Corporate Membership

How to Estimate the Cost of Drilled Piers in an Environment with a High Water Table

Bidding Mistakes – Part 2

Annual Summit
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Estimators are not a product of formal education programs. The typical college or university Construction Management program only offers one class in estimating during a four-year degree. The fact that estimators enter their careers through different backgrounds and on-the-job training leaves us with a varied set of skills. The construction industry is wholly being pushed toward innovation, triggering the question – what role do estimators play in a changing industry and how do we stay on top of the changes?

Registration is open for the 2019 Estimators’ Summit in Kansas City from June 19th through June 22nd. The theme of this year’s Summit is “Rocking the Roles – The Evolution of Preconstruction.” The Summit will provide educational sessions to increase your technical and professional skills, as well as the opportunity for fellowship with other estimators.

The website www.takeflyte.com lists 12 Reasons You Should Attend Conferences.

1. Sharpen the Saw
2. Meet Experts & Influencers Face-to-Face
3. Networking Opportunities
4. New Tools
5. Learning in a New Space
6. Break Out of Your Comfort Zone
7. New Tips & Tactics
8. Greater Focus
9. The Energy of Like-Minded Individuals
10. The Serendipity of a Random Workshop
11. Invest in Yourself
12. Have Fun!

I encourage all of you to register for and attend Summit. Bring your non-member colleagues and coworkers with you. Help us shape the industry and live up to the Society’s purpose of being the construction industry’s leader and recognized authority in professional estimating through excellence in education, certification, and standardization.

Marcene N. Taylor, CPE
ASPE National President
2016-2019

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- **Website Advertising**: Banner Ads greet all visitors to the ASPE Website.
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- **Publication – Estimating Today**: The bi-Monthly magazine distributed in print form to Members and in digital format to all ASPE website visitors.
- **Publication – Membership Directory + Buyers’ Guide**, distributed in print format to all ASPE Members, is a year-round reference that remains in every estimator’s library long after the year ends.
- **Annual Summit**: Corporate Logo and Overview distributed via the Event Mobile App, via Rotating Ads in Session Rooms, with Corporate-provided marketing insert in Attendees Packets, and on Event Signage strategically placed throughout the Venue. *Corporate Members also enjoy discounted Exhibit Space.*
- **Regional Meetings**: Sponsor Logo will be distributed on all marketing materials, including the ASPE Website, Social Link and all Regional Publications.
- Corporate Members will receive complimentary Registration to the **Senior Estimators’ Roundtable**, an invitation-only event. This annual gathering will host Corporate Member-selected participants from a variety of construction fields and provide the opportunity to discuss emerging trends, news, and impacts that challenge the estimating profession, as well as the construction industry in general. Be part of the discussion, seek insight, and gain a competitive edge to issues affecting your company and impacting the world!

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For more information contact Elaine ecersosimo@ASPEnational.org 615.316.9200 or 949.246.2082
Estimating the Future

Quite often I am funded to produce a Schematic Budget Estimate on a just released or soon to be released material technology (New Building Automation, for example). After performing the usual searches for data and getting zero hits, you move toward the reality that historical cost data simply does not yet exist or is very rare. The difficulty of the project starts to sink in, and the creativity begins.

Asking the manufacturer could shed some light, but knowing they will offer a high retail plus budget material cost is also a factor. Additionally, since they are not certified estimators, they will forget shipping, taxes, storage, staging, Installation labor factors, and the list goes on. After leveraging a large distributor relationship, I recently went from a retail budget conversation to 50% discount on a large material quantity ordered for a real number with economy of scale.

So how do we begin? Asking the manufacturer for a budget material cost and then weighing in if there is any economy of scale due to large quantity or the reverse for a parts warehouse having to source it for the first time adding new storage cost factors. Weighing that cost against current material technology and what that market will bear is also a factor.

If a new technology is 2x, then that is actually part of the answer. Normal stakeholders will stay with current technology unless it’s a research project, similar to flat plat cooling installed for the first time at a University for a prototype experiment a few years ago. An additional factor to be considered is whether trades are ready to be efficient installing this new product or if installation will be slow as they train while working this project for the first time.

An example of comparing the new material to current technology is Building Automation for HVAC and how similar cost per square foot can be for LSS (Life Safety Systems) as well as the upcoming LED Lighting automation. In time historical costs will be available, and I reach back and grab a prototype’s actual cost to use as a future benchmark.

With practice, an accurate forecast estimate becomes easier the more you perform.

Additional sources can be internet costs for similar material to be weighed in, and then add all area cost factors for shipping, storage, staging material and installation labor, overtime, etc.

When in doubt, also network. One of ASPE’s CPEs has likely encountered this new technology in recent months.

Brian Wright, CPE
Chair, Education Committee
Chapter 6 – Arizona
bwrightaz@cox.net

An additional factor to be considered is whether trades are ready to be efficient installing this new product or if installation will be slow as they train while working this project for the first time.

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Do something good for your company today!
ASPE said an early good-by to long-time friend and trusted mentor, B. Keith Jones, in late December. Keith was born in Tampa, attended high school in Little Rock, and worked for Hutton Construction in Chattanooga when he left this world. He had a long-standing commitment to the construction industry, working in multiple capacities. Keith joined ASPE in 2000 and served at various levels within ASPE, including as National President in 2011 and 2012. Keith continued to mentor Board Members and others for years following fulfillment of his official responsibilities.

Keith enjoyed cooking, scuba diving, and researching family history. Above all else, he loved the Lord, his wife of 38 years, and his family, and selflessly, tirelessly and quietly provided Christian service to all those around him. Keith leaves behind his wife, daughter, son, and 9 grandchildren (with twins on the way), and his father. Keith was respected by all and will be greatly missed by those who had the pleasure of knowing him. ▲

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## Membership Classification Count

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## Congratulations to New CPEs + AEPs (Dec & Jan)

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<tr>
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<th>COMPANY</th>
<th>CHAPTER</th>
</tr>
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<tr>
<td>Alex Kenny, CPE</td>
<td>Del-Sano Contracting Corp.</td>
<td>Garden State</td>
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<tr>
<td>Kevin Leach, AEP</td>
<td>Goldsby Construction</td>
<td>Ladr. - OK City</td>
</tr>
<tr>
<td>Sara McCormack, CPE</td>
<td></td>
<td>Southeast MAL</td>
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</tbody>
</table>
2019 ELECTIONS
BOARD OF DIRECTORS

The following elected positions will appear on the 2019 Ballot

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Elections open March 1
An invitation to vote will be emailed to all Members

Elections close March 19

For more information or a copy of the Roles + Responsibilities for each position, please visit
ASPEnational.org / Home / Board of Directors
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Estimating Today • 2019 March/April

FACES OF ASPE: Steve Watkins

Chapter 45 – Puget Sound– Chapter President
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Best advice I ever received

Best advice I share with young (and not so young) estimators

Chapter goal for 2019

If I wasn’t doing this, I would

This industry is 100% relationship based. Your ability to be successful in this industry will greatly rely upon the relationships you are able to establish.

You should have a minimum of 5 industry subcontractors or suppliers that you can call upon in a time of need that will drop everything to help you with your current situation. QC your own work. Always scale the plans. Never trust the scale on the sheets. Question everything.

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Bidding Mistakes – Part 2

Now that you have received notification from the Architect that your bid was “significantly” lower than the next group of bidding contractors, what do you do? Withdraw your bid and let the Bid Bond kick in? That will not put you in a good light with your bonding company. Sign the contract and possibly go bankrupt? Also not a good option.

A bidding contractor may rescind their bid, provided they can prove the following.

1. The magnitude of the mistake is so large that to enforce the contract would be unconscionable.
2. The mistake has to be a material mistake, meaning significant in nature.
3. Even with ordinary care during the bidding process, this mistake was made.
4. Neither party to the contract will be prejudiced, except the Owner has lost the benefit of the bargain.

This is one option that is available to a contractor, but reformation may be a viable option. Maxim of Law – Do Not Take Advantage of Mistakes, Fix Them.

A bidding contractor may request to have the bid increased to the proposed amount instead of withdrawing a mistaken bid that is lower than planned. With this request, the honesty of the public bidding process comes into play. Your company only avoids a bad contract by withdrawing its bid. Your company also has monetary motivation to have its bid increased to an amount closer to, but not exceeding, the next lowest bidding contractor. A great deal of time and effort on the part of the estimating team, as well as the subcontractors, has been put forth to “win” the bid. Unfortunately, in our case, you do not know what the difference in your bid is compared to the next low bidder. If this had been a public opening, things would be slightly different; everyone’s bid is disclosed. When a bidding contractor attempts to change a bid amount by increasing the bid as opposed to having the bid removed from consideration, the courts apply a different and more demanding standard.

