A Path Forward in BIM:
A Road Map for Implementation To Support MILCON Transformation and Civil Works Projects within the U.S. Army Corps of Engineers

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Outline

• USACE Missions Overview
• Why USACE is going BIM
• What USACE is doing with BIM
  – Military Programs
  – Civil Works
• Where USACE is going with BIM
  – The Road Map
  – The challenge to industry
U. S. Army Corps of Engineers

In Support of the Army and the Nation
US Ports & Waterways convey > 2B Tons Commerce
Foreign Trade alone Creates > $160 B Tax Revenues
Cumulative Flood Damage Prevention >$419 B
“To provide engineering, construction, environmental management and real estate services for the Army, Air Force, other assigned U.S. Government agencies, and foreign governments.”
Why BIM?

- BIM Supports USACE Strategic Organizational Goals
- BIM Effectively Supports MILCON Transformation
  - BIM benefits in design and construction
  - Goal to accrue O&M benefits
- BIM Integrates With Current Applications and Programs
USACE BIM Examples

• Fort Lewis Barracks, Seattle District
USACE BIM Examples

- Information Technology Laboratory, Engineer Research and Development Center
USACE BIM Examples

- Army Reserve Center, Louisville District
USACE BIM Examples

- Iraq Prison, Gulf Region Division
BIM in Civil Works

- BIM models can feed computer-aided facility management systems
- BIM can support asset management efforts

Tainter Gate model by Dr. G.A. Riveros, P.E., ERDC-ITL
BIM Road Map Approach

- Phased approach
- Clearly states goals in adopting BIM
- Communicates intentions to industry
- Provide advice and lessons-learned in BIM adoption
- Anticipate technology, but plan to adjust to technology and industry risk
- Seek input and review by BIM Communities of Practice
- Living Document - Revise plan as technology matures
USACE BIM Road Map

- Addresses Short-term (FY08) and Long-term (FY12) goals
- Provides Implementation Guidance
- Addresses Military Transformation, Centers of Standardization, and Civil Works
- Address BIM in D-B and D-B-B
- Addresses O&M Requirements
**USACE BIM Road Map**

*Achieve a coordinated move towards BIM while managing technology and business process risks*

**Building Information Modeling**

*Overview: U.S. Army Corps of Engineer Roadmap*

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<tr>
<th>Initial Operating Capability (IOC)</th>
<th>Establish Life-Cycle Interoperability</th>
<th>Full Operational Capability (FOC)</th>
<th>Automation of Life-Cycle Tasks</th>
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<tr>
<td>8 Centers of Standardization (COS) productive in BIM by 2008</td>
<td>90% compliant with National BIM Standard (NBIMS)</td>
<td>NBIMS used for all projects as part of contract advertisement, award, submittals</td>
<td>Leverage NBIMS data for substantial reduction in cost and time of constructed facilities</td>
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<td>All districts productive in NBIMS</td>
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<th>2008</th>
<th>2010</th>
<th>2012</th>
<th>2020</th>
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USACE Challenge to Industry

- We expect our design and construction contractors to develop BIM capabilities

- We expect software vendors to use Industry Standards (e.g. NBIMS) and achieve interoperability

- We expect BIM-based deliverables
BIM POC

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