

# Advanced Design Project Management



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## 1 - AIA Continuing Education Credit



AIA  
Continuing  
Education  
Provider

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Credit(s) earned on completion of this course will be reported to American Institute of Architects (AIA) Continuing Education Session (CES) for AIA members.

Certificates of Completion for both AIA members and non-AIA members are available upon request.

This course is registered with AIA CES for continuing professional education. As such, it does not include content that may be deemed or construed to be an approval or endorsement by the AIA of any material of construction or any method or manner of handling, using, distributing, or dealing in any material or product.

Questions related to specific materials, methods, and services will be addressed at the conclusion of this presentation.

AIA  
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### Course Description

#### Design Project Management

This class will focus on basic effective fundamental procedures for managing the project design process.

Topics include how to understand and administer the design process, how to interview, select and hire a design consultant, how to get the best from your architect/engineer, how to work and communicate with your campus client, effective communication strategies, what to look for in design reviews, and the importance of program and budget conformance.

Review successful processes for value engineering, effective team management, communication, and basic project manager skills.



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### Learning Objectives

1. Learn the basic fundamental procedures for managing project designs.
2. Learn how to understand and administer the design process.
3. Learn how to get the best architect/engineer.
4. Learn how to interview, select and hire a design consultant.



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This concludes The American Institute of Architects Continuing Education Systems Course



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**APPA Institute**  
Design Project Management




Fun in the air

Grandsons

Kids

- Licensed Architect
  - Colorado
  - Georgia
  - North Carolina
  - Louisiana
- Private Practice 15 years
- Higher Education 27+ Years
  - Duke University - 6 Years
    - Director Facilities Design Office
    - Assistant Dean Facilities
  - University of Colorado -13 Years
    - Director PDC
    - Campus Architect
    - AVC FM
  - Emory University – 5- 1/2 Years
    - AVP PDC
  - University of Colorado -3 Years
    - VC Administration




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**APPA Institute**

## Resources Available

- Design Guidelines
- Construction Standards
- Project Checklist
- Project Management Service Levels
- Consultant Information Packet
- Quest for Quality Guidelines
- A/E Quality Assurance Program
- A/E Fee Guidelines
- A/E Agreement
- Review Reminders
- A/E Performance Evaluations

<http://www.colorado.edu/facilitiesmanagement/appa/>

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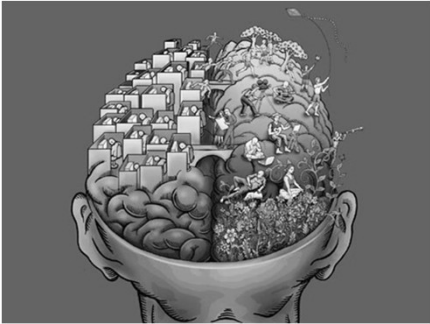
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Revenge of the Right Brain!

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**What are your Goals?**

**My Goals:**

- Understand the Design Process
- Manage the Design Process

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**DESIGN PROJECT MANAGEMENT**

**Project**

- Traditional Project
- Design / Bid / Build
- Major Project

**Seminar**

- Programming Complete
- Project Approved
- Project Funded
- Process Ends @ Bidding



***Seminar Assumptions***

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**Architectural Education**



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	APPA Institute Design Project Management	
<p><b><u>Overview</u></b></p> <p>Design Process</p> <p>Project Team</p> <p>Design Process Tools</p> <p>Managing the Process</p>		 <p>Deferred Maintenance or Capital Renewal?</p>

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	APPA Institute Design Project Management	Design Process
<p><b><u>Part 1-Design Process</u></b></p> <ul style="list-style-type: none"><li>• Design Process</li><li>• Project Schedules</li><li>• Project Deliverables</li><li>• Designing For Value</li></ul>		

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 <p>How do you get ideas?</p>
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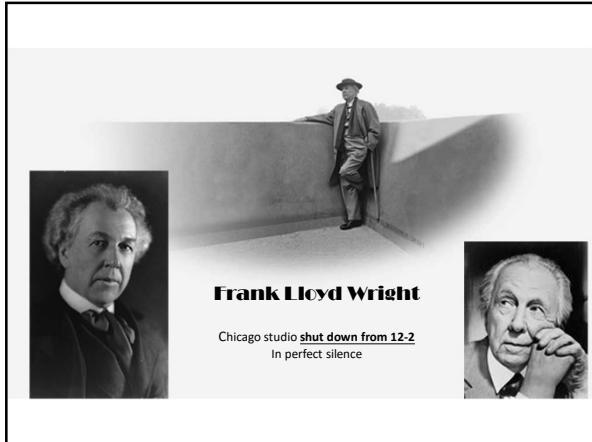
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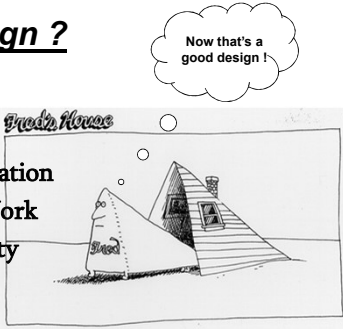
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	<b>APPA Institute</b> Design Project Management	<b>Design Process</b>
<p><b><u>What is Design ?</u></b></p> <p>Moments of Inspiration                  Periods of Hard Work                  Continuous Activity</p> 		

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	<b>APPA Institute</b> Design Project Management	<b>Design Process</b>
<p><b><u>Influences on Design</u></b></p> <ul style="list-style-type: none"> <li>• Program</li> <li>• Codes / Regulations</li> <li>• Site / Context</li> <li>• Technology</li> <li>• Cost / Schedule</li> <li>• Client</li> </ul>  <p>Early Art Critic</p>		

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	<b>APPA Institute</b> Design Project Management															
<p><b><u>Design Process</u></b></p> <table border="0"> <tr> <td>• <b><u>Analysis</u></b></td> <td></td> </tr> <tr> <td>Program</td> <td>Scheduling</td> </tr> <tr> <td>Site</td> <td>Cost</td> </tr> <tr> <td>Code</td> <td>Constructability</td> </tr> <tr> <td>• <b><u>Synthesis</u></b></td> <td></td> </tr> <tr> <td>Goals</td> <td>Concept</td> </tr> <tr> <td>Alternatives</td> <td></td> </tr> </table> 			• <b><u>Analysis</u></b>		Program	Scheduling	Site	Cost	Code	Constructability	• <b><u>Synthesis</u></b>		Goals	Concept	Alternatives	
• <b><u>Analysis</u></b>																
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Site	Cost															
Code	Constructability															
• <b><u>Synthesis</u></b>																
Goals	Concept															
Alternatives																

