

ROADMAP FOR CONSTRUCTION PROJECTS:

...*“WHO OWES WHAT TO WHOM BY WHEN?”*....



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Introductions

Keri VanSant, AIA | WELL AP (Speaker)
- *Architect | Project Manager, DLR Group*



Terry Fielden, LEED AP BD+C (Speaker)
- *Vice President/Director K-12 Education, International Contractors, Inc.*



Jason Sparks (Speaker)
- *Director, CBRE Heery*



Jim Petrakos (Moderator)
- *Principal Architect, TRIA Architecture*



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Setting the Stage

- A view “from 10,000 feet”
- Our goal is to provide you with a fundamental understanding of the construction process, roles, and responsibilities
- Today’s “roadmap” is based on:
 - A medium-sized elementary school (+/- 73,000 SF)
 - Traditional Design-Bid-Build project
 - New construction +/- \$25,000,000 Project
 - Project is fully funded
 - A/E design team has been selected
 - May include Owner’s Rep and/or Construction Manager

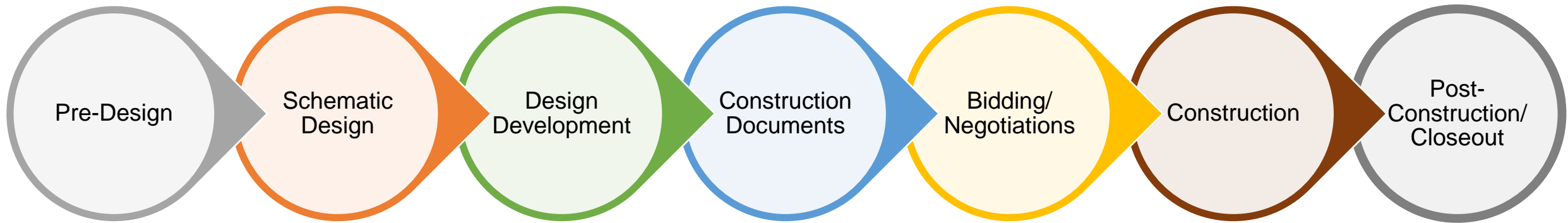


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Setting the Stage

Typical project phases



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Setting the Stage

Roles and responsibilities in each phase

Time
Commitment?

What to
Expect?

Questions to
Ask?

