Estimates Out of the Office

The Faces of ASPE

The Perfect Storm (of Construction)

January / February 2018
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2017-2018

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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
In the 1890s there were 13,000 businesses in the wagon and carriage industry (Kinney, Thomas A. *The Carriage Trade: Making Horse-Drawn Vehicles in America*. JHU Press: 2004). With the technology revolution that moved the world away from horse-drawn carriages to automobiles, the entire industry was faced with obsolescence. The businesses that were able to adapt focused on where the industry was going instead of their specific products or how they had always run their businesses. Many businesses such as the carriage parts makers were able to adapt their products and expertise to the changing industry and are still in business today. Unlike these businesses with a vision to the future, the buggy whip industry collapsed as the automobile era was ushered in. They were not able to adapt to the changing needs of the industry.

The ASPE theme leading up to and through the Steel City Summit in Pittsburgh is “Developing the Next Estimator.” It is time for us to have a bigger vision on where the construction industry is headed, how technology will revolutionize the industry, and how ASPE collectively, and we as individual estimators, can adapt to meet the changing needs. Each of us is the “Next Estimator”; and it is our responsibility to learn, grow, be nimble, and help shape the construction industry as it goes through a technological revolution.

Here are my questions for you to ponder over the next six months as you plan to join us for the Summit in Pittsburgh.

- Are we “buggy whips” that will be left behind, or can we adapt to a changing industry?
- Are we limiting ourselves as estimators by focusing solely on our current products?
- How will we attract talent to estimating? How will we train new estimators and offer needed continuing education?
- How do we keep abreast of technology changes?
- What technology changes and innovations will change the construction industry?

I invite your responses and discussion and ask you to plan now to join us in Pittsburgh for the Summit from June 27th to 30th.
The Perfect Storm
(of Construction)

When is the future, one might ask. The answer may well be “anytime past today.”
Seriously, this subject is a major concern to most people who are seasoned construction professionals.

By: Michael W. Benton, CPE, CDT, MAI, CSI, LEED AP
A few years back, a very dedicated lady decided to gather all of the Tampa Bay area construction associations together at one meeting, in one place, and all at the same time. At first I thought this idea was a little grandiose. I was not even certain how many associations there were; I would have thought 35-40 maybe a little less, perhaps. It turns out that there were 79 different groups representing the GC, the remodeler, the subcontractor, the builder and all the other affiliations of which includes the Tampa Bay Chapter of the American Society of Professional Estimators, to which I belong.

On that glorious morning, an amazing number of dedicated construction professionals got up extra early and came to show their support to something bigger than their own organization: the Construction Industry as a whole. For most of us, it is our life, in one fashion or another. After all, we spend more time with our jobs than with our families, in most cases.

Approximately 38 of the 79 groups actually showed up, which wasn’t really too bad considering the general apathy and the (early) time of day. But of those groups that did show up, they appeared to average a little over two delegates per group. It was a nice turn out, all said and done.

The basic consensus of this body of professionals was that the construction Industry was having, and more so with the economic down turn, an even more severe shortage, of skilled manpower. The estimate was that by 2012 the grey tsunami would be in full swing and, even if a large portion of those that are eligible to retire would elect to work an extra year of two, the construction industry would lose at least 386,000 skilled blue collar workers such as electricians, plumbers, carpenters, etc. when they finally do retire.

To make matters worse, training within the construction trades was limited, partly due to so few new recruits (it’s not a sexy job) and partly due to a lack of a comprehensive training program(s). When was the last time a construction worker swept the fair maiden off her feet and romanced her? It would appear by the jokes posted around, that many construction professionals dress poorly and, when bending over, our “cracks” seem to be the major attribute that we exhibit. Wonderful stereo type; not. We actually have some very attractive people in this business, and many have a great sense of fashion. They dress well, in my humble opinion.

It used to be that while in high school, the boys got some form of ‘shop’. It included basic drafting, electrical, carpentry, plumbing, metal working and/or automotive, just to mention a few ‘trades’. Today, these trade classes have been changed into college preparation classes comprising of home economics classes, computer labs, etc. Now I am not suggesting that we omit computer classes or home economics, but how many people (teenagers) know how to build a house? If they are not in architectural or engineering, they probably don’t.

In addition to the loss of trained personnel, there are other major factors looming on the horizon.

Specifically, the infrastructure of this country was massively expanded during the great depression of the 1930’s; and the federal government sponsored a huge amount of bridge, road and utility construction that was designed for a 25 – 30 year life expectancy. Well, in case you did not do the math, the 30 years were up somewhere around the mid 1960’s. We are now with 32% of the infrastructure of this country needing replacement, not just repairs; and we are seriously short of skilled workers.

Other major and unexpected factors include the fallout from 911, specifically the E-Verify requirements that Homeland Security imposes on any project (even partially) funded with Federal money. For those of you who have not yet experienced E-Verify in action, what it does is exactly what the “southern wall” cannot do. Identify illegal workers, even those with good but fake documents.

Find and eliminate, from the work force, those hard working individuals that we have come to depend on for our menial, hot, dirty, nasty and low paying jobs. And jobs, that I might add, no or very few of us “entitled” Americans even want to do. And please do not get all fired up and assume that I am advocating illegal immigration. I am just relaying the facts and the situation; I am not qualified to judge the immigration situation. I leave that quagmire to our illustrious politicians who can’t seem to accomplish anything short of giving themselves raises and better benefits at the tax payer’s expense.

Irrespective of the reasoning and motives of E-Verify, the results are a double edge sword.

First, we are slowly eliminating the illegals from the commercial/governmental construction market. The upside is there are more jobs available for the US workers that want work, and this shortage will start to drive wages back up. The downside produces a result of less workers, higher wages, and inflationary costs of construction.

Additional hidden losses of skilled construction workers are the result of workers changing careers into medical, computers or whatever. In Florida the estimated number of workers who changed careers is said to be 25% - 30% of the total work force. Staggering losses, if correct.

But with large scale retirements, loss of the skilled trades, reduction in the illegal work force, we are in for “The Perfect Storm” of labor shortages because we are also creating a huge backlog of necessary work. And this does not take into account the pent-up demand for private sector projects that can’t as of yet obtain funding.
And now you have it; my prediction. If you are a self-performing company, and you can train and retain your workers for another 2-3 years, you will have a substantial leg up on the competition when things bust loose and the perfect labor shortage storm strikes full force. There is gold in those employees.

