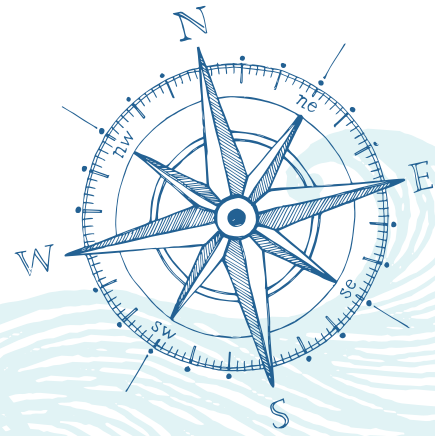


# BUILDING COLLABORATIVE COMMUNITIES

NAVIGATING CHALLENGES, CHARTING INNOVATIONS



## 2018 CSU FACILITIES MANAGEMENT CONFERENCE

### BPA WINNING CAMPUS:

California State University,  
Sacramento

### PROJECT NAME:

Parking Structure V

### PROJECT COST:

\$42,500,000

### DELIVERY METHOD:

Collaborative Design Build

### SCHEDULE:

7/2017 – 6/2018

### KEY CONTRIBUTORS:

Facilities Management-Planning,  
Design & Construction Dept.

University Transportation and  
Parking Services

Clark Pacific

Dreyfuss & Blackford Architects

## BEST PRACTICE AWARD CATEGORY: CONSTRUCTION DELIVERY

### Project Description

This unique precast construction method for Parking Structure V was coordinated and executed using the Collaborative Design-Build delivery method, with the benefit of the Architect and Contractor working cohesively as a team along with the campus, to achieve the desired project scope and budget. Working with Clark Pacific as a team member the Campus was able to take advantage of their experience working with precast systems as a means of providing a finished parking structure with minimal impact to the campus. This meant that nearly all structural components and façade elements were able to be fabricated off site in their entirety and then brought to the job site to be erected. Using this method minimized the amount of time the project disrupted students, faculty and staff, and decreasing the overall project duration significantly. The fabrication of structural and exterior elements off-site while plan approvals were in process reduced the project time considerably because nearly 90% of the fabrication was complete when the project gained its approvals and permit to construct. Prior to the decision to utilize the precast delivery method the estimated construction time of the 6-story 550,000 SF structure was 18 to 24 months. However, by using the precast method the project was completed in less than 12 months. Additional benefits of this method were realized because the trucking of the prefabricated pieces were able to be completed on off hours and ultimately limited the overall amount of construction traffic created by the project.

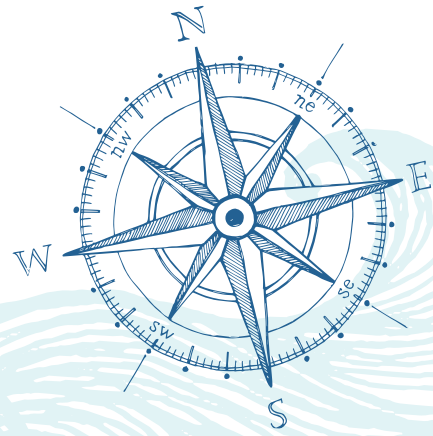
The Collaborative Design Build approach required strong communication between the Campus Stakeholders and the Design-Build team. The Campus prioritized goals and the Design-Build team worked to achieve the most value once those goals were established. Upon completion this project came in under budget and ahead of the preliminary schedule, but was also able to include a variety of additional benefits, many of which arose during project construction. Additional project benefits included:

- The revision of EV charging station vendors and related impacts
- The addition of a Dry Well
- The addition of a parking wayfinding system
- Integration with a pre-existing campus transportation app
- Infrastructure for future solar expansion
- Integration with pre-existing campus pedestrian and bicycle routes
- Continual evaluation of campus circulation, allowing flexibility to alter adjacent campus roadways impacted by construction during the project, as well as temporary and permanent roadway signage and markings.



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This project exemplified all of the characteristics of a construction delivery best practice project. The use of the precast construction method along with the Collaborative Design-Build approach made the project innovative, efficient and minimized overall campus disruption. The collaborative nature of the process made it pleasant to work on and the likelihood of future projects high. Following the successful completion of Parking Structure V, the Design-Build team is eager to work with other campuses on similar projects.

### Key Challenges

1. Disruption to Students, Faculty and Staff.
2. Getting most out of available funding.
3. Aesthetically attractive building.

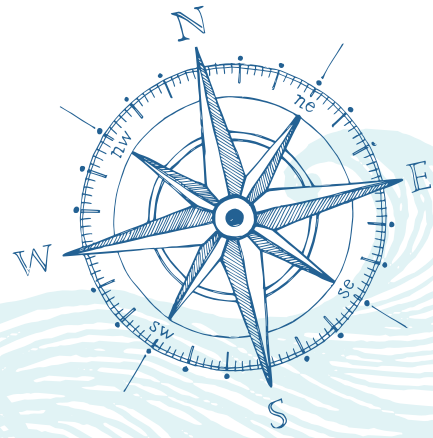
### What makes this project a Best Practice Award Winner?

1. **Improvements in Collaboration with the Project Team:** Collaboration was foundational in this project with the Designers, Contractors, Subcontractors, Campus and other Stakeholders, and a key reason for the project's success. The contracting method was Collaborative Design Build so the Designers and Contractor were together from the beginning. Strong communication combined with prioritized goals were emphasized throughout the project and resulted in the project finishing significantly ahead of schedule and under budget.
2. **Improved Schedule Performance:** The 18-24 month construction schedule was reduced to 12 months as a result of highly effective team functioning and also the use of a prefabrication system for most of the building components. Clark Pacific successfully used this system previously and they brought this experience forward on this project.
3. **Increased Overall Value to the Owner and Contractor:**
  - The Owner gained not only an attractive building completed significantly ahead of schedule but also received the benefit of many additional scope items for the same budget as a result of the prefabricated system benefits.
  - The Contractor was able to attain a fair profit on their work by completing ahead of schedule and funding additional work with the savings.
  - The end result was very positive in regards to relationship building and the Team wants to work together again on future projects.
4. **Other Innovations:** The Collaborative Design Build contracting method was a major factor and key contributor to project success. Prefabrication of systems incorporating not only the façade but also the structural system was another major innovation that led to the success of the project.



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