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**Best Estimate Challenge Winner:
The Northern Arizona University Union Dining Hall
by Kinney Construction Services**

**Construction
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Northern Arizona University Union Dining Hall
Flagstaff, Arizona

General Contractor/Construction Manager at Risk:
Kinney Construction Services

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By Lynn Murray

Recipe for Success

Creating a state-of-the-art dining facility to satisfy more than 22,000 hungry college students would serve up a challenge for any university. But long before starving scholars began to stretch their dining dollars at Northern Arizona University's Union Dining Hall, the estimating team of Kinney Construction Services Inc. (KCS) cooked up some careful calculations of its own.

The 27,283-square-foot expansion project was completed in just 13 months – in time for the start of classes in Fall 2008. And keeping it within the \$8.05 million budget proved to be a recipe for success for KCS.

Design Cost Data™, along the International Builders Exchange Executives and the American Society of Professional Estimators (ASPE), is proud to announce Kinney Construction Services of Flagstaff, Ariz., as the winner of the 2009 Best Project Estimate Challenge, for its work on the North Arizona University (NAU) Union Dining Hall project.

This one-of-a-kind challenge – kind of a “closest to the pin” competition for the estimating community – was intended to recognize the estimating team that produced an estimate that hits right on. Projects were evaluated on estimate vs. actual costs, the estimating process and the final presentation of the project.

KCS estimated \$8,049,916 for the project, including a minimal contingency of just 2.3 percent of the project total, or \$186,280. The final contract amount was not adjusted by any change orders. All construction cost estimates were spot on. But containing costs didn't mean cutting corners.

“I expected nothing short of spectacular for this highly anticipated facility, and KCS delivered phenomenally in all areas,” said Jan Kuhn, associate vice-president for enrollment management and student affairs at NAU.

The Project

The NAU Union Dining Hall expansion project consisted of 23,143 square feet of new construction and 4,140 square feet of renovations to the existing Union building on NAU's central campus. New construction included adding a modern, two-story building that supports dining and common areas, as well as multiple food service vendors, and the construction of a complex curtain wall system. Renovations included the installation of a commercial kitchen and bringing the building up to code with NAU's technical standards.

KCS had previously completed several other projects for the 110-year-old university, but this one began a bit differently. The contract delivery method was Construction Manager at Risk (CMAR), which entails a commitment by the construction manager to deliver the project within a Guaranteed Maximum Price (GMP). The manager acts as consultant to the owner in the development and design (pre-construction) phases, but as a general contractor during the construction phase.

The Dining Hall project was originally awarded to another CMAR bidder, who did not perform acceptably during the pre-construction



Kinney Construction Services won the Best Estimate Challenge with their submittal of the new Northern Arizona University Union Dining Hall project.



The new dining hall at NAU included over 23,000 square feet of new construction and 4,140 square feet of renovations to the existing Union Building on NAU's central campus.



The new dining hall and renovations to the existing Union building was completed in 13 months, in time for the start of classes in Fall 2008.

phase. KCS was called in to take over the project, working with Phoenix-based design team of OWP/P Architects Inc. of Chicago.

"KCS confidently and successfully took on the challenging task of completing all pre-construction services with 30 days of selection. Their final GMP was provided in time for Arizona Board of Regents approval, was within the university's budget and was more than \$1,000,000 below the original budget proposal," said Kuhn.

The pre-construction and procurement schedule was set and inherited by KCS – which meant tight deadlines and high expectations. KCS embraced the challenge, completing the value engineering and constructability studies; securing all subcontractor proposals; and beginning work just 21 days behind the original proposed schedule.

The Process

Once KCS was brought on to the project, the first estimating task was to pull together an initial budget on the most recent set of contract documents. The firm reviewed the plans and specifications in order to understand what types of materials, systems and means of construction were required for the project.

Next, subcontractors were contacted to obtain unit costs and "ball-park" figures. Detailed take-offs were then completed for most systems, including concrete foundations and slabs, glazing/curtain walls, roofing, drywall/metal stud wall and ceiling systems, electrical and plumbing. A combination of subcontractor feedback, recent project experience and "gut instinct" proved a strong formula for arriving at budget estimates for each item.

"Their ability to get a quick response from subcontractors, over a weekend, indicates a good working relationship, which is the critical element in general contractor estimating today," said Kris Larson, CPE, senior estimator, Construction Control Corp. of Salt Lake City, Utah, who helped judge the Best Project Estimate Challenge.