Unfortunately, I have no crystal ball, especially when it comes to the oil market and fuel prices; but it is not difficult to visualize all of these factors merging into the mother of all hurricanes. Runaway inflation, oh, and did I forget to also mention material shortages like we have never experienced on this planet before? That is in part due to China and many of the third world countries that are becoming modernized. The cause is somewhat moot; the shortages are going to be shockingly real.

So a recap, huge amounts of work needing urgent attention, large numbers of workers retiring, fewer and fewer workers accepting minimum wage salaries, bad times in construction forcing an estimated 30-35% of all construction workers of 2005 levels into new employment (career changes, meaning they won’t be back), material shortages and rising fuel costs, plus pent-up housing and commercial projects on the back burner waiting to start construction. WOW. A class 5+ storm in the making. Oh, one more thing, when this storm strikes, it will be here for quite some time, anticipating a 10-15 year span of major impact.

Sorry did not mean to be the bearer of bad news, but please do not shoot the messenger.

The important thing is you have been warned, start now and think about a working solution for your company. This inevitable storm is already forming, and it’s only going to get more severe as the different issues accumulate into the big one. You have some time to prepare, and yes we in the construction trades are historically shown to be notorious procrastinators. But the wise will benefit from the changes; as change creates opportunity, and opportunity translates into potential profits.

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Update: Changes to the Certification Program

This year is exciting for the Certification program. Tests are being updated, new Discipline Specific Tests (DSTs) have been added, and, most importantly, the certification cycles have moved to an Open Cycle.

For the past several years, Certification candidates were provided only 2 opportunities per year to register for the program. There were restrictions on when a candidate could begin different portions and hard deadlines for completion. ASPE will now implement an Open Cycle program.

Candidates may register at any time, select a paper topic from a list, and immediately start their paper and schedule their exams. Earn your CPE in 60 days? It’s possible!

When a candidate registers, they will still have the option to submit their 3 technical paper topic choices. The Certification Committee will respond in approximately one month with a selection. There is also a list of topics and abstracts compiled by the Certification and Standards Committees from which a topic can be immediately selected. The candidate no longer must wait to take the tests until after their paper is written. Tests may be scheduled at any time following registration.

Speaking of tests, the Committee and Staff are working on solutions with testing agencies so a candidate will no longer need to identify a CPE and coordinate times to take the tests. This will open the program to more MALs and international members. Mostly, these changes make the program more flexible and open to more people.

We are excited to share this news with Members.

Please direct your questions to certification@aspenational.org.

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Joe Flemming, FCPE
Chairman, Certification Committee
ASPE ANNUAL AWARDS

Categories:

- Chapter Achievement Award
  Platinum
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  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
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  Merle W. Heckenlively - Founder of Standards
- Technology Award

Intent to Submit is Due March 1
For more information Visit www.ASPEnational.org
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Introducing …..

Larry Lucero
Arizona #6 Chapter President
Banker Insulation
Commercial Estimator

The best advice I ever received: Work hard and take care of your business. Nobody is going to do it for you.

My 2018 Goal for Chapter 6: Grow the chapter in membership as well as participation.

The best advice I share with young ( & not so young) estimators: Never stop learning new things. Expand your knowledge and you’ll expand yourself.

If I wasn’t doing this….. I would own my own mechanics shop.
HTETCO Portal Construction for an Underground Mine

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Robert Griesinger, CPE
Griesinger Consulting
Puget Sound #45
bobgriesinger@gmail.com
This discussion on how to estimate the cost of portal construction for an underground mine will include the excavation, drilling and blasting, and the required ground support for safety measures. This type of construction requires substantially more analysis than a simple quantity takeoff utilizing standard unit rates. In order to maintain brevity and clarity the sample estimate provided excludes setup, owner Indirects, contractor Indirects, material delivery, supervision, and sales taxes in the direct costs. The sample estimate includes Indirect, contractor Indirect, material delivery, and supervision, in the indirect items below the line. The sample estimate completed to an SEP design development (level three) level of detail.

Master Format 2014

Main CSI Division

- Division 01 - General Requirements
- Division 02 - Existing Conditions
- Division 03 - Concrete
- Division 31 - Earthwork

Main CSI Subdivisions

- Subdivision - 032000 - Concrete reinforcing
- Subdivision - 033000 - Cast-in-Place Concrete
- Subdivision - 312200 - Grading
- Subdivision - 315113 - Excavation Support and Protection

Brief Description

The preliminary portal design prepared in 2014 is the basis for the portal construction estimate. The estimate includes steel arch sets plus rock bolts, mesh, and shotcrete extending approximately 70 ft into the rock face. The high wall above the portal utilizes slope reinforcement with rock bolts; mesh, and shotcrete. Steel sets clad with corrugated steel extend approximately 20 ft outward.

The surface operations of the mine, plan to construct a road and refractory ore storage pad are immediately adjacent to the portal site. This work will also include the rough excavation of the portal site.

Portal construction in most Countries utilizes the metric system. The sample estimate contains Imperial measurements. The quantity surveys for the discussion are a Lump Sum item. (Typically based on Owner preference), it is important to have sufficient supporting cost item details. The detail should ensure that the unit rate applied to the established metric is adequately capturing the potential cost exposure. For costing Purposes, the quantity survey includes a count of each (EA), measurement of length in linear feet (LF), and measurement of an area in square feet (SF). Derived units of measure include weight, in pounds (LBS) or tons (TN), and volume, in cubic feet or cubic yards (CF or CY). Square foot measurements are also often derived from linear foot measurements.

Specific factors

As with any mining or earthwork project, there are a considerable amount of factors to review when establishing quantities and unit rates.

Bid Documents & Site Familiarity

At the Start of the process, there should be a comparison to determine if the amount of information provided is adequate to complete the estimate. The question “Can the level of detail as defined in the (SEP) guidelines be met based on the drawings and specifications provided by the owner. During the review, there may be evidence that the documentation has some discrepancies between the drawings and the specifications. In this case, the allowances for unforeseen conditions may need to be increased. The estimator’s familiarity with a given site may also help to provide a comfort level and provide the opportunity for reduced contingencies. A discussion of any additions or reductions of these types should take place with management before making that assumption. When making assumptions, the notes section of the document should carefully explain all the factors, to facilitate full understanding of the estimate. It is important to evaluate the full extent of work required at the portal location.

