla Wursthorn, CPE
Philadelphia #61
kwursthorn@tnward.com

From left to right: Jay Kellogg, CPE, Bryan Mixer, CPE, Tina Cooke, Karla Wursthorn, CPE, Jennifer Cochran, Eric Ross, CPE
May 14 – 16, 2018, Dallas, TX

Back for its Third Year: Showcasing Best Practices Across Preconstruction

Advancing Building Estimation 2017, was one of the best conferences I’ve attended in my professional career. Came back to the office with my head filled with ideas to improve our company’s workflow and methods.

Pomerleau

Learn more at www.advancing-building-estimation.com

Discount Code: For a 10% discount on all bookings, use the code ASPE10
Scope it Out ... Machine Excavation

As General Contractors bid projects, there may be several hundred subcontractor and material supplier scope bid proposals that need to be reviewed and analyzed in order to incorporate the correct or, at least, the most correct vendor bid proposal into the overall price.

Identifying scope issues before the subcontractor proposals are received would be beneficial not only to the General Contractor, but would help the individual subcontractors with identifying specifically what the General Contractor wants. This article will assist in the identification of just a single scope of work - Machine Excavation.

One of the first scopes of work on most ground-up projects, Machine Excavation starts the critical path of the project as it relates to physical construction. The nuances of the project will dictate the terms and conditions of the scope of work.

1. Prior to performing any excavation work, ensure all site utilities have been located and properly marked. A key environmental concern these days is soil erosion and displacement of soil via runoff into the storm sewer system. Prior to commencing stripping the site, make sure the erosion control and maintenance of positive site drainage has been accounted for. Also, identify which party is responsible for maintaining and removal of the silt fence during and after construction is complete.

2. Keep in mind that this scope of work does not typically include hand excavation. Rarely will a Machine Excavation contractor perform hand excavation. The Machine Excavator is much more productive while on the piece of equipment maximizing the production. Hand excavation is typically a General Contractor self-perform scope of work or performed by general laborers hired by the General Contractor or CM.

3. The Geo-Technical Report or Soils Report is a key document for the Machine Excavator. Typically, the project governing factors such as project information, subsurface conditions, recommendations for design and construction will be provided. In many instances, the Geo-Technical Report is provided as part of the Project Manual. However, in some instances the Report will be referenced only for available use. In either condition, it is imperative that the Machine Excavator thoroughly review and acknowledge the reports' review and make the report a basis for the bid.

4. Even with a detailed Geo-Technical Report, no one really knows what will be discovered until excavation commences and the soil conditions are exposed. The soil borings only indicate material encountered at those specific boring locations. A typical trade custom is for the Machine Excavation subcontractor to exclude rock excavation from their proposal. Requesting a unit price for rock removal is normal. The method of removing rock is the critical question. Can a properly equipped piece of heavy machinery remove the exposed rock? Is blasting required? This begs the question, what is considered rock? Granite and limestone; obviously yes. What about soft shale? This material can be easily removed with the proper piece of equipment and an operator who will actually work the machine. A key issue is to operationally define rock excavation that requires specialized equipment or blasting prior to the subcontractor providing their bid. This needs to be accomplished prior to bidding the project.

5. Multiple mobilizations are typical for machine excavators. As one of the initial subcontractors onsite, an initial mobilization will occur. Stripping the topsoil, bulk site excavation, and building pad excavation are typical Machine Excavation operations at the start of a project.

Machine compact and backfill may occur several weeks to months after the initial excavation process and will require another mobilization, with the initial equipment having been removed or utilized at other projects.

The typical last mobilization to occur will be for site finish and final grading for landscaped areas, and parking lots or other staging areas. In either condition, verify that the machine excavator is aware of the potential for multiple mobilizations and include the costs of these in the bid proposal.

6. Machine Excavation equipment has a tendency to leak oil and various fluids. Make it clear in the bidding instructions that this subcontractor shall be held accountable for all remediation...
work associated with cleaning up these spills.