The project was far from ordinary. The university had created a previous system of underground utilities (since abandoned) that required removal of abandoned pipes and conduits beneath the centrally located project site.

The foundation of the project was 62 drilled caissons buried to an average depth of 16 feet. The geotechnical excavation indicated that KCS drill into solid rock for 2 feet, but that proved incorrect, requiring contingency dollars be used for additional hard rock excavation and more concrete for caissons.

The first floor, designed to be an exposed concrete floor, had to be protected throughout the construction process. Pouring was delayed until the roof structure was complete and the second floor deck was poured, to eliminate traffic on the finished slab.

Mechanical systems were not complicated but were custom-made due to unique shape requirements, including a 28-inch exposed spiral duct that ran the length of the building.

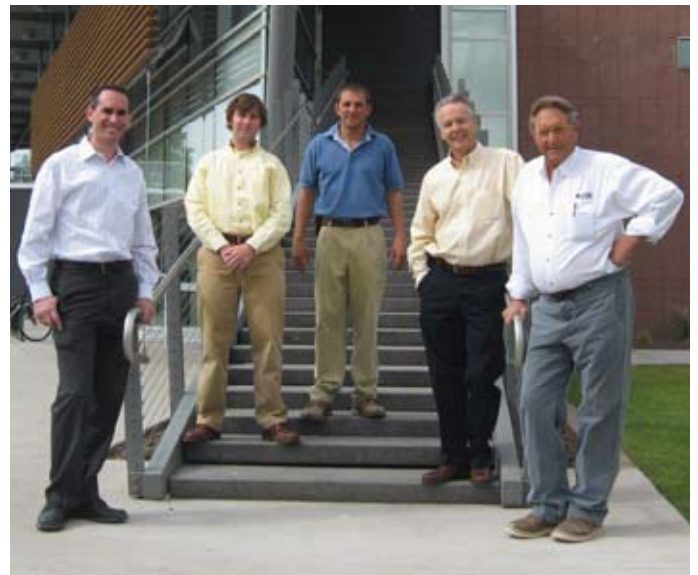
The addition connected to existing buildings, with floor heights of each building being different. Complicating factors included outdated life safety systems in existing buildings and a joint expansion system to allow the new building to move independently of the existing buildings.

The project required coordination with six food service vendors regarding supplies and installation of their products.

The Team

The KCS project lead team consisted of Tim Kinney, president, LEED AP; Mike Thomas, project manager, LEED AP; Andrew Iacona, project engineer and safety program director; and Charlie Hawken and Tyler Smith, superintendents.

"Communication, experience and organization are three essential elements that, when executed properly, result in exceptional construc-



Project Team from left to right: Mike Thomas, Project Manager, LEED AP; Andrew Iacona, Project Engineer & Safety Program Director; Tyler Smith, Superintendent; Tim Kinney, President, LEED AP; and Charlie Hawken, Superintendent.



Kinney Construction Services worked closely with subcontractors, listened to subcontractor feedback, drew upon past project experience and listened to their 'gut instinct' to arrive at budget estimates for each job item for the NAU project.

tion quality," said Thomas. "An experienced onsite crew, coupled with strong office administrative support, significantly contributed to the success of this project."

The Client Agrees

"KCS operated as a truly collaborative CMAR partner. They kept NAU informed and involved throughout the project, provided solutions to challenges, met extreme schedule and budgetary constraints, and always operated in the best interest of the university," said Kuhn.

"We accomplished this challenge within the desired contract schedule, without any change orders, without reducing scope, with a high level of quality and within budget," said Thomas. "And we had fun doing it."

The Northern Arizona University's Union Dining Hall project submittal and the Best Estimate Challenge Runner Up, The Westin Book Cadillac Hotel & Condominiums submitted by Marous Brothers Construction and Jenkins Construction, Inc., a joint venture will be on display at the upcoming American Society of Professional Estimators' 2009 Conference July 22-25 in St. Louis, Mo. Patsy Smith, Interim Executive Director of ASPE will accept \$1,000 from Design Cost Data for the ASPE National Scholarship Fund and she will also present ASPE Phoenix Chapter No. 6 a matching \$1,000 from the International Builders Exchange Executives (www.bxnetwork.org) in KCS' honor for Chapter No. 6's Scholarship Fund at the conference.