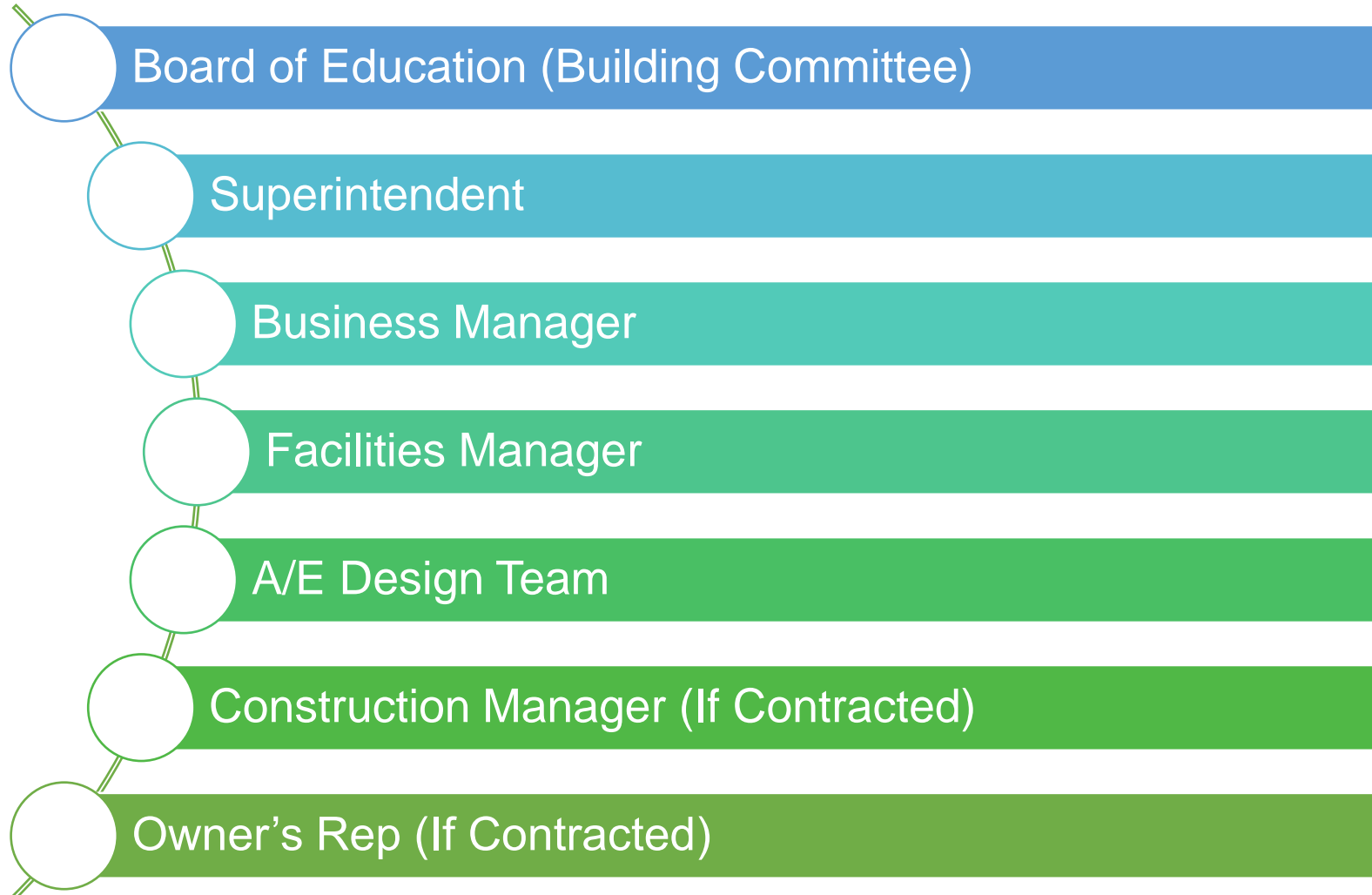
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Setting the Stage

Primary Project Participants



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Setting the Stage

District Time Commitment by Phase

	Pre-Design	Schematic Design	Design Development	Construction Documents	Bidding/ Negotiations	Construction	Post-Construction
Board Members	High	Medium	Low	Low	Low	Low	Low
Superintendent	High	High	Medium	Low	Medium	Low	Low
Business Manager	High	High	High	Medium	High	High	Medium
Facilities Manager	High	Medium	High	High	High	High	High

Notes:

Teachers and staff should be included in the early design phases (SD/DD) as part of End User meetings

Minor student involvement in early design or as a mentoring opportunity during construction may also be desired



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Project Definition / Pre-Design Phase

“To research and determine the Owner’s criteria for the project”

Table #1 - The Hub; Bridge

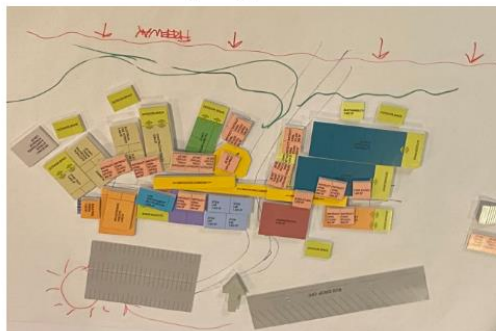


Table #2 - The Vision Center; United



Table #3 - Discovery Trail; Tail Head

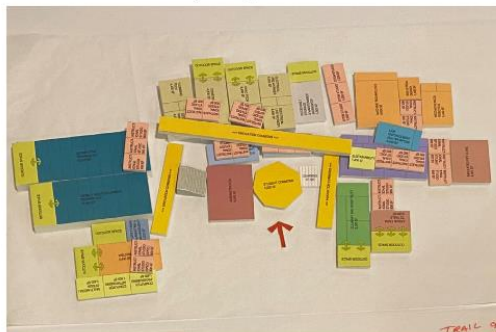


Table #4 - Tributary; K-Verge



The Primary Participants

- Board of Education (Building Committee)
- Superintendent
- Business Manager
- Facilities Manager
- A/E Design Team
- Construction Manager (if contracted)
- Owner’s Rep (if contracted)