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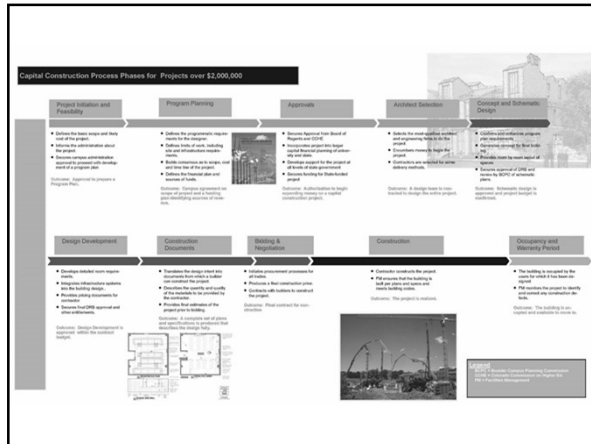
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	<b>APPA Institute Design Project Management</b>	<b>Deliverables</b>
<p><b><u>Design Phases / Deliverables</u></b></p> <ul style="list-style-type: none"> <li><b>Schematic Design</b> Plans / Elevations Sections / \$ Estimate Outline Specs Design Summary / Analysis</li> <li><b>Design Development</b> Expanded SD Set</li> <li><b>Construction Documents</b> Detailed Plans</li> </ul> <div data-bbox="495 976 755 1228"> <p>Prairie Dog Developers</p> </div>		

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	<b>APPA Institute Design Project Management</b>	<b>Communication</b>
<p><b><u>Design</u></b></p> <ul style="list-style-type: none"> <li>All Project Phases</li> </ul> <p><b><u>Communicate</u></b></p> <ul style="list-style-type: none"> <li><b>Client</b> <ul style="list-style-type: none"> <li>Programming</li> </ul> </li> <li><b>Professionals</b> <ul style="list-style-type: none"> <li>Schematic Design</li> <li>Design Development</li> </ul> </li> </ul> <div data-bbox="511 1596 755 1722"> </div>		

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	<b>APPA Institute</b> <b>Design Project Management</b>	<b>Communication</b>
<p style="text-align: center;"><b><u>Design</u></b></p> <ul style="list-style-type: none"> <li>• All Project Phases</li> </ul> <p style="text-align: center;"><b><u>Communicate</u></b></p> <ul style="list-style-type: none"> <li>• <b><u>Client</u></b> <ul style="list-style-type: none"> <li>• Programming</li> </ul> </li> <li>• <b><u>Professionals</u></b> <ul style="list-style-type: none"> <li>• Schematic Design</li> <li>• Design Development</li> </ul> </li> <li>• <b><u>Contractor</u></b> <ul style="list-style-type: none"> <li>• Contract Documents</li> <li>• Construction</li> </ul> </li> </ul>		

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	<b>APPA Institute</b> <b>Design Project Management</b>	<b>Schedules</b>
<p style="text-align: center;"><b><u>Project Schedules</u></b></p> <ul style="list-style-type: none"> <li>• A/E Selection</li> <li>• Contract Negotiations</li> <li>• Schematic Design</li> <li>• Design Development</li> <li>• Construction Documents</li> <li>• Bidding / Contract Award</li> <li>• Construction</li> <li>• Close Out</li> <li>• Warranty Period</li> </ul>		

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<p><b>DESIGN PRODUCTION SCHEDULE</b></p> <p>Example of Typical Design Production Schedule          (Originally Prepared for The Logan School - Partial Schedule Only)</p> <p>→ <b>Week of February 27</b></p> <p><b>Consultant Coordination Meeting:</b>          MCA          Coordinate meeting          Consultants          Advise of what information required to develop preliminary budget, design          Advise of Survey, Testing, or existing conditions information needed from Owner          Provide first pass square footage cost information          Review Diagram Options</p> <p><b>Building Committee Meeting:</b>          Information, Overview, Roles          Logos          Authorize commencement of Civil Engineering          Review and approve Schedule          Information to be provided by Owner (Identify items and schedule: asbestos, survey, hazardous material          tests, easements, other items?)          MCA          Agenda and presentation materials</p> <p>→ <b>Week of March 6</b></p> <p><b>Building Committee Meeting:</b>          Diagrams of overall design solutions          Cost C-113 based on Square Footage Costs          LOGOS          Decision on selection and approval of diagram          Review first pass square footage costs.          MCA          Agenda and presentation materials</p> <p><b>Begin Regulatory Agency Meetings:</b>          EPA/DOH          Denver Building (Architectural, Mechanical, Electrical)          Denver Fire Department          Commission for Disabled          Logos          Representative may want to attend          MCA          Set up and conduct meetings with regulatory agencies          Consultants          Mechanical, Electrical, Civil meet of regulatory agencies as required</p> <p><b>Site Visits:</b>          Review of existing conditions in portion of the building to be renovated          Structural - squash court wall</p>	
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	<b>APPA Institute</b> Design Project Management	<b>Design for Value</b>
<b><u>Designing For Value</u></b> <ul style="list-style-type: none"><li>• Maintainability</li></ul>		

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	<b>APPA Institute</b> Design Project Management	<b>Design for Value</b>
<b><u>Designing For Value</u></b> <ul style="list-style-type: none"><li>• Maintainability</li><li>• Life Cycle Cost</li><li>• Value Engineering</li></ul> 		

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I call it "Value Shifting"

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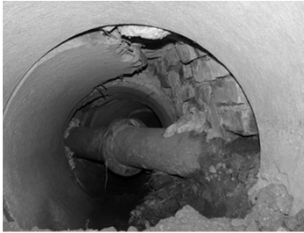
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	<b>APPA Institute</b> Design Project Management	<b>Design for Value</b>
<b>Value Management Approach</b>		
<ul style="list-style-type: none"> <li>• <b>Tier 1</b> <ul style="list-style-type: none"> <li>• Gypsum Board</li> <li>• Lighting Package</li> <li>• Direct Purchase</li> </ul> </li> <li>• <b>Tier 2</b> <ul style="list-style-type: none"> <li>• Relocate Plumbing</li> </ul> </li> <li>• <b>Tier 3</b> <ul style="list-style-type: none"> <li>• Scope Reductions</li> </ul> </li> </ul>		 <p style="font-size: small;">"Tell you what skeeter; It's about quittin' time and family feud is almost on. Just ram that thing right through it. It's 10 foot underground, ain't nobody ever going to see it."          ~ Utility Contractor, circa 1976</p>