7. Conditions in which the excavation is being performed is critical to the production of the equipment. During the rainy season or after a heavy rain, the equipment production can drop 80-90 percent, until conditions improve. Dewatering pumps may be required. Most machine excavators will exclude pumps of any type for dewatering purposes. Make sure that in the Instructions to Bidders it is clear on dewatering procedures, conditions, and who is to provide and pay for the equipment.

Again, depending on the time of year, in the northern regions frost may become a significant issue for the machine excavator, practically bringing excavation to a halt. In some instances, the use of a rock breaker to chip away at frozen soil may be the only way to continue excavation. A potential remedy for both rain and frost is to provide a realistic project schedule indicating times when Machine Excavation will occur and to make it clear to bidding subcontractors who is responsible for either dewatering, freeze protection, or rock removal costs.

8. It is imperative to make sure that the finished excavation elevations are provided to the subcontractors. The finish floor elevation is typically not the finish excavation elevation. From personal experience, you may have up to several feet of additional components, such as slab-on-grade, compacted gravel sub-grade, compacted soil sub-grade, to get to the Machine Excavation elevation. Make sure this elevation is clearly identified and provided to the machine excavator and any subcontractor providing an assembly on the finished excavation elevation. In some instances, a leveling bed of sand or pea gravel may be required to insure accurate final floor elevations.

9. Besides the Machine Excavation subcontractor, there will be several other trades requiring Machine Excavation, such as plumbing, electrical, site drainage, drilled piers, etc. In many instances, it may be beneficial for the other trades to exclude their required excavation and have the machine excavator perform the work. This is a coordination issue which rarely occurs prior to bidding, because the subcontractors have not been identified. However, prior to commencement of the work a certain degree of bartering may occur between the subcontractors, particularly when it deals with removal of excess soil.

10. Unit prices for haul-off and haul-in are typical on most projects. If rock removal is anticipated, a unit price per cubic yard for rock removal may be requested. Thinking in terms of potential change orders, it benefits all parties to request prices for using Machine Excavation equipment on an hourly basis. These prices should include labor, labor burden, fuel, maintenance, overhead and profit, etc.

11. There may be a need for pumping or dewatering all excavations related to the scope of work. The pumping or dewatering of excavations is best suited for the General Contractor or CM. The Machine Excavator has no idea how much pumping or dewatering may be required if at all. If dewatering is not needed, a windfall profit may be incurred. If subcontractors are requested to take on additional risk that cannot be quantified and calculated with any degree of accuracy, it would be best to assign a specific allowance for this work and make adjustments to the allowance accordingly. Having the allowance on the General Contractors or CM/Owner side is more equitable for all parties involved.

12. Deep excavations may require truck access ramps. Specific locations of these ramps may be dictated by the site logistics. In any event, coordination and location should be discussed prior to bidding the project.

13. Temporary staging areas, such as temporary construction entrance, temporary parking, crane access areas, and lay-down areas need to be identified and incorporated in the Machine Excavation scope of work. Either a Lump Sum price or a unit price works well in this regards. However, some sort of outline specification should be included in the invitation to bidders allowing the subcontractors to price accordingly. As a means and methods issue, the Project Manual will typically not include any information for these areas. Identify which party is required to remove any temporary staging areas after project completion. If possible incorporating the temporary staging area sub-base into the finish product eliminates the need for its removal. Make sure this has been approved by the A/E prior to bidding.

14. Machine Excavation is traditionally a messy scope of work, particularly if there is significant haul-off of excess soil material. Street cleaning from excavation operations is typically mandatory in most jurisdictions. This item must be assigned to the responsible party causing the damage. Some jurisdictions require that all hauling vehicles drive over roll-off mats and drive through a truck wash station that incorporates a settlement tank. Make sure the bidding instructions are clear on the requirement and cost assignment.

