Virtual Design & Construction

The Changing Role of a Coordinator

Scott Cloud & David Moody
Work Volume
By Market Sectors

- Healthcare: 39%
- Multifamily: 12%
- Aerospace: 4%
- Energy: 1%
- Commercial: 18%
- Sports & Entertainment: 3%
- Senior Living: 2%
- Industrial: 4%
- Hospitality: 2%
- Education: 5%
- Water: 2%
- Government: 8%

Total Work Volume: $3.2 billion
The Role of a Coordinator
The Role of a Coordinator

REACTIVE
The Role of a Coordinator

REACTIVE  PROACTIVE
Georgia Aquarium < Brasfield & Gorrie
History

- 2D design -> 3D
- Started with Self perform concrete
- Created model to understand complexity of concrete construction
- Used to help quantify materials
History

• 2D design -> 3D
• Started with Self perform concrete
• Created model to understand complexity of concrete construction
• Used to help quantify materials

• Developed a bi-weekly meeting schedule for the 8 month duration
• All day coordination meetings
• Large amounts of clashes – tough to manage
• No formalized clash mgmt. organization/software

• Developed a Coordination Spreadsheet
# Coordination Process

## Process Overview

<table>
<thead>
<tr>
<th>#</th>
<th>RESOURCE #1</th>
<th>RESOURCE #2</th>
<th>TOTAL CLASHES</th>
<th>ACTUAL CLASHES</th>
<th>DIST</th>
<th>DWG SHEET</th>
<th>NOTES</th>
<th>SOLUTION</th>
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<td>01</td>
<td>Structural Steel</td>
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<td>HVAC Duct 1015</td>
<td>2</td>
<td>1</td>
<td>02-04</td>
<td>2.14 in</td>
<td>Exhaust duct through beam (FD 7/13)</td>
<td>SteelFab to move beam</td>
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<tr>
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<td>80</td>
<td>6</td>
<td>34-01</td>
<td>3.72 in</td>
<td>Main runs up through ductwork (FC 3,11)</td>
<td>Jog line right, then up</td>
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<td>FP 1015</td>
<td>68</td>
<td>1</td>
<td>34-05</td>
<td>3.25 in</td>
<td>Branch line through duct (FP 12,13)</td>
<td>Route down lower at elbow</td>
</tr>
</tbody>
</table>

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Process Improvement

- Standard Operation Procedures
- Uniting the Team
- Prioritization by System
- Shrinking Clash Groups
- “Gray-Zone” Modeling
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- Laser Scan validation/ QAQC
- Automating file sharing
- Visually communicating state of coordination
- End-of-Job Reporting
- Case-study
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Process Improvement

• Cloud based analytics
• Programming for Mobile platforms
• Virtual meeting rooms
• Shared workstations
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Process Improvement

• Improve self perform layout accuracy
• 3d model points direct to field
• Reduce time and errors from manual calculations
Process Improvement

- Capture existing conditions
- As-built verification
- Comparative analysis of actual vs design
Proton Treatment Center < Brasfield & Gorrie

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@BrasfieldGorrie
Proton Therapy < Brasfield & Gorrie
Proton Therapy < Brasfield & Gorrie

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Challenges:

- Contract did not fully support workflow
- Tough to break out of silo’s
- Network/IT Infrastructure
- Ability of trades to dedicate resources early enough
- General industry practice
Large Healthcare Expansion < Brasfield & Gorrie
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VDC Coordinator Roles

OPERATIONAL

PROJECT PURSUITS / BUSINESS DEVELOPMENT
SELF PERFORM (CIP CONCRETE)
PROJECT COORDINATION
LASER SCANNING
sUAVS (DRONES)
ROBOTIC LAYOUT
CODING AND SCRIPTING
...R&D...

INITIATIVE LEADS

REGIONS

1 2 3 4 5 6 7

VDC Department < Brasfield & Gorrie

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B&G Virtual Design and Construction Role

- Fastest growing department in company
- Over 22 coordinators supporting $3.2B of construction
- 3-6 Co-ops/interns each semester
- Implementing a rotation plan to balance department growth and train rest of the company
- Background is very diverse

Architects  
Construction Mgmt  
Aerospace Engr.  
Pilot  

Insurance/Business  
Mechanical Engr  
Electrical Engr  
Civil Engr  
Programmers
THANK YOU