HTETCO Bridge Cranes in an Industrial Environment

How Smart are your Buildings and are you future proofing your Conceptual Estimates?

KALWALL
CONTENTS

ASPE National President 3
All Thing Estimating 4
New Members 5
How Smart are your Buildings and are you future proofing your Conceptual Estimates? 6
Kalwall 8
Faces of ASPE: Jim Cummings 11
HTETCO Bridge Cranes in an Industrial Enviroment 12
Faces of ASPE: Phil Capell 27
All Things Estimating: Solution 28
2019 Scholarship Program 29
Critical Calendar 31
Chapter Meetings 32

ASPE National President 3
All Thing Estimating 4
New Members 5
How Smart are your Buildings and are you future proofing your Conceptual Estimates? 6
Kalwall 8
Faces of ASPE: Jim Cummings 11
HTETCO Bridge Cranes in an Industrial Enviroment 12
Faces of ASPE: Phil Capell 27
All Things Estimating: Solution 28
2019 Scholarship Program 29
Critical Calendar 31
Chapter Meetings 32
As I prepare this message, I want to thank everyone that displayed confidence in me by voting in the last ASPE election. As I reflect over the past years, I would like to personally thank Bruce Schlesier, Larry Hendrick and Allan Hauck for their work on the Board of Directors. A very special thanks goes out to Marcene Taylor, for three years of hard work and her forward thinking and planning as President of ASPE. I also extend a warm welcome to the new members and returning members of the Board.

I am excited about the future of ASPE and recognize that much work is ahead. With all that has been accomplished to improve the Society, growth has not been realized in membership, in Summit attendance nor in Chapter involvement. Without growth, we cannot sustain the current education programs or the benefits that we have grown accustomed to. As a Board, we must consider WHY we exist as an association and what is the value proposition of being a member of ASPE. Ongoing efforts must increase this value. With that in mind, the following question must be asked: What can we do, as a Society, to encourage individuals involved with construction estimating and in the costs of construction projects to become members of ASPE. This question needs to be addressed to sustain our Society.

The Board is working to solve the issues we face. As Marcene stated in her last message from the President, ‘we encourage you to think about why you are a member of ASPE and then let the Board know what we can do as a Society to make the necessary improvements and enhancements.’ We will continue to strive to make this Society the construction industry’s leader and recognized authority in professional estimating.

I look forward to the challenges and the opportunities to move forward as a team with the great foundation that has been set and to hearing from all of our great members and future members.

Melvin D. Cowen, CPE
ASPE National President
2019-2021

Connect at:
Mel@Cowen-Est.com
Cowen Estimating & Construction Service
Chapter 7 – Chicago
If four times the larger of two numbers is added to three times the smaller, the result is 52. If three times the larger number is decreased by twice the smaller the result is 22. What are the numbers?

Solution Hints:
\[ 4L + 3S = 52 \]
\[ 3L - 2S = 22 \]

Remember High School Algebra; solve for one variable in terms of the other.
Welcome to Our New Members (April + May)

<table>
<thead>
<tr>
<th>NAME</th>
<th>COMPANY</th>
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<td>McDUGALD-STEELLE</td>
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<td>Brian Adams</td>
<td>Gordanian/RSMears</td>
<td>Boston</td>
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<td>Kati Rosen</td>
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<td>Billy Maphies</td>
<td>Swinerton</td>
<td>Dallas/Ft. Worth</td>
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<td>Jace Kennedy</td>
<td>Burgess Company</td>
<td>Landrun - Oklahoma City</td>
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<td>Ryan Reardon</td>
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Membership Classification Count (as of 06/01/2019)

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Congratulations to New CPEs + AEPs (April & May)

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<tr>
<td>J. D. King, CPE</td>
<td>The Lemone Company, LLC</td>
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<td>Temeka Berry, CPE</td>
<td>Diversity Cost Estimating</td>
<td>Greater D.C.</td>
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<td>Kelsey Leek, AEP</td>
<td>PlanB Consultancy</td>
<td>Columbia - Pacific</td>
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<tr>
<td>Erik Williams, CPE</td>
<td>CMSWillowbrook, Inc.</td>
<td>Landrun - Pacific</td>
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<tr>
<td>Visha Devi Rk, CPE</td>
<td>V + S Design Partners LLP</td>
<td>Oklahoma City</td>
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<tr>
<td>Denis Kelsch, CPE</td>
<td>US Dept. of Interior</td>
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<td>Johnathon Radcliffe</td>
<td>Wood Partners</td>
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<td>Jasmin Howells, AEP</td>
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<td>Brian Bolling, AEP</td>
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<td>David Brashears, AEP</td>
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<td>Andrew Allen, AEP</td>
<td>Professional Project Services</td>
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The Edge Building in Amsterdam was built in 2015. That is 4 years that have passed now. It was described as the world’s most green building, and multiple YouTube videos show its high tech design. The high tech showcased in those videos has hit US construction and more.

A list of employee smart phone app features that are now integrated into leading edge smart buildings as a result of the design are as follows.

- Provides a guide to an empty parking space vs circling a 90% full parking garage for 20 minutes.
- Wayfinding by GPS maps (where is a meeting room that’s available or the closest café or rest room)
- Points of Interest
- Lighting Controls (dim a conference room or lights above your temporary cube that you are using that day)
- Temperature Control (location based by your cell phone’s GPS with a bandwidth of plus or minus a few degrees for employee comfort)
- Schedule a conference room, and the app verifies that you are in the room by your smart phones presence
- Locate and schedule a desk for your use as a visitor for the day
- Submit a work order for a carpet spot clean extraction that night after you spill some coffee
- Read the company’s latest newsfeed

As conceptual estimators, we need to be comfortable and remain up-to-date with all tech as part of a Conceptual budget discussion in the early stages. For instance, digital ceilings [P.O.E.], should be yesterday’s news instead of hardwired lighting. (I addressed the topic a few years ago in an Estimating Today article.)