Courts have allowed reformation of mistaken bids by increasing them. As an example, in one case a bidding contractor made a clerical or scrivener’s error in calculating the amounts for its bid on a public construction job. The apparent low bidder was notified of a possible mistake by the project owner in a timely fashion. Upon review, the bidding contractor discovered its error and requested either withdraw or reform the bid. Given the facts of the case, the court found reformation applicable.

The three issues the Court considered were as follows. First, the error was made in good faith. No indication of fraud or misrepresentation was present. Second, there was clear and credible evidence of the existence of the mistake and the proposed bid price. Third, after amendment the bid was still the lowest bid. The court, after considering these facts, concluded that by allowing an upward adjustment to the bidding contractor proposal, a standard of reasonable behavior was met.

In the absence of convincing reasonable considerations, courts have refused to increase mistaken bids. In one case, the court rejected a request for upward adjustment for several reasons. (1) The bidder was responsible for the error; the error was one of judgment, not clerical in nature. (2) The error was less than 5 percent of the intended bid, an amount that was reasonable for bidding contractors. (3) The bidder would still make a profit from the project in spite of the error. Accordingly, the court did not reform the bid.

Chris Ray, CPE
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When a bidding contractor attempts to change a bid amount by increasing the bid as opposed to having the bid removed from consideration, the courts apply a different and more demanding standard.

Consequently, when asked to amend a bid that would displace the lowest bidding contractor, courts expect compelling evidence.
Instead of increasing a bid, changing a bid by lowering it and removing the lowest bid also involves issues of the truthfulness of the bidding process. Consequently, when asked to amend a bid that would displace the lowest bidding contractor, courts expect compelling evidence.

Changing bids downwards lowers the cost of the construction portion of a project, which is in the interest of the Owner. Reformation of incorrect high bids downward has been permitted by some ownership entities. Federal Acquisition Regulations (FAR) governing mistakes in bids show an inclination for bid amendment over bid removal, so long as the bidding contractor can meet the necessary standard of clear and convincing proof of the existence of the mistake and the bid actually intended.\(^2\)

As an example, a Court of Claims held that the government must allow a bid correction if the bidder presents clear and convincing evidence of the intended bid. Likewise, the American Bar Association’s Model Procurement Code provision on bidding mistakes also favors bid correction or amendment.\(^3\) While allowing an adjusted bid to replace the lowest bidder raises concerns about the integrity of the bidding process, the adjustment serves a stated public goal of getting the best price while allowing construction projects to be contracted at the lowest cost.

Some state court rulings have approved a bid be lowered and therefore oust the lowest bidding contractor. Such a correction, in some circumstances may be warranted. In one case, the bidding contractor mistakenly added amounts of the items of the project, making his bid higher than planned. The owner’s engineer discovered the error and established that the corrected bid was lowest. Although the corrected bid was the lowest, the owner attempted to reject all the bids and re-advertised for new bids. The mistaken bidder sued to force the owner to award them the contract. The court held the mistaken bidder should be awarded the contract. The bid specifications contained a “comparison of bids” provision that stated that if the total of the individual items of a bid did not equal the stated grand total of the bid, the grand total would be adjusted to equal the sum of the items. Based on this stipulation and its concern that the taxpayers get the benefit of the lowest bid, the court ordered the owner to award the contract to the mistaken bidder. ▲

\(^1\) Kenneth E. Curran, Inc., v. State, 215 A.2nd 702 (N.H 1965)
\(^2\) Rudland, Rationalizing the Bid Mistake Rules, 16 Pub. Cont. L.J. 446, 456 (May 1987)
\(^3\) Rudland, Rationalizing the Bid Mistake Rules, 16 Pub. Cont. L.J. 446, 456 (May 1987)
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HTETCO Drilled Piers in an Environment with a High Water Table

SECTION 1: INTRODUCTION

The purpose of this technical paper is to educate the reader about the process of estimating the cost of constructing drilled concrete piers and shafts. Drilled piers, also known as caissons, are a deep foundation system that feature round, vertical, poured in place, and structurally reinforced concrete footings. The focus of this paper will be on a unique circumstance of installing drilled piers in an area with a high-water table. Site specific factors such as the presence of rock, high-water tables, and tight site constraints can cause the cost of drilled concrete pier installation to vary greatly. This paper will concentrate on how to perform quantity takeoffs of drilling, casing, concrete, and reinforcement and to apply unit costs for material, labor, overhead and markup. This paper is presented from a self-perform general contractor’s point of view as opposed to a subcontractor or material supplier.

Brief Description

Drilled piers are a deep foundation system typically seen in areas where soil conditions are unsuitable for shallow foundations. Drilled piers are normally located at all column locations. In addition, they will support grade beams around the perimeter of the building and under large walls within the building footprint such as structural concrete shear and core walls. The vertical shafts’ diameters can range in size from 12” to 48” or larger on projects with high loads such as high-rise construction. In some instances, the end of the concrete shaft will feature a larger bell that can be up to three times the size of the shaft. However, it is this estimator’s experience that the piers will instead be drilled to a depth so that it may bear directly into rock and will not feature a bell. The structural drawings will indicate the location, size, and depth of each drilled pier. In addition, the geotechnical report or notes within the structural drawings may indicate the minimum depth of embedment into weathered shale which can add more length to each pier.

Installation of drilled piers will first begin with drilling and excavation of the soil at the required locations utilizing a drill bit with a telescoping rod to reach the required depth. The excess soil will either need to be exported or spread onsite. Many times, drilling contractors will exclude this from their contract, and the cost will need to be accounted for within the general contractor’s overall budget.

If soil conditions are poor or groundwater is encountered while drilling, temporary casing will be required to prevent caving of the surrounding soil. If temporary casing is required for a project, an additional 2” of concrete should be figured at each location to account for concrete required to fill the void of the casing as it’s removed. Rarely, if sufficient groundwater is present and the soil conditions are poor and likely to compromise the structure of the shaft, a mineral slurry may be utilized to maintain the integrity of the shaft. A slurry is a mix of water and either bentonite, polymer, or attapulgite that is slightly denser than water and provides a barrier until the casing can be placed. Another option would be to place the casing before drilling activities in soils prone to sloughing, such as sand. A dedicated crane is used to drive the temporary casings prior to drilling the hole utilizing a vibrating “jaws” device that grabs the end of the
casing and then uses gravity and vibration to drive the casing into place.

More often, the shaft can be drilled and the temporary casing can be placed without the use of slurry.

After the temporary casing is placed, steel rebar reinforcement is lowered into the hole utilizing a small crane and the slurry can be removed, if it is utilized. The specifications should give direction on the amount of water allowed at the bottom of the shaft, usually a few inches. If water is present, a dewatering pump is lowered into the shaft to bring the water level down to the allowable level. Once the allowable water level has been reached, concrete is pumped into the shaft, and the casing is carefully removed soon afterwards or may be left in permanently.

**Section 2: TYPES AND METHODS OF MEASUREMENTS**

Estimation and quantification of drilled piers involves several measurements. The units of measure used include cubic feet (CF), cubic yards (CY), each (EA), inches (IN), linear feet (LF), man hours (MH), and tons (TN). The diameter of the drilled pier shaft is measured in inches. Drilling activities are generally measured in linear feet, while the excavated soil spoils are measured in cubic yardage. Temporary and permanent casing is measured in linear feet. Permanent material installations of steel rebar reinforcement and concrete are measured in tons and cubic yardages, respectively.

**Section 3: PROJECT SPECIFIC FACTORS TO CONSIDER IN TAKEOFF AND PRICING**

**Geotechnical Report**

The first factor to consider in estimating drilled piers is the information found in the project’s geotechnical report. This report will include boring logs indicating soil types and the typical subsurface profile. The amount of rock, shale, and limestone found in the subsurface profile can greatly affect cost as the time and labor to drill to the required depth will increase, and the type of equipment and quantity of drill bits utilized will change. In addition, the report will indicate the approximate depths of bedrock and observations of water levels both during drilling activities and immediately after completion. Projects located in an area with a high-water table will likely require installation of a temporary dewatering system and either temporary or permanent casing. These considerations will increase the cost to install a pier to account for slower production, additional materials, and the cost to include temporary pumps, well points, holding tanks and dewatering permitting. Lastly, the geotechnical report will typically give design recommendations for minimum sizing of the drilled piers and the minimum depth the drilled pier will penetrate into the bearing stratum.