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Project Definition / Pre-Design Phase

A/E Design Team

- Project Objectives
- Project Requirements
- Project Constraints
- Sustainability objectives

Legal

- Professional Contract Negotiations

Finance

- Project Funding
- Financial Advisor and/or Underwriter Coordination



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Project Definition / Pre-Design Phase



Board Members

- What are the project objectives and guiding principles?
- Are there sustainability goals?
- Have community promises been made?
- Who will represent the Board on the Building Committee?
- How do I empower administration?
- Who handles public relations?



Superintendent

- Who will be on the Building Committee?
- What resources can I bring in to develop objectives?
 - Curriculum Director, Educational Planner
 - Learning Philosophies (21st Century, S.T.E.M., etc.)
- How do I steer the team to meet the objectives set by team?



Business Manager

- How do I assist the Superintendent to meet objectives and guiding principles set by team?
- How do I manage the components of the budget?
- How do I handle the day-to-day operations?



Facilities/Operations

- What will be my involvement in each phase?
- How do I share my lessons learned to the rest of the team?
- What are the District standards?
 - Mechanical, Electrical, Plumbing, Fire Protection (M,E,P,FP)
 - Controls
 - Roofing
 - Finishes
 - Security / IT
 - Hardware
- What are my operational constraints?

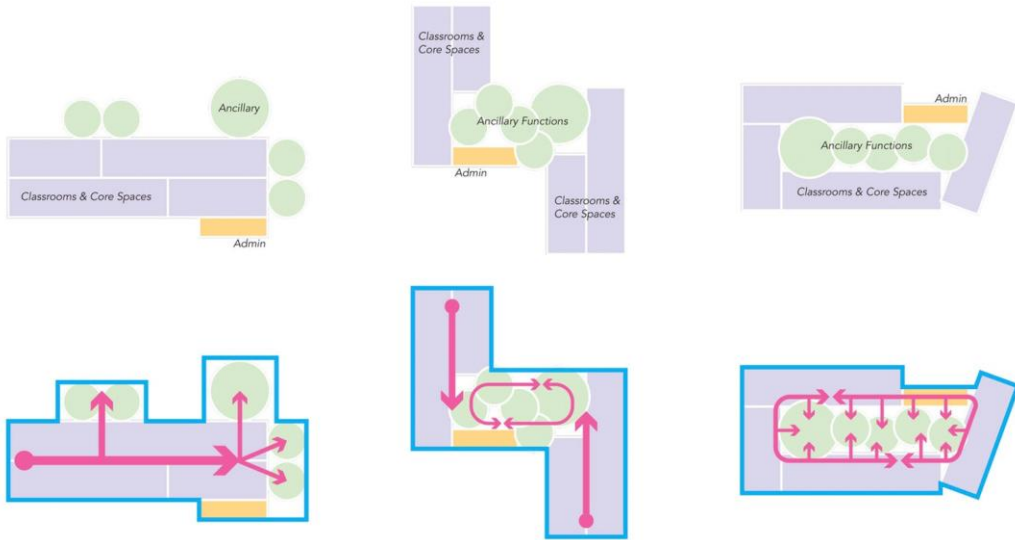


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Schematic Design Phase

“To graphically explore design concepts”



The Primary Participants

- Board (Building/Steering Committee)
- Superintendent
- Business Manager
- Facilities Manager
- A/E Design Team
- Construction Manager (if contracted)
- Owner's Rep (if contracted)

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Schematic Design Phase

A/E Design Team

- Develop viable planning options with costs (may include CM)
- Identify initial building systems
- Identify the shape and form of project
- Identify the materials to be used in the project
- Develop site layout and flow

Legal

- Review intergovernmental issues

Finance

- Ratings presentation



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Schematic Design Phase



Board Members

- Are we on track with our project objectives and guiding principles?
- What does the Board need to approve?
- Are goals being set?



