Advanced Design Project Management

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Design Project Management

Fun in the air

Grandsons

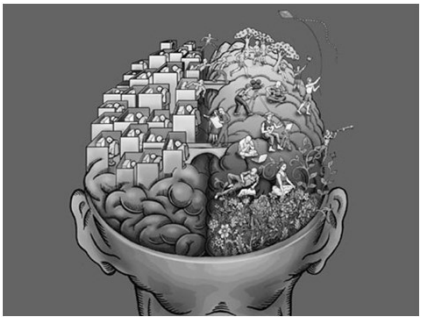
Kids

- 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

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/



Revenge of the Right Brain!

What are your Goals?
My Goals:

Understand the Design Process
Manage the Design Process

DESIGN PROJECT MANAGEMENT

Project

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

Seminar

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

Seminar Assumptions

Architectural Education

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Overview

Design Process

Project Team

Design Process Tools

Managing the Process

Deferred Maintenance
or Capital Renewal?

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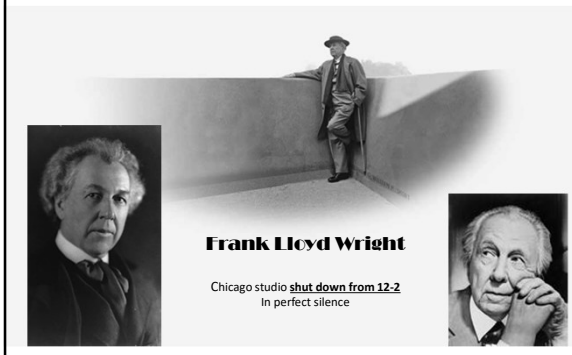
Design Process

Part 1-Design Process

- Design Process
- Project Schedules
- Project Deliverables
- Designing For Value

How do you get ideas?

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A staff member turns inventor with CU-Boulder support for his "compost tea" system.
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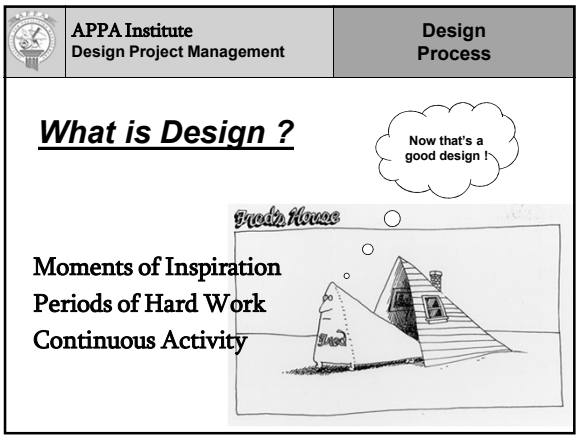
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Design Process
What is Design ?
Now that's a good design !
Moments of Inspiration
Periods of Hard Work
Continuous Activity
Fred's House

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Design Process

Influences on Design

- Program
- Codes / Regulations
- Site / Context
- Technology
- Cost / Schedule
- Client

Early Art Critic

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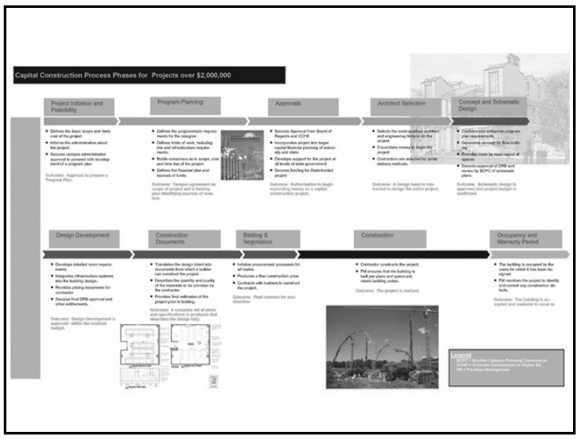
Design Process

- Analysis
  - Program — Scheduling
  - Site — Cost
  - Code — Constructability
- Synthesis
  - Goals — Concept
  - Alternatives



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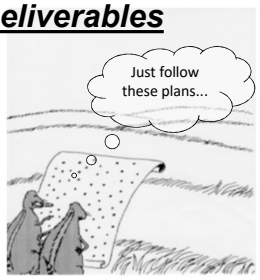
Deliverables

Design Phases / Deliverables

- Schematic Design
  - Plans / Elevations
  - Sections / $ Estimate
  - Outline Specs
  - Design Summary / Analysis
- Design Development
  - Expanded SD Set
- Construction Documents
  - Detailed Plans



Prairie Dog Developers

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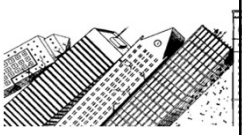
Communication

Design

- All Project Phases

Communicate

- Client
  - Programming
- Professionals
  - Schematic Design
  - Design Development



