How the Chicago District, US Army Corps of Engineers Conducts Project Management
20 November 2013

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AGENDA

- Chicago District History, Mission, and Organization
- Business Lines and Programs
- Project Management Business Process
- How it Conforms and Differs from PMBOK
- Questions
The Corps of Engineers’ history is intertwined with Chicago’s own. Vibrant and dynamic, looking forward and leading into tomorrow.

James Thompson’s original 1830 58-block plat of Chicago
Chicago District Mission

Mission: USACE-Chicago District provides valued, world class leadership, engineering services, and management capabilities for diverse stakeholders and partners within the greater Chicago-land metropolitan area and to the Nation.

- LRC Mission Areas:
  - Navigation
  - Flood Risk Management
  - Shoreline Protection
  - Environmental
  - Emergency Management
  - Overseas Contingency Ops
  - IIS Program
  - Regulatory Support
  - Real Estate
Business Lines & Programs

- Navigation
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• Seven Harbor projects
• 90% traffic within system
• 226,800 jobs US & Canada
• $14.1 B in wages, salaries
• $33.6B in business revenue
Chicago - Flood Risk Management

- FRM-since 1945
- $580M in flood damages prevented since 1996
- $48M in 2012
- $130M in 2011
- $98M in 2010

As of February 25, 2013
Environment:
- 19 projects completed or in construction for over 2600 acres of habitat & 60 miles of unimpeded river flow
- At least 2 projects to construction in 2013
- 30 active studies in progress
Program/Project Management Business Process

**Program/Project Initiation Phase**
- ID Customer Need or Request
- Accept the Work
- Initiate Project in P2
- Program Specific Processes
- Receive Funds (General Investigations)

**Program/Project Plan Development**
- Define Project Scope & Customer Requirements
- Review Lessons Learned
- Establish the Team
- Level Resources
- Develop the Schedule
- ID Program Specific Processes
- Resources Estimate Development
- Workload Analysis
- Acquisition Strategy (Contracting and Small Business)
- Lessons Learned Review

**Program /Project Plan Closeout**
- Activity/Project Closeout
- Lessons Learned

**Execution and Control**
- Project Execution Control
- Change Management Plan
- Receive Funds
- Program Specific Processes
- Lessons Learned Review

**Program /Project Plan Approval**

More to follow on Funding
Planning Process

- **Organization:** Planning Branch in PM Division
- **Structured approach**
- **Iterative process**
- Can we?... Should we?
- **Integrates** social, scientific, environmental & engineering
- **Uses interdisciplinary, multiple agency, sponsor and stakeholder teams**
Mission: Conduct feasibility studies to determine cost effective solutions. These studies have the potential to lead to design and construction of various projects in the future.

- Current Feasibility Studies Include:
  - Upper Des Plaines River and Tributaries
  - Bubbly Creek
  - Great Lakes and Mississippi River Interbasin Study
Funding & Other Processes

• Funds Distributed during Planning and Execution
• First Step: Congressional Authorization
  • Water Resources Development Acts
  • Appropriations Acts
  • Other Bills
• Next Funding Step: Congressional Appropriations
  • Energy and Water Development Appropriations Act (annual)
  • Great Lakes Restoration Initiative (GLRI) (2010-12)

• Acquisition Planning – Driven by Project Complexity
  • Contracting Component IFB vs RFP
  • Small Business Component - Set Aside Areas
Select Authorities

- Congressionally Authorized
  - General Investigation Studies (GI)
  - Construction General (CG)

- Continuing Authorities Program (CAP)

- Great Lakes Fishery & Ecosystem Restoration Program (GLFER)
Select Authorities
Congressionally Authorized

- Specifically Named Projects
  - Little Calumet River – Des Plaines River I
  - Chicago Shoreline – Des Plaines River II
  - CUP McCook/Thornton – Bubbly Creek
  - Dispersal Barriers Efficacy – GLMRIS (Interbasin)

- Study Authorizations based in Law
  - WRDA, R&H Acts
  - Resolutions from House or Senate Committees

- Projects typically large & complex
  - Tend to be expensive
  - 10+ years to construction
Select Authorities
Continuing Authorities Program