Superintendent

- What resources can I bring in to develop objectives?
- How do I steer the team to meet the objectives set by team?
- Is the community being updated?



Business Manager

- How do I assist the Superintendent to develop the project with the team?
- How do I need to refine the project budget with the team?
- What are first costs versus long-term costs?
- What other day-to-day operations do I need to handle?



Facilities/Operations

- Are there adequate building support areas?
- How am I going to operate and maintain this building?
- What MEP/FP systems are being designed?
- What control systems are being designed?
- Are there any site constraints?
 - Site detention
 - Deliveries
 - Site flow/traffic
 - Parking
 - Snow removal
 - Trash removal

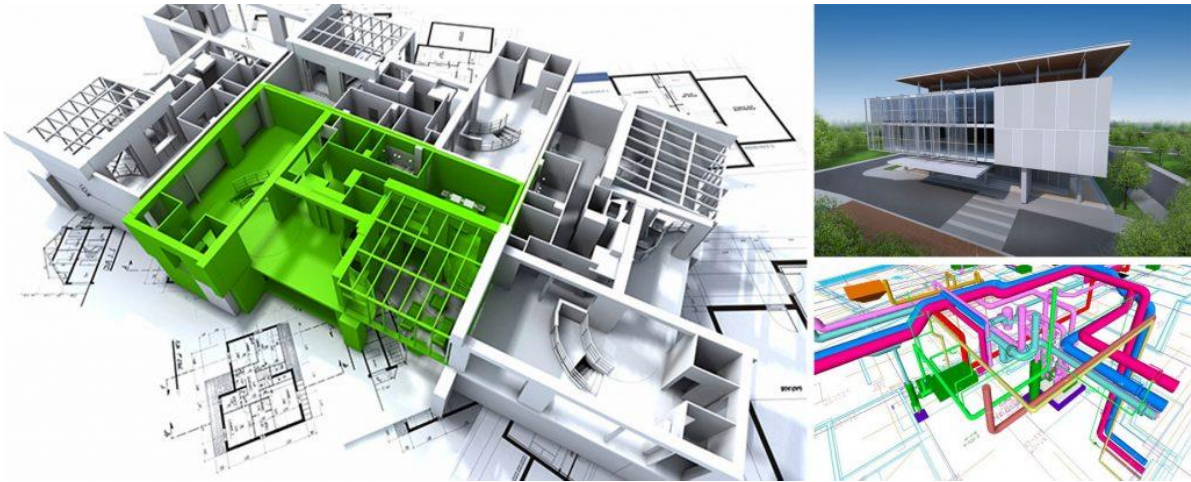


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Design Development Phase

“Refine and develop the design of the various systems”



The Primary Participants

- Board (Building Committee)
- Superintendent
- Business Manager
- Facilities Manager
- A/E Design Team
- Construction Manager (if contracted)
- Owner's Rep (if contracted)

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Design Development Phase

A/E Design Team

- Further develop the approved Schematic Design documents
- Agree upon final size and character of the project
- Define all building systems/materials/components
- Update construction cost estimate (may include CM)

Legal

- Review issues

Finance

- Work with team to develop an expenditure schedule
- Work with investment provider for the investment of proceeds to match the expenditure schedule

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Design Development Phase



Board Members

- Are we on track with our project objectives and guiding principles?
- What does the Board need to approve?
- Are goals being met?



Superintendent

- What resources can I bring in to develop objectives?
- How do I steer the team to meet the objectives set by team?
- Is the community being updated?



Business Manager

- How do I assist the Superintendent to develop the project with the team?
- Do I need to refine the project budget with the team?
- What other day-to-day operations do I need to handle?