3D dedicated parking lots for the multiple Autonomous Vehicles, that will fly yourself to the site or deliver a conference groups’ catering to your 3D parking lot, needs to be estimated conceptually and designed in.

Most people believe these are showcase technologies that few stakeholders can afford and implement. When that discussion begins, Pre Construction experts should be comfortable discussing the Human Resources cost per square foot per year and asking if these technologies would increase employee productivity or HR recruitment and hiring ability, even if only 1%? 1% is a large payback to support this technology. By having HR confirm the total payroll per square foot of an office, whether $200/SQFT for low tech offices per year or $500/Sqft for Hi Tech companies, and aligning that a 1% productivity gain could be conservative resulting in a 5-year payback on a 100,000 square foot office with only a 1% productivity gain. A 1% gain x a 5-year payback can add $1.5 million towards the technology implementation budget!

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Project Report

Elgin Artspace Lofts

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BRINGING THE ARTS TO LIFE

The award-winning Elgin Artspace Lofts, which opened in 2012, transformed a 1908 Sears building into a hub for artists to affordably live and pursue their craft. Kalwall® shines a light on their collective works.

Kalwall translucent sandwich panels were retrofitted into an original skylight, bathing the main floor’s artist gallery in museum-quality daylighting™.

The City of Elgin partnered with Artspace, a Minneapolis-based nonprofit that develops mixed-use buildings to promote the arts. There are 32 Artspace projects nationally; this is the third in the Chicago metropolitan area.

The architect was BKV Group, which has offices in Chicago, Minneapolis and Washington, D.C., and has experience with similar projects.

Together, they created a community space for artists and small businesses. Part of the Artspace mission is to provide artists with accessible and affordable housing.

The $15.2 million project integrates the historic building with a new three-story addition. Combined, there are 55 live/work units and 5,874 square feet of retail and community space for art-friendly businesses and nonprofit organizations.

The living units are on the second floor and the gallery is on the main floor of the two-story original building. The Kalwall skylight floods the space with diffuse natural daylight to showcase the art on display. By providing balanced, glare-free, and museum-quality daylighting, the Kalwall panels draw out the bold colors of each piece.

“The original skylight was an ideal way to introduce diffuse natural daylight into the setting, and Kalwall panels were a great retrofit solution,” says BKV’s Craig Carter, AIA, LEED AP BD+C, Senior Project Architect. “There is a soft, translucent quality that perfectly complements the art gallery.”

Kalwall panels also provide exceptional thermal performance and low solar heat gain, which fits into the project’s goal to be certified by Enterprise Green Communities.

Elgin has been working to preserve and enhance its downtown area, paying particular attention to the arts. The Eglin Artspace Lofts brings the city, which is just northwest of Chicago, one step closer to reaching this goal.

“The City of Elgin is really committed to bringing a vibrancy to downtown through the arts and introducing more residential housing into the area. Elgin Artspace Lofts was a great project that accomplished both goals,” Carter says. “By giving artists an affordable place where they can live, as well as a great space to show their works, you create a culture center. This project combined old and new to make something unique.”

Awards:

2014 AIA Chicago Design Excellence Award
2014 Multi-Housing News Excellence Award (Gold): Best New Development-Affordable
2014 Congress for New Urbanism-Illinois Charter Award: Best Block, Street and Building

For unparalleled thermal performance in translucent daylighting, consider specifying Kalwall with CABOT’s Lumira® aerogel insulation. Available in 2.75” (70 mm) panel formats up to: 4’ x 12’ (1200 mm x 3600 mm) and 5’ x 10’ (1500 mm x 3000 mm) maximum.

WHAT IS KALWALL?
A translucent, structural sandwich panel that provides:
- Glare-free, balanced daylighting
- Superior thermal performance
- Energy + electricity saving
- Low maintenance life cycle requirements
- Safety + security through visual privacy
- Durability + graffiti / vandal-resistance
- Hurricane, explosion venting + blast rated options

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105 Estimating + Bidding 1
106 Estimating + Bidding 2
107 Construction Materials + Processes
108 Construction Equipment + Methods
109 Practical Applications of Civil Sitework
110 Civil Blueprint Reading + Materials
114 Estimating Civil + Sitework Construction

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FACES OF ASPE: Jim Cummings

Chapter 48 – Tampa Bay – Chapter President
JE Dunn Construction Company
Contact: jim.cummings@jedunn.com

Best advice I ever received
Use only what is necessary to perform your task, whether it be notepad and pencil or state of the art software.

Best advice I share with young (and not so young) estimators
You will only be remembered by the level of your integrity.

Chapter goal for 2019
Increase participation of local college students in our Chapter.

If I wasn’t doing this, I would
Be on the Amateur Trap Shooting Tour full time!
HTETCO Bridge Cranes in an Industrial Environment

Anthony Latoria, CPE
Chapter 71 – Quad Cities
Tony@estesconstruction.com

TABLE OF CONTENTS

Section 1: Introduction
Section 2: Types and Methods of Measurements
Section 3: Special Factors for Consideration in Take-Off and Pricing
Section 4: Overview of Labor, Material, Equipment, Indirect Costs and Markups Approach
Section 5: Special Risk Considerations
Section 6: Ratios and Analysis
Section 7: Miscellaneous Pertinent Information
Section 8: Sample Drawing – Bridge Crane System with Support Steel
Section 9: Sample Take-Off and Pricing Sheets
Section 10: Glossary / Terminology
SECTION 1: INTRODUCTION

The purpose of this technical paper is to provide readers with a general understanding of how to estimate the costs of installing bridge cranes in an active industrial environment. This type of installation is typically more challenging and unique than completing installations in a new construction setting or inactive industrial environment. Some obstacles that make installations in an active industrial environment challenging include limited working hours, limited access to the work space, and work space congestion due to industrial operations. Each of these factors require the Construction Estimator to take into consideration when preparing a cost estimate as these factors often impact labor and equipment cost.