- Nine Authorities Include:
  - 14* Emergency Streambank Erosion & Protection
  - 103* Coastal Storm Damage Reduction
  - 107* Small Navigation & Boat Harbors
  - 111 Mitigation Caused by Fed Nav Projects
  - 204 Beneficial Use of Dredged Material
  - 205 Flood Risk Management
  - 206 Aquatic Ecosystem Restoration
  - 208* Clearing & Snagging
  - 1135 Restoration of Environmental quality

- With earmarks CAP averaged $130M annually; FY ’12 funding w/o earmarks was $49M; FY ’13 Budget w/o earmarks is $24M

- Delegated Authority
  - Allows Chief of Engineers to plan, design and construct projects of limited scope and complexity without additional congressional authority

- Projects often named in Appropriations Bills
- Typically 3 - 5 years to construction when fully funded

* Not supported in FY ’13 or FY ‘14 President’s Budget
Select Authorities - GLFER Program

- Section 506, WRDA 2000, as amended
  - Ecosystem Restoration Authority
  - Projects in the Great Lakes Basin or projects outside the basin that restore Great Lakes resources
  - Includes historically connected tributaries;
  - Cost shared 65 fed / 35 non-fed
  - Authority for $100M fed when added to the non-Fed share = $154M
Feasibility Studies

- Organizationally: Planning Branch, and PM Branch in Program and Project Mngt Division
- Takes previous efforts and refines data into projects
- Deliverable: Report to Congress on potential projects
Execution

- Congress Authorizes projects in the Report to Congress
- Organizationally: Hand Over from PM Division to Technical Services (Construction)
- Lifecycle project management continues to monitor changes, cost and
Indiana Harbor and Canal Confined Disposal Facility

- Harbor had not been dredged since 1972
- Current project includes constructing a confined dredged material disposal facility to house an estimated 1.6M cu yd dredging backlog of contaminated sediment
- Dredging started on 23 Oct 2012, and is on-going.

CDF features include:
- slurry cutoff wall
- outer dikes with interior disposal cells
- a groundwater gradient control system
- steel sheet-pile cutoff wall
- barrier at the canal
- offloading facilities
- administration building and ancillary support infrastructure
- real time air monitoring stations

Mechanical dredging with environmental bucket

Hydraulic off-loading with water recirculation from the CDF
Calumet Harbor & River, IL & IN
Operation & Maintenance Program Activities

- Limited remaining Chicago Area CDF capacity: Dredged Material Management Plan
- Concrete Obstruction Removal
- Breakwater Repair & Rehabilitation
22 miles of levees & floodwalls, control structures and pump stations, preserves 346 acres of wetland mitigation, and recreation features

~ 90% constructed with expected completion – 2018

Stage VII consisted of the installation of 10,285 ft of floodwall, two gatewell structures, one outlet structure, and two sandbag closure structures. Turned over to LS in Aug 2012

Stage VIII – 8,611 lineal feet (LF) of earthen levee; 780 LF of sheetpile wall, 7,762 LF of concrete and sheetpile floodwall, and 21 gatewell structures. Turned over to the LS in Aug 2012
Chicago Shoreline

Future Construction:
- Montrose to Irving (USACE)
- Fullerton/Theater on the Lake (LS)
- 45th to 51st Streets (LS)
- 54th to 56th Streets (LS)
- PACR required
District Regional Processes

- Overall Acquisition Strategy
- Manpower Requirements
- Operating Budgets
- Regional Workload Analysis & Resource Leveling
- Regional Overall Acquisition Strategy
The Results

- Projects Delivered with Controlled Schedule and Cost Growth
- Innovative Engineering and Construction Solutions to the Region
How PMBP Conforms with PMBOK

- Uses Initiation, Planning, Execution, & Turn Over Model
- Mandates Communication with Stakeholders
- Use of Earned Value Management
- Use of Programmatic and Project Levels Metrics
- Monitoring and Controlling throughout the Project Life Cycle
How PMBP Differs from PMBOK

- Standard Milestones in the WBS Do Not Break Down
- Combines Control and Execution
  - PMBP Calls for Control Measures throughout PLC
Questions?

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