Facilities/Operations

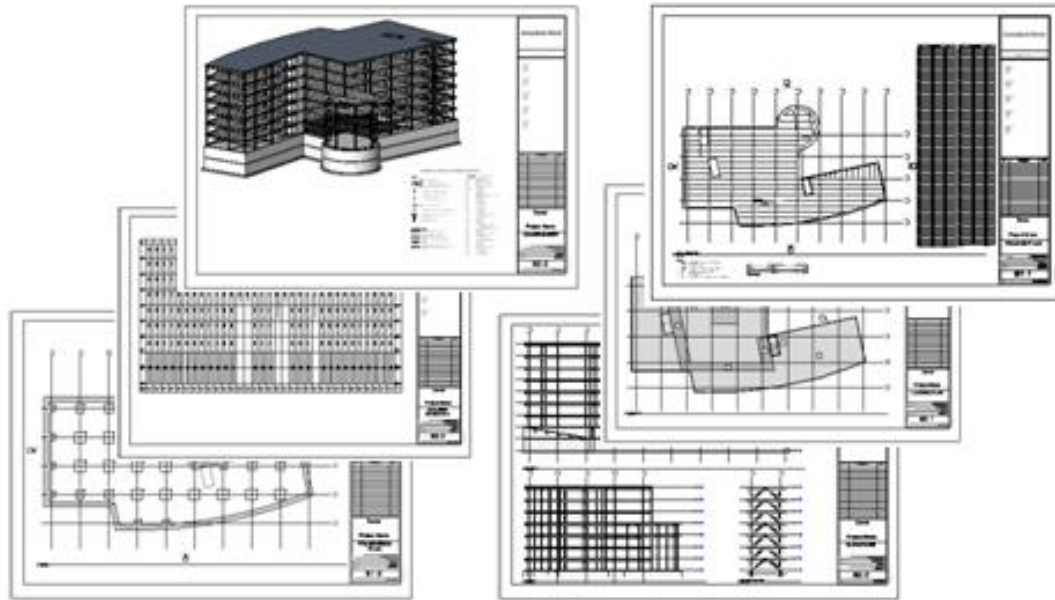
- How do I assist the Business Manager to develop the Project?
- Do the documents reflect the District's needs and standards?
 - Maintainability?
 - Access into Areas?
 - Operability?

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Construction Documents Phase

“To prepare the technical documents for permitting and construction”



The Primary Participants

- Business Manager
- Facilities Manager
- A/E Design Team
- Construction Manager (if contracted)
- Owner's Rep (if contracted)

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Construction Documents Phase

A/E Design Team

- Prepare drawings/specifications for bidding and construction
- Advise the Owner of any adjustments to the construction estimate (may include CM)
- Prepare paperwork for building permits from the ROE/ISBE/other authorities having jurisdiction

Legal

- Prepare Owner-Contractor contracts for inclusion in project manual (may include CM)
- Establish bidding requirements and expectations (may include CM)

Finance

- Review any issues



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Construction Documents Phase



Board Members

- Are we on track with our project objectives and guiding principles?
- What does the Board need to approve?
- Are goals being met?



Superintendent

- What resources can I bring in to develop objectives?
- How do I steer the team to meet the objectives set by team?
- How do I manage community expectations?



Business Manager

- How do I assist the Superintendent to develop the project with the team?
- Are we still on budget?
- How do I manage staff expectations?
- Are all the bidding requirements being defined?



Facilities/Operations

- How do I assist the Business Manager to develop the project?
- Do the documents reflect the District's needs and standards?



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Bidding Phase

“To assist the Owner in selecting a Contractor to build the project”



The Primary Participants

- Business Manager
- A/E Design Team
- Contractor(s)
- Construction Manager (if contracted)
- Owner’s Rep (if contracted)

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Bidding Phase

A/E Design Team

- Solicit bids from bidders (may include CM)
- Respond to requests for information from contractors and issue addenda (may include CM)
- Prepare bid tabulation forms (may include CM)
- Prepare bid analysis and make recommendations to the Owner (may include CM)

Legal

- Assist in selection of lowest responsive and responsible bidder

Finance

- Determine rating on bonds
- Assist the District with the bid process on bonds
- File debt schedules with County Clerk (by FA or Attorney)

Construction Team

- Do we meet qualification requirements?
- Solicit subcontractor quotes
- Ask questions not answered with Contract Documents (RFI's)
- Develop a bid strategy
- Obtain bid security and submit bid



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Bidding Phase



Board Members

- Did bids come under budget?
- Who is(are) the contractor(s) we need to approve?