Brief Description

The paper will discuss the requirements of the Construction Estimator to prepare a complete cost estimate by performing a review of the plans, specifications, schedule, scope of work and special conditions required to complete the work, as well as completing quantity takeoffs, and preparing a detailed cost estimate that includes all labor, material, equipment, and tiered subcontractors’ costs. The paper will be written from the point of view of a Construction Estimator preparing a Prime, or General Contractor bid, which will account for multiple trades for a complete construction cost estimate. It is assumed that the plans and specifications have been completed to a level of Construction Documents (CD) by the project Structural and Electrical Engineer, and contain all required information to provide a complete construction cost estimate. This type of work is typically bid as a stipulated lump sum representative of the information provided by the owner and engineer.

SECTION 2: TYPES AND METHODS OF MEASUREMENTS

The types of quantity takeoffs used in bridge crane construction include the following: linear feet LNFT, tons TON, pounds POUNDS or #, each EACH or PIECES, and lump sum LSUM.

When preparing a cost estimate for a bridge crane system, the Construction Estimator will need to quantify several components of the system using multiple types of measurements in order to calculate the labor and material. For example, the header steel or support steel material costs will be based upon weight (POUNDS or TONS), whereas the labor to install the beams will be based upon the number of steel members (EACH or PIECES). Similarly, this method will be required for lateral sway bracing and the crane rails. For components requiring a weight quantification such as header steel and sway bracing, the Construction Estimator will need to complete a length to weight conversion. This can be accomplished by taking the length of the material in linear feet multiplied by the weight per linear foot (typically in POUNDS) designated by a steel properties table found in publications such as the AISC (American Institute of Steel Construction) Steel Manual. Once the total weight is calculated in pounds, it must be divided by 2,000 pounds per ton to calculate steel tonnage.

Other types of measurements utilized in the cost estimation of a bridge crane system include individual counts (EACH), length (LNFT), and lump sum (LSUM). Counts are utilized when there are individual items that can be quantified and used to calculate labor production and material costs. Some examples of counts that are encountered in bridge crane construction include beam clamps, hanger rods, splice plates, high strength bolts, bridges, hoists, end stops, and hoist controllers. Items quantified by linear feet (LNFT) include the aforementioned support steel and sway bracing, the bridge crane runway rails, and the conductor bar installed on the rails and bridge if the system is electrified (motorized). Items that are performed by tiered contractors are priced as counts (EACH) or Lump Sum. Theses scopes include load testing the bridge crane system to ensure the installation complies with the contract documents and the system electrification performed by
an electrical contractor. Load testing services provided by a tiered contractor often include the material required to load test the system, technician labor, and certification reporting. System electrification services provided by an electrical contractor include the installation of the conductor bar, hoist controller, setting hoist limits, setting hoist controller pendant, and providing the power feed to the system (conduit, conductors, grounding, disconnects, and bus plugs).

SECTION 3: PROJECT SPECIFIC FACTORS TO CONSIDER IN TAKEOFF AND PRICING

Small Quantities vs. Large Quantities
It is understood in the construction industry that there is a direct correlation between the size of a project and the unit price. The larger the project, the lower the unit price will be due to the ability to spread direct and indirect costs over a larger body of work. This holds true for bridge crane construction. For example, a project with five (5) systems consisting of ten (10) hoists and twenty-five (25) tons of support steel will have a lower unit price than a project that consists of one (1) system with one (1) hoist and three (3) tons of support steel.

Geographical Location
The geographical location of a project will have an impact on its overall costs. Depending on the location of the project, labor, material, and equipment prices can be impacted. Some factors that impact labor costs include the availability of qualified labor in a given market (urban vs. rural), and labor jurisdictional requirements (union vs. non-union). If a project is located in a rural area, it may pose a challenge to find qualified labor, which could require a contractor to bring resources to the project site from out of town, requiring travel and subsistence (meals/lodging) to be incorporated into the construction estimate resulting in increased costs. Depending on the project location, there may also be labor jurisdictional requirements to address, meaning there may be union labor or prevailing wages that will need to be incorporated into the construction estimate which may increase costs.

Seasonal Effect on Work
Bridge cranes are often installed under roof from either a roof or floor supported steel structure. In these cases, the seasonal effect of weather is not applicable to the execution of the bridge crane installation. Occasionally, bridge cranes can be installed outdoors in a loading dock, industrial yard, maritime port, or other locations where loading operations occur outside. In these applications, weather can affect the costs of installation due to several factors including labor productivity, equipment operations, and material handling and storage. Labor productivity is affected by seasonal weather changes when the temperatures or conditions (wind/rain/snow) are outside of the optimal conditions.

When the temperature is below or above normal, labor productivity is reduced, requiring more labor hours through longer working days or additional labor resources. Equipment is impacted in a similar manner as labor productivity when the temperatures are too cold or hot. For example, equipment may require a longer period of time to warm up to operating temperatures during cold weather, or may not be able to be run for extended durations during warm weather. Unfavorable weather conditions such as snow, rain, or high winds will also impact the installation of bridge cranes in an outdoor setting by creating poor visibility, slip and trip hazards due to reduced traction from rain/snow/ice, or unsafe hoisting conditions due to high winds which may impede the installation of support steel or crane component installations. The effect that weather may have on the installation of bridge cranes outlined above may require additional labor resources, additional equipment rental, or an extended project schedule which all must be reviewed and taken into consideration when assembling a construction estimate.

Special Conditions Affecting Bridge Crane Installations in an Industrial Environment
Industrial environments cover a wide range of facilities and types of work, each having unique operating conditions and hazards above and beyond those that are experienced in bridge crane construction. These special conditions must be understood by the Construction Estimator in order to assemble a complete construction estimate. Some of these special conditions that affect the installation of bridge cranes include limited working hours, limited work space access, congestion (traffic) in the industrial facility due to operations, facility specific safety orientation and trainings, and potential risks to hazardous material exposures.

Many industrial environments often operate on multiple work shifts which may limit the working hours that a contractor can complete work. Some industrial facilities may elect to only perform construction work under periods of facility shutdowns when operations cease in order to complete preventative maintenance. Understanding the hours of operation of a facility is critical to the Construction Estimator as it will greatly impact the labor costs, often requiring premium time, off-shift working hours, or multiple working shifts.