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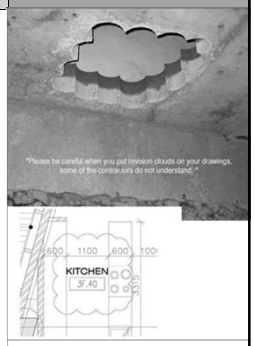
Communication

Design

- All Project Phases

Communicate

- Client
  - Programming
- Professionals
  - Schematic Design
  - Design Development
- Contractor
  - Contract Documents
  - Construction



Revision #46 dated 1/5/11

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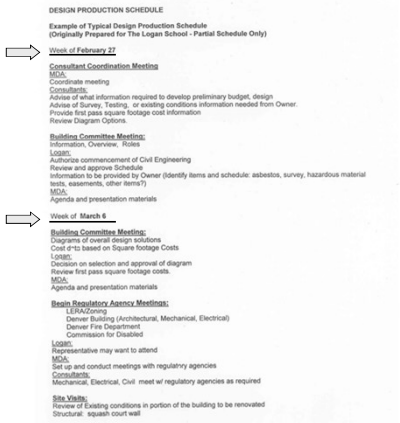
Schedules

Project Schedules

- A/E Selection
- Contract Negotiations
- Schematic Design
- Design Development
- Construction Documents
- Bidding / Contract Award
- Construction
- Close Out
- Warranty Period

At this rate...you'll never finish on time



DESIGN PRODUCTION SCHEDULE

Example of Typical Design Production Schedule
(Originally Prepared for The Logan School - Partial Schedule Only)

Week of February 27

Consultant Coordination Meeting
MDA:
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

Building Committee Meeting:
Information, Overview, Roles
Logan:
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?)
MDA:
Agenda and presentation materials

Week of March 6

Building Committee Meeting:
Diagrams of overall design solutions
Cost d~ts based on Square footage Costs
Logan:
Decision on selection and approval of diagram
Review first pass square footage costs.
MDA:
Agenda and presentation materials

Begin Regulatory Agency Meetings:
LERA/Zoning
Denver Building (Architectural, Mechanical, Electrical)
Denver Fire Department
Commission for Disabled
Logan:
Representative may want to attend
MDA:
Set up and conduct meetings with regulatnry agencies
Consultants:
Mechanical, Electrical, Civil meet w/ regulatory agencies as required

Site Visits:
Review of Existing conditions in portion of the building to be renovated
Structural: squash court wall

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Design for Value

Designing For Value

- Maintainability

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Design for Value

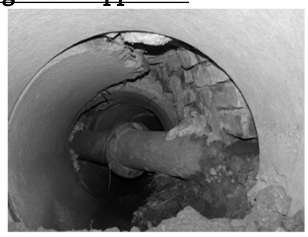
Designing For Value

- Maintainability
- Life Cycle Cost
- Value Engineering

I call it "Value Shifting"

Value Management Approach

- Tier 1
  - Gypsum Board
  - Lighting Package
  - Direct Purchase
- Tier 2
  - Relocate Plumbing
- Tier 3
  - Scope Reductions



"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

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Design for Value

Designing For Value

- Maintainability
- Life Cycle Cost
- Value Engineering
- Present Value

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Project Team

Part 2
The Project Team

- Assembling The Team
- Selecting The Team
- Team Members & Roles

Wildlife Day Shifts

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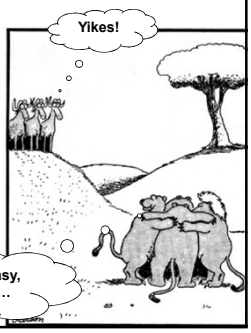
Project Team

Assembling The Team

- Owner
- Consultants
- Construction Team
- Supporting Cast



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Project Team

The Project Team

Owners

- Client
- User
- Committees
- Facilities Management
- Others

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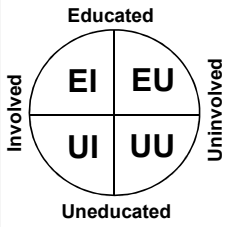
Project Team

Owners

- Experienced
  - Educated / Involved
  - Educated / Uninvolved
- Inexperienced
  - Uneducated / Involved
  - Uneducated / Uninvolved



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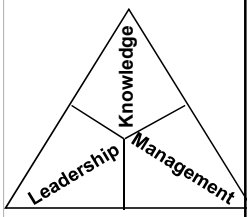
Consultants

What is a Consultant ?