Existing Conditions

First in evaluating the existing conditions, one will need to survey the location and understand the soil conditions. Certain types of soil may require additional labor, specialized tools, or more stringent safety control measures. For example, excavation started in
wet ground conditions will have special requirements, at the other end of the spectrum extremely dry sandy conditions could require extensive laybacks or the addition of extensive shoring. A complete review of the geotechnical report and recommendations should be completed as a priority item as the report will become a major part of the portal bases of estimate (BoE).

Schedule
The estimator should review the anticipated schedule with the Owner before finalizing the estimate. A more detailed schedule may be required to determine if shiftwork is required. The estimate referenced in this discussion is one shift per day. Portal Construction is usually of high importance as the portal provides critical access to mine infrastructure. In most cases the portal becomes a critical path item in the schedule. One should remember that most if not all mining operations operate on a twenty-four seven work schedule. The schedule should be thoroughly evaluated for feasibility, to establish accurate prices and expectations from all parties. The estimate provided for the portal will also become the portal basis of schedule (BoS).

Documentation Requirements
Before estimating, the cost of a portal one should understand the importance of the documentation required, for permits, inspections, and certifications. For Portals constructed out of the country, the importance of understanding the government regulations of the host country are critical to the estimate. Due to substandard safety regulations in foreign countries the estimator should use the US. Safety guidelines when doing a Portal estimate in a foreign country. Using the Mine Safety and Health Administration (MSHA) guidelines is highly recommended. Proper documentation can accelerate the construction process and avoid costly delays associated with discrepancies and safety issues.

Geographic and Fiscal Market Factors
In any construction work and business, in general, there are important market conditions both current and future to consider when establishing unit costs. In the construction of most portals, the work is on a designated Mine site. The rule of thumb is that the owner should provide the labor and equipment rates for the estimate. On a green field project where these rates are not available, the estimator could utilize the Mine and Mill cost guidelines. These are available and include most labor and equipment rates for countries that have active mining operations. Availability of manpower in various countries can contribute significantly to increased project costs and delayed schedules. The required materials to construct the portal in an offshore environment should include an analysis of the freight and scheduling cost. Additionally, an agreement on the foreign currency exchange should be part of the criteria and assumptions. The sample estimate uses 2016 US dollars.

Seasonal Effect on Work
Since the entire scope of work for portal construction takes place in an outdoor environment, typical seasonal factors will play a significant role. Areas with poor weather conditions may see an increase in pricing during the winter. Conversely, excessive heat on projects in desert regions requires additional cost for worker protection. Examples of this protection would include reduced or modified work schedules and the inclusion of night work. These add factors will have a negative effect on the productivities and the effective available working hours for the work force. Using the Mine Safety and Health Administration (MSHA) guidelines for worker safety is highly recommended. The sample estimate includes seasonal working conditions in the State of Nevada.

Overview of Labor, Material, Equipment, and Approach to Mark-ups
In an estimate utilizing CSI Master Format, the owners will receive a document that includes a list of quantities and unit rates to support the estimated cost. For mining construction, the direct cost unit rates will include direct costs only. The remaining costs values include indirect costs, and mark-ups added below the line. The primary factors in establishing a viable unit cost are labor, material, equipment, and a subcontractor if necessary. The indirect costs and mark-ups go below the line.

Labor Rates
The Labor rates established by the owner of the project are for each level of billable employees (e.g. Miner vs. Laborer). These rates are normally calculated to include the full cost of the employee’s take-home pay, taxes, workman’s compensation, social security, Medicare, and benefits, which include things like health insurance, holiday pay and paid time off.

In the mining industry, there are also added production bonuses and safety bonuses. However, in most
foreign countries the rate of compensation and benefits are substantially lower than that of the US. There are two exceptions Argentina and Chili, which have some of the highest compensation packages. The estimator should review the Labor rates on a typical project annually to accommodate inflation and tax changes. Mining and portal construction rates regulated by long-term contracts between the mine operator and the local governments are common. The contract accounts for the owner supplied rate. Depending on the provisions of the contract, labor is calculated (based on 24 hours a day seven-day schedule), there are no premium time rates for night-work or shift-work. These items are part of the bonus program. The sample estimate uses the owner provided labor rate. In this case, the owner has only provided one labor for all labor activities.

**Material Rates**

Material rates are established using historical data and current market trends. Lead-time and expediting fees are included in the unit rates. Material costs should include all facets of cost to get the material to the required location. The rates should include sales tax (unless the project is tax exempt), shop drawings, design fees, mounting hardware, freight to the job site, storage on-site or offsite. Most mining projects are tax exempt; therefore, there are no taxes included in the sample estimate. For items that have inherent waste factors, such as steel and concrete, the established unit rates should cover the expense of anticipated waste.

**Equipment Rates:**

For equipment that is owned by the mine, the initial cost, maintenance costs, and depreciation are all included in the rate provided by the owner. For equipment, provided by the owner’s contractor the estimator should obtain a rental rate or a quote for the rental rates provided. The sample estimate provided uses contractor provided rental rates.

**Indirect Costs**

The direct unit cost does not include any Indirect Costs. Direct costs items include all miscellaneous items required for a complete installation covered under General Conditions. These typically consist of things like small tools, consumable goods like nails and screws; in mining, they included in the direct cost. The Owners Indirect includes supervision, management, and other general overhead items necessary to complete the project. Contractor Indirects are additional costs added to the contractor work items to cover the contractor’s management and additional overhead. The sample estimate includes fifteen percent (15%) for owner Indirect and an additional ten percent (10%) for contractor Indirects.

**Mark-up**

Unit costs for lower tier subcontracts should be inclusive of their contract value, including mark-up. The Contractor’s mark-up (Margin) should be carried “below the line” as a percentage of the total cost of construction. In the absence of adequate historical data for a given work item, or as a check number, there are numerous places to find standard unit rates for almost every work item imaginable. Mining Cost Services are the primary sources for published unit pricing, accessed with a paid subscription. When in doubt, the supplier of the material in question needs to provide current pricing and expected labor productivity rates. The sample estimate includes fifteen percent (15%) for contractor Margin.