Working in industrial facilities often means contending with congested working conditions affecting the labor costs of the bridge crane installation, and the logistical route for material and equipment handling (haul routes). Bridge crane installations require a working space on the floor and in the air which can be a challenge in an industrial environment as extra space is rare. It is not ideal to have material staged and stored in the work space as there is an increased risk of material damage and a safety risk. It is best to have an area adjacent to the...
work space to stage material and pull into the work area as needed to complete the work. Due to the rarity of available space in an industrial environment, material could be staged far away from the work space requiring longer haul routes and an increase in labor costs. This may also be the case based upon where the industrial facility will allow for contractors to take delivery of material and equipment. Industrial facilities vary in size, some being very large and covering several square miles which could lead to long haul routes to transport material from the delivery location to the work space. Other challenges posed by industrial environments’ congestion include the presence of industrial workers and processes. Working within an operational industrial facility can negatively impact labor productions due to slower travel speeds when transporting material along haul routes as the aisle ways or routes may be shared with industrial workers. The Construction Estimator should take into consideration the location of deliveries, laydown space in proximity to the work space, and haul routes to ensure that adequate labor and equipment resources are accounted for in the construction estimate.

Many industrial facilities have site specific safety requirements which may include pre-qualification programs, safety orientations and training for workers prior to starting any work. It is important that the Construction Estimator includes costs for pre-qualification programs, special insurance requirements, and labor hours for worker orientation into the construction estimate as these indirect costs can be rather costly and can lead to margin erosion quickly if not accounted for.

Often industrial facilities and environments contain the presence of materials that create a hazardous working environment. Some of these hazardous materials can include lead, asbestos, silica, or chemicals generated from or required to complete industrial processes. It is important for the Construction Estimator to request and review the most recent environmental study of the work area that the industrial facility has on file. If there is a presence of hazardous materials within the work area, the facility can abate and remove these hazards prior to work commencement, or workers may be permitted to complete work with the assistance of OSHA (Federal Occupational Safety and Health Administration) approved engineering controls and proper personal protective equipment (PPE). The preferable approach is for the hazard to be abated and removed prior to the commencement of work. However, in the event when this is not possible, the Construction Estimator must ensure that proper protective measures are accounted for in the construction estimate.

SECTION 4: OVERVIEW OF LABOR, MATERIAL, EQUIPMENT, INDIRECT COSTS AND MARKUPS

APPROACH AND APPROACH TO MARKUPS

Labor and equipment costs are calculated based upon an hourly rate. Labor rates can vary by geographical location and project delivery method (public bid vs private bid). For public bid work, the hourly labor rate is typically established by the local prevailing wage rate (Davis Bacon Wage). For private bid work, the Construction Estimator may choose the hourly rate used in the construction estimate. Understanding the special conditions of bridge crane construction in an industrial environment may be different for each project as the labor assumption may change to accommodate working hours. Material costs are based upon the quantity take-off completed by the Construction Estimator and will include all necessary waste factors, taxes, and freight costs required. The Construction Estimator should use the quantity takeoff values to compare against those provided by material suppliers to ensure accuracy and compliance with the bid documents. Material suppliers that will be solicited may include steel suppliers or fabricators and bridge crane suppliers. Other direct costs that may be required to compile a complete construction estimate include select subcontractors such as load testing firms or electricians (if bridge crane requires electrification).

Indirect costs will differ for every contractor and depend not only on the project requirements, but the operational costs of the contractor’s overhead and staffing. Indirect costs that may be incurred during bridge crane installations may include permits, taxes (if applicable), bonding (if applicable), temporary facilities, temporary controls, insurance, project supervision, and office overhead.

Once all direct and indirect costs have been compiled in the Construction Estimate, the project markup must be determined. The markup can be referred to as fee, margin or profit, and is often determined by the contractor’s management team. The markup for a project may be influenced by many factors including project risk, clarity of bid documents, contractor backlog, bidding competition, or opportunity for repeat work with the project owner. A higher markup may be warranted if the project carries a higher risk, if the bid documents are not clear, the contractor has a larger backlog, or if there is little competition for the project. A lower markup may be utilized if the contractor has a low backlog and is looking for work, there is a large amount of competition, or if there may be an opportunity for repeat work with the project owner. The Construction Estimator should present the construction estimate along with all pertinent information to the management team so an informed decision can be made that fits the contractor’s procurement strategy.
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SECTION 5: SPECIAL RISK CONSIDERATIONS
As mentioned above, installing bridge cranes in an industrial environment has no shortage of special conditions and risks that must be accounted for in the construction estimate. Working in operational or active industrial environments is often more challenging and costly than new installations due to multiple variables that impact costs. Limited working hours, congested work spaces, shortage of lay down areas, long haul routes, and the potential for hazardous material exposures all affect labor productions requiring more time to execute the work compared to working in an unoccupied facility. Each of these considerations require the Construction Estimator to review all aspects of the estimate, not just the labor, material, and equipment required to execute the bridge crane installation.

SECTION 6: RATIOS AND ANALYSIS
Due to the number of variables in industrial environments outlined above, the variables in the bridge crane system and its components, it is not always possible to develop a “rule of thumb” for unit prices of bridge crane installations. Construction Estimators should, however, keep detailed reports of past estimates and budgets to use as a reference check against current estimates and individual unit pricing to ensure there are no evident pricing anomalies. When these price anomalies surface in a current estimate, the Construction Estimator will have the pertinent data required to identify the perceived error and correct it prior to submitting a final price. Maintaining a consistent and accurate database of past budgets, unsuccessful bids, and successful bids (including corresponding field as-built costs) will help the Construction Estimator develop more accurate and consistent bids over time. While developing a unit cost “rule of thumb” is challenging for bridge cranes due to the number of variables that affect costs, it is possible to develop a tool to identify the variables to ensure scope coverage. It is good practice for the Construction Estimator to develop a scope check sheet that can be re-used from project to project. The scope check sheet should contain all of the components for a bridge crane construction (header support steel, sway bracing, crane runway rails, bridge, hoist, etc.), and items that should be asked of the project owner (working hours, laydown areas, loading docks, hazardous material reports, safety orientations and other requirements) to ensure scope coverage. Developing a tool like this will assist the Construction Estimator in compiling a complete and accurate estimate.