**Small versus Large Quantities**

As is typical for construction, the size of the project will also affect cost. Fixed overhead costs, such as jobsite mobilization costs, can be spread out over a larger project which in turn decreases the cost per linear foot or cost per cubic yard unit cost. Production rates will also streamline as the project size increases.

**Seasonal Effect on Work**

Seasonal effect on production of drilled piers can vary pricing greatly. Rainy seasons can cause water levels to rise above observed water levels reported in the geotechnical report. This will affect both the need to permanently or temporarily case the hole and the amount of dewatering required. The length of time to install each pier will also increase and affect cost. Drilling activities can be affected by winter conditions which will result in lower productivity rates while drilling through frozen ground. Additional equipment may also be required for snow removal.

**Section 4: OVERVIEW OF LABOR, MATERIAL, EQUIPMENT, INDIRECT COSTS AND APPROACH TO MARKUPS**

For the purposes of this estimate, it is assumed that pier drilling, excavation and spoil removal, rebar installation, and concrete pumping will be subcontracted. Subcontractor unit costs will be applied to these activities. Typical subcontractor unit prices will include labor, equipment, material, overhead and profit within the unit pricing.

**Overview of Labor**

Labor costs to install the concrete of drilled piers are calculated on a crew man hour basis with a typical crew made up of equipment operators, skilled and unskilled laborers, and project supervision. Labor rates are established by private companies, union organizations, or in certain cases prevailing wages will apply. Labor rates established by private companies should include all fringe benefits, insurance, taxes, and burden. Local prevailing wages are
Labor estimates for placement of concrete piers are established by first performing a detailed quantity takeoff to find the number of piers and cubic yardage of concrete being installed. Labor estimates for placement of concrete piers are established by first performing a detailed quantity takeoff to find the number of piers and cubic yardage of concrete being installed. Next, a production rate is determined for the placement of the piers and is typically measured in man hours (mh) per yard (yd). Standard production rates are usually based on historical data tracking from past projects. Standard rates should then be adjusted for site specific factors that may affect production such as the need to dewater the drilled shaft and installation and removal of temporary casing. For the purposes of this example, our production rate to install concrete piers is .75 mh/cy. Third, the blended hourly labor rate will be calculated from the production crew. The following example calculates the blended/average rate for a crew of one labor foreman, four journeyman laborers, one equipment operator, and one superintendent:

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<th>Resource</th>
<th>Labor Rate</th>
<th>Quantity</th>
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<tr>
<td>Labor - Foreman (1 Each)</td>
<td>$51.00</td>
<td>1</td>
<td>Hour</td>
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<tr>
<td>Labor - Journeyman / Leadman (4 Each)</td>
<td>$47.00</td>
<td>4</td>
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<td>Equipment Operator</td>
<td>$42.00</td>
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<tr>
<td>Supervision - Superintendent (1 Each)</td>
<td>$95.00</td>
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<td></td>
<td></td>
<td>7</td>
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<td>$53.71</td>
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Once a blended rate is calculated, it can be multiplied by the quantity of piers being installed and the production rate. An example of this calculation is below:

100 CY of concrete piers x .75 MH/CY = 75 MH
75 MH x $53.71/MH = $4,028.25

Overview of Materials

Material costs are established by generating detailed quantity surveys which can be used to build a materials list. The following materials should be accounted for when installing drilled pier activities: cubic yards of soil excavated and exported, linear feet of pier casing by size, tons of rebar reinforcement, and count of anchor bolts required. The estimator should calculate and incorporate waste factors for the appropriate materials. The most common way to establish material pricing is to solicit material quotes from suppliers. It is important to carefully review scope letters to confirm the quantity and type of materials being quoted and any specific inclusions or exclusions the supplier may have. Often, material-only suppliers will exclude sales tax, so these additional taxes should be calculated and accounted for in the overall pricing. The estimator should also research costs associated with shipping and delivering materials. For concrete, specifically, this can include costs for special admixtures for placements in hot weather, cold weather, or for long haul times from the concrete mixing plant.
When estimating the quantity of soil spoils produced from drilling the shaft, the estimator should factor in a swell factor. When soil is excavated from its natural state (bank cubic yards), it increases in volume, or swells, as the soil is disturbed. The volume that the soil will swell past its natural state will depend on the types of materials that are excavated. Swell factor percentages for typical materials encountered in pier drilling activities are:

<table>
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<td>Dry</td>
<td>25</td>
</tr>
<tr>
<td>Wet</td>
<td>25</td>
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<tr>
<td>Gravel</td>
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<td>Dry</td>
<td>12</td>
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<tr>
<td>Wet</td>
<td>12</td>
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<tr>
<td>Gypsum</td>
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<tr>
<td>Hardpan</td>
<td>50</td>
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<tr>
<td>Limestone</td>
<td>67</td>
</tr>
<tr>
<td>Rock, Well Blasted</td>
<td>65</td>
</tr>
<tr>
<td>Sand</td>
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<tr>
<td>Dry</td>
<td>12</td>
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<tr>
<td>Wet</td>
<td>12</td>
</tr>
<tr>
<td>Sandstone</td>
<td>54</td>
</tr>
<tr>
<td>Shale + Soft Rock</td>
<td>65</td>
</tr>
<tr>
<td>Slate</td>
<td>65</td>
</tr>
<tr>
<td>Traprock</td>
<td>65</td>
</tr>
</tbody>
</table>

For the purposes of this example, we will assume we are encountering a typical soil condition in Oklahoma of clay, which has a swell factor of 40%. To calculate the actual cubic yardage of soil that will need to be exported after excavation, this factor needs to be multiplied by the bank cubic yards removed from the shaft. An example of this calculation is below for a 24” pier that is 29’ deep:

Volume of bank cubic yards excavated

\[
3.14 \times (\text{radius})^2 \times \text{depth} = 3.14 \times (1')^2 \times 29' = 91.06 \text{ CF (cubic feet)}
\]

\[
91.06 \text{ CF} \times (1 \text{ CY}) / (27 \text{ CF}) = 3.37 \text{ CY}
\]

Volume of loose cubic yards exported

\[
3.37 \text{ CY} \times 1.40 (40\% \text{ swell factor}) = 4.72 \text{ CY}
\]

If permanent casing is required, a linear foot quantity takeoff of steel casing will be required. Pricing will vary by the size of the shaft being cased, so the takeoffs should be itemized by size.

The drilled pier schedule should indicate the amount of reinforcing rebar that is required for each size of drilled piers. The schedule generally gives a count and size of vertical rebar reinforcement (6 each #8 bars). Stock lengths of rebar typically come in 20’, 30’, 40’ and 60’ lengths. If the shaft length is longer than a single length of rebar, the specifications will indicate the minimum length the two pieces must be lapped and tied together. Horizontal ties will be listed with a size of reinforcement and spacing requirements (#3 at 8” on center). Once the total lineal footages of rebar are calculated, the quantity is converted into pounds, then into tons. The weight of rebar is standardized and can be found in the below table:

<table>
<thead>
<tr>
<th>Bar Size</th>
<th>Weight LB/LF</th>
</tr>
</thead>
<tbody>
<tr>
<td>#3</td>
<td>0.376</td>
</tr>
<tr>
<td>#4</td>
<td>0.500</td>
</tr>
<tr>
<td>#5</td>
<td>0.625</td>
</tr>
<tr>
<td>#6</td>
<td>0.750</td>
</tr>
<tr>
<td>#7</td>
<td>0.875</td>
</tr>
<tr>
<td>#8</td>
<td>1.000</td>
</tr>
<tr>
<td>#9</td>
<td>1.128</td>
</tr>
<tr>
<td>#10</td>
<td>1.270</td>
</tr>
<tr>
<td>#11</td>
<td>1.410</td>
</tr>
<tr>
<td>#14</td>
<td>1.693</td>
</tr>
<tr>
<td>#18</td>
<td>2.257</td>
</tr>
</tbody>
</table>

For estimating the concrete required for a drilled pier, the first step is to calculate the volume of the shaft. As stated above, if temporary casing is required, an additional 2” should be added...
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to the diameter of the shaft to account for the void left as the
casing is removed. The estimator should include a material waste
factor for cast-in-place concrete piers. The quantity of concrete
required should be rounded up to the next cubic yard as con-
crete is supplied in whole cubic yards. An example calculating the
concrete material required for a drilled pier is below:

\[
\text{Volume of Concrete Material} = 3.14 \times 1.083^2 \times 29 = 106.92 \text{ CF (cubic feet)}
\]
\[
106.92 \text{ CF} \times \frac{1 \text{ CY}}{27 \text{ CF}} = 3.96 \text{ CY}
\]
\[
3.96 \text{ CY} \times 1.05 \text{ (5% waste factor)} = 4.16 \text{ CY or 5 CY}
\]

Overview of Equipment
A commercial drill rig featuring a telescoping rod is used to drill
the pier shafts. A vibratory hammer is used to drive temporary
casing if it’s being placed before drilling activities. A backhoe
or skid steer can be used to move the excavated soil spoils to
a dump truck for off-site removal. Depending on the size and
depth of the pier shaft, the drill rig may also be used to lift the
rebar cage into the shaft. Otherwise, a small crane can be utilized
to lower the rebar and to install the temporary casing if it’s
required. If dewatering is required, a wellpoint or sump pump
and hosing will be required. Holding tanks for the discharged
water may be required depending on the quality of the water
being removed or the local governing body’s dewatering permit
requirements. A concrete pump truck will be utilized to place the
concrete into the shaft.

