Managing Tenant Improvements, without raising your blood pressure
Programming Overview

• Programming Process- Flow/ Lifecycle
• Tools and Process
• Schedule
• Summary
Programming Overview

• Who?
• What?
• When?
• Where?
• Why?
Understanding the Design Process

1. Programming (Needs Analysis)
2. Schematic Design (Formulating Needs to Physical Attributes)
3. Design Development (Refinement of Concepts)
4. Construction Documents (Specifies How to Build)
5. Construction
6. Move In / Occupancy
7. Permits (Approval Fees and Notifications)

- **Schematic Design**
- **Design Development**
- **Construction Documents**
- **Construction**
- **Move In / Occupancy**
- **Permits**
- **Programming** (Needs Analysis)
Understanding the Programming Process

• Goals
• Facts
• Needs
• Design Standards
• Budget
• Schedule
Programming

- Programming Kick-off Meeting
- Interviews
- Follow-up Interviews
- Follow-up Cost Review/Approval

- Project Statement
- Macro Documentation
  - Written Program
  - Space Plans
- Analysis/ Micro-Documentation
  - Draft Program Document
- Final Program Document
# Documentation & Analysis Tools

## Area Summaries

### Project HEADCOUNT/AREA SUMMARIES

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### Area Usage by Group

- Executive: 23%
- Human Resources: 6%
- Facilities: 1%
- Finance: 4%
- Information Technology: 12%
- Computational Biology: 11%
- Crystallography: 1%
- Executive: 2%
- Biology/Screening: 13%
- Chemistry: 17%
- Molecular Biology: 12%

### Tech/ Lab Area Percentages

- Chemistry: 26%
- Information Technology: 6%
- Computational Biology: 15%
- Crystallography: 11%
- Biology/Screening: 10%
- Molecular Biology: 17%
- Protein Chemistry: 17%
- Building Support: 23%
Documentation & Analysis Tools

Adjacencies Matrix

Room Data Sheet
## Equipment List

### Equipment Information

- **Room Name**: Molecular Biology
- **Project Address**:
- **Date of Issue**:

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Summary

DO A PROGRAM!

• Have a goals statement
• Build company recognition of commitment required
• Programming can be non-site specific
• Programming can be time-scaled
Budget

• Detailed budget early as possible
• Challenging, do it anyways
• Why it’s beneficial
• Process
  – Cost codes / budget line items
  – Reasonable assumptions / anticipated scope
  – Resources – historical data, contractors, cost consultants, design team, vendors
Budget – Soft Costs

- Architect
- Interior Designer
- Structural Engineer
- Mechanical Engineer
- Electrical Engineer
- Plumbing Engineer
- Geotechnical Engineer
- Civil Engineer
- Dry Utility Consultant
- Landscape Architect
- Environmental Consultant
- Biologist
- Archeologist
- Entitlement Consultant
- Food Service Consultant
- Fire / Life / Safety Consultant
- Acoustical Consultant
- Waterproofing Consultant
- LEED Consultant
- Signage Consultant
- Security Consultant
- Relocation Consultant
- Purchasing Agent
- Project Management
- Legal Counsel
- Material Testing & Inspection
- Insurance / Builders Risk
- Plan Check / Permit Fees
- Health Department Fees
- Utility Fees
- Bond
- Reimbursable Expenses
Budget – Hard Costs

- Construction Costs
- Parking for Contractors
- Security During Construction
- Fixtures, Furnishing, & Equipment (FF&E)
- FF&E – Freight, Warehousing, Installation
- Artwork
- Low Voltage Cabling & Equipment

- Audio / Visual Systems
- Security Systems
- Signage
- Temporary Facilities
- Relocation / Move-In Costs
- Owner Allowances
- Contingency – Design & Construction
Budget Management

- Management tool
- Informed decisions
- Manage design to the budget
- Real time
- Mitigate value engineering
- Validate budget
Budget

Prepare Budget

Programming (Needs Analysis)

Schematic Design (Formulating Needs to Physical Attributes)

