
The Office of Facilities Development & Capital Budget (FDCB) requires a software system to manage its many public works projects from small to major starting with the planning phase through construction and occupancy. The design and construction industry has evolved drastically in recent years to utilize web-based real-time software to better manage and track project communications and budgets. These tools are becoming universal in the design and construction industries to facilitate project communications between owners, consultant teams and contractor teams.

The first step in the process is to analyze current processes, define needs requirements and recommend a public works software solution by March 2015 with a budget of $20,000.

Program: Banner Initiatives

Created and submitted by: Rick Benner, Ed Simpson, and Diana Rosen

Date Created: 8/6/2014
Date Modified: 11/25/2014
Version: Final

Current Situation

FDCB currently relies on transmitting paper documents using delivery services, mail, or email; a method dating back 20 years or more. Facilities Development Project managers rely on various spreadsheets to track budgets, submittals, requests for information (RFI), change order proposals (COP), and change orders (CO). It is difficult to have multiple parties simultaneously review and comment on project documents. Effort is required to verify where documents are or who is assigned to what action. This can lead to errors and costly delays on projects.

A typical example is the processing of contractor invoices. The contractor is required to submit 3 copies of their invoice along with supporting documentation. Quite often, supporting documents could be 20 – 30 pages long. The contractor submits the invoice to our design consultant who is required to certify the accuracy (assuming they track the information on a spreadsheet). The consultant transmits the invoice to the project manager in FDCB for review and approval. The project manager then enters the invoice information on their personal spreadsheet for validation later. He/she then sends the invoice to the assistant director FDCB for review and signature. The assistant director again enters the same invoice information into a separately kept spreadsheet so he/she can verify and reconcile payment information to the respective project. Once this is completed, the assistant director transmits the invoice to Capital Budget where it is entered into the Capital Budget Access database, approved, coded with the correct funds and transmitted to Accounts Payable, entered into Banner and paid.
The same manual and cumbersome business process occurs with many of the project items, creating potential for errors, delay, and claims.

For a number of years on major projects the University has utilized either a consultant’s or contractor’s building project software system. These systems provide to the project the functions identified in the problem statement above. Project managers and on-site representatives have been able to participate with the project teams in a more efficient management of the project. While these greatly help the management and tracking of submittals, RFI’s, COP’s, and CO’s, the project team members are still required to process invoices manually with many duplicated data entry and steps. Another major disadvantage is that at the end of each project, much of the project history including electronic diagrams and other critical data that are residing in the contractor’s system is not available to FDCB personnel for historical reference and reporting.

Implementation of a building project software system will allow FDCB to more accurately and efficiently manage public works projects with the consultant and contractor teams. This would reduce errors, the potential for schedule delays, and claims. The system would also put historical project information in a common database for more efficient and accurate report generation. The system should streamline invoice review for contractors and consultants, eliminating the need for redundant spreadsheets and databases.

Examples of software systems that have been used or demonstrated to FDCB staff include – eBuilder, Prolog, and Newforma. A goal of FDCB would be to select a system not requiring customization, keeping the system as simple as possible for multiple project managers and other project team members to utilize.

Software High-Level Requirements:

- Provide real-time project communication tracking and action logs between owner, consultant team, and contractors for the following items:
  - Project Documents
  - Project Invoicing
  - Submittals
  - Requests for Information (RFIs)
  - Field Directives
  - Change Order Proposals (COPs)
  - Change Orders (COs)

- Provide centralized project budget management and tracking, allowing streamlined invoice review and approvals from invoice inception through consultants and Facilities Development and Capital Budget to Accounting Services and final payment. Budget tracking would include Change Order Proposals (COPs), change orders (COs), contractor and consultant invoices across all projects.

- Provide planning level cash flow estimates by project and funding source.

- Provide centralized project documentation for faster, more accurate information.

- Provide flexible project dashboards and management reports for project managers and departmental managers as well as allow senior management to track at a program level.

- Provide historical data over time.

- Easy report generation and the ability to do ad hoc reporting.

- Be accessible through mobile devices.
1) **Business Processes To Be Reviewed**

Under the scope of this project, we will be focusing on managing Capital projects once project funding is approved. For that work, we have identified the following areas where business process analysis may be beneficial:

- Consultant Selection
- Design, including:
  - Invoicing
- Bidding, including:
  - Contracts
- Construction, including:
  - Invoicing
  - Change Orders
- Project Closeout, including:
  - Invoicing
- State Funded Capital Request Form Process
  - Possible replacement of eSign form

Essentially, a new system will help us manage a project from the point the project work begins. This project will not include the scope of how funds are acquired, capital is allocated, or communication with stakeholders of how capital funding will be utilized. With impending large projects (such as Carver Gym), we want to move quickly towards implementing a solution that will help us manage these projects and communicate with project vendors, contractors, and the project team.

2) **Functional Areas That Will Be Impacted**

<table>
<thead>
<tr>
<th>Academic Affairs</th>
<th>Purchasing</th>
<th>Capital, FM, Safety &amp; Parking</th>
<th>Enrollment &amp; Student Services</th>
<th>Financial Services</th>
<th>Human Resources &amp; Payroll</th>
<th>Information Technology</th>
<th>Internal Audit</th>
<th>Internal Control</th>
<th>Legal &amp; Policies</th>
<th>Outside Consultant</th>
<th>Budget</th>
<th>University Advancement</th>
<th>University Relations</th>
<th>All Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impacted</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resources Required</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3) **Identify Stakeholders**

Facilities Development & Capital Budget
- Rick Benner, Diana Rosen, Ed Simpson, Kelly Flaherty, MaryLynn Dawe, FDCB Project Managers, Jeremy Hammond FDCB IT and record drawing process.