Overview of Indirect Costs
Indirect costs must also be included when preparing a complete
estimate. Indirect costs that should be calculated on top of the
direct costs of the project may include office supervision and sup-
port, small tools and expendables, safety materials and equipment,
payment and performance bond, contractor’s insurance, and
temporary facilities and utilities. In addition, jobsite mobilizations
and demobilizations should be included. These costs can quickly
increase in drilled pier activities if the foundation activities have
multiple phases. Careful study of the project schedule is required
to ensure the correct amount of jobsite mobilizations are
included. These costs can be captured and included as either a
lump sum or as a percentage of the project cost. Profit should
also be included and is typically calculated as a percentage of the
overall project cost.

Section 5: SPECIAL RISK CONSIDERATIONS
Major risks associated with installation of drilled piers can be
found within the geotechnical report. Inevitably, there will be
variations to the depth of the bearing rock strata from the testing
locations reported. To account for these discrepancies of quan-
tities from the anticipated depth of the drilled shaft, the architect
typically requests a unit cost that can be applied to the quantity
of overrun or underrun. The estimator should carefully consider
what costs should be included within the unit prices as the bid
form is completed. If there is a major underrun from the antici-
pated quantities, fixed costs such as general conditions may not
be fully covered in the final project cost. Other risks to consider
would be unknown materials or utilities that may be encountered
during excavation. The presence of water can greatly affect
production rates and increase costs and should be factored into
the estimate.

Section 6: RATIOS AND ANALYSIS - TESTING
THE BID
Once the estimate is complete, it is good practice to have a co-
worker and the operations team review the estimator’s assump-
tions, takeoff, production rates, and pricing. It is imperative to
get the operations team’s buy-in as they will need to achieve the
production rates used to build the estimate. In addition, it is wise
to compare the estimate to the company’s historical costs for
drilled piers.

Section 7: OTHER PERTINENT
INFORMATION
As with most excavation activities, it is important to understand
if there are any underground utility conflicts. Most municipalities
offer a free service to come out and mark known utilities. De-
pending on the site, it may be prudent to pay for a utility locator
to pothole the site for unknown utilities. Projects that are on ac-
tive higher education campuses or in older city centers may have
several older utilities that are not documented or known.
SECTION 8: SAMPLE PLAN AND PROFILE VIEW

Structural Foundations Schedule

<table>
<thead>
<tr>
<th>Mark</th>
<th>Dp (IN)</th>
<th>Vert Reinf</th>
<th>Ties</th>
<th>Length</th>
<th>Minimum Embedment</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP2.0</td>
<td>24”</td>
<td>(6) #8</td>
<td>#3 @ 8” OC</td>
<td>21’ - 0”</td>
<td>5’ - 0”</td>
<td></td>
</tr>
<tr>
<td>DP2.0</td>
<td>24”</td>
<td>(6) #8</td>
<td>#3 @ 8” OC</td>
<td>21’ - 0”</td>
<td>5’ - 0”</td>
<td></td>
</tr>
<tr>
<td>DP2.0</td>
<td>24”</td>
<td>(6) #8</td>
<td>#3 @ 8” OC</td>
<td>21’ - 0”</td>
<td>5’ - 0”</td>
<td></td>
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<tr>
<td>DP2.0</td>
<td>24”</td>
<td>(6) #8</td>
<td>#3 @ 8” OC</td>
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<td>5’ - 0”</td>
<td></td>
</tr>
<tr>
<td>DP2.0</td>
<td>24”</td>
<td>(6) #8</td>
<td>#3 @ 8” OC</td>
<td>21’ - 0”</td>
<td>5’ - 0”</td>
<td></td>
</tr>
<tr>
<td>DP2.0</td>
<td>24”</td>
<td>(6) #8</td>
<td>#3 @ 8” OC</td>
<td>21’ - 0”</td>
<td>5’ - 0”</td>
<td></td>
</tr>
<tr>
<td>DP2.0</td>
<td>24”</td>
<td>(6) #8</td>
<td>#3 @ 8” OC</td>
<td>21’ - 0”</td>
<td>5’ - 0”</td>
<td></td>
</tr>
<tr>
<td>DP2.0</td>
<td>24”</td>
<td>(6) #8</td>
<td>#3 @ 8” OC</td>
<td>21’ - 0”</td>
<td>5’ - 0”</td>
<td></td>
</tr>
<tr>
<td>DP2.0</td>
<td>24”</td>
<td>(6) #8</td>
<td>#3 @ 8” OC</td>
<td>21’ - 0”</td>
<td>5’ - 0”</td>
<td></td>
</tr>
<tr>
<td>DP2.0</td>
<td>24”</td>
<td>(6) #8</td>
<td>#3 @ 8” OC</td>
<td>21’ - 0”</td>
<td>5’ - 0”</td>
<td></td>
</tr>
</tbody>
</table>

Perimeter Grade Beam 4’ h x 2’ w
### SECTION 9: SAMPLE TAKEOFF AND PRICING SHEET

#### Summary of Pier Drilling + Casing

<table>
<thead>
<tr>
<th>Description</th>
<th>Count (EA)</th>
<th>LF</th>
<th>Length (LF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24&quot; Pier @ 26 LF</td>
<td>23.00</td>
<td>26.00</td>
<td>598.00</td>
</tr>
<tr>
<td>24&quot; Pier @ 30 LF</td>
<td>16.00</td>
<td>30.00</td>
<td>480.00</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>1,078.00</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Summary of Pier Spoils

<table>
<thead>
<tr>
<th>Description</th>
<th>Length (LF)</th>
<th>Volume (CY)</th>
<th>Swell %</th>
<th>Volume (CY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24&quot; Pier @ 26 LF</td>
<td>598.00</td>
<td>69.58</td>
<td>0.40</td>
<td>97.41</td>
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<tr>
<td>24&quot; Pier @ 30 LF</td>
<td>480.00</td>
<td>55.85</td>
<td>0.40</td>
<td>78.19</td>
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<tr>
<td><strong>Subtotal</strong></td>
<td><strong>175.60</strong></td>
<td></td>
<td></td>
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</table>

#### Summary of Rebar Steel

<table>
<thead>
<tr>
<th>Pier Type</th>
<th># Bars (EA)</th>
<th>Size</th>
<th>Weight / LF</th>
<th>Length / EA</th>
<th>Total Length</th>
<th>Total Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>24&quot; Pier @ 26 LF</td>
<td>6.00</td>
<td>8.00</td>
<td>1.00</td>
<td>25.67</td>
<td>590.33</td>
<td>3,542.00</td>
</tr>
<tr>
<td>(6) #8 Vert Reinf, #3 @ 8&quot; OC Ties</td>
<td>40.00</td>
<td>3.00</td>
<td>0.38</td>
<td>7.24</td>
<td>289.29</td>
<td>2,093.27</td>
</tr>
</tbody>
</table>

| 24" Pier @ 30 LF     | 6.00        | 8.00 | 1.00        | 29.67       | 890.10       | 5,340.60     |
| (6) #8 Vert Reinf, #3 @ 8" OC Ties | 46.00 | 3.00 | 0.38        | 7.24        | 332.69       | 2,407.26     |

| Subtotal              |             |     |             |             |              |              |
|                       | **13,383.13** |    |             |             |              |              |