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	<b>APPA Institute</b> Design Project Management	<b>Design for Value</b>
<b>Designing For Value</b>		
<ul style="list-style-type: none"> <li>• Maintainability</li> <li>• Life Cycle Cost</li> <li>• Value Engineering</li> <li>• Present Value</li> </ul>		<p style="font-size: small;">Ned Beally, of Beally Construction Co., helps his children with a Lego® Mindstorms® robotics project.</p>  <p style="font-size: small;">Oh big surprise. Another announcement of cost overruns and delays.</p>

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	<b>APPA Institute</b> Design Project Management	<b>Project Team</b>
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p style="text-align: center;"><b><u>Part 2</u></b> <b><u>The Project Team</u></b></p> <ul style="list-style-type: none"> <li>• Assembling The Team</li> <li>• Selecting The Team</li> <li>• Team Members &amp; Roles</li> </ul> </div> <div style="width: 60%;">  <p style="text-align: center;">Wildlife Day Shifts</p> </div> </div>		

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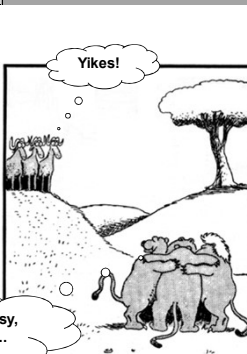
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	<b>APPA Institute</b> Design Project Management	<b>Project Team</b>
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p style="text-align: center;"><b><u>Assembling</u></b> <b><u>The Team</u></b></p> <ul style="list-style-type: none"> <li>• Owner</li> <li>• Consultants</li> <li>• Construction Team</li> <li>• Supporting Cast</li> </ul> </div> <div style="width: 60%;">  </div> </div>		

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	<b>APPA Institute</b> Design Project Management	<b>Project Team</b>
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p style="text-align: center;"><b><u>The Project Team</u></b></p> <p><b><u>Owners</u></b></p> <ul style="list-style-type: none"> <li>• Client</li> <li>• User</li> <li>• Committees</li> <li>• Facilities Management</li> <li>• Others</li> </ul> </div> <div style="width: 60%;">  </div> </div>		

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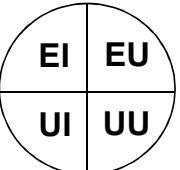
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	<b>APPA Institute</b> Design Project Management	<b>Project Team</b>
<p style="text-align: center;"><b><u>Owners</u></b></p> <ul style="list-style-type: none"> <li>• <b><u>Experienced</u></b>                      Educated / Involved                      Educated / Uninvolved</li> <li>• <b><u>Inexperienced</u></b>                      Uneducated / Involved                      Uneducated / Uninvolved</li> </ul>		<div style="text-align: center;"> <p>Educated</p>  <p>Uneducated</p> </div>

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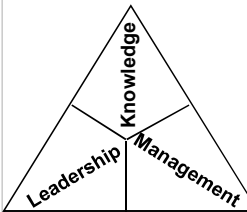
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	<b>APPA Institute</b> Design Project Management	<b>Consultants</b>
<p style="text-align: center;"><b><u>What is a Consultant ?</u></b></p> <ul style="list-style-type: none"> <li>• <b><u>Professional Advice</u></b>                      Knowledge / Expertise                      Leadership (transformational)                     <ul style="list-style-type: none"> <li>• Doing the Right Thing</li> <li>• Inspiring</li> </ul> </li> <li>• <b><u>Management</u></b> (transactional)                     <ul style="list-style-type: none"> <li>• Doing Things Right</li> <li>• Day to Day Activities</li> </ul> </li> </ul>		<div style="text-align: center;">  </div>

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	<b>APPA Institute</b> Design Project Management	<b>Design Team</b>
<p style="text-align: center;"><b><u>The Design Team</u></b></p> <ul style="list-style-type: none"> <li>• <b><u>Designers</u></b>                      Architect - Usually Prime</li> </ul>		

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	<b>APPA Institute</b> Design Project Management	<b>Design Team</b>
<div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <p><b><u>The Design Team</u></b>  <b><u>TEN Deadly Sins</u></b></p> <ol style="list-style-type: none"> <li>1. Team Changes</li> <li>2. Multiple Contacts</li> <li>3. Schedule Delays</li> <li>4. Over Design</li> <li>5. Negative Approach</li> <li>6. Low Quality Product</li> <li>7. Slow Response</li> <li>8. Slow Review</li> <li>9. Weak Leadership</li> <li>10. Close Out</li> </ol> </div> <div style="width: 35%; text-align: center;">  </div> </div>		

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	<b>APPA Institute</b> Design Project Management	<b>Design Team</b>
<div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <p><b><u>What You Should Do</u></b></p> <ul style="list-style-type: none"> <li>• Have a Clear Decision Making Process</li> <li>• Develop a Complete Program</li> <li>• Establish an <u>Adequate Budget</u></li> <li>• Establish a <u>Realistic Schedule</u></li> <li>• Communicate Effectively</li> <li>• Hire a Compatible Firm</li> <li>• Guard Against Scope Creep</li> <li>• Deliver Bad News Promptly</li> <li>• Expect to Pay Reasonable Fees</li> </ul> </div> <div style="width: 35%; text-align: center;">  </div> </div>		

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	<b>APPA Institute</b> Design Project Management	<b>Design Team</b>
<div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <p><b><u>What You Should Not Do</u></b></p> <ul style="list-style-type: none"> <li>• Do Not Rely on Clairvoyance</li> <li>• Do Not Make Impossible Promises</li> <li>• Do Not Accept Sloppy Work</li> <li>• Do Not Expect Perfection</li> <li>• Do Not Expect Added Scope for Free</li> </ul> </div> <div style="width: 35%; text-align: center;">  </div> </div>		