**Engineering Procurement and Construction Management (EPCM) Allowance**

The engineering component of EPCM is an allowance for detail engineering drawings and issued-for-construction drawings that are prepared for the construction of the facilities identified. The sample estimate includes the following EPCM items; an allowance of six percent (6%) applied to all cost items for the engineering work.

Procurement services costs are an allowance for the purchase of equipment, traveling to manufacturer’s plants, and miscellaneous costs incurred during the purchase of both fixed and mobile equipment. An allowance of two percent (2%) is applied to all cost items for procurement of materials and equipment as necessary.

The construction management costs and the size of the team vary on an annual basis, depending on the amount of construction work scheduled. An allowance of ten percent (10%) applies to all construction items for construction management. The total add-on for the (EPCM) work to construct the portal is eighteen percent (18%)
Contingency
The contingency provides additional project capital for expenditures that are anticipated, but not defined, due to the level engineering detail in the estimate. A capital contingency of 20% assessed against the total Contractors and Owners costs.

Special Risk Considerations
Construction activities, in general, are hazardous; work on portal construction is arguably one of the most important. The portal is critical for accessing the underground mine. The portal is for ingress and egress for the Mine. The portal is also a major part of the ventilation system that provides airflow to and from the underground operations.

Contractors must be conscious of the risks at all times, as failure to properly ensure ground support and safety measures during drilling and blasting could result in the loss of life. This constant onus of safety will typically result in lower productivity, coupled with costly safety implementation.

The estimator should consider the two following rules of thumb when evaluating costs and risk associated with shoring and dewatering. First, the maximum practical depth for sheet piling in cohesive soils is approximately 60 feet (18m). In granular soils, the depth is usually not more than 40 feet (12m). Second standard well points systems use suction (vacuum) lift and the practical limit for lowering the ground water are normally about 16 feet (5m). Typically, the second stage of well points will be required to lower the ground water further. (Hard Rock Miner’s Handbook)

Ratios and Analysis
Ratios and Analysis – Metrics and Review for Proper QA/QC
Portals constructed in many different countries and climates; historical data will be available for comparison of the Portal estimate. A simple cost per lineal foot comparison may be a helpful benchmark provided the previous projects are similar portal size. However, a more accurate benchmark would be a typical cost per type and size of the portal. For example, the historical cost of a new portal constructed in Arizona could compare to the cost per location from the current portal estimate located in Nevada. Both have similar Soil types and climates. In comparison, benchmarking against the same size portal constructed in Alaska is not recommended due to the difference in climate and ground conditions.

A secondary approach to validating the current portal estimate would be to consider the use of work force logic. In this case, the estimator would review the approved schedule and the labor required to meet that schedule. Instead of costing the portal using unit rates, the costing could be completed by considering the material and labor cost separately. The material takeoff should provide a reliable quantity for material pricing. Secondly, the estimator would evaluate the number of miners (and laborers, etc.) that would be required to complete the project in the allotted time. Finally, the estimator would evaluate if the lump sum construction costs were satisfactory to cover: the full cost of the labor equipment and materials for the total duration of the project. On projects of this nature, it is likely that there will be significant unproductive time, caused by unexpected ground conditions, and changes to safety requirements.

Miscellaneous Pertinent Information
Based on the project delivery method, lump sum, time and materials, or guaranteed maximum prices, unit costs and allowances may need to be adjusted. The previous discussion is about a lump sum contract. A portal completed on a time and materials basis, has no adjustments for inefficiencies, because unproductive time would be billable to the client. The time and material delivery method can be beneficial for projects on an accelerated schedule. The owner is motivated to cooperate in order to expedite access to areas of work and reduce waiting times. To a proactive owner, this method could result in cost savings as it minimized the risk to the contractor.

Get Connected
Robert Griesinger, CPE
Puget Sound #45
bobgriesinger@gmail.com
The following are a few examples of relevant documents.

The sections above represent the typical details used for the discussion estimate. The conveyor is excluded and covered by the material handling document.

The above topo represents what a typical portal layout would look like at the toe of a hillside after mass excavation had taken place.

**SAMPLE TAKE-OFF AND COSTING SHEETS**

**General Information Sheet Provides Quantities**

**Performance for Excavation Items**
### Labor and Permanent Materials Calculations

<table>
<thead>
<tr>
<th>Classification</th>
<th>Cost per Man Shift</th>
<th>Man Shifts per Day</th>
<th>Total</th>
<th>Total Cost per Day</th>
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<td><strong>Salary Labor</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal Salary Labor</strong></td>
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<td>0</td>
<td>0</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>Hourly Labor</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Surface Equip Operator</strong></td>
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<td>45.85</td>
<td>45.85</td>
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<td>46</td>
<td>$33,090.75</td>
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<td><strong>Total Man-Hours per Day</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>Total Cost per Unit</strong></td>
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<td></td>
<td></td>
<td>$33,090.75</td>
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</table>

### Equipment Rental

<table>
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<th>QTY</th>
<th>Unit</th>
<th>Unit Price</th>
<th>Waste Factor</th>
<th>Total Cost</th>
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</thead>
<tbody>
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<td>Steel Plate 3/8 - Standard Plate</td>
<td>294</td>
<td>EA</td>
<td>$27.95</td>
<td>5%</td>
<td>$21,972.05</td>
</tr>
<tr>
<td>MOLDED WIRE MESH</td>
<td>3.956</td>
<td>95</td>
<td>$0.35</td>
<td>5%</td>
<td>$1,436.28</td>
</tr>
<tr>
<td>Shotcrete</td>
<td>54.07</td>
<td>CY</td>
<td>$216.09</td>
<td>5%</td>
<td>$11,959.40</td>
</tr>
</tbody>
</table>