If dust become a significant issue on the adjacent streets, street sweepers and vacuum trucks may be necessary. In either condition, make sure the assignment is dictated to the appropriate responsible party.

15. Dust control during the Machine Excavation phase is typically provided by the machine excavator and is a normal inclusion. However, after the primary excavation has concluded but before the next mobilization phase of the machine excavator has begun, the General Contractor or CM will need to provide proper dust control. In many instances, the secondary dust control can be provided by the machine excavator. This instruction will need to be described in the Instruction to Bidders so an appropriate cost may be included in the bid proposal.

16. In many jurisdictions, a Mud Bond may be required. The Instruction to Bidders should identify the requirement for the mud bond and should be procured by the machine excavator. Check with the Authority Having Jurisdiction on the specific requirements for the Mud Bond.

17. Weight distribution pads and cribbing may be required if a significant load is imposed adjacent to an excavated area. These distribution pads and cribbing are a normal inclusion for most machine excavators. Make sure during the bid process, the excavator is aware of the requirement.

18. Soil stabilization requirements will typically be noted in the Geo-Technical Report. However, the means and methods of how to accomplish the stabilization may be left up to the subcontractor. The two primary vehicles for soil stabilization are the addition of lime and the addition of fly-ash. Lime can dramatically increase the soil stability, impermeability, and bearing capacity of the subgrade soil. Lime treatment can also be very expensive and has a tendency to effect landscaped areas. Fly-ash can be intermixed with existing soil to strengthen and stabilize subgrades and stabilize embankments to improve stability in sloped conditions. In expansive clay, the addition of fly-ash can be used to reduce the potential of a plastic soil to undergo expansion. If stabilized soil is required to be brought in, make
sure that certified test certificates for offsite fill are provided. On occasion, a site visit may be beneficial during the haul in process to verify that the material is being excavated from the designated area. Controlled fill needs to be monitored so as to not let on site, potentially contaminated or otherwise non-conforming material to be used for fill. This monitoring needs to occur as the material is being brought to the site or through the use of external inspectors and or testing firms. Make it clear in the bidding instructions that any non-conforming fill material will be removed at the expense of the subcontractor. The costs for these inspections should be defined in the bidding instruction. The key issue is to make sure the cost is covered once, but not double covered. Again, these conditions should be noted in the Geo-Technical Report and discussed with bidding subcontractors prior to the bid. The key element for the estimator is to make sure that an apples-to-apples comparison can be made between bidding subcontractors.

19. Provide specific information regarding inspections required for this scope of work that is not covered by Owner provided third party inspections.

20. The machine excavator needs to provide all horizontal and vertical layout related to this work. The starting point for this layout should come from benchmarks provided by the site surveyor of record. This is a normal trade custom.

21. With the size and impact a piece of heavy equipment may have on adjoining areas, make sure that tree protection, as well as hardscaped areas are adequately identified and protected.

The preceding is just some of the many scope issues related to Machine Excavation that may be needed on any given project. The key to proper and effective scope identification is the analysis of gap and duplication issues, where two or more subcontractors have excluded a requirement that is needed or both have included a requirement that is needed by only one trade. The burden of this analysis and coordination lies with the general contractor and, more specifically, with the estimating team prior to the bid being submitted.

Get Connected

Chris Ray, CPE
Education Committee
Chapter 33 – Little Rock
csray12@gmail.com

In Memory

Ralph Spengeman, FCPE (1939-2018) - ASPE Roadrunner Chapter #47

It is with heartfelt sadness to say that another member of the American Society of Professional Estimators passed away on January 17, 2018, Mr. Ralph Robinson Spengeman. Ralph was a 1983 charter member of ASPE Roadrunner Chapter #47 and was a very active member for well over 30 years.

Ralph was one of the first to achieve CPE status in the chapter; and once he became a CPE, he actively promoted the Program and mentored and proctored tests for any that wanted to follow in his footsteps. In 1983 Ralph received National Estimator of the Year recognition as well as National Certification Question Writing Runner-up. He was awarded ASPE National Recognition of Fellow in 1997 and continued his duties as an FCPE until his passing.