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 <b>APPA Institute</b> Design Project Management	
<p><b>Architect Expects</b></p> <ul style="list-style-type: none"> <li>• Clear Direction</li> <li>• Instantaneous Decisions</li> <li>• Tightly Defined Scope</li> <li>• Comfortable Budgets</li> <li>• Fair Treatment</li> <li>• Profitable Fees</li> <li>• Quality Design Expectations</li> </ul> <p><b>You Expect</b></p> <ul style="list-style-type: none"> <li>• Exceptional Service</li> <li>• Adherence to Budgets</li> <li>• Meeting Schedule Milestones</li> <li>• Comprehensive Services</li> <li>• Complete Drawings</li> <li>• Cost Effective Design</li> </ul>	<p><b>Architect May Get</b></p> <ul style="list-style-type: none"> <li>• Ambiguity</li> <li>• Extensive Collaboration</li> <li>• Scope Creep</li> <li>• Inadequate Budgets</li> <li>• Unreasonable Contracts</li> <li>• Gift Opportunities</li> <li>• Low Design Expectations</li> </ul> <p><b>You May Get</b></p> <ul style="list-style-type: none"> <li>• Nonchalance</li> <li>• Budget Busters</li> <li>• Delays</li> <li>• Requests for Additional Fees</li> <li>• Errors &amp; Omissions</li> <li>• Extravagance</li> </ul>

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 <b>APPA Institute</b> Design Project Management		<b>Design Team</b>
<p><b><u>The Design Team</u></b></p> <ul style="list-style-type: none"> <li>• <b>Designers</b></li> <li>• <b>Architect - Usually Prime</b></li> <li>• <b>Engineers</b> 25% to 65% of Cost</li> <li>• <b>Others</b> Planner Commissioning Agent Landscape Architect Interior Designer</li> </ul>		

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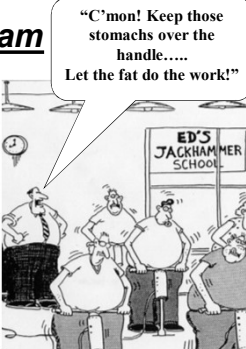
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 <b>APPA Institute</b> Design Project Management		<b>Construction Team</b>
<p><b><u>The Construction Team</u></b></p> <ul style="list-style-type: none"> <li>• <b>Contractor</b> <ul style="list-style-type: none"> <li>• GC - avg. &lt; 10 employees</li> <li>• Design Build</li> <li>• Construction Manager</li> </ul> </li> <li>• <b>Subcontractors</b></li> <li>• <b>Suppliers</b></li> <li>• <b>Laborers</b></li> </ul>		

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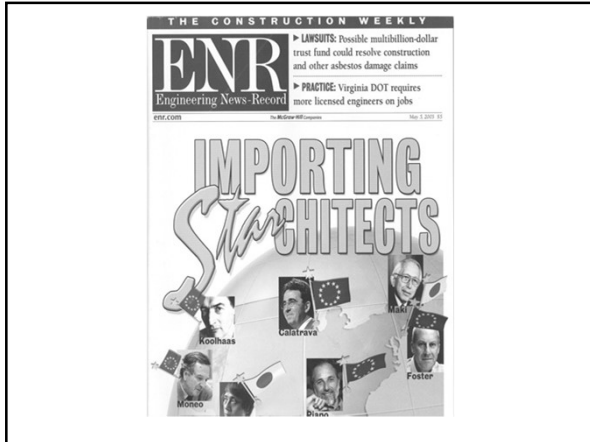
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	<b>APPA Institute</b> Design Project Management	<b>Team Selection</b>
<p><b><u>Selecting the Consultants</u></b></p> <ul style="list-style-type: none"> <li>• Owner Selects</li> <li>• Prime Selects Subs</li> <li>• Combination</li> </ul>		<p>Competition in nature</p>

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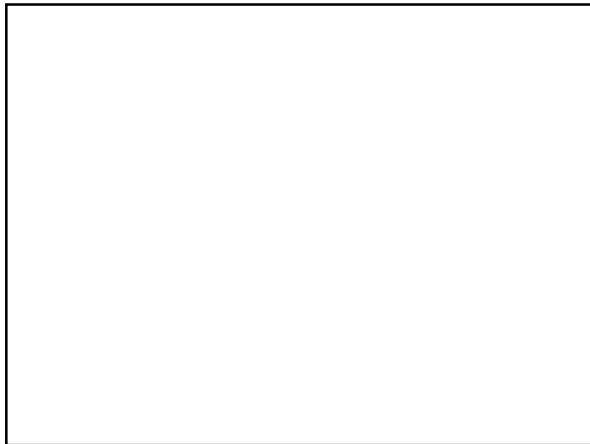
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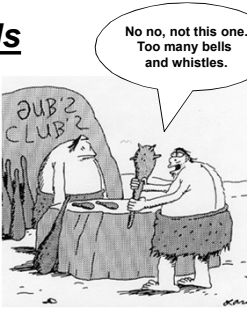
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	<b>APPA Institute</b> Design Project Management	<b>Process Tools</b>
<div style="text-align: center;"> <h3><u>Part - 3</u></h3> <h2><u>Design Process Tools</u></h2> </div> <ul style="list-style-type: none"> <li>• <b>Communication</b></li> <li>• <b>Negotiations &amp; Fees</b></li> <li>• <b>Design Process Tools</b></li> </ul> <div style="display: flex; justify-content: space-between; align-items: center;">  </div>		

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	<b>APPA Institute</b> Design Project Management	<b>Communication</b>
<div style="text-align: center;"> <h3><u>Communication</u></h3> </div> <ul style="list-style-type: none"> <li>• <b>Talking</b></li> <li>• <b>Listening</b></li> </ul> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 60%;"> <p>Effective communication =</p> <p><b>80%+</b> of project problems</p> <div style="display: flex; flex-direction: column; align-items: center;">   </div> </div> </div>		

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<div style="display: flex; justify-content: space-between; align-items: center;">  <div style="width: 60%;"> <p><b>Body Language</b> 55%</p> <p><b>How we say it</b> 38%</p> <p><b>What we say</b> 7%</p> <p style="text-align: center;">😊</p> </div> </div>
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**People Only Hear Every 3<sup>rd</sup> Word**

**People Only Retain Every 5<sup>th</sup> Word...**

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APPA Institute Design Project Management

Communication

- Talking
- Listening
- Writing

**Communication**

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APPA Institute Design Project Management

Communication

- Talking
- Listening
- Writing
- Meetings

Where minutes are taken and hours are lost

**Communication**

Mark Bristol  
UNC

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**APPA Institute**  
Design Project Management

**Communication**

- **Talking**
- **Listening**
- **Writing**
- **Meetings**
  - Alternatives
  - Prepare Agenda / Send Ahead
  - Start / Finish on Time
  - Short 'n Sweet
  - Prepare
  - Confirm

**Communication**

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**APPA Institute**  
Design Project Management