- Professional Advice
  - Knowledge / Expertise
  - Leadership (transformational)
    - Doing the Right Thing
    - Inspiring
  - Management (transactional)
    - Doing Things Right
    - Day to Day Activities



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Design Team

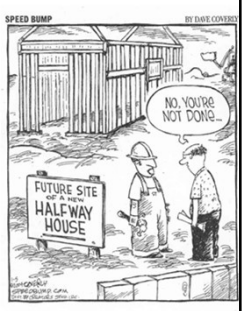
The Design Team

- Designers
  - Architect - Usually Prime

The Design Team

TEN Deadly Sins

1. Team Changes
2. Multiple Contacts
3. Schedule Delays
4. Over Design
5. Negative Approach
6. Low Quality Product
7. Slow Response
8. Slow Review
9. Weak Leadership
10. Close Out



What You *Should* Do

- Have a Clear Decision Making Process
- Develop a Complete Program
- Establish an Adequate Budget
- Establish a Realistic Schedule
- Communicate Effectively
- Hire a Compatible Firm
- Guard Against Scope Creep
- Deliver Bad News Promptly
- Expect to Pay Reasonable Fees

What You *Should Not* Do

- Do Not Rely on Clairvoyance
- Do Not Make Impossible Promises
- Do Not Accept Sloppy Work
- Do Not Expect Perfection
- Do Not Expect Added Scope for Free

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Architect Expects	Architect May Get
• Clear Direction	• Ambiguity
• Instantaneous Decisions	• Extensive Collaboration
• Tightly Defined Scope	• Scope Creep
• Comfortable Budgets	• Inadequate Budgets
• Fair Treatment	• Unreasonable Contracts
• Profitable Fees	• Gift Opportunities
• Quality Design Expectations	• Low Design Expectations
You Expect	**You May Get**
• Exceptional Service	• Nonchalance
• Adherence to Budgets	• Budget Busters
• Meeting Schedule Milestones	• Delays
• Comprehensive Services	• Requests for Additional Fees
• Complete Drawings	• Errors & Omissions
• Cost Effective Design	• Extravagance

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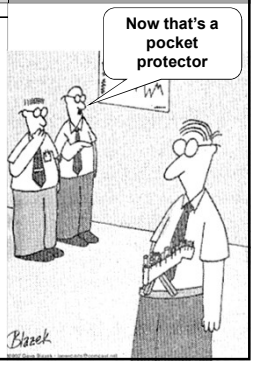
Design Team

The Design Team

- Designers
- Architect - Usually Prime
- Engineers
  - 25% to 65% of Cost
- Others
  - Planner
  - Commissioning Agent
  - Landscape Architect
  - Interior Designer



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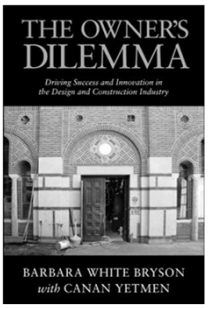
Construction Team

The Construction Team

- Contractor
  - GC – avg. < 10 employees
  - Design Build
  - Construction Manager
- Subcontractors
- Suppliers
- Laborers



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Project Team

The Project Team

- Supporting Cast
  - Finance Accounting
  - Insurance / Risk Mgt.
  - Regulators
  - Legal
  - Others

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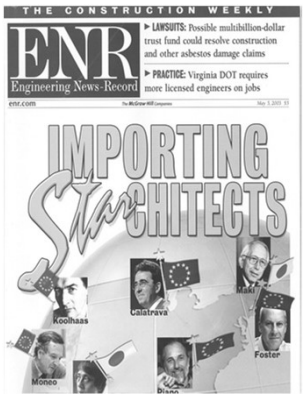
Team Selection

Selecting the Design Team

- Approaches to Selection
  - Direct
    - Resources
    - Experience
    - Ability
    - Compatibility
    - Cost
    - Ideas
  - Comparative – Brooks Act
  - Competitions



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Team Selection

Selecting the Consultants

- Owner Selects
- Prime Selects Subs
- Combination

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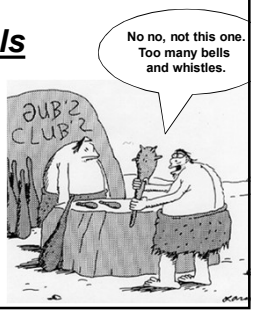
Process Tools

Part - 3
Design Process Tools

- Communication
- Negotiations & Fees
- Design Process Tools



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Communication

Communication

- Talking
- Listening

Effective communication
=
80%+ of project problems

Body Language	55%
How we say it	38%
What we say	7%

People Only Hear Every 3rd Word

People Only Retain Every 5th Word…

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Communication

- Talking
- Listening
- Writing

Communication

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Communication

- Talking
- Listening
- Writing
- Meetings

Where minutes are taken and hours are lost

Communication

Mark Bristol
UNC

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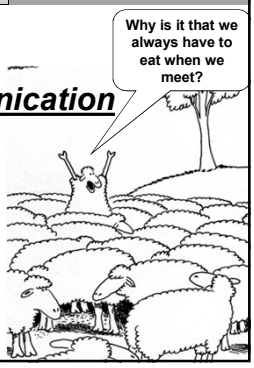
Communication