**Total Permanent Materials per Unit:** $37,800.50
**Total Permanent Materials per Unit (Item Ground Support):** $0.00

**Total Permanent Materials per Unit (Total Ground Support):** $37,800.50

### Equipment Rental

<table>
<thead>
<tr>
<th>Description</th>
<th>QTY</th>
<th>Unit</th>
<th>Unit Cost</th>
<th>Total Cost %</th>
<th>Monthly Cost</th>
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<tbody>
<tr>
<td>Drill Jumbo: Single Boom, Electrical</td>
<td>1</td>
<td>EA</td>
<td>$1,078,607</td>
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<td>Telehandler: Diesel, Underground</td>
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<td>$379,504</td>
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<td>Tracked Dozer - 150 HP - Surface</td>
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<td>$19,408</td>
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<td>Surface Loader - 6.6 cy</td>
<td>1</td>
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<td>$1,200,570</td>
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<tr>
<td>Muck Truck - Surface</td>
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<tr>
<td>Air Track Dril w/Compressor</td>
<td>1</td>
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<td>$250,000</td>
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**Total Monthly Cost:** $194,157
**Total Equipment Cost per Day:** $5,420

**Total Equipment Rent Unit Cost:** $93,587.75
**Equipment Operating Cost**

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<tr>
<th>Equipment Operating Cost</th>
<th>QTY</th>
<th>UNITS</th>
<th>COST/HOUR</th>
<th>COST/HOURS</th>
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<th>TOTAL COST PER LS</th>
<th>GALLONS PER LS</th>
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<tr>
<td><strong>MOBILE EQUIPMENT</strong></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Drill Jumbo, Single Boom, Electro-Hydraulic Drill/Rock Boring</td>
<td>1</td>
<td>EA</td>
<td>$43.62</td>
<td>$8.73</td>
<td>$6.4</td>
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<td>Trencher, Placer Truck</td>
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<td>$14.1</td>
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<td>Trencher, High Pressure Surface</td>
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<td>$33.79</td>
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<td>$116.1</td>
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**TOTAL EQUIPMENT OPERATING COST PER UNIT (EXCLUDING LABOR):**

$10,086.48 | $6,117.40 | $2,104.79

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**Services and Supplies**

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<tr>
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<th>COST</th>
<th>WASTE</th>
<th>COST/UNIT</th>
<th>COST/PER LS</th>
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<td></td>
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<td>Emulsion-Bulk</td>
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<td>$0.57</td>
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<tr>
<td>0.5 lb Cast Detonator</td>
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<td>5%</td>
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**SUBTOTAL EXPLOSIVES:**

$6,954.53

**DRILLING:**

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<th>COST/UNIT</th>
<th>COST/PER LS</th>
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<tbody>
<tr>
<td>Air Track Drill w/Compressor</td>
<td>2628.00</td>
<td>DF</td>
<td>$5.00</td>
<td>5.00%</td>
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<td>Drill Jumbo, Single Boom, Electro-Hydraulic Drill/Rock</td>
<td>4728.00</td>
<td>DF</td>
<td>$1.33</td>
<td>5.00%</td>
<td>$6,696.42</td>
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**SUBTOTAL DRILLING:**

$25,646.62

**SERVICES:**

**SUBTOTAL SERVICES:**

$-

**MISCELLANEOUS**

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<td>Small Tools</td>
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**SUBTOTAL MISCELLANEOUS:**

$664.64

**SUBTOTAL:**

$33,265.78

**TOTAL SERVICES & SUPPLIES UNIT COST:**

$33,265.78
Cost Summary of the Excavation and Support Items

Total Capital Cost Estimate

Glossary/ Acronyms

BoE Basis of Estimate
BoS Basis of Schedule
CapEx Capital Expenditure
CIM Canadian Institute of Mining, Metallurgy and Petroleum
QC Quality Control
IRS Intact Rock Strength
LOM Life of Mine
MSHA Mine Safety and Health
MTO Material Take-off
NPV Net Present Value
QA Quality Assurance
EPCM Engineering, Procurement, and Construction Management
RMR Rock Mass Rating
RQD Rock Quality Designation
ToPo Topographical Data

References

Scope it Out...

Glass and Glazing

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—Glass and Glazing.

Glass and glazing on a typical project consist of four primary assemblies: 1) storefront systems, 2) curtain wall systems, 3) punched openings, and 4) miscellaneous glass items.

1. All window systems are rather unique. Make sure that the system being bid is dimensionally compatible with designer intent. Keep in mind that the ultimate responsibility lies with the subcontractors’ proposed system.

2. Curtain wall glass and storefront assemblies typically are design-build, that will require the approval of an engineer licensed to perform design work in the location where the project is being built. Make sure that the subcontractor submitting a proposal is aware of the potential liability and additional cost of engineered drawings.

3. As in most building envelop trades, scaffolding and hoisting may require unique coordination. Many trades will use their own hoisting and/or scaffolding. If schedule coordination and site logistics are a significant issue, the general contractor may provide the necessary hoisting or scaffolding for multiple trade use. In any case, make sure the subcontractors are made aware of the requirement in the bid instructions.

4. Glass that is installed in hollow metal frames, such as sidelights and borrow-lights, will typically be furnished and installed by the glass contractor. Glass and glazing that is installed in casework or cabinetry will typically be by the millwork or casework supplier. Mirrors that are not part of a millwork or casework package may be included in the toilet accessory package if they are framed components. Plate glass mirrors will usually be part of the glass and glazing furnished and installed bid.
5. For glass and glazing, trade custom has established that exposed window head and sill flashings are provided by the glass and glazing subcontractor. If not, make sure to coordinate the matching of the colors of the flashing and window frames.

6. Coordination of caulking on any given project is an issue that must be taken seriously. Trade custom has provided the glass and glazing subcontractor caulk their own work at the perimeter of their assembly and within the field of the glass assembly. Interior caulking around the perimeter of a glass assembly, though not necessarily a component of the water tightness, needs to be allocated to either the glass and glazing subcontractor or to the painting or caulking subcontractor. In any event, include it only once in your proposal, not duplicated or left out.

7. On almost all projects, handicap door operators are a critical building element. On building exterior or perimeter installations, the glass and glazing subcontractor is best suited for this scope item. Preparation of the aluminum frames for incorporation of the closer and mullion—mounted button control should be the responsibility of the glass and glazing subcontractor. For handicap operators not incorporated in a glass and glazing assembly, coordination between the hollow metal door frame supplier, electrician, operator supplier needs to be detailed and placed in the bid scope instructions.

8. Finish hardware is typically excluded by the glass and glazing subcontractor and should be provided by the hardware supplier and installed by the glass contractor. Make sure to coordinate the finish of the aluminum, any exposed hinges or pivots, or accessory items mounted by the appropriate assembly.

