Agenda

• History of CPPM, FM, and U Construction
• Goals & Objectives
• Project Work Request and Assignment Process
• U Construction Vision, Study and Recommendation
• Questions & Feedback
History of U Construction

• FM and CPPM:  
  – separate, combined, separate

• U Construction:  
  – large/small; FM, CPPM, split

• Scope:  
  – $50 to Millions
Issues to Address

• Confusion by Customers: who does what

• Changes in FM staffing as it refines its Property Services Model

• Need to scale project management and delivery to match project complexity and requirements
Goals

• To best manage University financial and physical resources

• Establish standardized delivery process

• To deliver projects in an efficient and cost effective manner
### Property Services Model

**Facilities SPOC**

- FM
- EHS
- Capital planning
- Public Safety

**Customer SPOC**

- VP
- Dean
- College Center
- Faculty

**Service Level Agreement**

**Client Relationship**

- District Director/Associate Dist. Dir.
- Team Manager
- 4-2900
- BRIDGE member
- Building Contact
- Individual

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**University of Minnesota**

**Driven to Discover™**
Decision Matrix: Project Requests - WHO MANAGES THE WORK?

DRAFT 1/28/10

Page 1: Maintenance vs. Construction Project

Decision Sequence

- **Design:**
  - Complex Design?
    - YES
    - Requires licensed designer (based on code)
    - All security projects (card readers, cameras)
    - Modification to fire rated walls/doors
    - **Project Examples**
      - Maintenance examples: (design/Installation)
        - Replace existing eyewash stand
      - Construction examples: (licensed)
        - Replace fire smoke detectors
        - Install new line of safety eyewashes
        - Add ventilation in lab
        - Laundry room dryer exhaust upgrade
    - NO

- **Construction:**
  - Construction? (not maintenance)
    - YES
    - Modification of walls, HVAC equipment, or fire system
    - Replacement of exterior shell components (roof, windows)
    - Installation of new equipment
    - **Project Examples**
      - Maintenance examples:
        - Paint/carpet replacement
        - Lite fixtures replacement
        - Steam trap replacement
      - Construction examples:
        - Renovate an office - walls to ceiling
        - Run conduit to new cameras
        - Roof replacement
    - NO

- **Project Management:**
  - Project Management Required?
    - YES
    - Multitask
    - Requires complex coordination
    - Highly visible project
    - Scope/schedule/budget is critical
    - **Project Examples**
      - Maintenance examples:
        - Install printer/clock in office
      - Construction examples:
        - Campus-wide clock replacement
        - Renovation of research lab
        - Residence hall security improvements
    - NO

- **Resources:**
  - Requires Significant Resources?
    - YES
    - Project exceeds $500K
    - Labor hours exceed 80 hours
    - Schedule/urgency requires additional resources
    - District priorities would be impacted
    - **Project Examples**
      - Maintenance examples:
        - Replace interior door
      - Construction examples:
        - Install heaters in bus shelters around TCF stadium
        - Modify belt guards on fume hoods
        - Add non-slip texture to entire floor
    - NO

- FM - District Maintenance

(see Page 2 criteria)

Construction
# Decision Matrix: Project Requests - WHO MANAGES THE WORK?