**Fees**

**Negotiations & Fees**

- **Fee Structure**
- **Negotiating**

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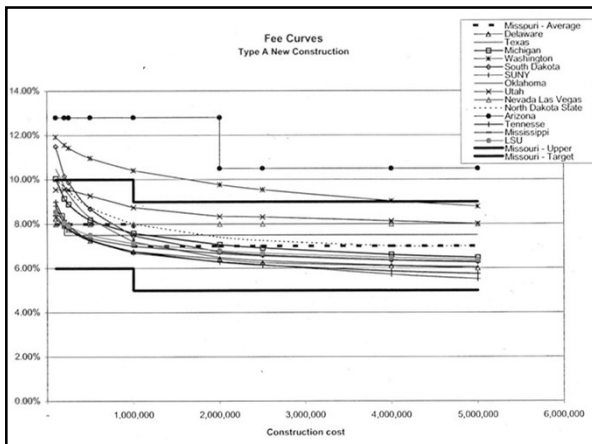
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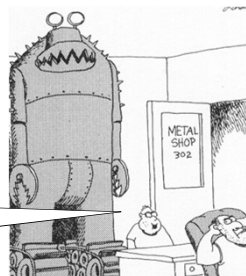


**APPA Institute**  
Design Project Management

**Negotiations**

### 3 Types of Negotiations

- Soft
- Hard
- Principled



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Types of Negotiation

	Soft Negotiation	Hard Negotiation	Principled
<b>The Goal</b>	Reaching and Agreement	Winning	Mutually: A Wise Outcome
<b>Participants</b>	Friends	Adversaries	Problem Solvers
<b>About the Relationships</b>	Make concessions to cultivate the relationship	Demand concessions as a condition of it	Separate people from the problem
<b>Trust of Others</b>	You do	You do not	Proceed independent of trust
<b>Your position</b>	You change readily	You dig in and hold	Focus on interests, not on positions; explore interests
<b>Your bottom line</b>	You disclose	You hide and mislead about	Avoid having a bottom line
<b>To reach agreement</b>	You accept one-sided losses	You demand one-sided gains	Invent options for mutual gain
<b>You insist on</b>	Agreement	Your position	Insist on using objective criteria; yield only to principle
<b>Contest of Wills</b>	You try to avoid	You try to win	
<b>Pressure</b>	You yield to	You apply	
<b>The Architect's Fear</b>	I'll probably lose	I'll endanger the relationship	

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**APPA Institute**  
Design Project Management

**Tool Kit**

### Design Process Tool Kit



<http://www.colorado.edu/facilitiesmanagement/appa/>

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	<b>APPA Institute</b> Design Project Management	<b>Tool Kit</b>
<p style="text-align: center;">• <b>Consultant Instructions</b></p> 		

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	<b>Consultant's Information Packet</b>	
<p><b>Table of Contents</b></p> <ul style="list-style-type: none"><li>• Cover Letter</li><li>• Communicating</li><li>• Project Contact List</li><li>• Capital Construction Process</li><li>• Reviews of Architectural Plans and Specifications</li><li>• Academic Calendars</li><li>• Other Materials<ul style="list-style-type: none"><li>• Campus Master Plan</li><li>• Campus Parking Map</li><li>• Campus Visitor Map</li><li>• Body &amp; Soul: Architectural Style at the University of Colorado at Boulder</li></ul></li></ul> <p><b>Cover Letter:</b> The Consultant's Information Packet is available to help designers understand the process and procedures of the University of Colorado at Boulder.</p> <p>Please review this material before the kick-off meeting so that we may answer any questions you may have. Be sure as you start this project, that you have a complete and current copy of the UCB (University of Colorado at Boulder) Standards. These have been put together to assist you, sharing with you our experience and needs. These standards are frequently updated and it is important that you use the most up-to-date version in preparing plans and specifications. Also, let us share a couple of key thoughts about your project team and project management on campus.</p>		

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	<b>APPA Institute</b> Design Project Management	<b>Tool Kit</b>
<ul style="list-style-type: none"><li>• <b>Consultant Instructions</b></li><li>• <b>Design Guidelines</b></li></ul>		

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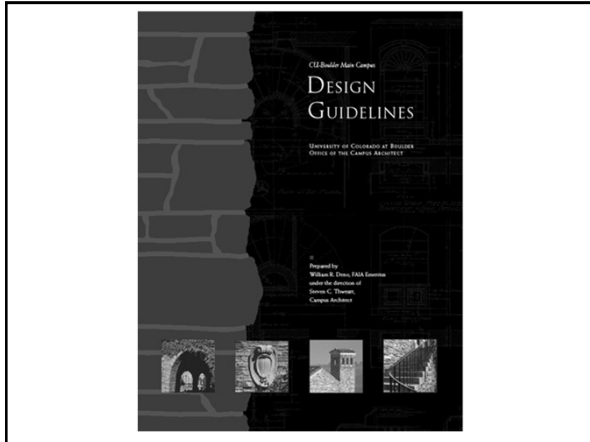
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	<b>APPAs Institute</b> <b>Design Project Management</b>	<b>Tool Kit</b>
<ul style="list-style-type: none"> <li>• <b>Consultant Instructions</b></li> <li>• <b>Design Guidelines</b></li> <li>• <b>Construction Standards</b></li> </ul>		

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	<b>APPA Institute</b> Design Project Management	<b>Tool Kit</b>
<ul style="list-style-type: none"><li>• Consultant Instructions</li><li>• Design Guidelines</li><li>• Construction Standards</li><li>• Planning Template</li></ul>		

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<p><b>CU Budget Planning Tool</b></p> <p><a href="http://www.colorado.edu/facilitiesmanagement/appa/">http://www.colorado.edu/facilitiesmanagement/appa/</a></p>
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	<b>APPA Institute</b> Design Project Management	<b>Tool Kit</b>
<ul style="list-style-type: none"><li>• Consultant Instructions</li><li>• Design Guidelines</li><li>• Construction Standards</li><li>• Planning Template</li><li>• Service Levels</li></ul>		

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	<b>APPA Institute</b> Design Project Management	<b>Tool Kit</b>
<ul style="list-style-type: none"> <li>• Consultant Instructions</li> <li>• Design Guidelines</li> <li>• Construction Standards</li> <li>• Planning Template</li> <li>• Service Levels</li> <li>• Outage Notices</li> <li>• Design Reviews</li> </ul>		

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	<b>APPA Institute</b> Design Project Management	<b>Tool Kit</b>
<p><b><u>Design Reviews</u></b></p> <p>Aesthetics          Systems Concepts          Maintainability          Value Engineering          Budget          Schedule          Approvals</p>		<p><b>Schematic Design</b></p> <p>"Orifice Building"</p> 