9. If a water test of the assembly is required, make sure the glass and glazing subcontractor includes this in their proposal. The coordination of the entire building envelope will be the responsibility of the general contractor, so each element needs to be included in their respective bid scope.

10. For glass and glazing systems in punched openings, most glass and glazing subcontractors will not start fabrication until the general contractor can guarantee as-built rough opening dimensions. One way for the general contractor to provide this data is to build a plywood and dimensional lumber insert into the opening thereby providing a fixed dimension which building envelop subcontractors can “build-to” and surround. This needs to be provided by the general contractor, so make sure to provide a cost line item in the estimate for this temporary structure.

11. Make sure that proper storage of material left on site during installation is adequately protected. The costs of replacing, repairing, or re-painting assembly components can delay the project. Include in the bid scope the requirement or provision for storage of material.

12. The glass and glazing subcontractor will typically exclude final cleaning of their assembly. Cleaning of the interior side of the assembly can easily be addressed as part of the final clean before occupancy and turnover. Cleaning of the exterior portion of the glass is another issue altogether, particular on multi-story building project. This item needs to be addressed during the bid cycle in order to account for equipment and cost for this item.

The preceding are just some of the many scope issues related to glass and glazing 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.
You wonder if your future employee has all the skills and knowledge they claim. How can you be certain he or she knows exactly what they are doing?

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---

**Clinton Aldridge**  
Atlanta #14 Chapter President  
Skanska USA Building  
Senior Estimator

**My 2018 goal for Chapter 14:** To invite and cultivate several young estimators as regular members and potential future leaders with ASPE.

**If I wasn’t doing this ...**  
I would be traveling the world with my family.

**The best advice I ever received:**  
Strive to finish strong.

**The best advice I share with young (& not so young) estimators:**  
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Bringing Expertise and Teamwork
Introducing two new roles at our Society Office

Contact Information: Jennifer@ASPEnational.org

Jennifer Cochran, Membership + Social Media Coordinator

Jennifer is probably already your friend, as she is the always friendly and helpful person you encounter when calling the Society Business Office. With her being a member of the ASPE family for approximately a year and a half, many of you will have met her in Denver at the 2017 Summit.

Jennifer’s responsibilities include Membership support (including enrollment and renewals), coordination of ASPE Social Media posts, and on-line class registration + support, in addition to the processing of ASPE merchandise orders and providing support to the Chapter Presidents.

Contributing to Jennifer’s joy are her 3 children and 1 grandchild. You will find Jennifer knowledgeable and passionate about her role in the growth and success of ASPE. Please join us in congratulating Jennifer for a job well done with a quick email of encouragement and thanks!

Contact Information: Cinder@ASPEnational.org

Cinder McDonald, Certification Committee Coordinator

Effective October 6, we were excited to welcome Cinder McDonald to the ASPE family as the Certification Committee Coordinator. Several of you will have already spoken with Cinder, as she has fully immersed herself in all that is Certification.

Cinder joins ASPE with a rich background in customer service, credentialing experience, and event planning. Her maturity, comfort with a collaborative environment, and a thirst for training and details will help ASPE meet the needs of a growing candidate base and realize the successful implementation of needed Certification Program changes.

A Country Music fan who also loves dance, Cinder is happiest as a wife, a mother to 4+, and a grandmother of 5. Don’t hesitate to email Cinder with a warm welcome and a friendly hello ... along with your Certification questions!

We are excited for you to renew your acquaintance with them and learn how valuable both Jennifer and Cinder are and will continue to be in support of ASPE goals
Years ago, before there were electronic estimating programs or digital plans, project takeoffs were accomplished by hand. The options available to subcontractors were as follows.

1. Purchase a set of plans from the printer
2. Travel to a general contractor’s office and prepare takeoffs in their small subcontractor plan room
3. Travel to the FW Dodge plan room, as they had copies of all publicly bid projects, providing the ability to review a variety of jobs in one visit

The tricky part about doing a takeoff in someone else’s plan room was that you had to have everything you needed and you had better take great notes, because you wouldn’t have those plans to turn back to if you wanted to double check any details. You could make copies of your spec section, but you would have to take the spec book apart because it was put together with long pins, then put it back together again. Don’t forget the addendums!

Maybe it was just me, but usually it was a last-minute thing, like the day before or morning of when the bid was due. And my territory used to include from Maine to Upstate New York, and all of Connecticut, Rhode Island and Massachusetts. That’s a lot of driving to do if you ever had to go back because you missed something. And I did. Often.

You were also stuck with whatever the scale of the project was. I used to bring my handy-dandy Lufkin tape measure. It was 1/8 scale on one side and ¼ scale on the other. It would work most of the time, but not all. Those 3/32 scales used to drive me nutty! I can remember making disposable measuring tapes using lined paper, string, paperclips, and all kinds of goofy things to try and get it right.

An acquaintance of mine once did a quick estimate on the morning of bid day. The scale was 1/16, but all he had was a 1/8 scale. He did his measurements in 1/8, calculated his square foot estimate, then multiplied by 2. He ran back to the office, sent out the bid, and was the successful low bidder.

Needless to say, he ended up doubling the materials on that project. He owned the company, so he didn’t lose his job, but his partner started double checking his work! ET

Estimates Out of the Office

Get Connected

Heather Boulanger
Denver #5
heather@rollingplains.com
ASPE Email Notice:  SBO received notification from Members indicating that they receive a twice monthly Job Alert email from ASPE. With research, we learned that these Job Alert / Job Flash messages are distributed by our website platform, Your Membership, to an audience of Members who have registered as a Job Seeker (even if done inadvertently by clicking on a posting of a job that you were curious about reading the job description). SBO does not have authority to initiate changes to your account, as each account is personal to the user. But there is a quick step you may take to Opt Out and no longer receive these Job Alerts. Simply 'Unsubscribe.' The button is located within the email message at the bottom of the page.

Thank you, Members, who alerted SBO to this email notice and afforded us the opportunity to research and identify a quick + easy solution.

Please contact Elaine Cersosimo, Director of Operations, with questions regarding these Announcements.

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to better serve you... Estimating Today requests that you, members of the American Society of Professional Estimators, help to maintain this magazine’s relevance. Please share your real time project experiences, ideas, and lessons learned. **Know of a hot topic or trend?** Contact us, and we will gather information on the subject and report our findings here in Estimating Today. **Proud of a project?** Send it over. We will publish it in the Project Profile section which, by the way, is great for free advertising of your company’s achievements and contract awards. Our goal is to deliver valuable content to our members, and your input will increase our success.