As an active and devoted Chapter member for many years, Ralph also served as Chapter President, various VP positions, and then as a Director. Ralph was also recognized with Chapter Estimator of the Year and Chapter Member of the Year awards. He devoted hours of his time as a speaker/instructor in the electrical discipline and promoted ASPE to the fullest everywhere he went. He attended ASPE national conventions, enjoying long-lasting friendships with other ASPE members across the US.

For many years Ralph owned/operated Lobo Construction. He went to work for Balis & Company, an estimating consulting firm, in the early 1990’s. Ralph knew how to estimate all disciplines and divisions. He estimated from the simplest to the most complex projects given him from simple office buildings to civil projects for the Corp of Engineers to nuclear weapons facilities for various national laboratories and was said to have better understanding of the projects than even the engineers had on them.

You were a mentor that taught me much more than about construction during our many years of friendship, you taught me to be strong, to believe in our convictions and to cherish the friendships we have with others and to always make new friends, you never know, you could recruit them into ASPE.

I will trust that you have already gotten together with Kathy, Richard Vittitow, Mike Priest, George Canham, Mack Edwards, Sammie Giannini, Don Short, Merle Heckinlively and the many other ASPE members that preceded you in order to get another Chapter started!

A salute to you, Ralph; you shared your knowledge of the construction industry and love for ASPE with us all! Rest in Peace, My Friend; and never doubt that you are missed by many here still on earth!

Glynnette M. Hale, CPE
ASPE Roadrunner #47, Charter Member
Welcome New Members!

December & January 2017/2018

Membership Classification Count (1/31/2018)

- 57 Affiliate
- 531 Certified Professional Estimator (CPE)
- 816 Fellow (FCPE)
- 22 Honorary Member
- 47 Member Emeritus
- 24 Student
- 1,507 Total