** Assumes 2’ Overlap of #3 Horizontal Ties, 2’ Minimum Coverage
### Summary of Cast-In-Place Concrete Drilled Piers

<table>
<thead>
<tr>
<th>Size + Rebar Steel</th>
<th>Count (EA)</th>
<th>Length (LF)</th>
<th>Volume (CY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24&quot; Pier @ 26 LF</td>
<td>23.00</td>
<td>598.00</td>
<td>69.58</td>
</tr>
<tr>
<td>(6) #8 Vert Reinf, #3 @ 8&quot; OC Ties</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24&quot; Pier @ 30 LF</td>
<td>16.00</td>
<td>480.00</td>
<td>55.85</td>
</tr>
<tr>
<td>(6) #8 Vert Reinf, #3 @ 8&quot; OC Ties</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Subtotal**

- **Count**: 39.00
- **Length**: 1,078.00
- **Volume**: 125.43

### Estimate Detail - Drilled Pier Example

<table>
<thead>
<tr>
<th>Spreadsheet Level</th>
<th>Takeoff</th>
<th>Labor</th>
<th>Labor</th>
<th>Labor</th>
<th>Labor</th>
<th>Material</th>
<th>Material</th>
<th>Sub</th>
<th>Equip</th>
<th>Equip</th>
<th>Unit</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Quantity</td>
<td>Productivity</td>
<td>Quantity</td>
<td>Price</td>
<td>Amount</td>
<td>Price</td>
<td>Amount</td>
<td>Sub Price</td>
<td>Amount</td>
<td>Price</td>
<td>Amount</td>
<td>Total Cost</td>
</tr>
<tr>
<td><strong>Dewatering</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Temp Dewatering</td>
<td>39.00 ea</td>
<td>1.500 mh/ea</td>
<td>58.50 mh</td>
<td>53.71 / mh</td>
<td>3,142 /ea</td>
<td>5.00 / mh</td>
<td>293</td>
<td>88.07 / ea</td>
<td>3,435</td>
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<td>Dewatering</td>
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<td>58.50 hrs</td>
<td>3,142</td>
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<tr>
<td><strong>Pier Drilling</strong></td>
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<td></td>
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<tr>
<td>Drill 24&quot; Caissons</td>
<td>1.078.00 ft</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobilization (Per Rig / Per Move)</td>
<td>1.00 ea</td>
<td>1,550.00 /ea</td>
<td>1,550</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>24&quot; Temporary Casing</td>
<td>1.078.00 ft</td>
<td></td>
<td></td>
<td>14.00 /lf</td>
<td>15,092</td>
<td></td>
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<tr>
<td>Piers</td>
<td>1,078.00 LF</td>
<td></td>
<td>hrs</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Place Concrete Caissons</strong></td>
<td>149.47 cy</td>
<td>0.800 mh/cy</td>
<td>119.58 mh</td>
<td>53.71 / mh</td>
<td>6,422</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>42.97 /cy</td>
</tr>
<tr>
<td>4000 PSI Conc.</td>
<td>149.47 cy</td>
<td></td>
<td></td>
<td>103.00 /cy</td>
<td>15,395</td>
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<td></td>
<td></td>
<td></td>
<td>103.00 /cy</td>
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<tr>
<td>Ready Mix Admixtures</td>
<td>149.47 cy</td>
<td></td>
<td></td>
<td>10.00 /cy</td>
<td>1,495</td>
<td></td>
<td></td>
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<tr>
<td>Pumping</td>
<td>149.47 cy</td>
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<td>19.00 /cy</td>
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<td>19.00 /cy</td>
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<tr>
<td><strong>Concrete Rental Equipment</strong></td>
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<td>2.50 /cy</td>
<td>374</td>
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<td></td>
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<td></td>
<td>2.50 /cy</td>
</tr>
<tr>
<td>Anchor Bolt Temp</td>
<td>16.00 ea</td>
<td>2.500 mh/ea</td>
<td>40.00 mh</td>
<td>53.71 / mh</td>
<td>2,148 /ea</td>
<td>10.00 /ae</td>
<td>160</td>
<td>144.28 / ea</td>
<td>2,308</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grout Base Plate</td>
<td>16.00 ea</td>
<td>2.000 mh/ea</td>
<td>32.00 mh</td>
<td>53.71 / mh</td>
<td>1,719 /ea</td>
<td>107.42 / ea</td>
<td>1,719</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Base Plate Groin</td>
<td>2.00 cf</td>
<td></td>
<td></td>
<td>50.00 /cf</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>50.00 /cf</td>
</tr>
<tr>
<td>Embed Anchor Bolts</td>
<td>64.00 ea</td>
<td>0.150 mh/ea</td>
<td>9.60 mh</td>
<td>53.71 / mh</td>
<td>516 /ea</td>
<td>8.06 /ea</td>
<td>516</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24&quot; Sonotube</td>
<td>78.00 lft</td>
<td>0.500 mh/lf</td>
<td>39.00 mh</td>
<td>53.71 / mh</td>
<td>2,091 /lf</td>
<td>5.00 /lf</td>
<td>2,091</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rebar</td>
<td>7.36 tn</td>
<td></td>
<td></td>
<td>900.00 /tn</td>
<td>6,624</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>900.00 /tn</td>
</tr>
<tr>
<td>Rebar Supports + Accessories</td>
<td>7.36 tn</td>
<td></td>
<td></td>
<td>75.00 /tn</td>
<td>552</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>75.00 /tn</td>
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<tr>
<td>Install Rebar</td>
<td>7.36 tn</td>
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**Estimate Totals**

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<td>Dewatering Permit</td>
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<td>15.00%</td>
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<td></td>
<td>Overhead and Profit</td>
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**SECTION 10: GLOSSARY AND TERMINOLOGY**

1. **Bentonite**: An absorptive and colloidal clay used especially as a sealing agent or suspending agent.
2. **Davis Bacon Act of 1931**: A law that established prevailing wages or minimum wages for job classifications in the construction trades.
3. **Grade Beams**: A reinforced concrete beam that transmits a load from a bearing wall into spaced foundations such as pile caps.

**SECTION 11: REFERENCES**

2. Project Engineer (www.projectengineer.net)

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All Entries Must Include a Project Narrative

Your narrative must not exceed a maximum of 750 words. The narrative should focus on why the project should be considered the best in its category. The descriptions of each of the required elements are meant to be used as guidelines. You should interpret all criteria based on your own unique project submission and respond accordingly. This information will also be used during award presentation.

Visual Presentation

While points are not awarded for the visual presentation, the photos may impact your entry in that they help to tell your story. Support your narrative with photos that display the scope and process of the project and any challenges described in the narrative. You may include up to 3 photos in your project submittal.

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Nonconsensus

The heart of a construction project is the contract. Everything flows from it. Recently, the American Institute of Architects (AIA) released the latest version of their set of standard contract documents, covering a wide range of agreements necessary to construction. It includes the General Conditions of the Contract for Construction (AIA A201), which governs the relationship between owner and contractor, and is incorporated into its architect agreement. AGC did not endorse this contract.

Instead, AGC does endorse ConsensusDocs 200, a contract document covering a very similar scope as the AIA document, but with some significant differences in how it treats the relationships, rights and responsibilities of the three main parties. Since member GCs are very likely to encounter this new AIA contract (if they haven’t already), it is valuable to know the differences and which aspects may be problematic for contractors. Constructor talked to experts from AGC and ConsensusDocs to find out.

HOW WE GOT HERE

Once upon a time, there was a profession called master builder, an august personage who designed buildings (and other structures) and then constructed them. He contracted with the owner to produce the entire project from thought to finish. One responsible party, one point of contact.

This profession eventually split into an architect who designed and a contractor who constructed. Then, engineers split off. The complex relationships between the three professions and the owner created a need for clearly defined responsibilities.

In 1911, AIA “consulted with builders and attorneys to publish our first set of integrated standardized contract documents, which defined the relationships and terms in construction projects,” states AIA’s website. These documents are updated every 10 years, with recent revisions in 1997, 2007 and 2017. According to Brian Perlberg, AGC senior counsel for construction law and contracts, the 1997 version was controversial at AGC, with about one third of the board voting against endorsing it. AGC had a much more unified response to AIA’s 2007 revision: It was rejected unanimously. AGC felt the revisions had significantly diminished the contractor’s substantive rights.

“They made this shift,” recalls Perlberg, “From it being an industry-standard document to more of an advocate’s document. The AIA documents are perceived to be protective of the architectural professional.”

The AIA’s 2017 version marked the first time AIA did not consult with AGC while drafting the revision, nor did it send an advance copy to AGC for comment. AGC did not endorse the 2017 revision, either. The problems are similar to 2007, and some of them have gotten more egregious. The AIA documents perpetuate a longstanding relationship between the parties. “AIA places the architect as the fulcrum for all decision-making,” observes Perlberg, as well as all communication between contractor and owner. “The industry has changed, and I would say the AIA docs haven’t moved fast enough to reflect the changes. Contractors and owners have all realized that a true win/win solution is to collaborate and communicate to get better project results.”