Design Development (Refinement of Concepts)

Construction Documents (Specifies How to Build)

Move In / Occupancy

Construction

Permits (Approval Fees and Notifications)

Validate Budget

Validate Budget

Validate Budget

Validate Budget
Schedule

- Overall schedule – precon & construction
- Management tool
- Informed decisions
- Identify main tasks
- Reasonable durations
- Resources
Schedule

- Design Team Selection
- Programming
- Design Phases
- Budget Assembly Review
- Owner / User Review
- Constructability Review
- GC Selection / Bid Phase
- Plan Check / Permit Process
- Entitlement Process
- Procurement – GC / FF&E
- Construction
- Move-In
## Schedule

### Project Planning Schedule

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<td>Tue 8/20/13</td>
<td>Fri 11/15/13</td>
</tr>
<tr>
<td>24</td>
<td>Prepare documents for submittal to City</td>
<td>2 days</td>
<td>Thu 8/27/13</td>
<td>Wed 9/2/13</td>
</tr>
<tr>
<td>25</td>
<td>1st submittal to the City</td>
<td>25 days</td>
<td>Thu 8/27/13</td>
<td>Wed 9/2/13</td>
</tr>
<tr>
<td>26</td>
<td>Respond to comments and resubmit</td>
<td>10 days</td>
<td>Thu 9/26/13</td>
<td>Wed 10/1/13</td>
</tr>
<tr>
<td>27</td>
<td>2nd submittal to the City</td>
<td>15 days</td>
<td>Thu 10/1/13</td>
<td>Wed 10/9/13</td>
</tr>
<tr>
<td>28</td>
<td>Respond to balance of comments OTC</td>
<td>5 days</td>
<td>Thu 10/9/13</td>
<td>Wed 11/4/13</td>
</tr>
<tr>
<td>29</td>
<td>Pull permit</td>
<td>5 days</td>
<td>Thu 11/7/13</td>
<td>Wed 11/13/13</td>
</tr>
<tr>
<td>30</td>
<td>Complete &quot;For Construction / Permit&quot; set</td>
<td>2 days</td>
<td>Thu 11/14/13</td>
<td>Fri 11/15/13</td>
</tr>
<tr>
<td>31</td>
<td>Buyout / Procurement</td>
<td>60 days</td>
<td>Tue 8/20/13</td>
<td>Mon 11/11/13</td>
</tr>
<tr>
<td>32</td>
<td>Architect prepare CD's for bidding</td>
<td>5 days</td>
<td>Thu 9/2/13</td>
<td>Mon 9/16/13</td>
</tr>
<tr>
<td>33</td>
<td>Owner write bid instruction</td>
<td>10 days</td>
<td>Tue 8/26/13</td>
<td>Mon 9/2/13</td>
</tr>
<tr>
<td>34</td>
<td>Prequalify GC's</td>
<td>10 days</td>
<td>Tue 9/2/13</td>
<td>Mon 9/2/13</td>
</tr>
<tr>
<td>35</td>
<td>GC bid period</td>
<td>15 days</td>
<td>Tue 9/13/13</td>
<td>Mon 9/2/13</td>
</tr>
<tr>
<td>36</td>
<td>Analyze bids / Select GC</td>
<td>10 days</td>
<td>Tue 9/2/13</td>
<td>Mon 9/2/13</td>
</tr>
<tr>
<td>37</td>
<td>Execute GC contract</td>
<td>5 days</td>
<td>Tue 10/1/13</td>
<td>Mon 10/16/13</td>
</tr>
<tr>
<td>38</td>
<td>GC pre-mob work / procurement</td>
<td>20 days</td>
<td>Tue 10/15/13</td>
<td>Mon 11/11/13</td>
</tr>
<tr>
<td>39</td>
<td>Construction</td>
<td>106 days</td>
<td>Mon 11/18/13</td>
<td>Wed 4/16/14</td>
</tr>
<tr>
<td>40</td>
<td>Construction complete / CoO</td>
<td>108 days</td>
<td>Mon 11/18/13</td>
<td>Wed 4/16/14</td>
</tr>
<tr>
<td>41</td>
<td>Move-in</td>
<td>0 days</td>
<td>Wed 4/16/14</td>
<td>Wed 4/16/14</td>
</tr>
<tr>
<td>42</td>
<td>Owner move-in</td>
<td>10 days</td>
<td>Thu 4/17/14</td>
<td>Wed 4/24/14</td>
</tr>
<tr>
<td>43</td>
<td>Open for business</td>
<td>0 days</td>
<td>Wed 4/30/14</td>
<td>Wed 4/30/14</td>
</tr>
</tbody>
</table>
RFP – Design Team