<table>
<thead>
<tr>
<th>Member</th>
<th>Company</th>
<th>Chapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denzil D’Sa</td>
<td>McCarthy Building Companies Inc.</td>
<td>Golden Gate 2</td>
</tr>
<tr>
<td>Ryan Weatherford</td>
<td>Henkels &amp; McCoy</td>
<td>Orange County 3</td>
</tr>
<tr>
<td>Justin Williams</td>
<td>Merrick &amp; Company</td>
<td>Denver 5</td>
</tr>
<tr>
<td>Jay Shaner</td>
<td>Redd Iron, Inc</td>
<td>Denver 5</td>
</tr>
<tr>
<td>DJ Austin</td>
<td>Platinum Millworks</td>
<td>Arizona 6</td>
</tr>
<tr>
<td>Jeffrey Eckes</td>
<td>All City Remodeling</td>
<td>New York 10</td>
</tr>
<tr>
<td>Jesus Zamora</td>
<td></td>
<td>New York 10</td>
</tr>
<tr>
<td>Kurt Sommer</td>
<td></td>
<td>Atlanta 14</td>
</tr>
<tr>
<td>Joel Radman</td>
<td>RA-LIN and Associates, Inc.</td>
<td>Detroit 17</td>
</tr>
<tr>
<td>Kim Hoffman</td>
<td>LLP Construction Services Inc</td>
<td>Greater D.C. 23</td>
</tr>
<tr>
<td>Ann Wilhelm</td>
<td>Verns Plumbing</td>
<td>Boston 25</td>
</tr>
<tr>
<td>Anthony Murphree</td>
<td>1986</td>
<td>Heartland 32</td>
</tr>
<tr>
<td>Amanda Kingsolver</td>
<td>Turner Construction</td>
<td>Arkansas 33</td>
</tr>
<tr>
<td>Maxie Carpenter</td>
<td></td>
<td>Middle Tennessee 34</td>
</tr>
<tr>
<td>Nathan Foshee</td>
<td>Lee Company</td>
<td>Great Plains 35</td>
</tr>
<tr>
<td>Darrin Riley</td>
<td>Kiewit Infrastructure Group</td>
<td>Maine 37</td>
</tr>
<tr>
<td>Mike Rodgers</td>
<td>EnviroVantage</td>
<td>Maine 37</td>
</tr>
<tr>
<td>Sean Keay</td>
<td>Wright-Ryan Construction</td>
<td>Roadrunner 47</td>
</tr>
<tr>
<td>Kendra Hanksins</td>
<td>Southwest Abatement</td>
<td>Orlando 50</td>
</tr>
<tr>
<td>Darren Nash</td>
<td>Nash Estimating</td>
<td>Central Indiana 59</td>
</tr>
<tr>
<td>Adam Persohn</td>
<td>North Mechanical</td>
<td>Central Indiana 59</td>
</tr>
<tr>
<td>Barry Perron</td>
<td>Equiteam, LLC</td>
<td>Philadelphia 61</td>
</tr>
<tr>
<td>Kevin Wilkison</td>
<td></td>
<td>Las Vegas 72</td>
</tr>
<tr>
<td>Atlitano Rodriguez</td>
<td>Spectrum Construction, LLC</td>
<td>Las Vegas 72</td>
</tr>
<tr>
<td>Mitch Vogt</td>
<td>A Cutting Edge Glass &amp; Mirror</td>
<td>Las Vegas 72</td>
</tr>
<tr>
<td>Paul Salisbury</td>
<td>CORE Construction</td>
<td>Des Moines 73</td>
</tr>
<tr>
<td>Kevin Paja</td>
<td>SGH Redglaze Holdings Inc.</td>
<td>Richmond 82</td>
</tr>
<tr>
<td>Aaron Ross</td>
<td>Leebcor Services</td>
<td>Richmond 82</td>
</tr>
<tr>
<td>Karina Llamas</td>
<td>Aspen Construction Group</td>
<td>Richmond 82</td>
</tr>
<tr>
<td>Colby Burnam</td>
<td>Akira Corporation</td>
<td>CP MAL 92</td>
</tr>
<tr>
<td>Chris Mizner</td>
<td>Consumer Energy</td>
<td>SE MAL 93</td>
</tr>
<tr>
<td>Christina Gleason</td>
<td>Mettauer Environmental, Inc.</td>
<td>SE MAL 93</td>
</tr>
<tr>
<td>Chris Mettauer</td>
<td>Mettauer Environmental, Inc.</td>
<td>SE MAL 93</td>
</tr>
<tr>
<td>Adrienne Freeman</td>
<td>The Haskell Company</td>
<td>SE MAL 93</td>
</tr>
<tr>
<td>Guy Morgan</td>
<td>Spacecon LLC</td>
<td>NE MAL 94</td>
</tr>
<tr>
<td>Charles Long</td>
<td>eEstimatePro.com</td>
<td>NE MAL 94</td>
</tr>
</tbody>
</table>
2018 Scholarship Program

Multiple Scholarships Available

Up to $25,000 to be Awarded

Application Due Date: April 30, 2018

Applicant Eligibility:

• Course of Study - Construction Related Field
• Enrolled as a Full-Time College Student
• Currently a College Sophomore or Junior
• GPA - 3.0 or Higher
• No relationship with any member of Scholarship Committee

For more information
Visit www.ASPEnational.org
Education Tab - Scholarship

the take-off ..... 

Certification Journal: A CPE’s Certification Journal is an important tool that is available (and always at your fingertips)! Take steps to streamline the CPE Renewal process: No more lost certificates ... No more hand-written PDU recaps! CPE members have the ability to enter PDUs immediately when earned on the ASPE Website at ...