SECTION 7: OTHER PERTINENT DATA
The Construction Estimator should familiarize themselves with the local building codes and jurisdictional requirements for permits and inspections prior to compiling the estimate as there may be special permits required for industrial projects versus residential or commercial. There may also be a requirement for special inspections of welds and bolted connections that require an independent testing agent to inspect the work upon completion. These costs are typically provided by the project owner; however, these services may be included in the contractor’s scope of work. Additionally, the industrial facility may have special permitting or processes required prior to commencement or completion of work that could impact the overall schedule duration of a project. Some of these requirements may include contractor orientation training or special safety pre-qualification processes as mentioned above, or special permitting including hot work, utility shutdowns, and confined space. Some industrial facilities may require contractor employees to attain supplemental safety training similar to OSHA 10hr or 30hr; or submit to a drug and alcohol test or criminal background check as part of the orientation process. The Construction Estimator should familiarize themselves with the facility standards prior to submitting a final estimate.

SECTION 8: SAMPLE SKETCHES
See the below figure descriptions and corresponding drawing figures for reference on the following pages.

Figure 1 – Support Steel Plan
In this Figure, the header support steel beams are indicated by size and length. As indicated on the plan, there are ten (10) W10x26 beams each measuring in 20'-0” length yielding a total length of beam of 200’-0”. The Construction Estimator must perform a length to weight conversion to calculate total pounds or tons for material pricing 200 LNFT x 26# /LNFT = 5,200 POUNDS or [(5,200#)/(2,000#/TONS)] = 2.60 TONS. This Figure also identifies the quantity of ¾” diameter hanger rod support hangers as ten (10). The count of attachment hardware and splice plates can be quantified by referencing the connection details sheet shown in Figure 4. To calculate the labor production, the Construction Estimator can use the total piece count of beams, hanger rod hangers, and attachment hardware.

Figure 2 –Crane and Bracing Plan
In this Figure, the crane runway rails, crane bridge, crane hoist, and lateral sway bracing steel are identified. The Construction Estimator will need to calculate the total length of crane runway rails, crane bridge, and lateral sway bracing using the dimensions provided verified by quantity take off of the scaled drawings. The crane runway rails and crane bridge can be simply verified using the scaled two dimensioned drawings which identify the total length and piece count for each bridge crane system component. It is important to note that the bridge runway rails and bridge are sold in standard length pieces, so the Construction Estimator will need to review both the plan view and the section details to ensure the correct quantity of runway rails and bridges are priced. If the plans scale to a 2’-4” piece of rail, the...
quantity should be rounded up to the next closest increment of 2’ or 22'-0". The crane component supplier can provide custom lengths; however, it is more cost effective to purchase standard stock lengths from the supplier. If the bridge crane system requires electrification, the conductor bar can be calculated by taking the length of the bridge plus one (1) length of crane runway rail. To calculate the lateral sway bracing length, the Construction Estimator should use the drawing sections or elevations to quantify reinforcing lengths. If no sections or elevations are provided in the contract drawings, the Construction Estimator can use Pythagorean Theory of $a^2+b^2=c^2$ to calculate the diagonal length of bracing by identifying rise (b) and run (a) values from the dimensions provided, and solve for the diagonal length (c). The count of attachment hardware and splice plates can be quantified by referencing the connection details sheet shown in Figure 4. To calculate the labor production, the Construction Estimator can use the total piece count of beams, hanger rod hangers, and attachment hardware.

**Figure 3 – Bridge Crane Sections**
In this Figure, the components of the bridge crane system are shown in section view to further clarify the information presented in plan view from Figures 1 and 2. The sections can be used to verify dimensions for quantity take off of the crane components and support steel, along with providing additional clarity to the design and construction intent.

**Figure 4 – Project Details**
In this Figure, all of the connection and section details are provided as referenced from callouts shown in Figures 1 and 2. As referenced above, these details are used to quantify EACH counts for beam clamps, splice plates, end stops, and connection hardware. The Construction Estimator can use the EACH counts to calculate labor, material, and equipment costs.
HTETCO Bridge Cranes in an Industrial Environment... continued

Section Along Runway

Section Through Runway

Figure 3 - Bridge Crane Sections

Hanger Support Detail

Figure 4 - Project Detail
SECTION 9: SAMPLE TAKEOFF AND PRICING

For the following estimate, an assumption of a ten (10) hour working day comprised of eight (8) hours of regular time with two (2) hours of premium time will be included. This will allow for one (1) hour of setup time and material handling at the beginning of the shift, and one (1) hour for cleaning and lockup at the end of the shift.

### Crew Unit Rate Pricing

**Assumptions:**
- 10-Hour Days: 8-Hour Regular Time (RT) and 2-Hour Overtime (OT)
- Crew Mix: 1 Foreman (F), 2 Journeyman (2J), 1 Apprentice (1A)

<table>
<thead>
<tr>
<th>Description</th>
<th>Design</th>
<th>Rate/Hour</th>
<th>Hours / Day</th>
<th>Rate / Day</th>
<th>Crew Mix</th>
<th>Crew Rate / Day</th>
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<tr>
<td>RT - Foreman</td>
<td>F</td>
<td>$74.00</td>
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<td>RT - Journeyman</td>
<td>J</td>
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<td>$560.00</td>
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<td>RT - Apprentice</td>
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<td>$68.00</td>
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<td>$544.00</td>
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<td>$544.00</td>
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<tr>
<td>OT - Foreman</td>
<td>F</td>
<td>$96.00</td>
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<td>$192.00</td>
<td>1</td>
<td>$192.00</td>
</tr>
<tr>
<td>OT - Journeyman</td>
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<td>2</td>
<td>$182.00</td>
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<tr>
<td>OT - Apprentice</td>
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<td>DT - Foreman</td>
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<td>$116.00</td>
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<td>$-</td>
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<tr>
<td>DT - Journeyman</td>
<td>J</td>
<td>$113.00</td>
<td>0</td>
<td>$-</td>
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<td>$-</td>
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<td>DT - Apprentice</td>
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<td>$105.00</td>
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<td>$-</td>
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<td>$-</td>
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<td><strong>$2,982.00</strong></td>
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### Equipment Unit Pricing