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

Communication



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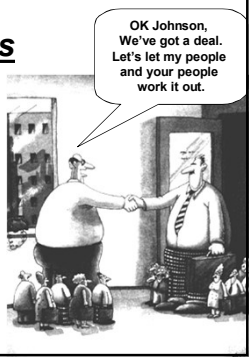
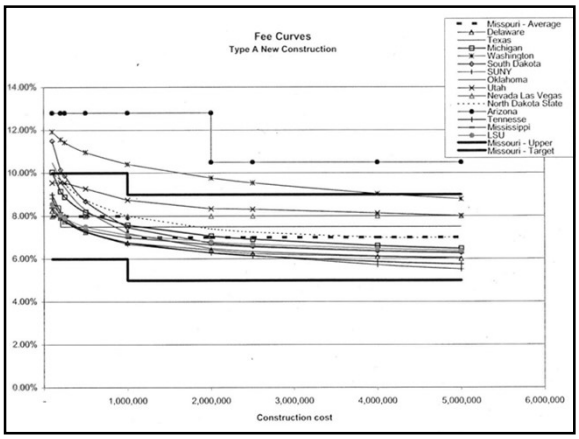
Fees

Negotiations & Fees

- Fee Structure
- Negotiating





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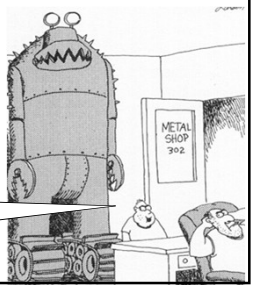
Negotiations

3 Types of Negotiations

- Soft
- Hard
- Principled



Types of Negotiation

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

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Tool Kit

Design Process Tool Kit

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

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Tool Kit

- **Consultant Instructions**

Consultant's Information Packet

Table of Contents

- **Cover Letter**
- **Communicating**
- **Project Contact List**
- **Capital Construction Process**
- **Reviews of Architectural Plans and Specifications**
- **Academic Calendars**
- **Other Materials**
  - **Campus Master Plan**
  - **Campus Parking Map**
  - **Campus Visitor Map**
  - **Body & Soul: Architectural Style at the University of Colorado at Boulder**

Cover Letter:
The Consultant's Information Packet is available to help designers understand the process and procedures of the University of Colorado at Boulder.

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:

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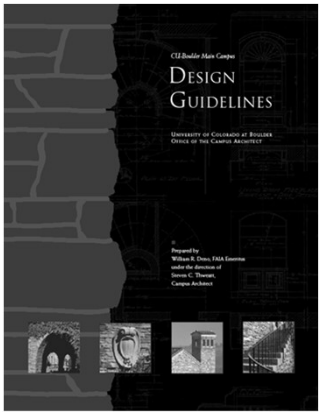
Tool Kit

- **Consultant Instructions**
- **Design Guidelines**



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Tool Kit

- **Consultant Instructions**
- **Design Guidelines**
- **Construction Standards**

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Tool Kit

- Consultant Instructions
- Design Guidelines
- Construction Standards
- Planning Template

CU Budget Planning Tool

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

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Tool Kit

- Consultant Instructions
- Design Guidelines
- Construction Standards
- Planning Template
- Service Levels

Facilities Management
University of Colorado at Boulder

Planning, Design & Construction
Project Management Service Options

1. ***Minimum service level:***

In this service option, the client can provide the project management and coordination services for their project with the following minimum involvement from Facilities Management:

- Contracts & procurement,
- Construction permitting,
- Inspections,
- Change order processing (the client can negotiate change order costs),
- Environmental site assessment and abatement requirements through EH&S,
- Projects must adhere to the UCB construction standards with deviations specifically approved by the Executive Director of FM and FM must have the ability to verify compliance,
- Utility outages,
- Code compliance including project reviews by code officials (Authorities Having Jurisdiction).

2. ***Intermediate service level:***

In this service option, FM must provide the minimum levels of services as outlined in service option 1 and the client can negotiate with FM for the level of services for the following:

- Project budgeting and estimating,
- Project scheduling

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Tool Kit

- **Consultant Instructions**
- **Design Guidelines**
- **Construction Standards**
- **Planning Template**
- **Service Levels**
- **Outage Notices**

SCHEDULED WORK ACTIVITY AND SIDEWALK /VEHICULAR OUTAGE AT West Pleasant Street

To: Linda Fry -Hale Sciences Proctor

From: Gil Fike, Project Manager

Building: Hale, McKenna, and Old Main Buildings

Start Date: Wednesday, August 14, and Thursday August 15, 2002

Duration: Full Time
Pedestrian Walkway and Vehicular Traffic Interruptions 8/14/02 to 8/16/02

Reason:
Contractor will excavate and install the new water line in the lawn area west of Hale Science Building.
The traffic lane will be reduced to onelane and could experience minor delays during work activities and equipment crossings.
Barricades and routing signs will be in place. The parking spaces
west of the Hale will be out of service. The service drive to Hale will be kept open and in service.

