Bar Chart/Progress Schedule

Monday, March 2, 2009

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Construction Management Option
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Constitution Center
400 7th Street SE, Washington, DC 20024
NATALIE L. BRYNER
CONSTRUCTION MANAGEMENT OPTION
CONSTITUTION CENTER
400 7TH STREET SE, WASHINGTON, DC 20024

BUILDING STATISTICS
- Size: 1,500,000-SF base building and 600,000-SF parking garage
- Number of Stories: Three-level underground parking garage, 10 stories + Pent House
- Occupancy Type: Class A Office Space
- Cost: $246 Million GMP
- Construction Dates: July 2007 - November 2009
- Delivery Method: Design-Bid-Build
- LEED Gold Project

MECHANICAL & ELECTRICAL
- Centralized Plant in the Penthouse Housing:
  - Two 800 h.p. Boilers
  - One 350 h.p. Boiler
  - Three 1200 ton Trane Chillers
  - Eight 30,000 CFM Trane Air Handlers
  - Eight 30,000 CFM Semco Energy Recovery Units
  - Four 1200 ton Cooling Towers utilizing 6,700 Active Chilled Beams
- Power distribution system of 13.8 kVA feed from four primary switchgear connected to Pepco feeders
- 10 secondary 4000A transformers within the garage and Pent House levels
- Two 1000 kilowatt generators are roof mounted to provide power back-up to the critical building systems during a power outage
- Two dedicated chiller/purifier drinking water systems that continuously circulate water throughout the building
- Custom made Chilled-Beam System from Germany

PROJECT TEAM
- Owner/Developer: David Nassif Associates
- General Contractor: James G. Davis Construction Corporation
- Owners Representative: Kramer Consulting
- Architect: SmithGroup, Inc.
- MEP Engineer: SmithGroup, Inc.
- Civil Engineer: Wiles Mensch Corporation
- Structural Engineer: SK&A

STRUCTURAL
- Precast panels found at all four corners of the building, which frame the spandrel glass
- Blast resistant curtainwall throughout at Streetscape and Courtyard, with floor two being the most resistant including an air barrier system
- Metal panel on the Pent House level to conceal the MEP equipment
- Blast protection in garage tenant space, entrance ramp, internal ramps, electrical rooms, telecom rooms, elevator shafts, egress stairs, and exposed columns
- Two-way waffle slab on all floors except the Pent House

ARCHITECTURE
- Renovation of an existing building, originally constructed in 1976 and occupied by the Department of Transportation (DOT)
- 4 separate, but integrated quadrants that have their own elevator, stairs ways, bathrooms, electrical closets, communication closets
- One acre of courtyard that is a private, secure green space with fountain, seating areas, sculpture, and 32 Honey Locus Shade Trees that are 11'-15' tall
- White Marble and Jerusalem Limestone are located around the first level of the building, creating a boarder for the spandrel glass located at the storefront entrances
- Built-up roofing system and metal panels used to conceal the MEP equipment on the Pent House level
Milestone One (January 26, 2009):

- TROX USA, Inc. Site Visit
- Research the typical costs of an HVAC system
- Become familiar with the curtain wall panels and installation requirements
- Research weather during the installation duration
- Determine the Rules of Credit using R.S. Means
- Interview DAVIS to the availability of the daily curtainwall count

Milestone Two (February 9, 2009):

- Evaluate publications on the chilled beams
- Interview DAVIS project team for schedule, cost, and site logistics
- Interview SmithGroup to find out why they chose the chilled beams
- Interview Pierce Associates to determine how they familiarized themselves with the system
- Compare chilled beam to typical system
- Interview DAVIS for commissioning requirements
- Send out Interview/Survey questions to industry members
- Interview DAVIS with curtainwall questions
- Create and compile Data Collection Tool – Received the CD on Saturday
- Interview DAVIS to determine the schedule requirements
- Interview the subcontractor to determine the renovation steps
- Create and send out survey to be sent to industry members

Milestone Three (February 23, 2009):

- Research current commissioning systems
- Finalize Chilled Beam Research
- Calculate expected and actual productivity
- Calculate expected performance factor
- Calculate planned and actual manning
- Calculate actual percent complete
- Calculate control budget
- Determine the factors for delays
- Research structural requirements for parking garage
- Calculate loads the slabs are experiencing

Milestone Four (March 16, 2009):

- Compare Constitution Center data to CE 533 semester project
- Research how the waffle slab were renovated
- Research what qualified a section to be renovated
- Perfor a two-way reinforced concrete system analysis
- Compare current renovation system to two-way reinforced concrete system
- Determine the safety requirements for the metro entrance on Constitution Center
- Research the OSHA requirements
- Interview DAVIS for special safety techniques
- Compile survey results

Reason why Milestone was not met – Spread sheets are made, however I just received the CD on Saturday and was in Akron, OH for the SWE Region G Conference till Sunday evening. Recovery Plan – I plan to work on it at the end of this week after my two exams. I will be utilizing spring break to get myself back on schedule.