Vendors/Contractors
- Architect & Subconsultants
- Contractor & Subcontractors
- Misc. Consultants

Greg Hough (PW projects design phase quality control reviews)

Campus Clients
- Francis Halle – Space Administration
- Terence Symonds – University Residences
- Linda Beckman – Enrollment & Student Services
- John Furman – Facilities Management

Rich Van Den Hul (track program level budgets)

Brian Sullivan
Contracts Office

4) **Identify Team Members**

Facilities Development & Capital Budget
- Rick Benner
- Diana Rosen
- Ed Simpson

Business & Financial Systems
- Deanna Reynolds (BFS PM)
- Sharon Colman – Finance (AP) Functional Support

Business Services
- Christine DeBondt, Contracts Office
- Pete Heilgeist, Purchasing RFP Development

Administrative Computing Services
- Steve Weinberg

Financial Services – Accounts Payable
- Mike Ulrich

Legal
- Confirming with Asst. AG – confirm we can modify processes to utilize electronic copies (Kerena Higgins?)

Policies
- Nicole Goodman

5) **Relationship to Banner Initiatives Objectives**

**Banner Initiatives Objectives**
Implementing a building project software system will:

- **Simplify and automate processes by implementing best-in-class practices.**
  - Improve data integrity by containing project information in a single software system accessible to project managers, on-site representatives, FDCB staff and managers and senior management as well as permitted access to contractors and consultants.
o Improve project communication and tracking by having a system that provides real-time data access and communication with project team members including FDCB, consultants, and contractors.

o Improved ability to run reports across projects including historical data as the data in the system grows.

o Eliminate shadow systems kept on individual computers.

**Improve services to campus and boost customer satisfaction.**

o Improved ability to manage projects will result in improved service to our campus clients.

**Improve reporting capabilities:**

o The project software system will give FDCB the ability to run tracking reports and historical trend reports. This reporting functionality is currently not available. The system will also improve cash flow estimating utilizing automated system tools.

o Improved ability to assess project performance during construction and make corrections as needed for successful projects.

o More easily and accurately respond to information requests from the State.

o Provide an audit trail for added protection for claims protection.

### 6) Deliverables

1. Process Maps/Documents for Business Processes to be Reviewed
2. RFP w/Needs Assessment Paper
3. Final Recommendation

### 7) Risk Assessment

<table>
<thead>
<tr>
<th>Risk</th>
<th>Impact</th>
<th>Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited FDCB, ADMCS, Business Services and Business &amp; Financial Systems staff could make dedicating time to the project procurement and Implementation difficult.</td>
<td>Delay of procurement and installation of the system, delaying the benefits of a needed system to manage public works projects.</td>
<td>Development of good project schedule and dedication of required staff levels to assure timely project delivery. May require backfilling some positions.</td>
</tr>
<tr>
<td>Conflicting objectives between stakeholders.</td>
<td>Conflicting objectives will delay decisions with the project.</td>
<td>Project managers will open communication with all stakeholders and mitigate any conflicts and disagreement through meetings, updates and discussions. Involve Steering Committee, if needed.</td>
</tr>
<tr>
<td>Competing resources in FDCB, ADMCS, Business &amp; Financial Systems and other departments may delay the timing of this project.</td>
<td>Delay of implementation of FDCB and maybe even eProcurement project due to competing resources.</td>
<td>Development of good project schedule and dedication of required staffing levels to assure timely project delivery. May have to backfill some positions within FDCB to release resource into the project. Other potential solution includes engage consultants to do some of the work.</td>
</tr>
</tbody>
</table>
### Risk

<table>
<thead>
<tr>
<th>Risk</th>
<th>Impact</th>
<th>Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insufficient training time for staff to implement the public works project software as early in public works schedules as possible.</td>
<td>Staff running different systems for different projects and not fully utilizing new software system.</td>
<td>Provide additional support to project managers for training and assistance loading initial project information into the software system to be sure they do not use their own manual system.</td>
</tr>
<tr>
<td>Not enough time to complete a thorough current BPA for FDCB and related processes.</td>
<td>Gaps in current business processes may not be clearly identified resulting in missing</td>
<td>Ensure to work with team members to complete thorough business process analysis in identified areas to vet all gaps and requirements.</td>
</tr>
</tbody>
</table>

#### 8) Research

Research has been done and continues to be done to gather information on software systems being utilized by other institutions, consultants, and contractors in the region. Initial presentations have been conducted for the University by eBuilder. eBuilder markets itself as being developed primarily for owners. eBuilder is being used locally by City of Tacoma, City of Auburn, Port of Olympia, and Portland Community College. A survey of consultants that have worked for Western shows a preference for a program named Newforma. Two Western project managers have used Newforma through the consultant’s systems.

#### 9) Process Review Budget

The team is requesting $20,000.00 to cover site visits, conferences or pre-implementation training for this phase. Separate one-time funding and a permanent budget request will be made in the 2015/16 budget cycle in and around February 2015.