Ron Ciotti, a private practice attorney in New England and partner at Hinckley Allen, is the immediate past president of AGC of New Hampshire and the current vice chair of the AGC Contract Documents Forum. Ciotti sums up the AIA problem succinctly: “They’re excellent documents if you’re a design professional. They are not owner-friendly and not contractor-friendly. I do not believe they serve the project.”

THE ALTERNATIVE

By 2007, AGC had already joined ConsensusDocs, a coalition of 20 organizations and companies representing a broad range of industry interests, dedicated to producing a more equitable and forward-looking set of contract documents. The coalition has since grown to 40 members. ConsensusDocs issued its first set of contract documents in 2007, and updates them every five years, or more often if necessary.

“In ConsensusDocs, the parties are encouraged to communicate directly in order to solve problems, not necessarily going through the architect,” comments Perlberg. “That’s a pivot point: Do you want to have a passive owner who relies on the architect to protect them from the big, bad contractor? That’s the old way to build things.”

From AGC’s point of view, many of the problem-areas in the AIA documents are handled much better in ConsensusDocs.

THE IDM

One of AGC’s biggest objections to the AIA A201 is the concept of the Initial Decision Maker (IDM), introduced in 2007. A201 designates an IDM who, in the event of a claim or other dispute between owner and GC, is the first recourse for resolution. Each party submits their side and the IDM decides who wins. Either party has 60 days to object the IDM’s ruling or
it becomes final. If there’s objection, it goes to mediation and, if that fails, either to arbitration or to court, depending on the terms of the contract. Unless AIA A201 is modified, the default IDM is the architect.

“Selecting an architect as the IDM is voluntary,” explains Bob Majerus, general counsel and VP of Hensel Phelps, and chair of the AGC Contract Documents Committee. “You can opt out of it, but the contracts that I see almost always opt in. The parties would all have to select someone else, and that doesn’t happen very often.”

The IDM is supposedly a neutral party, but the architect has a contractual relationship with the owner, a seemingly conflict of interest. “Contractors do not believe architects should be involved in deciding disputes because they do not play a neutral role,” says Majerus. He points out that the architect may be making decisions about construction costs that have nothing to do with his expertise.

“ConsensusDocs requires the parties to get together almost immediately to see if they can resolve the dispute,” Ciotti explains. “If they are unsuccessful, the project executives are required to meet and again try to resolve it. Over $1 billion of projects have been built using ConsensusDocs contracts in the past 10 years, and there is still not one reported case.”

If the AIA contract is used, Majerus suggests getting a neutral third party appointed as IDM. Majerus uses a list of construction experts he has dealt with previously, or successfully used as arbitrators (although the IDM would be acting outside the role of an official arbitrator).

**NOTICE**

The new provision in AIA A201 on the method of giving notice for changes could severely impact contractors’ rights. For claims (essentially any change in costs or schedule), formal notice must be given in writing and delivered by certified or registered mail, or by a courier providing proof of delivery. Personal hand-delivery by the contractor will not do, because he’s not a courier who provides a receipt. For issues other than claims (a change directive as opposed to a change order), written notice may be served by regular mail, certified or registered mail or courier. Electronic transmission (for example, email) can only be used if a provision is added setting forth the method.

Most importantly, failure to serve notice in the required manner can cost a contractor his rights, and a legitimate claim can go uncompensated.

Ciotti thinks the AIA notice requirements simply don’t acknowledge the reality of current business practices. “We live by email. In ConsensusDocs, we accept regular mail and email for those processes. The only thing that requires certification is termination,” says Ciotti.

Ciotti also observes a significant inequity in the way AIA A201 treats notices: It does not require written notice for liquidated damages, which is a claim by an owner against a contractor.

**FINANCIAL INFORMATION**

Before 2007, AIA A201 had a provision that a contractor could get assurance of the owner’s financing at various times during the project. As of 2007, a contractor can ask for financial information only at the beginning of
a job. “If an event takes place,” says Majerus, “Or a rumor that makes the contractor worried that the owner may not be able to pay, there is no way to ask for an update, or to ask the owner for the first time if you didn’t ask at the beginning.”

In 2017, this was improved, slightly. “In 2017, they realized they made a mistake,” explains Perlberg. “But, they also made it more technical. You still have to make a showing to get a response to requested information. But, they made it clear that if the contractor doesn’t get reasonably requested information, then a contractor may stop work, but only on the part impacted by the concern. And you can’t share information received with a contractor’s lender because the information is now deemed confidential. It’s marginally better; but it’s still not acceptable.”

“In ConsensusDocs, we look at the parties to a contract as partners to get the construction done,” continues Perlberg. “If financial information is requested, the owner provides it, and if they don’t, the contractor can stop work on the project. That’s the way it was in AIA’s 1997 contracts.”

**TERMINATION FOR CONVENIENCE**

Another problematic provision in AIA’s 2017 revision concerns Termination for Convenience, changing the method by which the GC is compensated if the project is terminated by the owner. Previously, a contractor could recover overhead and profit on work not yet executed. That has been changed to a termination fee, similar to ConsensusDocs’ approach. “I’m not fully against what AIA has done,” says Ciotti. “But, they have not updated their subcontractor document, A401, to be consistent with A201. The subcontractor can, under the A401, still collect from a GC for overhead and profit.”

“In ConsensusDocs, we look at the parties to a contract as partners to get the construction done. If financial information is requested, the owner provides it, and if they don’t, the contractor can stop work on the project.” Brian Perlberg, AGC senior counsel for construction law and contracts.

“It puts the contractor in the middle between owner and subcontractor,” says Perlberg. AIA A201 does allow the contractor to receive ‘Costs attributed to termination of subcontract,’ but it’s unclear whether that includes lost profit and overhead of the subcontract. “It is an argument that will have to be made,” believes Ciotti.

**INSURANCE**

Majerus is concerned about several aspects of AIA’s new approach to insurance. “Most of the insurance clauses were taken out of general conditions and added to an insurance exhibit that gets attached to the contract,” says Majerus. He worries if the parties don’t put in an insurance exhibit, “they’re going to rely on the provisions in the contract, and they’re virtually nonexistent.”

“Moreover, in the exhibit, some of the mandatory insurance products and insurance certificates are no longer commercially available. Some of those products haven’t been available for 10 years. The contract has to be modified to make it workable. If you don’t modify it, the contractor signs onto something that’s no longer available,” says Majerus.

The most recent revision of ConsensusDocs was written in consultation with the insurance and surety industries, and with brokers. Majerus, who was closely involved in writing the ConsensusDocs provisions, boasts wryly, “We came up with a set of clauses for required insurance which you can actually buy.”

**WHAT TO DO**

How should a contractor approach these problems? Perlberg suggests, if possible, using ConsensusDocs. “AGC recommends members condition their bids contingent on an unmodified ConsensusDocs contract. They need to engage the owner and say, ‘Fairer contracts lead to better projects and better pricing.’ Try to use your relationship before the contract is let,” says Perlberg.

If it has been let using AIA A201, try to modify the contract terms. “I don’t think the AIA A201 is a horrible document,” states Ciotti. “It can be revised properly, but you’re going to have to heavily revise it. Any party using an AIA contract will need to have their lawyer modify it.”

Both Ciotti and Majerus stress the need for a real construction lawyer, at various phases from contracting through arbitration. “I think one of the biggest mistakes made is not having a construction-specific attorney,” suggests Ciotti. “When I’m representing a contractor, and the attorney on the other side is somebody who doesn’t specifically get involved with construction, it doesn’t go as smoothly. A lot of non-construction lawyers don’t understand that risk is a part of this process, and they will find a way to kill a deal. A construction attorney understands how to protect their client’s interests while still ensuring the project proceeds smoothly, not shifting or mitigating risk to the point of stalling the project.”

AGC issued a detailed commentary on AIA 201-2017, laying out these pitfalls and more. It is available at https://bit.ly/2FGjizX.