**DRAFT 1/28/10**

**Page 2: Construction - CPPM vs. FM-U Construction**

<table>
<thead>
<tr>
<th>Decision Sequence</th>
<th>Specific Requirements</th>
<th>Project Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Construction:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New/Exterior Construction?</td>
<td>- New buildings - Utility infrastructure - Road/Parking infrastructure - Replacement of exterior shell components (roof, windows)</td>
<td>U Construction examples: - Art handing repair/replacement - Replace existing equipment</td>
</tr>
<tr>
<td>NO</td>
<td></td>
<td>CPPM examples: - Landscape Facility - SI Paul utility switch gear - SAFL bridge deck</td>
</tr>
<tr>
<td>Design:</td>
<td></td>
<td>Sanford Hall window replacement</td>
</tr>
<tr>
<td>External Design?</td>
<td>- Requires external licensed architectural or engineering services - Historical preservation - HVAC or fire system installation</td>
<td>U Construction examples: (internal design/sketch) - Security projects (installations of card readers, cameras)</td>
</tr>
<tr>
<td>NO</td>
<td></td>
<td>CPPM examples: (external design) - CMEK renovation for IET magnet - Eastliff summer house</td>
</tr>
<tr>
<td>Complexity:</td>
<td></td>
<td>- Akerman Hall Tech. Eng. hunger area - Women's HAC &amp; fire alarm upgrade</td>
</tr>
<tr>
<td>Complex?</td>
<td>- Coordination with non-U of M entities required - Coordinate campus/research stations - Building demolition - High risk (BSL-3 labs, Asbestos)</td>
<td>U Construction examples: - Elevator equipment repair/replacement</td>
</tr>
<tr>
<td>NO</td>
<td></td>
<td>CPPM examples: - Moore Education demolition - Williams arena race tunnel - UMM Wind turbine generator - SWBCC Research Lab</td>
</tr>
<tr>
<td>Capital Project:</td>
<td>- Project exceeds $500K - Included in the annual Capital Budget report - Whole/partial building renovation</td>
<td>U Construction examples: - Renovate offices - walls to cubicles</td>
</tr>
<tr>
<td>NO</td>
<td></td>
<td>CPPM examples: - Williams Arena basketball court improvements - Vet Med Imaging Center</td>
</tr>
<tr>
<td><strong>FM-U Construction</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Vision for U Construction

• Act as internal General Contractor
• Capitalize on internal construction trades’ institutional knowledge
• Utilize construction management best practices for scoping, estimating, scheduling and on-site supervision
• Improve communication and establish on-site supervision
• Streamline delivery process – Speed to Market
U Construction Study & Recommendation

- Overview
- Findings
- Process
- Organization Chart
- Metrics
- Moving Forward
- Questions and Answers
Overview

- PCL working on campus since early October
- Met with Districts, University Services, Colleges, Managers of Departments, Codes, Records, CPPM, Purchasing, Energy Management, tradesmen, union B.A., etc.
- 113 people interviewed
- Draft, v.2 report to the U has been provided
Feedback

“I like having a Project Manager to handle my projects”

“I like being involved in the process throughout”

“I ask for estimates because I want some control over the costs”

“A schedule would be nice”

“When I send work to FM Services, I don’t always hear back”

“I don’t care who does the work as long as it gets done”

“Estimates often run over and I don’t understand why”
Feedback, cont’d

“I like being able to get competitive bids”

“I think that FM Services should communicate better”

“I am concerned about the institutional knowledge that we don’t try and retain”

“I believe that we have a high skill levels in our trades”

“It is easier to work with the trades than with the outside contractor world”

“There seems to be no accountability”

“Pick a process and just stick with it”
Summary of Findings

Need improvement in:

• Communication
• Estimates & Schedule
• Project Delivery Consistency
• Accountability
Recommended Project Process Flow

UMN Call Center takes Initial Client Project Request (C.P.R.)

C.P.R. Forwarded to FM Services

U Construction Reviews, Contacts Clients & Scopes

U Construction Design Team (A/M&E Design/Drawings As Required)

Estimates, Budgets, Schedules & Code Review

1 – Executive Approval
2 – Client Approval

NO Decision to Proceed YES

Archive for Future Consideration

Permit and Project Number

Project Kick-Off Meetings Labor & Management Identified Client Notified

Execute Project

Close Out
Metrics

• Estimates
• Schedule
• Project Comparables
• Customer Satisfaction
Estimates

Recommend using an estimating software program with a standard format which includes a scope of work letter with detailed costs for your review and approval.
## Direct Costs