Below is a listing of potential articles; if you have an idea, let us know. We can help, but we need your input first.

- Professional development, education estimator, certification of estimators
- Trends in Estimating
- LEED
- Profiles of prominent estimators in the industry
- Labor shortage
- Providing estimates for negotiated work and improving bid packages
- Accident prevention and loss control
- Technology, software updates, bidding with electronic documents
- Disaster remediation estimating
- Sustainable materials
- Careers in estimating - guidance, leadership, and motivation
- Escalation and shortages
- Construction Problem solving and decision making
- Contract Documents and construction law

**Project Profile Articles:**
In addition to articles, Estimating Today welcomes project profiles of our members. This is an excellent way to discuss what your company has accomplished. We encourage any company to submit a project description and associated four-color artwork, in jpeg format, for inclusion.

To have your article published in ET, contact Tina Cooke at Tina@ASPeNational.org
# Welcome New Members!

**October & November 2017**

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<thead>
<tr>
<th>Member</th>
<th>Company</th>
<th>Chapter</th>
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<tr>
<td>Jacques Hanekom</td>
<td>Cumming Construction Management, Inc.</td>
<td>Los Angeles 1</td>
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<tr>
<td>Greg Bonderud</td>
<td>Plant Construction Company, LP</td>
<td>Golden Gate 2</td>
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<td>Jorge Kobe</td>
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<tr>
<td>Abe Karraker</td>
<td>Glacier Construction Co., Inc.</td>
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<tr>
<td>Jennifer Farmer</td>
<td>Living Design Studios, Inc.</td>
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<tr>
<td>Barry Eager</td>
<td>Balfour Beatty Construction</td>
<td>Arizona 6</td>
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<td>Chantell Cornett</td>
<td>The Ward Group</td>
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<td>John Carroll</td>
<td>Canyon Plastering</td>
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<td>Arunabho Ghosh</td>
<td>Willmeng Construction</td>
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<td>Andrew Standhardt</td>
<td>Blaze Contracting</td>
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<td>Robert Peterson</td>
<td>Eastern Michigan University</td>
<td>Detroit 17</td>
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<td>Dariya Protcheva</td>
<td>Capital Sprinkler Contracting, Inc.</td>
<td>Baltimore 21</td>
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<td>Greg Stoner</td>
<td>MGAC</td>
<td>Greater D.C. 23</td>
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<td>Glen Pendleton</td>
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<td>Drone On Demand - AEC Services</td>
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<td>Bill Kenyon</td>
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<td>Brett Walker</td>
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<td>Rebeca Diaz</td>
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<td>Emerald Construction Corp.</td>
<td>Gold Coast 49</td>
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<td>Balfour Beatty</td>
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<td>Tommy MacCabe</td>
<td>Balfour Beatty Construction</td>
<td>Orlando 50</td>
</tr>
<tr>
<td>Patricia Velez</td>
<td>MP Construction</td>
<td>Orlando 50</td>
</tr>
<tr>
<td>Steve Meier</td>
<td>The Hagerman Group</td>
<td>Central Indiana 59</td>
</tr>
<tr>
<td>G R Hall</td>
<td>Renascent, Inc.</td>
<td>Central Indiana 59</td>
</tr>
<tr>
<td>Josh Ratcliff</td>
<td>Indiana Steel Fabricating, Inc.</td>
<td>Central Indiana 59</td>
</tr>
</tbody>
</table>
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

**Member Receipts:** ASPE Members requiring a copy of a receipt for on-line purchases, as well as Membership or CPE renewals, have 24-hour access to this information on the ASPE Website at ......

- Select: Down Arrow (located adjacent to the Welcome, [your name] at top / right corner)
- Select: Account + Settings
- Select: Payments + History (located on left side under Profile)
- Select: Appropriate Filter (in Filter by Status)
- Select: Dollar Bill adjacent to the Invoice you wish to view or print

**Blog Entries:** Have you read a blog on the ASPE Website or on Social Link and wish to reference it or re-read? The easy solution is found on the ASPE Website at ....

- Home Page / Upper Right Corner / Blog / ASPE Central

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**New Members Continued...**

<table>
<thead>
<tr>
<th>Member</th>
<th>Company</th>
<th>Chapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theresa Gambone</td>
<td>Gambone Steel Company, Inc</td>
<td>Philadelphia 61</td>
</tr>
<tr>
<td>Dave Cwiertniewicz</td>
<td>Belcher Roofing Corp</td>
<td>Philadelphia 61</td>
</tr>
<tr>
<td>Jay Simon</td>
<td>All American Concrete, Inc.</td>
<td>Quad Cities</td>
</tr>
<tr>
<td>Larry Carroll</td>
<td>Poggemeyer Design Group, Inc.</td>
<td>Las Vegas 72</td>
</tr>
<tr>
<td>Timothy Blond</td>
<td>CMWorks</td>
<td>Las Vegas 72</td>
</tr>
<tr>
<td>Aaron Wood</td>
<td>Henning Companies, LLC</td>
<td>Des Moines Area 73</td>
</tr>
<tr>
<td>Jason Wegner</td>
<td>Graham Construction</td>
<td>Des Moines Area 73</td>
</tr>
<tr>
<td>John Taylor</td>
<td>On Site Solutions</td>
<td>Des Moines Area 73</td>
</tr>
<tr>
<td>Kipp Sturdivant</td>
<td>Tweet/Garot Mechanical, Inc.</td>
<td>Brew City 78</td>
</tr>
<tr>
<td>Brandon Robinson</td>
<td></td>
<td>Lanrun- Oklahoma City 80</td>
</tr>
<tr>
<td>Jason Cagle</td>
<td>The Beck Group</td>
<td>SW-MAL 91</td>
</tr>
<tr>
<td>Eric Binsley</td>
<td>The Knoch Corporation</td>
<td>CP-MAL 92</td>
</tr>
<tr>
<td>Douglas Koehler</td>
<td></td>
<td>CP-MAL 92</td>
</tr>
<tr>
<td>Paul Knutson</td>
<td>Ram Construction, Inc.</td>
<td>SE-MAL 93</td>
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<tr>
<td>McDonald Wrenn</td>
<td>Berman &amp; Wright</td>
<td>SE-MAL 93</td>
</tr>
</tbody>
</table>