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<p style="text-align: center;">Review Reminders for the Client</p> <p><b>Program Plan Review:</b></p> <ol style="list-style-type: none"> <li>1. Are client needs identified and met?</li> <li>2. Is this affordable?</li> <li>3. Will the schedule allow the facility to be delivered on a timely basis?</li> <li>4. Have others in the department(s) or college reviewed this as needed?</li> <li>5. Is the plan convincing for reviewers (up through CCHE)?</li> </ol> <p><b>Schematic Design Review:</b></p> <ol style="list-style-type: none"> <li>1. Does the layout work?</li> <li>2. Are aesthetics OK?</li> <li>3. Is it in budget?</li> <li>4. Are systems (e.g., heating / cooling) meeting user needs?</li> <li>5. Have others in the department(s) or college reviewed this as needed?</li> </ol>
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	<b>APP A Institute</b> Design Project Management	<b>Plan Reviews</b>
<ul style="list-style-type: none"> <li>• <b>Plan Review Coordinator</b> <ul style="list-style-type: none"> <li>• Part time retiree</li> </ul> </li> <li>• <b>Email request for plan review</b></li> <li>• <b>Log the request</b></li> <li>• <b>Establish due date</b></li> <li>• <b>Check for required information</b></li> <li>• <b>Reviewers log-in each morning to check for new notices</b></li> <li>• <b>Plan review room w/30" HD monitor (all electronic)</b></li> <li>• <b>PRC checks deadlines</b></li> <li>• <b>Emails comments to PM's</b></li> <li>• <b>3-5 day turnaround</b></li> </ul>		<p><i>Current Process</i></p> 

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	<b>APP A Institute</b> Design Project Management	<b>Tool Kit</b>
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	<p><b>Facilities Management</b>                  University of Colorado at Boulder</p> <p>Department of Facilities Management                  Office of Planning, Design &amp; Construction</p> <p>1540 30<sup>th</sup> Street, UCB 453, Boulder, Colorado 80309-0453                  Phone: (303) 492-3311                  FAX: (303) 492-4082</p> <p><b>Project Task Checklist</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Client initiates Work Order.</li> <li><input type="checkbox"/> Assistant Director receives Work Order from Facilities Management (FM) scheduling system.</li> <li><input type="checkbox"/> The Project Manager (PM) receives a file folder from Administrative Assistant. Include a Work Order Information Sheet, Work Order Questionnaire and Warranty Report.</li> <li><input type="checkbox"/> PM meets with Client to establish the scope of the project.                         <ul style="list-style-type: none"> <li>a. PM also talks with them about the recharge policy as referenced in the FM, Design and Construction website. (fm.Colorado.EDU/recharge_policy.html)</li> </ul> </li> <li><input type="checkbox"/> The Work Order Questionnaire is distributed by PM to Facilities Management and other University Agencies for review. 2 weeks allowed for review.</li> <li><input type="checkbox"/> Environmental Site Assessment Report is done by Environmental Health and Safety (EH &amp; S). 2</li> </ul>
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 <b>Facilities Management</b> University of Colorado at Boulder
Department of Facilities Management Office of Planning, Design & Construction 1540 30 <sup>th</sup> Street, UCB 453, Boulder, Colorado 80309-0453 Phone: (303) 492-5511 FAX: (303) 492-4082
<b><u>CONTRACTOR EVALUATION FORM</u></b>
CONTRACTOR: _____ CONTACT PERSON: _____ PHONE #: _____
As part of our ongoing commitment to provide better service to our customers, we need to insure that the services we purchase are of the best quality possible and that they are performed in a timely and professional manner.
Please describe your experiences with the contractor named on this form (both positive and negative). The contractor may be given the opportunity to respond.
Describe fully the experience (including dates and any documentation you might have): _____ _____

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 <b>Facilities Management</b> University of Colorado at Boulder
Department of Facilities Management Office of Planning, Design & Construction 1540 30 <sup>th</sup> Street, UCB 453, Boulder, Colorado 80309-0453 Phone: (303) 492-5511 FAX: (303) 492-4082
[PROJECT TITLE] <b>Architect / Engineer Evaluation</b>
FIRM'S NAME: _____
<b><u>INSTRUCTIONS:</u></b>
<ul style="list-style-type: none"> <li>• The performance of each A/E under contract to the University of Colorado at Boulder evaluated following the completion of the project.</li> <li>• The Office of Facilities Design and Construction (FD&amp;C) shall prepare all evaluate the attached Architect/Engineer Evaluation Forms. The A/E firm will be formally evaluated by the project team, including representatives from FD&amp;C, Facilities Planning, Facilities Engineering &amp; Utilities, Physical Plant Division, Facility User(s), and others, appropriate at the completion of each major project phase (preconstruction, construction, and post-construction).</li> </ul>

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 **University of Colorado at Boulder**  
**Department of Housing**

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**Special Contract Conditions for Construction Projects in Occupied Students Housing**

**Purpose**  
 These Special Contract Conditions are required because this project involves construction within or adjacent to student residences. As such, the Contractor, all workers, subcontractors, deliverymen and anyone else coming on to the work site must be informed of the requirements to respect the students' privacy and right to the quiet enjoyment of their residence halls or apartments. The work must be completed in a manner that maintains the security of the residence halls or apartments, limits contact with the students, provides advance notice of any work that may adversely affect the residents, and limits communications about the project to those persons designated by the University.

**General Rules**

1. Contractor is required to comply with the University of Colorado's Sexual Harassment Policy, copy attached hereto and incorporated herein. Contractor's personnel must adhere to the University of Colorado policy and conduct themselves in a manner that does not constitute sexual harassment (as defined in the policy) as a result of interacting with and around the University of Colorado faculty, staff and students.  
 Contractor is also required to inform each subcontractor of the University's policy prohibiting sexual harassment.
2. No smoking in any residence hall or apartment building spaces. This includes living and dining spa restrooms, circulation areas, attics, mechanical rooms, basements and/or crawl spaces. Any smoking must be done outside the building and far enough away that smoke cannot enter windows or ventilation system.