Select: My Profile
Select: Professional Development (located on left side under Profile)
Select: Journal Entries (tab on the right)
Select: + Add Entry
Enter: Information into the Data Field
Select: Submit

Technical Committees: If you wonder who serves on the three (3) ASPE Technical Committees or have specific questions regarding their responsibilities, photos and contact information is easily found on the ASPE Website by selecting the Committee of your choice from the toolbar.

Certification * Education * Standards

SBO Corner
### Arizona

**Arizona #6**
- **Where:** Double Tree Hotel 320 N 44th Street Phoenix - 85008
- **Date:** 2nd Tuesday
- **Time:** 5:30 Social Hour
- **Meeting Contact:**
  - Marvin Blau
  - aspeltreasurer@gmail.com

**Old Pueblo #53**
- **Where:**
  - Costa Mesa - 92626
  - 325 Bristol Ave.
  - 92626
- **Meeting Contact:**
  - Trip McGrath, CPE
  - tripm@compusultinc.com

### Arkansas

**Arkansas #33**
- **Where:** Baldwin & Shell 1000 West Capital Ave. Little Rock - 72201
- **Date:** 3rd Friday
- **Time:** 12:00 Social Hour
- **Meeting Contact:**
  - Chuck Garrett, CPE
  - cgarrett@baldwinshell.com

**NW Arkansas #79**
- **Information not submitted**
- **Contact:**
  - Southeast Governor Chuck Hesselbein, CPE
  - chesselbein@baldwinshell.com

### California

**Los Angeles #1**
- **Where:** The Barkley Restaurant 1400 Huntington Drive South Pasadena - 91060
- **Date:** 4th Wednesday, Jan.-Oct.
- **Time:** 6:00 pm Social Hour
- **Meeting Contact:**
  - Bruce Danielson
  - ja1ofaspe@outlook.com

**Golden Gate #2**
- **Where:** AIA East Bay 1405 Clay Street Oakland - 94612
- **Date:** 3rd Wednesday
- **Time:** 6:00 pm Social Hour
- **Meeting Contact:**
  - Gustav Choto
  - gchoto@buildingpointpacific.com

**Orange County #3**
- **Where:** Ayres Hotel 325 Bristol Ave. Costa Mesa - 92626
- **Date:** 2nd Wednesday
- **Time:** 5:30 PM
- **Meeting Contact:**
  - Tom Smithson
  - tedwardsmithson@gmail.com

### Colorado

**Denver #5**
- **Where:** TBD
- **Date:** 2nd Tuesday
- **Time:** 5:00 PM
- **Meeting Contact:**
  - Matthew Rasmussen
  - mrasmussen@henselphelps.com

**Nutmeg #60**
- **Where:** Back Nine Tavern 245 Hartford Rd.
  - New Britain - 06053
- **Date:** Contact Harrison Levy
- **Time:** 6:00 PM
- **Meeting Contact:**
  - Harrison Levy
  - klevy@petraconstruction.com

**Yankee #15**
- **Not Active Social Meeting**

### Connecticut

**Delaware #75**
- **Information not submitted**
- **Contact:** Northeast Governor Gregory Williamson, CPE
  - gwilson@bondbrothers.com

### District of Columbia

**Greater D.C. #23**
- **Where:** Jacobs 1100 North Glebe Rd., Ste 12
- **Date:** 3rd Thursday
- **Meeting Contact:**
  - Maurice Touzard, CPE
  - mtouzard@gmail.com

### Florida

**Tampa Bay #48**
- **Where:** Lee Roy Selmons 4302 W. Boy Scout Blvd.
  - Tampa - 33607
- **Date:** 3rd Wednesday
- **Time:** 6:00 PM
- **Meeting Contact:**
  - Bob Nidzgorski, CPE
  - bob.nidzgorski@skanska.com

**Gold Coast #49**
- **Information not submitted**
- **Contact:** Southeast Governor Chuck Hesselbein, CPE
  - chesselbein@baldwinshell.com