See the attached work activity sketch work area description. Machinery noise may occur during the work activity.

Contact: Gil Fike at 2-1431 for any questions.

Customer Impact:
This project will change the flow of pedestrian traffic For the period specified.

Attached Map

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Tool Kit

- Consultant Instructions
- Design Guidelines
- Construction Standards
- Planning Template
- Service Levels
- Outage Notices
- Design Reviews

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Tool Kit

Design Reviews

Schematic Design

Aesthetics
Systems Concepts
Maintainability
Value Engineering
Budget
Schedule
Approvals

"Orifice Building"

Review Reminders for the Client

Program Plan Review:

1. Are client needs identified and met?
2. Is this affordable?
3. Will the schedule allow the facility to be delivered on a timely basis?
4. Have others in the department(s) or college reviewed this as needed?
5. Is the plan convincing for reviewers (up through CCHE)?

Schematic Design Review:

1. Does the layout work?
2. Are aesthetics OK?
3. Is it in budget?
4. Are systems (e.g., heating / cooling) meeting user needs?
5. Have others in the department(s) or college reviewed this as needed?

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Plan Reviews

- Plan Review Coordinator
  - Part time retiree
- Email request for plan review
- Log the request
- Establish due date
- Check for required information
- Reviewers log-in each morning to check for new notices
- Plan review room w/30" HD monitor (all electronic)
- PRC checks deadlines
- Emails comments to PM's
- 3-5 day turnaround

Current Process

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Tool Kit

- Consultant Instructions
- Design Guidelines
- Construction Standards
- Planning Template
- Service Levels
- Outage Notices
- Design Reviews
- Project Checklists

Facilities Management
University of Colorado at Boulder

Department of Facilities Management
Office of Planning, Design & Construction

1540 30th Street, UCB 453, Boulder, Colorado 80309-0453
Phone: (303) 492-5511
FAX: (303) 492-4082

Project Task Checklist

- ☐ Client initiates Work Order.
- ☐ Assistant Director receives Work Order from Facilities Management (FM) scheduling system.
- ☐ The Project Manager (PM) receives a file folder from Administrative Assistant. Include a Work Order Information Sheet, Work Order Questionnaire and Warranty Report.
- ☐ PM meets with Client to establish the scope of the project.
  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)
- ☐ The Work Order Questionnaire is distributed by PM to Facilities Management and other University Agencies for review. 2 weeks allowed for review.
- ☐ Environmental Site Assessment Report is done by Environmental Health and Safety (EH & S). 2

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Tool Kit

- **Consultant Instructions**
- **Design Guidelines**
- **Construction Standards**
- **Planning Template**
- **Service Levels**
- **Outage Notices**
- **Design Reviews**
- **Project Checklists**
- **Feedback & Evaluations**

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University of Colorado at Boulder

Department of Facilities Management
Office of Planning, Design & Construction

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FAX: (303) 492-4082

CONTRACTOR EVALUATION FORM

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):

_____

_____

Facilities Management
University of Colorado at Boulder

Department of Facilities Management
Office of Planning, Design & Construction

1540 30th Street, UCB 453, Boulder, Colorado 80309-0453
Phone: (303) 492-5511
FAX: (303) 492-4082

[PROJECT TITLE]
Architect / Engineer Evaluation

FIRM'S NAME: _____

INSTRUCTIONS:

- *The performance of each A/E under contract to the University of Colorado at Boulder evaluated following the completion of the project.*
- *The Office of Facilities Design and Construction (FD&C) shall prepare all evaluat the attached Architect/Engineer Evaluation Forms. The A/E firm will be formally ev by the project team, including representatives from FD&C, Facilities Planning, Fa Engineering & Utilities, Physical Plant Division, Facility User(s), and others a appropriate at the completion of each major project phase (preconstruction, constr*

Customer Satisfaction Survey

Facilities Management
University of Colorado at Boulder

Department of Facilities Management
Office of Planning, Design & Construction

1540 30th Street, UCB 453, Boulder, Colorado 80309-0453
Phone: (303) 492-5111
FAX: (303) 492-4082

Web site: http://fm.Colorado.EDU/

Dear CU Faculty/Staff Member:

We are striving to improve the quality our service and increasing customer satisfaction. To help us in doing this, please respond to each question as it is imperative that all answers reflect your experience with us.

