Lessons Learned and Benefits Obtained
Session Format

- **COAA**
  - Lessons Learned
  - Benefits Obtained
- **Kiewit**
  - Lessons Learned
  - Benefits Obtained
- **Jacobs**
  - Lessons Learned
  - Benefits Obtained
- **Flint**
  - Lessons Learned
  - Benefits Obtained

- Audience Participation
- Session Close
Introduction of Topic and Panel

Topic: Lessons Learned and Benefits Obtained

• Facilitator
  o Lloyd Rankin, Facilitator, ASI

• Panel
  o Theresa Hewitt, EPC Manager, Kiewit
  o Jim Craig, Director of Construction Operations, Jacobs
  o Darrell Coughlin, General Manager, Construction and Planning, Flint
Lessons Learned

WFP initiatives need to be driven by the owner. They need to:

- Start early
- Assign a WFP Sponsor and Champion
- Understand what WFP is
- Assign clear deliverables to your contractors
- Audit and assess all stakeholders
- Be aware overheads will increase
- Get involved
Benefits Obtained

- Greater Productivity
- Greater Predictability
- More Reliable Progressing
- More Trust
- Less Rework
- Better Quality
- Shorter Punch-lists
- Improved Communication
- Fewer Surprises
- Lower Risk
Lessons Learned: Kiewit

Set-up for successful WFP:

✓ Early alignment between contractor, owner and engineer on roles and expectations for deliverables
✓ Construction drives breakdown of work areas
✓ Construction to develop a scoping document – communicate expectations
✓ Engineering allocates drawings against the CWPs in their progressing system
✓ Find a way to schedule engineering to release by CWP
✓ Method of knowing engineering % complete by CWP
Lessons Learned: Kiewit

Execution of WFP:

✓ Build WFP cycle into the project schedule
✓ Tailor the FIWP template by discipline
✓ Keep template simple – only include what you need to execute the work
✓ Get buy-in from General Superintendents and Construction Managers
✓ Plan in the engineers office – before going to site
✓ Plan FIWP documents for turnover – cross reference to system
✓ Sign off the FIWPs as you go – not all just before turnover
Execution of WFP:

- WFP on all projects – even if not client mandated
- WFP can be applied to all work – all trades
- Scaffold
- Prep for heavy lift / module setting
- Material requirements are identified – minimize emergency orders
- Model shots give crews real visualization of the work
- Sets up for consistency/organization during turnarounds
- Work package updates make change management visible
Lessons Learned: Jacobs

- IT WORKS!
- Implement WFP orientation and education on future projects
- Include WFP checklist in construction readiness review
- Implement WFP during Phase I (FEED)
- Package design / procurement to match construction plan
- IFC drawings and material must support workface plans and FIWP sequence and Schedule
Lessons Learned: Jacobs

- First pass at FIWP complete prior to mobilization
- Implement WFP for all Craft (not just pipe/structural)
- Require workface planning in primary sub-contracts
- Revise work processes around material management systems’ updates
- Integrate WFP into weekly Schedule meetings
Benefits Obtained: Jacobs

- Discipline Work Package Templates
- Standard work process
- Verified 100% material availability
- Increased productivity
- Early allocation of support craft
- Increased Scaffolding and Equipment utilization
- Synchronization with schedule
- Maintain critical path
- Controlled issuance of work
- Stay on schedule

Bottom Line – Improved Productivity & Workforce Utilization
Sample Project: Jacobs

- TRIR .21
- Productivity factor 11% better than budget
- Cost below budget ±/- 10%
- Rework < 2%, < 0.5% on construction
- Beat original schedule
Lessons Learned: Flint

✓ Need clear scoping narrative for estimating group and sub-contracts.

✓ Construction needs clear understanding of their role as it pertains to WorkFace Planning

✓ Need a backlog of FIWPs before ever going to the field to start construction (always seem to go to early)

✓ Better communication between fab/mod and the site (RAS Dates)

✓ Daily productivity reports help keep the superintendents and construction manager on top of what is happening and any recovery required.

✓ Involve quality in the planning process.
Lessons Learned: Flint

- The sooner you start to plan the work the more benefits will be realized (involve Work Face Planning / Construction and Operations as early as possible)

- Need to develop the release plan both EWP and FIWP early (Once the equipment is identified and the areas plotted a EWP list can be built, from here break the EWP’s into FIWP’s)

- Size of the work package is not as important as the content, need to cut scope where it makes the most sense. (As long as the package is by Foreman.)

- Need good scoping narrative, make the scope clearly understood (Use plan view to identify scope location.)

- The more detailed the Construction Schedule is the easier it is to forecast completion.
Benefits Obtained: Flint

✓ WorkFace Planning early involvement gives the ability to affect constructability and timely procurement.

✓ Detailed level 5/6 plan gave us the ability to forecast finish dates with accuracy.

✓ Daily productivity reporting gives construction management confidence in finish dates. Allows timely reacting to items that are lagging.

✓ Proper scoping narratives for subs gives cleaner request for quote responses.

✓ Detailed planning lead to easier turnover to client (painless!)
Benefits Obtained: Flint

- Level 5/6 plan (detailed plan) leads to better cost control – no over-runs.
- Morale on job is much higher leading to a happy/productive work force.
- Quality and Construction worked together as a unit towards a common goal. (Planning for turnover starts when planning starts!)
- Cutting the scope in the proper place leads to smoother work flow.
- Productivity Improvement.
- Work Face Planning works on all sizes of jobs...the key is to be planned and have all your deliverables in place prior to execution!
NOTE: The information collected is anonymous and may be used for research purposes. By participating, you are giving your consent for the use of this data.
1. Based on your experience, what is the expected % improvement in labour productivity an effective WorkFace Planning System will provide?

a) Less than zero
b) 0 to 10%
c) 10 to 20%
d) 20 to 30%
e) More than 30%
f) Can’t comment
2. Does your organization use WorkFace Planning?
   a) Yes
   b) No
3. Who should the primary driver for WorkFace Planning be?
   a) Owner
   b) Construction Contractor
   c) Engineering Contractor
   d) Don’t know
4. Do you believe projects should be construction-driven?
   a) Yes
   b) No
Audience Participation

5. Is there enough time provided to effectively implement WorkFace Planning?

a) Yes

b) No
Closing Comments

• The presentation slides and voting results will be posted on the COAA website following the conference.

• Please take a minute to evaluate our session.

• Thank you for attending this session.

• If you have any questions please talk to our panel after the session.