Engineering, The key to successful Implementation

Understanding the Engineering Design process
Engineering Design Process

Cyclical series of steps that engineering teams use to guide them to solve problems.
Engineering / Design Process

- Determine the need and constraints
- Redesign if Necessary
- Understand the problem
- Look for possible solutions
- Develop a possible solution
- Create
- Research
- Identify
- Plan
Engineering Design Responsibilities

- Research
- Design
- Test
- Modify & Re-test
- Reporting
Roles of Engineering Design Team
Concerns of Engineering Design

- Usability and Safety
- Strength and Reliability
- Look and Feel
- Efficiency and Cost
- Maintenance and Life Span
How does AWP affect Engineering?

- Construction Work Area
- Path of Construction
- Construction Work Package
- Sequence

Construction

AWP

Engineering
Understanding CWA
Path of Construction

1. Construction Activities
2. Engineering and Construction Agreement
3. Procurement Alignment
4. Constructability
CWP Boundary Defines EWP Deliverable
Sequence of Engineering

1. **Design Criteria**
2. **Vendor Support**
3. **Stress Analysis**
4. **Requisition Process**
5. **Drawing Approval**
6. **Issue of Drawings**
7. **Fabricator Receipt**
EWP Deliverable Creates CWP
Sequence North to South
Does AWP change the way we perform Engineering Design?
Process for Success

**Project info**
- Project data
- Project lists
- Published models

**Engineering**
- Create engineering work packages
- Engineering work packages

**Work packaging**
- Create work packages
- Construction work packages
- Installation work packages
- Test work packages

**Construction**
- Components tree
- Construction documents

**Progress**
- Progress reports

**My tasks**
- Pending tasks
- Task administration
# Engineering Work Package

**EWP-206 - CAD: PDS model files.**

<table>
<thead>
<tr>
<th>General information</th>
<th>Related packages</th>
<th>Schedule</th>
<th>Bulk imports</th>
<th>CAD models</th>
<th>Isometrics</th>
<th>Steel</th>
<th>Documents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title</strong></td>
<td><strong>Package type</strong></td>
<td><strong>Status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EWP-206</td>
<td>EWP - Engineering Work Package</td>
<td>IFC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Discipline</strong></td>
<td><strong>Data provider</strong></td>
<td><strong>Date received</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipe</td>
<td>ST PIPING</td>
<td>11/11/2014</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Related construction work packages**
- CWP-03A-00-22-Piping, CWP-03A-00-23-Equipment, CWP-03B-00-22-Piping, CWP-03B-00-23-Equipment, CWP-03C-00-22-Equipment, CWP-03C-00-22-Piping, Test-02

**Notes**
- Notes about the EWP.

Last update on 7/18/2016 7:15:39 PM by Sarma Shankar
Benefits of AWP in the Engineering Process

- Clearly defined Construction Work Areas
- Agreed upon Path of Construction by CWP boundary
- Disciplined process for creation of EWP
- Sequenced release of drawings to fabricators
Questions

Dale A. Adcox
Bentley Systems
Dale.Adcox@Bentley.com
610-757-7049