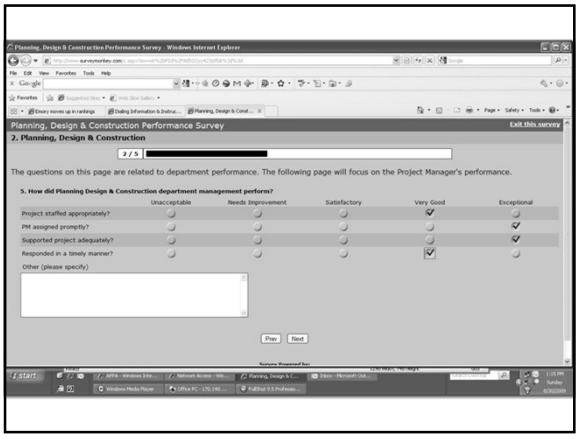
Sincerely,

Steve Tinsett, AIA
Director, Office of Planning, Design & Construction

Name of Project:
Work Order: _____ Completion Date: _____ Project Manager _____
Responder / Project Responsibility:

1. **How do you feel about the scheduling of the work to complete this project?**
   - ☐ Work was scheduled appropriately in advance.
   - ☐ Worker(s) began without sufficient notice.
   - ☐ Scheduling caused avoidable disruption.
   - ☐ Does not apply.

2. **Was the work completed on a timely basis?**
   - ☐ Response to work request was prompt and efficient.
   - ☐ Time to complete project met expectation.



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Tool Kit

- **Consultant Instructions**
- **Design Guidelines**
- **Construction Standards**
- **Planning Template**
- **Service Levels**
- **Outage Notices**
- **Design Reviews**
- **Project Checklists**
- **Feedback & Evaluations**
- **Housing Special Conditions**

University of Colorado at Boulder
Department of Housing

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 i be done outside the building and far enough away that smoke cannot enter windows or ventilation system

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- **Housing Special Conditions**
- **Double Time / Fast Track**

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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- **Housing Special Conditions**
- **Double Time / Fast Track**
- **Close Out Checklist**

Facilities Management
University of Colorado at Boulder

Office of Design and Construction
1540 30th Street, UCB 453, Boulder, Colorado 80309-0453
Phone: (303) 492-5511
FAX: (303) 492-7186

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)
1. 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.
2. The Construction Manager shall attach a list of items to be completed or corrected with this letter.
3. The Architect/Engineer shall notify the Project Manager.

PUNCH LIST WALK
Articles 16.1.2 (CM) & 1.8.29 (AE)
1. Within ten (10) days after receipt of the above mentioned letter the Architect/Engineer, the

Project Checklist

EMORY UNIVERSITY - CAMPUS SERVICES -
BUILDING ACCEPTANCE - OCCUPANCY APPROVAL CHECKLIST

INVOLVEMENT LEGEND
Primary Responsibility
Support Responsibility

PROJECT NAME
PDC PROJECT MANAGER
FACILITIES MANAGEMENT ZONE MANAGER
COMMISSIONING COORDINATOR

	TEAM INVOLVEMENT										ACTIVITY	NOTICE REQUIRED	DATE NOTIFIED	DATE OF EVENT	Project Start	180 DAYS+	150 DAYS	120 DAYS	90 DAYS	60 DAYS	30 DAYS	DONE
	CP	PMC	FM	CSA	EHSO	EPD	CUST	NTCM	AE	GC												
C.1											Construction Tests											
C.1.1											Roof Assembly test											
C.1.2											Window Assembly Water Test											
C.2											Special Equipment (Customer or Building Operations)											
C.2.1											Review location and required utility connections											
C.2.2											Review special maintenance requirements											
C.3											Fire alarm inspection by Engineer / Consultant and System Certification by (sub)contractor (NPFA13.72)											
C.4											Elevator Inspection by Consultant, PDC Project Manager and OCIP Safety Coordinator ~~FM Elevator Coordinator~~ for use by General Contractor											
C.5											PDC Project Manager, OCIP Safety Coordinator and FM Elevator Coordinator for Emory Use and Operation											
C.6											~~Chiller inspection by PDC Project Managers and FM Engineers and Mechanics for construction operation~~											
C.7											Chiller inspection by PDC Project Managers and FM Engineers and Mechanics for Emory use and operation											
C.8											~~Endorsement of General Contractor's Insurance Company for beneficial occupancy (if applicable)~~											
C.9											~~Endorsement of Emory Surety for beneficial occupancy (if applicable)~~											
C.10											Contact Emory Risk Management to start Emory Insurance coverage											
D											EMORY HEALTH & SAFETY OFFICE											
D.1											EHSO Inspection and Certification											
D.1.1											Fume Hoods											

Prime Checklist | Sheet2

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Tool Kit

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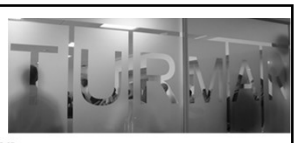
- Double Time / Fast Track
- Close Out Checklist
- Key Party



You are cordially invited to
a key party--
Project Management & Construction
will officially turn over the

Turman Residence Hall

to Facilities Management
Monday, August 13, 2007, 1:00 pm
Turman Residence Hall
First Floor Lobby
640 Means Drive

