Integrating a Megaproject in San Diego

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Seaport San Diego

- Port District selected Protea Waterfront Development for mixed use redevelopment site
- $1.2Bn project on the waterfront in downtown San Diego

Project Challenges
- Site constraints
- Diverse constituencies
- Multiple project participants
- Schedule and Phasing

http://seaportsandiegoca.com/
Gafcon

• Planning, design and construction consulting services to public and private agencies
• Established in 1987
• HQ in San Diego
• 130+ Professionals
• Providing PM services on Seaport
True North

Focus
Scope
Schedule
Cost

Foundation
Processes
Systems
Standards

Features
Automation
Computability
Context

Information
Quality
Reliable
Timely

Outcome
Governance
Transparency
Accountability

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Process is Paramount

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<th>Leadership and Program Strategy Lifecycle</th>
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Technology Toolkit

- Program Management Information System (PMIS)
- Geospatial Information Systems (GIS)
- Electronic Document Management Systems (EDMS)
- Building Information Modeling (BIM)
- Business Intelligence (BI)
BIM is Foundational

BIM provides data that links and transcends phases and systems. The data keys need to be designed to allow communication with all other relevant activities.
Benefits to Owner

**Design**
- Better visualization of design
- Resolve coordination issues in design
- Expedite design process: Drawings, Plan Checks, Permits
- Get better bids

**Construction**
- Better Trade Coordination
- Reduced schedule and cost risk
- Enhanced project planning
- Improved project controls

**Operations**
- Better building commissioning process
- More efficient project closeout
- Improve operational performance in asset lifecycle
Validated Use Cases

• Planning Visualization
• Design Reviews
• Estimating and Cost Control
• Construction Planning and Oversight
• Commissioning Oversight
• Closeout

Automate compliance and issue checking as part of design management process

Extract and Visualize Quantity data to support estimating and cost control processes
Seaport Immediate Requirements

• How do we improve our understanding of existing conditions?
• How do we optimize planning and design decisions at this stage of the project? For scope and cost?
• How can we help manage the entitlements/approvals process?
Concept Design

Import utilities data from City of San Diego GIS database, validate during GeoTechnical / Environmental Survey

Use models of existing conditions for site visualization and planning
Concept Design

Prepare concept design models and publish Programmatic options in Power BI

Validate design options within context of site conditions in preparation for permitting process
Concept Design

Utilize VR technologies to improve design visualization and stakeholder feedback
Conceptual Estimating

Visualize estimating data in dynamic reports

Contextualize estimating data and iterations in site design

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Use Cases under Consideration

• Reality Capture
  • Leverage UAV’s to capture site details, compare with schedule analysis to track progress
  • Leverage simple to use photogrammetry tools for site inspections

• IoT
  • People and materials tracking on site to incorporate in Pay App approval procedures
  • People tracking on site to incorporate in safety requirements
  • Incorporation of beacon technology to include in future operational use on site

• VR/AR
  • Design Visualization for project stakeholders
  • User experience during operational lifecycle
THANK YOU!

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