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	<b>APP A Institute</b> Design Project Management	<b>Tool Kit</b>
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 **FAST TRACK**

June 7, 2006

TO: FM Project Managers

FROM: Bill Ward, Assistant Director, Facilities Management Design & Construction  
 Moe Tabrizi, Assistant Director, Facilities Management Engineering

SUBJECT: Double-time or Fast Track Projects

**Introduction:** Facilities Management leadership continues to receive campus client/customer feedback regarding time interval (length of time) to complete remodeling or new construction projects on campus. It is generally accepted that some delays are related to incomplete planning or incomplete input for required reviews and budget availability. However, due to the serial nature of our planning, design and construction process, adding all appropriate steps without unexpected delays would still amount to a long lead time. Many projects are not very time sensitive. However, there are a small number of projects that are very time sensitive AND there is only a small window of time that they can be implemented on campus without resulting great impact on the campus teaching and learning mission.

**Proposed Solution:** For a very small percent of the given client's projects and based on prior agreement with PD&C leadership, all known and published project planning, design, project reviews and implementation intervals would be shortened by a goal of 50% equally for all functions. Of course, this solution requires better than normal, more complete input from the client and more complete paperwork as input to the double-

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	<b>APPA Institute</b> Design Project Management	<b>Tool Kit</b>
<ul style="list-style-type: none"> <li>Consultant Instructions</li> <li>Design Guidelines</li> <li>Construction Standards</li> <li>Planning Template</li> <li>Service Levels</li> <li>Outage Notices</li> <li>Design Reviews</li> <li>Project Checklists</li> <li>Feedback &amp; Evaluations</li> <li>Housing Special Conditions</li> <li>Double Time / Fast Track</li> <li>Close Out Checklist</li> </ul>		

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**Facilities Management**  
University of Colorado at Boulder

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Office of Design and Construction  
1540 39<sup>th</sup> Street, UCCB 453, Boulder, Colorado 80530-0453  
Phone: (303) 402-5111  
Fax: (303) 402-1146

CM-GC PROJECT COMPLETION CHECKLIST

The following is a guide to assist in the final closeout of a CM/GC project. The information is based on the Construction Manager and Architect/Engineer Agreements. Failure to include any items in this document does not alter the responsibility of the Construction Manager and Architect/Engineer to adhere to their Agreement they have with the University.

**NOTICE OF COMPLETION**  
Articles 16.1.1 (CM) & 1.8.28 (AE)

- The Construction Manager shall file a written notice to the Architect/Engineer that the Work, in the opinion of the Construction Manager, is complete under the terms of the Contract.
- The Construction Manager shall attach a list of items to be completed or corrected with this letter.
- The Architect/Engineer shall notify the Project Manager.

**PUNCH LIST WALK**  
Articles 16.1.2 (CM) & 1.8.29 (AE)

- Within ten (10) days after receipt of the above mentioned letter the Architect/Engineer, the

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EMORY UNIVERSITY - CAMPUS SERVICES																	
BUILDING ACCEPTANCE - OCCUPANCY APPROVAL CHECKLIST																	
BUILDING LEGEND		PROJECT NAME: _____															
Primary Responsibility Support Responsibility		FDC PROJECT MANAGER FACILITIES MANAGEMENT / FDC PROJECT MANAGER COMMISSIONING COORDINATOR															
TEAM INVOLVEMENT		ACTIVITY		NOTICE	DATE	DATE OF	FRONT	100	50	10	5	1	0	0	0	0	
SP	PR	TR	CO	OP	CM	CON	VEN	AR	IS	IS	IS	IS	IS	IS	IS	IS	IS
C-1																	
C-1.1																	
C-1.2																	
C-2																	
C-2.1																	
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	<b>APPA Institute</b> Design Project Management	<b>Tool Kit</b>
<ul style="list-style-type: none"><li>• Consultant Instructions</li><li>• Design Guidelines</li><li>• Construction Standards</li><li>• Planning Template</li><li>• Service Levels</li><li>• Outage Notices</li><li>• Design Reviews</li><li>• Project Checklists</li><li>• Feedback &amp; Evaluations</li><li>• Housing Special Conditions</li><li>• Double Time / Fast Track</li><li>• Close Out Checklist</li><li>• Key Party</li></ul>		

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 <p>You are cordially invited to a key party-- Project Management &amp; Construction will officially turn over the</p> <p>Turman Residence Hall</p> <p>to Facilities Management Monday, August 13, 2007, 1:00 pm Turman Residence Hall First Floor Lobby 640 Means Drive</p> 	 
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	<p>Signing the Close-out Documents</p>
<p>Let the Party Begin</p>	

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	APPA Institute Design Project Management	Tool Kit
<ul style="list-style-type: none"> <li>• Consultant Instructions</li> <li>• Design Guidelines</li> <li>• Construction Standards</li> <li>• Planning Template</li> <li>• Service Levels</li> <li>• Outage Notices</li> <li>• Design Reviews</li> <li>• Project Checklists</li> <li>• Feedback &amp; Evaluations</li> <li>• Housing Special Conditions</li> <li>• Double Time / Fast Track</li> <li>• Close Out Checklist</li> <li>• Key Party</li> <li>• Lessons Learned</li> </ul>		

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<b>Lessons Learned - Math and Science Center</b> January 9, 2003	
<p>1. <b>More user group education needed</b>– at the end of the building process, I knew the things I needed to know at the start of the process! Here are the types of user education/support that would have been useful during the building process:</p> <p>A. General introduction to the stages of the building process (programming, schematic design, design development, construction, etc). The introduction should include: role of user group at each stage (including the importance of user’s comments on plans); level of detail of the plans that emerges at each stage; processes and procedures for making changes to the plans; and the role of LEED in the design process.</p> <p>B. Although trips to other institutions may be useful, we should institute an on-campus training program for new user groups. We have some great new facilities on campus and we should use them effectively. For example, a tour of the Mathematics and Science Center (M&amp;SC) could illustrate:</p> <p style="margin-left: 20px;">a. General departmental layout</p>	

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	APPA Institute Design Project Management	Tool Kit
<ul style="list-style-type: none"> <li>• Consultant Instructions</li> <li>• Design Guidelines</li> <li>• Construction Standards</li> <li>• Planning Template</li> <li>• Service Levels</li> <li>• Outage Notices</li> <li>• Design Reviews</li> <li>• Project Checklists</li> <li>• Feedback &amp; Evaluations</li> <li>• Housing Special Conditions</li> <li>• Double Time / Fast Track</li> <li>• Close-Out Checklist</li> <li>• Key Party</li> <li>• Lessons Learned</li> <li>• Move in Brochure</li> </ul>		

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University of Colorado @ Boulder  
Facilities Planning, Design & Construction  
**Small Projects Ideas**

In an effort to improve the overall delivery of small projects to our campus customers, the PD&C division is proposing a partnership with the College of Engineering and Applied Sciences to initiate a pilot program for small projects (under \$500K).