Signing the Close-out Documents

Let the Party Begin

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Tool Kit

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- Lessons Learned

EMORY UNIVERSITY

Lessons Learned - Math and Science Center
January 9, 2003

1. **More user group education needed**– 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:

   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.
   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&SC) could illustrate:
      a. General departmental layout

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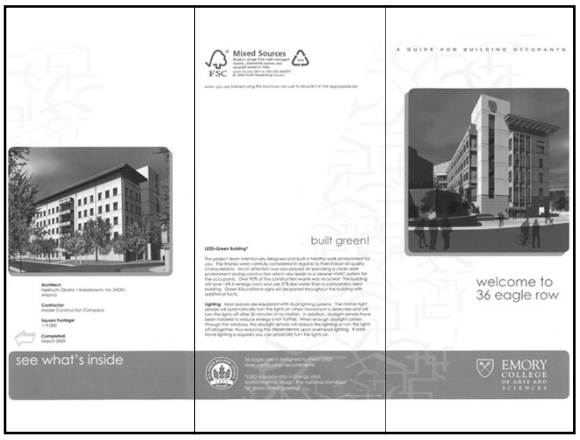
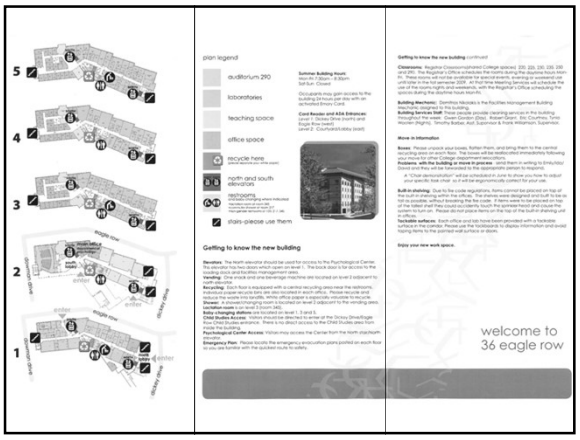
- Move in Brochure





APPA Institute Design Project Management	Tool Kit

- **Small Project Ideas**

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 a expedite the assignment of the project to the appropriate project manager. PD&C should s the work order requests first rather than the service desk trying to guess what the scope mi be. (Sometimes work orders are misdirected to the wrong shop due to the poor descriptior 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:
   - ◊ Response time,
   - ◊ Schedule Performance, and
   - ◊ Quality.

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Design Project Management

Tool Kit

- **Small Project Ideas**
- **Warranty Period**

"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.

This removes having the project manager as a middle person, and the correction of problems occur in a more timely manner."

Tom Clow
University of New England

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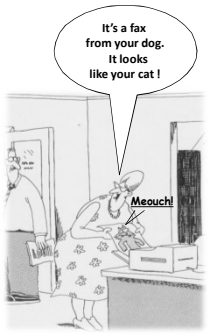
Part 4 -Managing The Process

- Project Management
- Project Managers
- Project Budgeting



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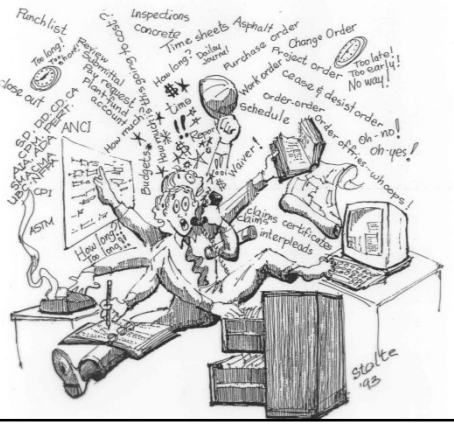
Project Management

What Is It ?

"The balancing of design, schedule and budget to meet the clients expectations"



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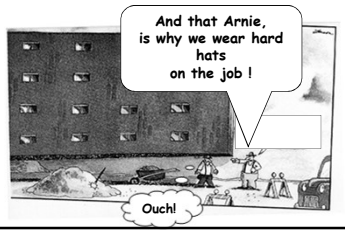
Project Management

Who Are They?