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**Membership Classification Count**

- 52 Affiliate
- 519 Certified Professional
- 785 Estimator
- 23 Fellow (FCPE)
- 5 Honorary Member
- 47 Member Emeritus
- 22 Student
- 1,453 Total
### 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
  - aspe6treasurer@gmail.com

**Old Pueblo #53**
- **Where:** Ayres Hotel
  325 Bristol Ave.
  Costa Mesa - 92626
- **Date:** 2nd Wednesday
- **Time:** 5:30 PM
- **Meeting Contact:**
  - Tom Smithson
  - tedwardsmithson@gmail.com

### ARKANSAS

**Arkansas #33**
- **Where:** Baldwin & Shell
  1000 West Capital Ave.
  Little Rock - 72201
- **Date:** 3rd Friday
- **Time:** 3:00 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 - 91030
- **Date:** 4th Wednesday, Jan.-Oct.
- **Time:** 6:00 pm Social Hour
- **Meeting Contact:**
  - Bruce Daniels
  - la1ofaspe@outlook.com

**Golden Gate #2**
- **Where:** To Be Determined
- **Date:** To Be Determined
- **Time:** 6:00 Social Hour
- **Meeting Contact:**
  - Gustav Choto
  - gc@pokypoint.com

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

### COLORADO

**Denver #5**
- **Where:** Urban Roadhouse
  991 18th Street Suite 101
  Denver - 80202
- **Date:** 2nd Tuesday
- **Time:** 5:00 PM
- **Meeting Contact:**
  - Matthew Rasmussen
  - mrasmussen@henselphelps.com

### CONNECTICUT

**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 Actively Meeting**

### 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

**Orlando #50**
- **Where:** TBD
- **Date:** TBD
- **Time:** TBD
- **Meeting Contact:**
  - Danny Chadwick, CPE
  - dkchadwick@bellsouth.net

### GEORGIA

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

### ILLINOIS

**Chicago #7**
- **Where:** Barbakoa Tacos & Tequila
  1341 Butterfield Rd
  Downers Grove - 60515
- **Date:** 2nd Monday
- **Time:** 5:00 PM Social Hour
- **Meeting Contact:**
  - Bob Svoboda, CPE
  - bsvoboda@ccsdifference.com

### INDIANA

**Central Indiana**
- **Where:**
- **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@circlebcoco.com

### IOWA

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

**Greater Des Moines #73**
- **Where:**
- **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:**
- **Date:** Varies
- **Time:** Varies
- **Meeting Contact:**
  - Ed Cluster, CPE
  - ecluster@phoenix-eng.com
**Massachusetts**

Boston # 25  
Where: Maggiano’s Little Italy  
Date: 3rd Wednesday  
Time: Varies  
Meeting Contact: Ryan Dogil  
RDogil@selectdemoservices.com

**Michigan**

Detroit # 17  
Where: Visit www.aspe17.org  
Date: Varies  
Time: Varies  
Meeting Contact: Mel Oakley, LCPE  
oakleymel@gmail.com  
Western Michigan # 77  
Contact: Mike Alsgaard, CPE  
maalsgaard@ftch.com

**Minnesota**

Viking # 39  
Information not submitted  
Contact: Central Plains Governor  
Keith Parker, CPE  
keithparker@circlebco.com

Heartland # 32  
Where: Uncle Buck’s Grill or Bass Pro Shops - See meeting contact  
Date: 3rd Wednesday  
Time: 5:30 PM  
Meeting Contact: Eric Soriano  
esoriano@hermeslandscaping.com

**New Mexico**

Roadrunner # 47  
Where: Fiestas Restaurant  
4400 Carlisle Blvd, NE  
Albuquerque - 87107  
Date: 1st Wednesday  
Time: 5:30 Social Hour  
Meeting Contact: Joshua Crooker-Flint, CPE  
joshc@auinc.net

**New York**

New York # 10  
Not Active

Empire State # 42  
Where: Athos Restaurant  
1814 Western Ave  
Albany - 12203  
Date: Varies  
Time: Varies  
Meeting Contact: James Madison, CPE  
jmadison@arriscontracting.com

Western NY # 77  
Information not submitted  
Contact: Northeast Governor  
Gregory Williamson, CPE  
gwilliamson@bondbrothers.com

**Ohio**

Buckeye # 27  
Information not submitted  
Contact: Central Plains Governor  
Keith Parker, CPE  
keithparker@circlebco.com

Southwestern Ohio # 38  
Where: Varies  
Date: 3rd Thursday  
Time: Varies  
Meeting Contact: Kevin Gilbert  
gilbert@hgconstruction.com

**Oregon**

Columbia-Pacific # 54  
Where: University Place  
310 W. Lincoln St.  
Portland - 97201  
Date: 3rd Tuesday  
Time: 5:30 PM  
Meeting Contact: Craig Welburn  
cwellburn@cherrycityelectric.com

**Pennsylvania**

Greater Lehigh Valley # 41  
Information not submitted  
Contact: Northeast Governor  
Gregory Williamson, CPE  
gwilliamson@bondbrothers.com

Three Rivers # 44  
Information not submitted  
Contact: Northeast Governor  
Gregory Williamson, CPE  
gwilliamson@bondbrothers.com

**Texas**

Houston # 18  
Where: Spaghetti Westerns  
1608 North Shepherd  
Houston - 77007  
Date: 2nd Monday  
Time: 6:00 pm  
Meeting Contact: Dennis Pyland  
dennis.pyland@gmail.com

**Washington**

Puget Sound # 45  
Where: Hales Ales Pub  
4301 Leary Way  
NW Seattle - 98107  
Date: 3rd Tuesday  
Time: 5:30 pm  
Meeting Contact: William Pace  
wpace@nelsonelec.com

**Wisconsin**

Brew City # 78  
Information not submitted  
Contact: Central Plains Governor  
Keith Parker, CPE  
keithparker@circlebco.com

**Please Note:** Information is subject to change.  
Report changes in your Chapter’s information with an email to  
jennifer@aspenational.org
Developing the Next Estimator

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Registration Opens February 2018