- Be specific = better responses
- Resources – budget, schedule, programming
  - Draft off of earlier work
- Basis for contract
RFP – Design Team

• General Project Description
• Programming Information
• Desired Schedule
• Who Manages Design Consultants
• Design Services to Include
• LEED Requirements
• Interior Design
• FF&E Selection
• Permit Process
• Relevant Experience
• Team Resumes
• Insurance

• Construction Administration
  – RFI’s
  – Submittals
  – Change Orders
  – OAC Meetings
  – Field Inspections
  – Punchlist
• Contract Form
• Breakdown of Fee Structure
• Hourly Rates
• Reimbursable Expenses
• Consultant Mark-ups
RFP – Contract Form

Conventional (A201) Design-Bid-Build Contract Relationships

Architect

Surety

Owner

Contractor

Consultant

Subcontractor

A101
A102
A103
A107*
A310
A312
A401
B101
B103
B104*

* AIA Documents B104™ and A107™ are in the A201 family of AIA Contract Documents because the abbreviated General Conditions in A107 are based on AIA Document A201™. If AIA Documents C401™ and A401™ are used with B104 and A107, appropriate modifications should be made with the assistance of insurance and legal counsel.
Contractor Procurement

• Negotiated
  – Contractor precon services
  – Early procurement
  – Review existing conditions / systems
  – Fast track: design & build in phases

• Hard Bid
  – Owner procurement requirements
  – Competitive bids from multiple GC’s
  – Typically takes more time
Contractor Procurement

• Hard bid process
• Be specific = more accurate bids
• Draft off of earlier work
• Bid documents / basis for contract
  – Construction drawings
  – Contract form
  – Bid instructions
Contractor Procurement
Bid Instructions

• Pre-Bid Meetings
• Insurance
• Schedule
• Contract Form
• Construction Services
• Close-Out Tasks
• Payment Procedures
• Retention Release
• Punch Procedures
• Hazardous Materials
• Owner Managed Work

• Trade Specific Instructions
• Exclusions
• Building Rules & Regulations
  – Access
  – Parking
  – Staging / Laydown
  – Work Hours
  – Noise
  – Coordination w/Existing Building Systems
  – Utility Shut Downs
Contractor Procurement

- Constructability review
  - Mitigate RFI’s, change orders, delays
- Bid form
- Analyzing the bids
Contractor Procurement

- List bid documents
- Base bid
- Alternate bids
- Unit prices
- Labor rates
- Equipment rates
- Trade breakdown
- Change order mark-ups
- GC staff / rates
- Schedule
- Bond
Management of Construction

- Thorough preconstruction
- Time is of the essence
- Communication is key
- Weekly OAC meetings
  - Logs: change order, submittal, RFI
  - Walk field issues
- Effective meeting minutes
  - Active tool, not solely for documentation
Management of Construction

• Schedule
  – Contractor: CP schedule, by trade, by area
  – Status at every OAC
  – 3 week look ahead
  – Champion the superintendent
Management of Construction

• RFI’s
  – Flow between Contractor & Architect
  – Read all questions and responses
  – Understand cost impacts
  – Contractor – ask early & suggest solutions
  – Open RFI’s = delay
Conclusion

- Be actively engaged
- Be timely
- Be diligent
- Be detailed & specific
- Preconstruction is key
- Manage the process
- Resources
- Help the team succeed