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Honoring Member Estimators for their project successes

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For excellence in advancing the art of construction estimating thru Standards, Ethics and Practice, while leading + training others, and promoting ASPE throughout one’s career

Chapter President of the Year
For excellence in leading, promoting and supporting the goals and growth of the Chapter

Fellow Award
For having attained national recognition for achievements in the art of construction estimating and who have made exceptional contributions to the Society

Legacy - Howard S. Prout Founder of Certification Award
For excellence in promoting and utilization of Standards of Ethics and Practice

Legacy - Frank E. Young Excellence in Education Award
For excellence in pioneering and promotion of Educational Opportunities and Advancements

Legacy - Merle W. Heckenlively Founder of Standards Award
For excellence in promoting and utilization of Standards of Ethics and Practice

Industry Awards
Celebrating projects displaying overall estimate efficiency and accuracy, unique and innovative design, technology solutions or community involvement

Chapter Champion
For dedicated effort and contributions made to the advancement and growth of the Chapter

Chapter Achievement
For excellence in promoting ASPE and supporting its Members at the Chapter level

Technology Award
For promoting Technology innovation in advancement of the estimating profession

Intent to Submit Forms – Due March 15
Candidate Nominations and Chapter Applications - Due by April 1

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Up to $25,000 to be Awarded

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• Currently a College Sophomore or Junior
• GPA - 3.0 or Higher
• No relationship with any member of Scholarship Committee

For more information
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Education Tab - Scholarship
2019 ASPE Critical Calendar: March - June

MARCH

1 Last day to issue ballots to eligible voters
1-2 Board of Directors Meeting - Conference Call
8-9 NW/SW Spring Regional Meeting - Denver, Colorado
12 Education Committee Meeting via Conference Call
13 Certification Committee Meeting via Conference Call
13 Standards Committee Meeting via Conference Call
15 Scholarship Applications begin being accepted at Society Business Office
18 Deadline: Submit 'Intent to Submit' form for Award Submittals
19 Last day to vote in the Board of Directors Elections
20 Joint Technical Committee Via Conference Call
23 CP Spring Regional Meeting - Chicago, Illinois
23 NE/SE Spring Regional Meeting - Richmond, Virginia
25 Last day to announce Board of Directors election results
30 2019 Summit - Registration Closes for Chapter Representatives
31 Deadline for May/June Estimating Today articles to Society Business Office

APRIL

1 All Award Nominations / Applications due to SBO
1-25 Election of Chapter Officers to be held (recommended)
9 Education Committee Meeting via Conference Call
10 Certification Committee Meeting via Conference Call
15 Deadline: Scholarship Applications due to Society Business Office
17 Standards Committee Meeting via Conference Call
17 2019 Summit - Early Registration Closes
27 Board of Directors Meeting via Conference Call

MAY

1 Begin contacting Scholarship Winners announcing award (to Winners only)
1 2019 Summit - Regular Registration Begins
6 Deadline: Chapters to submit Chapter elections result form to Society Business Office
7 Education Committee Meeting via Conference Call
8 Certification Committee Meeting via Conference Call
23 Deadline: Chapter Reports to Governors for Annual Meeting Reports
27 2019 Summit - Regular Registration Closes
29 Deadline: July/August Estimating Today articles to Society Business Office
29 Committee and Technical Committee Chairs progress reports due to their respective Vice President and Society Business Office

JUNE

6 Annual Board Reports due to Society Business Office for Annual Meeting Books
6 2019 Summit - Late Registration Closes
12 Certification Committee Meeting via Conference Call
12 Education Committee Pre-Summit Meeting
19-22 2019 Annual Summit - Kansas City / Overland Park, Kansas
19 Board of Directors Meeting
19 Certification Committee Meeting
19 Standards Committee Meeting
19 Education Committee Meeting
19 Joint Technical Committee Meeting
20 2019 - 2020 Board of Directors take Office during Awards Dinner
ASPE CHAPTER MEETINGS

► ARIZONA
Arizona #6
Where: Aunt Chilada’s
7330 North Dreamy Draw Drive
Phoenix - 85020
Date: 2nd Tuesday; Time: 5:30 PM
Meeting Contact:
Gene Plum
gplum@mccarthy.com

Old Pueblo #53
Where: Varies
To Be Determined
Tucson
Date: 1st Wednesday; Time: 5:30 PM
Meeting Contact:
Trip McGrath, CPE
tripm@compusultinc.com

► ARKANSAS
Arkansas #33
Where: Baldwin & Shell
1000 West Capital Avenue
Little Rock - 72201
Date: 3rd Friday; Time: 12:00 PM
Meeting Contact:
Chuck Garrett, CPE
cgarrett@baldwinshell.com

NW Arkansas #79
Where: Varies
To Be Determined
Bentonville
Date: TBD; Time: TBD
Meeting Contact:
Carrie Morones, CPE
aspe.cmi@gmail.com

► CALIFORNIA
Los Angeles #1
Where: The Barkley Restaurant
1400 Huntington Drive
South Pasadena - 91910
Date: 4th Wednesday, Jan. - Oct.
Time: 6:00 PM Social Hour
Meeting Contact:
Bruce Danielson
ladofaspe@outlook.com

Golden Gate #2 (CONTINUED)
Where: AIA East Bay
1405 Clay Street
Oakland - 94612
Date: 2nd Tuesday; Time: 6:00 PM
Meeting Contact:
Jeremiah Newens
jnewens@southlandind.com

Orange County #3
Where: Ayres Hotel
325 Bristol Avenue
Costa Mesa - 92626
Date: 3rd Tuesday; Time: 5:30 PM
Meeting Contact:
Kevin Murphy
president@aspe-oc3.org

San Diego #4
Where: Varies
To Be Determined
San Diego
Date: 3rd Tuesday; Time: 5:30 PM
Meeting Contact:
Lisa Thibodeaux
Lisa@constructionclasses.com

Sacramento #11
Where: Rancho Cordova City Hall
2729 Prospect Park Drive
Rancho Cordova - 95670
Date: 2nd Friday; Time: 12:00 PM
Meeting Contact:
Bryan Hall
bryan.hall@vanir.com

Silicon Valley #55
Where: Varies
To Be Determined
To Be Determined
Date: Varies; Time: Varies
Meeting Contact:
Alan Jacobs, CPE
alan.jacobs@blach.com

► COLORADO
Denver #5
Where: To Be Determined
To Be Determined
Denver
Date: 2nd Tuesday; Time: 5:00 PM
Meeting Contact:
Paul Jonez
pjonez@gtc1.net

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

Yankee #15
Where: To Be Determined
To Be Determined
Stratford, CT
Date: TBD; Time: TBD
Meeting Contact:
Gregory Williamson, CPE
gwilliamson@bondbrothers.com

► DELAWARE
Delaware #75
Where: Varies
To Be Determined
Wilmington
Date: 2nd Wednesday; Time: 5:30 PM
Meeting Contact:
Estel Taylor
etaylor@albireoenergy.com

► DISTRICT OF COLUMBIA
Greater D.C. #23
Where: Jacobs
1100 North Glebe Road, Suite #12
Washington, DC
Date: 3rd Thursday; Time: Varies
Meeting Contact:
Maurice Touzard, CPE
mtouzard@gmail.com
ASPE CHAPTER MEETINGS (CONTINUED)

**FLORIDA**
- Tampa Bay #48
  - Where: Grillsmith
  - 612 N. Dale Mabry Highway
  - Tampa - 33607
  - Date: 3rd Tuesday; Time: 5:30 PM
  - Meeting Contact: Jim Cummings
  - jim.cummings@edunn.com

- Gold Coast #49
  - Where: To Be Determined
  - West Palm Beach
  - Date: TBD; Time: TBD
  - Meeting Contact: Carri Morones, CPE
  - aspe.carri@gmail.com

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

**GEORGIA**
- Atlanta #14
  - Where: Sage Woodfire Tavern
  - 4505 Ashford Dunwoody Road
  - Atlanta - 30346
  - Date: 2nd Monday; Time: 11:30 AM
  - Meeting Contact: Clinton Aldridge
  - clinton.aldrige@skanska.com

**INDIANA**
- Central Indiana #59
  - Where: To Be Determined
  - Indianapolis
  - Date: 3rd Thursday; Time: Varies
  - Meeting Contact: Matt Burress
  - mburress@performanceservices.com

- Old Fort #65
  - Where: To Be Determined
  - Fort Wayne
  - Date: Last Thursday; Time: Varies
  - Meeting Contact: Phillip Salisbury, CPE
  - psalisbury@blundall.com

- Greater Des Moines #73
  - Where: To Be Determined
  - Des Moines
  - Date: 1st Thursday; Time: Varies
  - Meeting Contact: Ray Conway
  - aspe.ia.73@gmail.com

**IOWA**
- Quad Cities #71
  - Where: To Be Determined
  - Davenport
  - Date: Varies; Time: Varies
  - Meeting Contact: Keith Parker, CPE
  - keithparker@circlebco.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: To Be Determined
  - Baltimore
  - Date: Varies; Time: Varies
  - Meeting Contact: Clint Townshend
  - ctownshend@phoenix-eng.com