- Design Team
- Owner
- Contractor



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Traits of the Owner's PM

Traits of a Good PM

- Organized
- Broad Based
- Good Communicator (listener)
- Proactive
- Leads by Example
- Consistent
- Follows Through
- Holds People Accountable
- Delegates Well
- Patient & Wise

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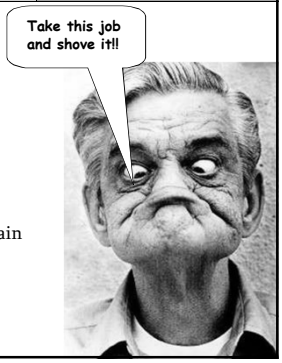
PM Pitfalls

PM Pitfalls

- Delegation Errors
  - No One Can do Better
  - I Can Do It Faster
  - I Have to Fix it Anyway
  - It Takes too Long to Explain
  - I'll be Disappointed
  - I'm Not in Control
  - It Won't be Perfect



PM Pitfalls

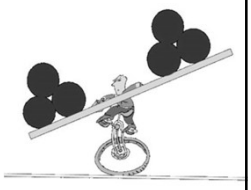
- Delegation Errors
- Micro vs. Macro
- Analysis vs. Synthesis
- SOP vs. Flexibility
- PM vs. PM
- Image vs. Substance

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

Get over it

PM Tips

From the mouth of babe's…



From: Steven C Thweatt
To: Steven C Thweatt
Subject: Customer Service Best Practices
Date: Sunday, June 02, 2013 1:57:46 PM

Paul,

First, thank you for this nice email. I don't know that I have done anything special here, I have just tried to follow basic project management principals. Here are a few examples:

- **Clear, constant communication** – this has involved face to face communication and phone calls rather than just emails. I also did send the Client emails summarizing the project progress made every few days. He would then forward these onto his superior
- **Follow Through** – I try to say what I will do and do what I say. If I promise something to the Client, I try hard to follow up on my promise.
- **Lead by example** – When challenged by the Client to have a Change Order free Tower portion of the project, I asked the consultant to meet me in the space with his 100% documents. We discovered that there was a lot lacking in his drawings. Taking 100% drawings out to the field and reviewing them in the space to be renovated was something that I used to do when I was working as an architect on Campus.
- **Positive Attitude** – Although the Client can be challenging, I have enjoyed working with him and I try to be positive about my work on this project.
- **Tell it like it is** – I am not afraid to give my opinion to the Client. When I think he is making an error, I tell him. He decided to leave some of the VAT flooring rather than abate it and I told him I thought that was a mistake. We are going to have to have some tough discussions in the Tower portion of the project. From a building envelope view point, this space is a 60's mess. We shouldn't spend $500K on the Conference Center if people are going to be too hot, or too cold in the space.

Although this project is far from over, hopefully we are off on the right foot with the Client. I hope this is what you were looking for.

Peter

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Design Project Management

PM Tips

Managing Client Relations

Leadership	*Management*
1. Know your client personally	1. Keep your files organized
2. Understand your client	2. Respond to requests promptly
3. Be a partner	3. Meet your commitments
4. Foster Trust	4. Issue regular progress reports
5. Demonstrate credibility	5. Be persistent when you need input
6. Anticipate – don't react	

Most important – No Surprises!

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Managing the Project

Managing the Project

Develop Project Mgt. Plan (PMP)

- The 90/10 Rule

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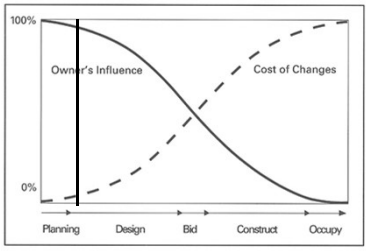
Keys to Success

The 90/10 Rule



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Keys to Success

- PMP (Understand Project and Desired Outcomes)
  - Vision/Goals/Objectives / Critical Factors for Success
  - Communication Plan
  - Scope
  - Schedule
  - Financial Plan
  - Quality Control Process
  - Change Management Process
  - Involve Key Stakeholders
  - Identify Constraints
- Assemble Team / Empower the Team
- Resolve Conflicts
- Encourage Risk Taking

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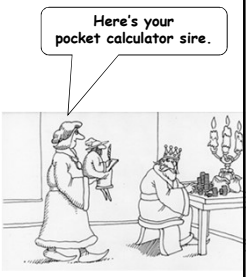
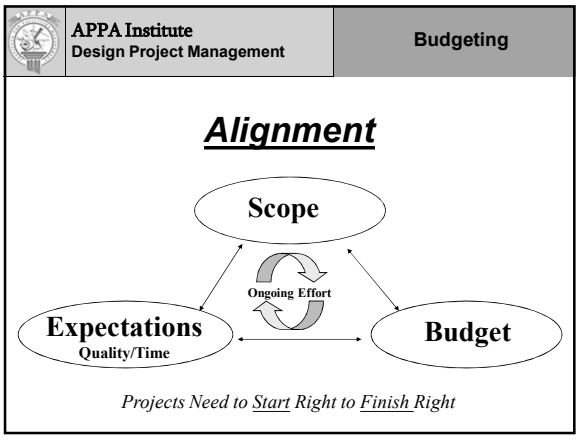
Budgeting

Project Budgeting

- Cost Management Principles
  - Realistic Expectations
  - Cost Data
  - Scope Control

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Design Project Management
Budgeting
Alignment
Scope
Ongoing Effort
Expectations
Quality/Time
Budget
Projects Need to Start Right to Finish Right