**Assumptions:**
- One (1) Fork Truck 5,000 lb capacity unloading and lifting material into place
- Two (2) Man Lifts for overhead work

<table>
<thead>
<tr>
<th>Description</th>
<th>Design</th>
<th>Rate/Hour</th>
<th>Qty. Req.</th>
<th>Equip Rate / Day</th>
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<td>Fork Lift - 9,000 lb</td>
<td>FL9K</td>
<td>$185.00</td>
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<td>Fork Lift - 6,000 lb</td>
<td>FL6K</td>
<td>$150.00</td>
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<td>$-</td>
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<td>Fork Lift - 5,000 lb</td>
<td>FL5K</td>
<td>$145.00</td>
<td>1</td>
<td>$145.00</td>
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<tr>
<td>Fork Lift - 4,000 lb</td>
<td>FL4K</td>
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<td>Scissor Lift - 32’</td>
<td>SL32</td>
<td>$115.00</td>
<td>2</td>
<td>$230.00</td>
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<tr>
<td>Scissor Lift - 45’</td>
<td>SL45</td>
<td>$145.00</td>
<td>0</td>
<td>$-</td>
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<td>Boom Lift - 45’</td>
<td>BL45</td>
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<td><strong>Sub-Total</strong></td>
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<td></td>
<td></td>
<td><strong>$375.00</strong></td>
</tr>
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</table>

Figure 5 - Crew Unit Take Off
HTETCO Solar Water Heaters ... continued

Figure 6 - Material Take Off

For the following figure, each component requiring installation has been outlined along with the corresponding narration of quantity calculation. These material quantities have been used in the following estimate to calculate labor, material, and equipment shown in Figure 7.

<table>
<thead>
<tr>
<th>Cost Items Description</th>
<th>Total Material Quantity</th>
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<tr>
<td>Header Support Steel</td>
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<td>Sway Bracing</td>
<td>0.09</td>
</tr>
<tr>
<td>Sway Bracing Plates</td>
<td>24.00</td>
</tr>
<tr>
<td>Beam Clamps</td>
<td>50.00</td>
</tr>
<tr>
<td>Beam Slice Plates</td>
<td>5.00</td>
</tr>
<tr>
<td>High Strength Bolts</td>
<td>100.00</td>
</tr>
<tr>
<td><strong>CRANE COMPONENTS</strong></td>
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</tr>
<tr>
<td>Hanger Rods 3/4” Dia.</td>
<td>10.00</td>
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<tr>
<td>Hanger Rod Clamps Upper (Steel)</td>
<td>10.00</td>
</tr>
<tr>
<td>Hanger Rod Clamps Lower (Rail)</td>
<td>10.00</td>
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<tr>
<td>Crane Runway Rails 9” 20’-0” Sections</td>
<td>6.00</td>
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<tr>
<td>Crane Runway Rails Extensions 1’-0”</td>
<td>4.00</td>
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<tr>
<td>Crane Runway Splice Plates</td>
<td>8.00</td>
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<tr>
<td>End Stops</td>
<td>4.00</td>
</tr>
<tr>
<td>Bridge 14’-8”</td>
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<tr>
<td>Conductor Bar 10’ Sections</td>
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<tr>
<td>Conductor Bar Brackets</td>
<td>18.00</td>
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<tr>
<td>Hoist - 1 Ton</td>
<td>2.00</td>
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<tr>
<td>Hoist Controller - 4 Way Control</td>
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Figure 7 - Labor, Equipment and Material Estimates

Labor and equipment costs are calculated using the quantities generated in Figure 6 along with labor productivity for the crew identified in Figure 5. Material cost is calculated using the quantities found in Figure 6 with waste factors and material supplier unit prices.

<table>
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<th>Cost Items Description</th>
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<th>Labor Production/Day</th>
<th>Crew Days</th>
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<td>Beam Slice Plates</td>
<td>6</td>
<td>Each</td>
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<td>High Strength Bolts</td>
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<tr>
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<td>End Stops</td>
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<td>Each</td>
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** Labor Days rounded to nearest Crew Days as Crew will not work partial Day **

| Labor Total                  | 4.00 | $13,428.00 |
# HTETCO Solar Water Heaters ... continued