**MASSACHUSETTS**
- Boston #25
  - Where: Maggiano’s Little Italy
  - 4 Columbus Avenue
  - Boston - 02116
  - Date: 3rd Wednesday; Time: Varies
  - Meeting Contact: Erick Vargas
  - evargas@garlandboston.com

**MICHIGAN**
- Detroit #17
  - Where: Visit www.aspe17.org
  - To Be Determined
  - Detroit
  - Date: 3rd Tuesday; Time: 5:15 PM
  - Meeting Contact: Gerald McClelland
  - gmcclelland@auchconstruction.com

- Western Michigan #77
  - Where: To Be Determined
  - Grand Rapids
  - Date: Varies; Time: Varies
  - Meeting Contact: Mike Alsgaard, CPE
  - maalsgaard@ftch.com

**LOUISIANA**
- New Orleans #9
  - Where: To Be Determined
  - New Orleans
  - Date: TBD; Time: TBD
  - Meeting Contact: Carri Morones, CPE
  - aspe.carri@gmail.com

- Western Michigan #77
  - Where: To Be Determined
  - Grand Rapids
  - Date: Varies; Time: Varies
  - Meeting Contact: Mike Alsgaard, CPE
  - maalsgaard@ftch.com
MINNESOTA
Viking #39
Where: Varies
To Be Determined
St. Paul
Date: Varies; Time: Varies
Meeting Contact: Keith Parker, CPE
keithparker@circlebco.com

MISSOURI
St. Louis Metro #19
Where: Varies
To Be Determined
St. Louis
Date: Varies; Time: Varies
Meeting Contact: Keith Parker, CPE
keithparker@circlebco.com

MISSOURI (CONTINUED)
Heartland #32
Where: Uncle Buck’s Grill or Bass Pro Shops
See Meeting Contact
Date: 3rd Thursday; Time: 5:30 PM
Meeting Contact: Gregory Wienberg, CPE
gmwfam5@gmail.com

NEBRASKA
Great Plains #35
Where: To Be Determined
To Be Determined
Omaha
Date: Varies; Time: Varies
Meeting Contact: Keith Parker, CPE
gmwfam5@gmail.com

NEBRASKA (CONTINUED)
Roadrunner #47
Where: Fiestas Restaurant
4400 Carlise Boulevard NE
Albuquerque - 87107
Date: 1st Wednesday; Time: 5:30 PM
Meeting Contact: Jimmy Sample, CPE
jimmy.sample@bixbyelectric.com

NEW JERSEY
Garden State #26
Where: The Appian Way Restaurant
619 Langdon Street
Orange - 07050
Date: 1st Wednesday; Time: 5:30 PM
Meeting Contact: Jeffery Senholzi
costnav@ptd.net

NEW JERSEY (CONTINUED)
Empire State #42
Where: Athos Restaurant
1814 Western Avenue
Albany - 12203
Date: Varies; Time: Varies
Meeting Contact: James Madison, CPE
jmadison1@gilbaneco.com

NEW MEXICO
Roadrunner #47
Where: Fiestas Restaurant
4400 Carlise Boulevard NE
Albuquerque - 87107
Date: 1st Wednesday; Time: 5:30 PM
Meeting Contact: Jimmy Sample, CPE
jimmy.sample@bixbyelectric.com

NEW YORK
New York #10
Where: To Be Determined
To Be Determined
New York City
Date: Varies; Time: Varies
Meeting Contact: Bruce Schlesier, CPE
bruce_schlesier@msn.com

NEW YORK (CONTINUED)
Western NY #77
Where: To Be Determined
To Be Determined
Rochester
Date: TBD; Time: TBD
Meeting Contact: Gregory Williamson, CPE
gwilliamson@bondbrothers.com

NEW YORK (CONTINUED)
Southwestern Ohio #38
Where: Varies
To Be Determined
Cincinnati & Northern Kentucky
Date: 3rd Thursday; Time: TBD
Meeting Contact: Keith Parker, CPE
keithparker@circlebco.com

NEW YORK (CONTINUED)
Columbia-Pacific #54
Where: University Place
310 W. Lincoln Street
Portland - 97201
Date: 3rd Tuesday; Time: 5:30 PM
Meeting Contact: Craig Welburn
cwellburn@cherrycityelectric.com

NEVADA
Reno #12
Where: To Be Determined
To Be Determined
Reno
Date: Varies; Time: Varies
Meeting Contact: Stacie Flynn
staciewflyn@gmail.com

NEVADA (CONTINUED)
Las Vegas #72
Where: Varies
To Be Determined
Las Vegas
Date: 2nd Thursday; Time: Varies
Meeting Contact: Chuck James, CPE
wcj@clarkcountynv.gov

NEVADA (CONTINUED)
Empire State #42
Where: Athos Restaurant
1814 Western Avenue
Albany - 12203
Date: Varies; Time: Varies
Meeting Contact: James Madison, CPE
jmadison1@gilbaneco.com

OHIO
Buckeye #27
Where: Varies
To Be Determined
Columbus
Date: Varies; Time: Varies
Meeting Contact: Keith Parker, CPE
keithparker@circlebco.com

OKLAHOMA
Landrun-OK City #80
Where: Ingrid’s Kitchen
3701 North Young Boulevard
Oklahoma City - 73112
Date: 1st Wednesday; Time: 11:30 AM
Meeting Contact: Phyllis Battle
pbattle@preconstructionservices.com

OREGON
Columbia-Pacific #54
Where: University Place
310 W. Lincoln Street
Portland - 97201
Date: 3rd Tuesday; Time: 5:30 PM
Meeting Contact: Craig Welburn
cwellburn@cherrycityelectric.com
ASPE CHAPTER MEETINGS (CONTINUED)

▶ PENNSYLVANIA
Greater Lehigh Valley #41
Where: D’Huy Engineering Office
1 E. Broad Street
Bethlehem
Date: Varies; Time: Varies
Meeting Contact:
Ron Trawinski, CPE
trawinski@ptd.net

Three Rivers #44
Where: To Be Determined
To Be Determined
Pittsburgh
Date: TBD; Time: TBD
Meeting Contact:
Kevin Sheahan
kevin.sheahan@aecon.com

Philadelphia #61
Where: To Be Determined
To Be Determined
Philadelphia
Date: 3rd Wednesday; Time: Varies
Meeting Contact:
Jay Kellogg, CPE
jaykellogg@kel-con.com

Central Pennsylvania #76
Where: Loxley’s Restaurant
500 Centerville Road
Lancaster - 17601
Date: 2nd Wed; Time: 6:00 PM
Meeting Contact:
Dan Dennis, CPE
dd@EGSConstruction.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

Rio Grande #40
Where: Ray’s at Pershing Inn
2909 Pershing Drive
El Paso - 79903
Date: 1st Thursday; Time: 6:00 PM
Meeting Contact:
Rodolfo Barba, CPE
rodolfobarba1@gmail.com

Dallas/ Ft.Worth #43
Where: See Chapter Website
To Be Determined
Varies: N. Dallas/Mid-Cities/Grapevine
Date: Varies; Time: Varies
Meeting Contact:
Rick Wyly, CPE
rick@buildcostcontrol.com

▶ WISCONSIN
Brew City #78
Where: To Be Determined
To Be Determined
Milwaukee
Date: Varies; Time: Varies
Meeting Contact:
Keith Parker, CPE
keithparker@circlebco.com

▶ UTAH
Great Salt Lake #51
Where: Varies
To Be Determined
Salt Lake City
Date: 3rd Thursday; Time: Varies
Meeting Contact:
Phil Capell, CPE
president@aspe51.org

▶ TENNESSEE
Middle Tennessee #34
Where: Adventure Science Center
800 Fort Negley Boulevard
Nashville - 37203
Date: 1st Friday; Time: Varies
Meeting Contact:
Ricky Sanford
rsanford7159@gmail.com

▶ VIRGINIA
Richmond #82
Where: Baskervill
101 South 15th Street, Suite #200
Richmond - 23219
Date: 4th Wednesday; Time: 5:00 PM
Meeting Contact:
TK Farleigh
tfarleigh@baskervill.com

Please Note: Information is subject to change. Report changes in your Chapter’s information with an email to Jennifer@ASPENational.org
ASPE CORE VALUES

EDUCATION:
ASPE educates and mentors professional estimators for the sustainability of the construction industry.

PROFESSIONALISM:
ASPE promotes the lifelong pursuit of excellence and credibility in professional estimating.

FELLOWSHIP:
ASPE develops a fellowship of professional estimators that connects and leads the construction industry.