Some of the ideas are as follows:

1. We (Facman) should re-route small project requests from the Service Desk or web-based system to a "PM assistant". *(This refers more to a function than a position. Since we are under severe budgetary constraints, we want to find ways to help the project managers be efficient and cost effective.)* The PM assistant can make a quick assessment of the scope and expedite the assignment of the project to the appropriate project manager. PD&C should get the work order requests first rather than the service desk trying to guess what the scope may be. (Sometimes work orders are misdirected to the wrong shop due to the poor description work that is submitted, resulting in a delayed start.)
2. PD&C will initiate a "one-stop shopping" model for project requests to streamline the normal process. The designated projects liaison for Engineering (Skip Wichart) should have one individual to deal with when initiating a project. If Skip initiates all Engineering projects and has one contact to work with in PD&C, then the initiation of a project can be much simpler and quicker.
3. Initiate a project monitoring system for projects that measures:
  - o Response time,
  - o Schedule Performance, and
  - o Quality.

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	<b>APP A Institute</b> Design Project Management	<b>Tool Kit</b>
<ul style="list-style-type: none"> <li>• Small Project Ideas</li> <li>• Warranty Period</li> </ul> <p>"At the completion of a project, we structure our 1 year warranty period to include the Facilities management team having direct contact with the GC's superintendent to address any issues that arise.</p> <p>This removes having the project manager as a middle person, and the correction of problems occur in a more timely manner."</p> <p>Tom Clow University of New England</p>		

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	<b>APP A Institute</b> Design Project Management	<b>Tool Kit</b>
<ul style="list-style-type: none"> <li>• Small Project Ideas</li> <li>• Warranty Period</li> <li>• Hurt Feelings Report</li> </ul>		

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	<b>APPA Institute</b> Design Project Management	<b>Project Management</b>
<p style="text-align: center;"><b><u>Who Are They?</u></b></p> <ul style="list-style-type: none"><li>• Design Team</li><li>• Owner</li><li>• Contractor</li></ul> <div data-bbox="402 478 738 678"></div>		

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	<b>APPA Institute</b> Design Project Management	<b>Traits of the Owner's PM</b>
<p style="text-align: center;"><b><u>Traits of a Good PM</u></b></p> <ul style="list-style-type: none"><li>• Organized</li><li>• Broad Based</li><li>• Good Communicator (listener)</li><li>• Proactive</li><li>• Leads by Example</li><li>• Consistent</li><li>• Follows Through</li><li>• Holds People Accountable</li><li>• Delegates Well</li><li>• Patient &amp; Wise</li></ul> <div data-bbox="516 932 755 1230"></div>		

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	<b>APPA Institute</b> Design Project Management	<b>PM Pitfalls</b>
<p style="text-align: center;"><b><u>PM Pitfalls</u></b></p> <ul style="list-style-type: none"><li>• Delegation Errors<ul style="list-style-type: none"><li>• No One Can do Better</li><li>• I Can Do It Faster</li><li>• I Have to Fix it Anyway</li><li>• It Takes too Long to Explain</li><li>• I'll be Disappointed</li><li>• I'm Not in Control</li><li>• It Won't be Perfect</li></ul></li></ul> <div data-bbox="483 1493 755 1845"></div>		

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	<b>APPA Institute</b> Design Project Management	<b>PM Pitfalls</b>
<p><b><u>PM Pitfalls</u></b></p> <ul style="list-style-type: none"><li>• Delegation Errors</li><li>• Micro vs. Macro</li><li>• Analysis vs. Synthesis</li><li>• SOP vs. Flexibility</li><li>• PM vs. PM</li><li>• Image vs. Substance</li></ul> <p>Take this job and shove it!</p> 		

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Failure is not a way of life, it's a moment in time



Get over it

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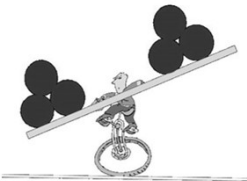
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	<b>APPA Institute</b> Design Project Management	<b>PM Tips</b>
<p><b><u>PM Tips</u></b></p> <p>From the mouth of babe's...</p> 		

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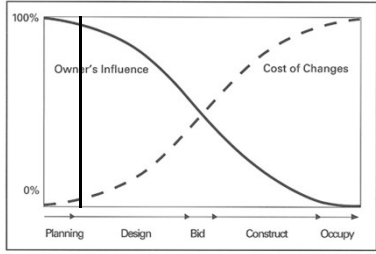
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	<b>APPA Institute</b> Design Project Management	<b>Keys to Success</b>
<h3>The 90/10 Rule</h3> 		

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	<b>APPA Institute</b> Design Project Management	<b>Keys to Success</b>
<ul style="list-style-type: none"><li>• PMP (Understand Project and Desired Outcomes)<ul style="list-style-type: none"><li>• Vision/Goals/Objectives / Critical Factors for Success</li><li>• Communication Plan</li><li>• Scope</li><li>• Schedule</li><li>• Financial Plan</li><li>• Quality Control Process</li><li>• Change Management Process</li></ul></li><li>• Involve Key Stakeholders</li><li>• Identify Constraints</li><li>• Assemble Team / Empower the Team</li><li>• Resolve Conflicts</li><li>• Encourage Risk Taking</li></ul>		

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	<b>APPA Institute</b> Design Project Management	<b>Budgeting</b>
<h3><u>Project Budgeting</u></h3> <ul style="list-style-type: none"><li>• Cost Management Principles<ul style="list-style-type: none"><li>• Realistic Expectations</li><li>• Cost Data</li><li>• Scope Control</li></ul></li></ul> 		

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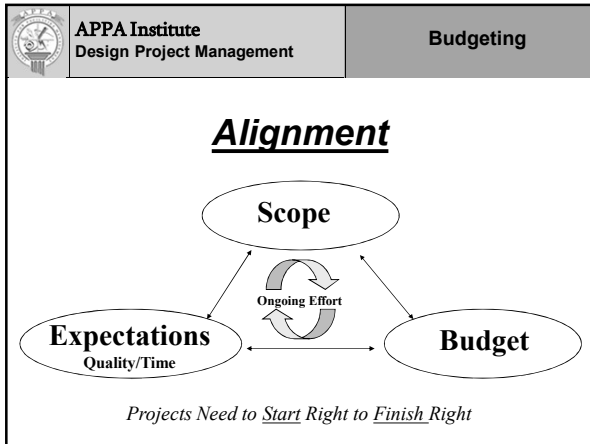
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