Superintendent

- Is the project on track?
- Did bids come under budget?
- What bidder(s) do we recommend for approval?



Business Manager

- Did bids come under budget?
- Who prepares construction contracts?
- Are contracts ready for signature?



Facilities/Operations

- How do I assist in the pre-bid meeting?
- How do I assist in posting public notices?
- How do I assist in the bid opening?

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Construction Phase

“To construct the project in conformance with the construction documents”



The Primary Participants

- Business Manager
- Facilities Manager
- A/E Design Team
- Contractor(s)
- Construction Manager (if contracted)
- Owner's Rep (if contracted)

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Construction Phase

A/E Design Team

- Manage the Legal Documents
- Observe the Contractor's performance (may include CM)
- Process Pay Applications (may include CM)
- Process RFI's, Change Directives and Change Orders (may include CM)

Legal

- Review certificates of insurance and bonds
- Assist District with any contractor delays, liens and other warning signs
- Advise District: Who is responsible for major issues
 - Job site Safety
 - Conformance with Contract Documents

Finance

- Issue Bonds
- Work with investment provider to manage cash flow
- Track arbitrage and "spend downs"

Construction Team

- Subcontractor selection
- Develop and manage logistics/phasing and safety plans
- Develop and manage Project Schedule
- Manage subcontractors and arrange timely payment
- Keep Owner and Architect apprised of progress and issues



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Construction Phase



Board Members

- Is the project on track?
- Do we need to approve anything?



Superintendent

- Is the Project on Track?
- Peripheral items



Business Manager

- How do we manage any change orders?
- What is the status of contingencies?
- What is the pay schedule status?
- Have I received the certified payroll?
- Is proper retainage held?
- Have I received lien waivers?



Facilities/Operations

- What should I do if I see a potential problem on site?
- When should staff be trained on systems?
- Was construction cleaning performed?
- Have building tests and inspections been completed?
- Is the building ready for occupancy?
 - Permit



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Deliverables by Phase

Pre-Design

- Establish Owner-approved project program
 - Size
 - Cost
 - Design Requirements
- Concept design(s) for building and site

Schematic Design

- Document set developing design concepts, including site design
- Establish project performance criteria
- Define MEP/FP and structural systems
- SD cost estimate

Design Development

- Document set further developing Owner-approved design for:
 - Size
 - Cost
 - Design Requirements
- DD cost estimate

Construction Documents

- Final bid documents (Drawings & Project Manual)
- CD cost estimate(s)

Bidding/Negotiations

- Approved construction contract(s)

Construction

- Substantially complete construction project

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Post-Construction/Closeout

“To formally complete the project and final paperwork”



The Primary Participants

- Business Manager
- Facilities Manager
- A/E Design Team
- Contractor(s)
- Construction Manager (if contracted)
- Owner's Rep (if contracted)

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Post-Construction/Closeout

A/E Design Team

- Validate that the building is ready for occupancy
- Verify that the contractual obligation of the contractor has been fulfilled
- Work with the Owner on processing the final payment
- Assist the Owner in working with the contractor for any warranty items

Legal

- Address punch list and retainage issues
- Resolve any lien claims
- Resolve any warranty claims or project defects

Finance

- Continue to track arbitrage
- Keep expenditure records on hand for verification

Construction Team

- Complete Owner training and “punch-list” items
- Obtain all close-out documentation required by the contract documents
- Submit final pay application and final lien waivers
- Perform 11-month warranty walk-through



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Post-Construction/Closeout



Board Members

- What is the Building Committee's final report?
- Is the building ready to be occupied?
- Are there any unfinished items?



Superintendent

- Are furniture and staff ready to move in?
- Is the school safe to be occupied?



Business Manager

- What are the final project costs?
- Are final waivers processed?
- Has the Owner training been completed?
- When does the warranty period begin and expire?



Facilities/Operations

- How involved am I in the punch-list process?
 - Is it final?
- Are we ready to move-in?
 - Furniture, Fixtures, Equipment (FF&E)
 - IT & AV
- Is the 11-month walk-through scheduled?
- How do I make a warranty claim?



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Questions and Answers

We thank you for your time!



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