## Labor & Equipment Estimate

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<tr>
<th>Cost Items Description</th>
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<th>Total Material Costs</th>
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<td>10</td>
<td>$45.00</td>
<td>$450.00</td>
</tr>
<tr>
<td>Crane Runway Rails 9&quot; 20'-0&quot; Sections</td>
<td>6</td>
<td>Each</td>
<td>100%</td>
<td>6</td>
<td>$1,900.00</td>
<td>$11,400.00</td>
</tr>
<tr>
<td>Crane Runway Rails Extensions 1'-0&quot;</td>
<td>4</td>
<td>Each</td>
<td>100%</td>
<td>4</td>
<td>$95.00</td>
<td>$380.00</td>
</tr>
<tr>
<td>Crane Runway Splice Plates</td>
<td>4</td>
<td>Each</td>
<td>100%</td>
<td>4</td>
<td>$49.00</td>
<td>$196.00</td>
</tr>
<tr>
<td>End Stops</td>
<td>4</td>
<td>Each</td>
<td>100%</td>
<td>4</td>
<td>$125.00</td>
<td>$500.00</td>
</tr>
<tr>
<td>Bridge 14'-8&quot;</td>
<td>2</td>
<td>Each</td>
<td>100%</td>
<td>2</td>
<td>$3,943.00</td>
<td>$7,886.00</td>
</tr>
<tr>
<td>Conductor Bar 10' Sections</td>
<td>9</td>
<td>Each</td>
<td>100%</td>
<td>9</td>
<td>$132.00</td>
<td>$1,188.00</td>
</tr>
<tr>
<td>Conductor Bar Brackets</td>
<td>18</td>
<td>Each</td>
<td>100%</td>
<td>18</td>
<td>$49.00</td>
<td>$882.00</td>
</tr>
<tr>
<td>Hoist - 1 Ton</td>
<td>2</td>
<td>Each</td>
<td>100%</td>
<td>2</td>
<td>$4,391.00</td>
<td>$8,782.00</td>
</tr>
<tr>
<td>Hoist Controller - 4 Way Control</td>
<td>2</td>
<td>Each</td>
<td>100%</td>
<td>2</td>
<td>$480.00</td>
<td>$960.00</td>
</tr>
<tr>
<td><strong>Material Sub-Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$46,779.10</td>
</tr>
<tr>
<td><strong>Freight Included Above</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$-</td>
</tr>
<tr>
<td><strong>Taxes - N/A Project is Exempt</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$-</td>
</tr>
<tr>
<td><strong>Material Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$46,779.10</td>
</tr>
</tbody>
</table>
Figure 8 - Subcontractor Estimate and Estimate Summary

This Figure outlines the remaining costs associated with tiered subcontractors for scope including load testing and electrical work. The estimate summary outlines the sub-total for direct costs (labor, material, equipment, and subcontractor), and identifies the estimate markups including indirect costs and markup.

<table>
<thead>
<tr>
<th>Cost Items Description</th>
<th>Qty</th>
<th>Qty Unit</th>
<th>Scope Re-viewed?</th>
<th>Tax Incl.?</th>
<th>Unit Price</th>
<th>Total Sub Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subcontractors Load Testing</td>
<td>1</td>
<td>LSUM</td>
<td>Y</td>
<td>N</td>
<td>$1,200.00</td>
<td>$1,200.00</td>
</tr>
<tr>
<td>Subcontractors Electrical</td>
<td>1</td>
<td>LSUM</td>
<td>Y</td>
<td>N</td>
<td>$6,400.00</td>
<td>$6,400.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$7,600.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item Totals From Above</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor + Equipment</td>
<td>$13,428.00</td>
</tr>
<tr>
<td>Material</td>
<td>$46,779.10</td>
</tr>
<tr>
<td>Subcontractor Totals</td>
<td>$7,600.00</td>
</tr>
<tr>
<td>Sub-Total</td>
<td>$67,807.10</td>
</tr>
</tbody>
</table>

Estimate Markups:

- Overhead and Internal Costs 11.50% $7,797.82
- Project Management / Administration 7.00%
- Temporary Facilities and Controls 2.00%
- Insurance 1.00%
- Safety Program 0.50%
- Training and Certifications 1.00%
- Permitting 0.50% $378.02
- Bonding - N/A 0.00% $
- Profit 10.00% $7,598.29

ESTIMATE TOTAL $83,581.24
SECTION 10: GLOSSARY AND TERMINOLOGY

**Bridge Crane** - A type of crane found in industrial environments. A bridge crane consists of parallel runways with a traveling bridge or bridges spanning the gap.

**Crane Runway Rail** – A fixed parallel runway system consisting of a C-shaped steel channel or W-shape steel beam that allows a bridge containing a hoist to travel along. Its limits define the hoist area of a bridge crane system.

**Bridge** – A structural steel member consisting of a channel, beam, or tube running perpendicular to two bridge rails that carries bridge crane hoist.

**Hoist** – A mechanical lifting device that may be manually or electrically operated mounted on the bridge crane bridge that is structurally rated to lift materials overhead via rigging. If electrified, will contain radio controllers that respond to the hoist controller.

**Header Support Steel** – Structural steel consisting of C-shaped steel channel, W-shaped steel beams, or HSS steel tubing that is mounted to the underside of a building structure spanning the bridge rails perpendicularly to transfer the bridge crane load to the building structure.

**Lateral Sway Bracing** – Structural support steel consisting of C-shaped channel or L-shaped angled connected from the support steel to the bridge rail to brace the bridge crane system from moving laterally during operation.

**Hanger Rods** – Structural steel rods threaded at each end and connected to header support steel and bridge rails via steel brackets to transfer structural load from crane runway rails to header support steel.

**End Stops** – brackets installed on crane runway rails to stop the crane bridge from traveling off the end of the rails.

**Conductor Bar** – Steel channel or bar that contains electrical conductors to power bridge crane hoist and controllers. Conductor bar is installed on the crane runway rails and crane bridge.
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FACES OF ASPE: Phil Capell

Chapter 51 – DGreat Salt Lake – Chapter President
GSL Electric
Contact: pcapell@gslelctric.com

Best advice I ever received
Never allow yourself to become complacent. Always strive to improve yourself and your skill set.

Best advice I share with young (and not so young) estimators
Never quit learning. No matter what your position is now or what you aspire to, never quit learning.

Chapter goal for 2019
Increase Membership by attracting younger members.

If I wasn’t doing this, I would Be Fishing.
ALL THINGS ESTIMATING: SOLUTION

Chris Ray, CPE, Author

The Numbers are ...
L=10
S=4
Fundraising at the Chapter level enables distribution of annual scholarships to deserving students, speaking clearly to the ASPE Core Value of Education. Please join us in recognizing the successful activities of the following Chapters.