<table>
<thead>
<tr>
<th>Summary Item Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Percent</th>
<th>Item Cost</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basis of Budget</td>
<td>1</td>
<td>LS</td>
<td>0.00%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temporary Protection</td>
<td>1</td>
<td>LS</td>
<td>2.54%</td>
<td></td>
<td></td>
<td>8,459</td>
</tr>
<tr>
<td>Demolition / Excavation</td>
<td>1</td>
<td>LS</td>
<td>15.49%</td>
<td></td>
<td></td>
<td>51,546</td>
</tr>
<tr>
<td>Concrete</td>
<td>110</td>
<td>CY</td>
<td>25.66%</td>
<td>776.14</td>
<td>85,376</td>
<td></td>
</tr>
<tr>
<td>Anchor Bolts / Grouting</td>
<td>1</td>
<td>LS</td>
<td>2.14%</td>
<td></td>
<td></td>
<td>7,121</td>
</tr>
<tr>
<td>Railings &amp; Light Poles</td>
<td>1</td>
<td>LS</td>
<td>24.48%</td>
<td></td>
<td>81,445</td>
<td></td>
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<tr>
<td>Finishes</td>
<td>1</td>
<td>LS</td>
<td>6.77%</td>
<td></td>
<td>22,508</td>
<td></td>
</tr>
<tr>
<td>Contingency</td>
<td>1</td>
<td>LS</td>
<td>0.00%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Direct Costs**: $266,455

## General Expense Costs

<table>
<thead>
<tr>
<th>Summary Item Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Percent</th>
<th>Item Cost</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Expense</td>
<td>1</td>
<td>LS</td>
<td>18.73%</td>
<td></td>
<td>63,109</td>
<td></td>
</tr>
<tr>
<td>Permits &amp; Insurances</td>
<td>1</td>
<td>LS</td>
<td>3.95%</td>
<td></td>
<td>13,127</td>
<td></td>
</tr>
</tbody>
</table>

**General Expense Costs**: $76,236

**Total Cost**: $332,690

**Fee**: $14,971

**Total Bid**: $347,661
Schedule

Recommend utilizing scheduling software that provides sufficient detail for customer confidence, identifying:

• Long lead items
• Critical path items, e.g., abatement
• Start dates and substantial completion
• Customer “disruptions”, e.g., finals week
• Work flow relationships
• Sample Project Schedule
- Sample Project Schedule
Project Comparables

Recommend tracking and analyzing project productivity, which includes, total project cost versus estimate, unit price productivity and success in making project schedules.
<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity UOM</th>
<th>Labor</th>
<th>Material</th>
<th>Total Cost</th>
<th>Unit Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Install hollow metal frame (3070), hang wood door and mount hardware</td>
<td>1 EA</td>
<td>$260</td>
<td>$500</td>
<td>$760</td>
<td>$760/EA</td>
</tr>
<tr>
<td>Frame (50’x9’) interior metal stud partition wall, gypsum board 2 sides, tape and sand</td>
<td>450 SF</td>
<td>$3.93</td>
<td>$1.29</td>
<td>$2,349</td>
<td>$5.22/SF</td>
</tr>
<tr>
<td>Paint interior GWB (9’ – Latex 2 coats</td>
<td>1500SF</td>
<td>$0.40</td>
<td>$0.010</td>
<td>$750</td>
<td>$0.50/SF</td>
</tr>
<tr>
<td>Furnish &amp; install plastic laminate counter top (25”x60”) on particle board substrate standard edging</td>
<td>60LF</td>
<td>$26</td>
<td>$32</td>
<td>$3,480</td>
<td>$58/LF</td>
</tr>
</tbody>
</table>
Customer Satisfaction

Recommend a project close-out evaluation to identify success and opportunities for improvement.
Project Satisfaction Ratings
Customer Ratings

- Ability to keep customer informed throughout the project: 4
- Ability to maintain project cost: 5
- Ability to maintain project schedule: 4
- Quality of workmanship: 5
- Close-out documentation: 2
- Timeliness of contract: 3
- Your willingness to use on next project: 4

Average Rating = 4
Design Services

These services will be provided –

• To properly identify work scope & budget
• To support codes, permits and records
• To support good stewardship
• To ensure a quick response
What Asked of Customers:

- Clear description & understanding of work scope
- Early identification of budget
- Identify time and schedule constraints
- Commitment to follow processes
- Identify a Single Point of Contact
FAQ’s

• When does new process and u Construction start?
  • Upon final review and Approval by VP O’Brien (target Spring)

• What is it going to cost?
  • Projects to be estimated using Time and Materials plus supervision
FAQ’s

• Who do we contact?
  • Call Center

• Who will be on-site?
  • PM
  • Project Superintendent
  • Foreman
  • Estimator
Questions?

Feedback?