### Georgia

**Atlanta #14**
- **Where:** Sage Woodfire Tavern 4505 Ashford Dunwoody Rd.
  - Atlanta - 30346
- **Date:** 2nd Monday
- **Time:** 11:30am Social Hour
- **Meeting Contact:**
  - Clinton Aldridge
  - clinton.aldrige@skanska.com

### Illinois

**Chicago #7**
- **Where:** Barbakoa Tacos & Tequila 1341 Butterfield Rd
  - Downers Grove - 60515
- **Date:** 3rd Thursday
- **Time:** 6:00pm Social Hour
- **Meeting Contact:**
  - Bob Svoboda, CPE
  - bsvoboda@ccsdifference.com

### Indiana

**Central Indiana**
- **Where:**
  - Varies
- **Date:** 3rd Thursday
- **Time:** Varies
- **Meeting Contact:**
  - Noelle Cichy
  - ncichy@summitconst.com

**Old Fort #65**
- **Information not submitted**
- **Contact:** Central Plains Governor Keith Parker, CPE
  - keithparker@circlebco.com

### Iowa

**Quad Cities #71**
- **Information not submitted**
- **Contact:** Central Plains Governor Keith Parker, CPE
  - keithparker@circlebco.com

**Greater Des Moines #73**
- **Where:** Varies
- **Date:** 3rd Thursday
- **Time:** Varies
- **Meeting Contact:**
  - Nicholas Gehl
  - nicholas.gehl@weitz.com

### Louisiana

**New Orleans #9**
- **Information not submitted**
- **Contact:** Southeast Governor Chuck Hesselbein, CPE
  - chesselbein@baldwinshell.com

### Maine

**Maine #37**
- **Where:** Woodard & Curran 41 Hutchins Drive Portland - 04102
- **Date:** 1st Wednesday
- **Time:** Varies
- **Meeting Contact:**
  - John Brockington, CPE
  - jbrockington@woodwardcurran.com

### Maryland

**Baltimore #21**
- **Where:**
  - Varies
- **Date:**
  - Varies
- **Time:**
  - Varies
- **Meeting Contact:**
  - Ed Cluster, CPE
  - ecluster@phoenix-eng.com
<table>
<thead>
<tr>
<th>State</th>
<th>Chapter #</th>
<th>Where</th>
<th>Date</th>
<th>Time</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Massachusetts</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boston # 25</td>
<td></td>
<td>Where: Maggiano’s Little Italy</td>
<td>3rd Wednesday</td>
<td>Varies</td>
<td>Ryan Dogl <a href="mailto:RDogil@selectdemoservices.com">RDogil@selectdemoservices.com</a></td>
</tr>
<tr>
<td><strong>New Jersey</strong></td>
<td></td>
<td>Garden State # 26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>New Mexico</strong></td>
<td></td>
<td>Roadrunner # 47</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Oregon</strong></td>
<td>Columbia-Pacific # 54</td>
<td>Where: University Place</td>
<td>4th Tuesday</td>
<td>Varies</td>
<td></td>
</tr>
<tr>
<td><strong>Pennsylvania</strong></td>
<td></td>
<td>Greater Lehigh Valley # 41</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Utah</strong></td>
<td>Salt Lake City # 51</td>
<td>Where: Varies</td>
<td>3rd Thursday</td>
<td>6:00 PM</td>
<td></td>
</tr>
<tr>
<td><strong>Virginia</strong></td>
<td>Richmond # 82</td>
<td>Where: Baskervill</td>
<td>4th Wednesday</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Washington</strong></td>
<td>Puget Sound # 45</td>
<td>Where: Hales Ales Pub</td>
<td>3rd Tuesday</td>
<td>5:30 pm</td>
<td></td>
</tr>
<tr>
<td><strong>Wisconsin</strong></td>
<td>Brew City # 78</td>
<td>Where: Central Plains Governor</td>
<td>3rd Thursday</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please Note: Information is subject to change.

Report changes in your Chapter’s information with an email to jennifer@aspenational.org.