**Chapter 4 – San Diego**
Two (2) Scholarships of $750-$1,000 are awarded annually to students of San Diego State University, The New School of Architecture + Design and National University

**Chapter 17 – Detroit**
Between 4-6 Scholarships of $500-$1,000 are awarded annually to students of Central Maine Community College – Auburn and Southern Maine Community College – South Portland

**Chapter 51 – Great Salt Lake**
One (1) $500 Scholarship is awarded annually to a student of Brigham Young University
One (1) $500 Scholarship is awarded annually to a student of Southern Utah University
One (1) $500 Scholarship is awarded annually to a student of Weber State University

**Chapter 55 – Silicon Valley**
One (1) $10,000 Scholarship is awarded annually to a student of California Polytechnic State University – San Luis Obispo
One (1) $6,000 Scholarship is awarded annually to a student of California State University – Chico

**Chapter 70 – Western Michigan**
One (1) $2,000 Scholarship (minimum) is awarded annually to a non-traditional student of Ferris State University who is enrolled in the Construction Management or Building Construction Program

**Chapter 73 – Des Moines**
A total of five (5) $1,000 Scholarships are awarded annually to students of Iowa State University and the University of Northern Iowa

**Chapter 80 – Landrun**
One (1) $500 Scholarship is awarded annually to a student of Oklahoma State University – Institute of Technology
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2019 ASPE Critical Calendar: July - October

JULY
10 Certification Committee Meeting via Conference Call
TBD Education Committee Meeting via Conference Call
16 Standards Committee Meeting via Conference Call

AUGUST
TBD Education Committee Meeting via Conference Call
10 Board of Directors Meeting via Video Conference
12 Certification Committee Meeting via Conference Call
13 Standards Committee Meeting via Conference Call

SEPTEMBER
9 Education Committee Meeting via Conference Call
12 Education Committee Meeting via Conference Call
12 Chapter Reports due to Regional Governor for October Board of Directors Reports
18 Standards Committee Meeting via Conference Call
19 Committee and Technical Committee Chairs progress reports due to their respective Vice President and Society Business Office
25 Last day for Board of Director Reports to Society Business Office for October Board Books

OCTOBER
5 Board of Directors Meeting via Video Conference
8 Society Business Office issues invoices for 2020 Membership Dues Renewals
10 Education Committee Meeting via Conference Call
14 Certification Committee Meeting via Conference Call
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.ark@gmail.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 Danielson  
lalofaspe@outlook.com

Golden Gate #2  
*Where:* AIA East Bay  
1405 Clay Street  
Oakland - 94612  
*Date:* 3rd Wednesday; *Time:* 6:00 PM  
*Meeting Contact:*  
Jeremiah Newens  
jnewens@southlandind.com

Orange County #3  
*Where:* Ayres Hotel  
325 Bristol Avenue  
Costa Mesa - 92626  
*Date:* 2nd Wednesday; *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:* Varies  
*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: Mission BBQ
5602 West Water Avenue
Tampa - 33634
Date: 3rd Tuesday; Time: 5:30 PM
Meeting Contact: Jim Cummings
jim.cummings@jedunn.com

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

Orlando #50
Where: Black & Veatch Offices
201 S Orange Avenue, Suite 500
Orlando - 32801
Date: 3rd Tuesday; Time: 6:00 PM
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.aldridge@skanska.com

▶ IOWA
Quad Cities #71
Where: To Be Determined
To Be Determined
Davenport
Date: Varies; Time: Varies
Meeting Contact: Keith Parker, CPE
keithparker@circlebco.com

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

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

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

▶ INDIANA
Central Indiana #59
Where: Varies
To Be Determined
Indianapolis
Date: 3rd Thursday; Time: Varies
Meeting Contact: Matt Burrell
mburrell@performanceservices.com

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

▶ ILLINOIS
Chicago #7
Where: Barbakoa Tacos & Tequila
1341 Butterfield Rd
Downers Grove - 60515
Date: 3rd Thursday; Time: 6:00 PM
Meeting Contact: Bryan Mixer, CPE
bmixer_rvc@msn.com

▶ IOWA
Quad Cities #71
Where: To Be Determined
To Be Determined
Davenport
Date: Varies; Time: Varies
Meeting Contact: Keith Parker, CPE
keithparker@circlebco.com

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

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

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

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

▶ MARYLAND
Baltimore #21
Where: Varies
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
ASPE CHAPTER MEETINGS (CONTINUED)

► 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: 3rd Friday; Time: 7:30 AM
Meeting Contact: Keith Parker, CPE
keithparker@circlebco.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 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

► OREGON
Columbia-Pacific #54
Where: Muuili Locations
To Be Determined
Portland - 97201
Date: 3rd Tuesday; Time: Varies
Meeting Contact: Leanne Legare
leanne-legare@hoffmancorp.com

► NEVADA
Las Vegas #72
Where: To Be Determined
Las Vegas
Date: 2nd Thursday; Time: Varies
Meeting Contact: Chuck James, CPE
wj@clarkcounty_nv.gov

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

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

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

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

► SOUTH CAROLINA
Charleston #1
Where: To Be Determined
To Be Determined
Charleston
Date: Varies; Time: Varies
Meeting Contact: Tommy Lee, CPE
tommy.lee@pitt Constr.com

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

► SOUTH CAROLINA
Charleston #1
Where: To Be Determined
To Be Determined
Charleston
Date: Varies; Time: Varies
Meeting Contact: Tommy Lee, CPE
tommy.lee@pitt Constr.com

► SOUTH CAROLINA (CONTINUED)
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
Pittsburgh
Date: TBD; Time: TBD
Meeting Contact:
Kevin Sheahan
kevin.sheahan@aecom.com

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

Central Pennsylvania #76
Where: Loxley’s Resturant
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
rodolfobarbal@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

► UTILITY
Great Salt Lake #51
Where: Varies
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

► WASHINGTON
Puget Sound #45
Where: Best Western Executive Inn
200 Taylor Avenue North
Seattle - 98109
Date: 3rd Tuesday; Time: 6:00 PM
Meeting Contact:
Steve Watkins
swatkins@walshgroup.com

► WISCONSIN
Brew City #78
Where: Varies
Milwaukee
Date: 2nd Tuesday; Time: Varies
Meeting Contact:
Chris Rozof, CPE
crozof@berghammer.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 Tina@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.