

Even More Schedule For Sale

Book Graphics

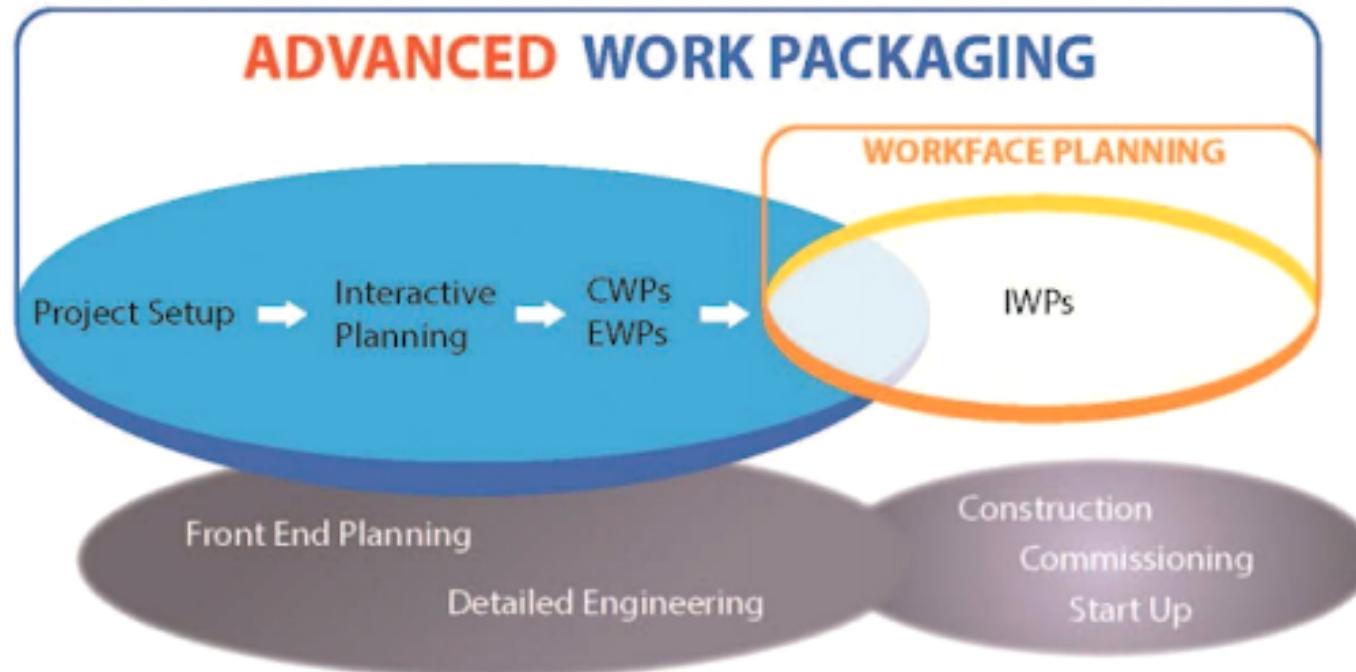


Figure 1

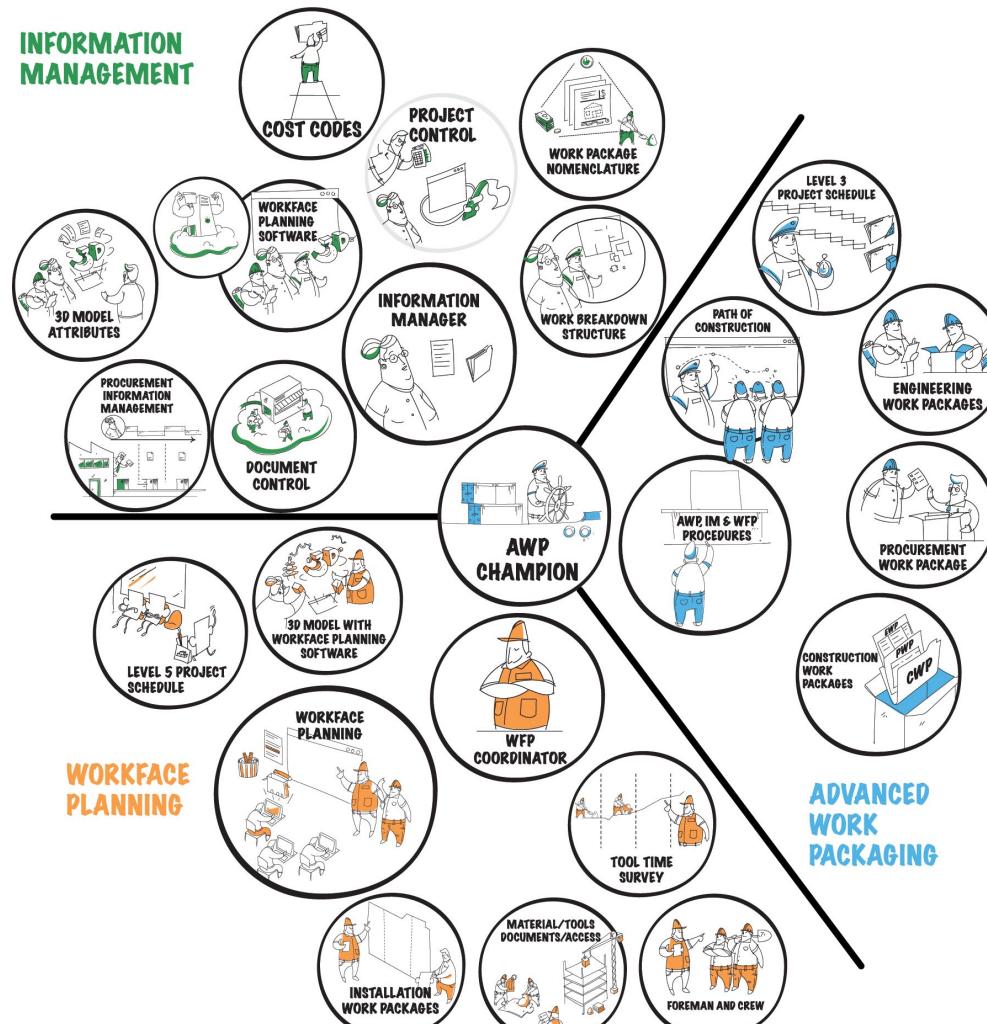


Figure 2

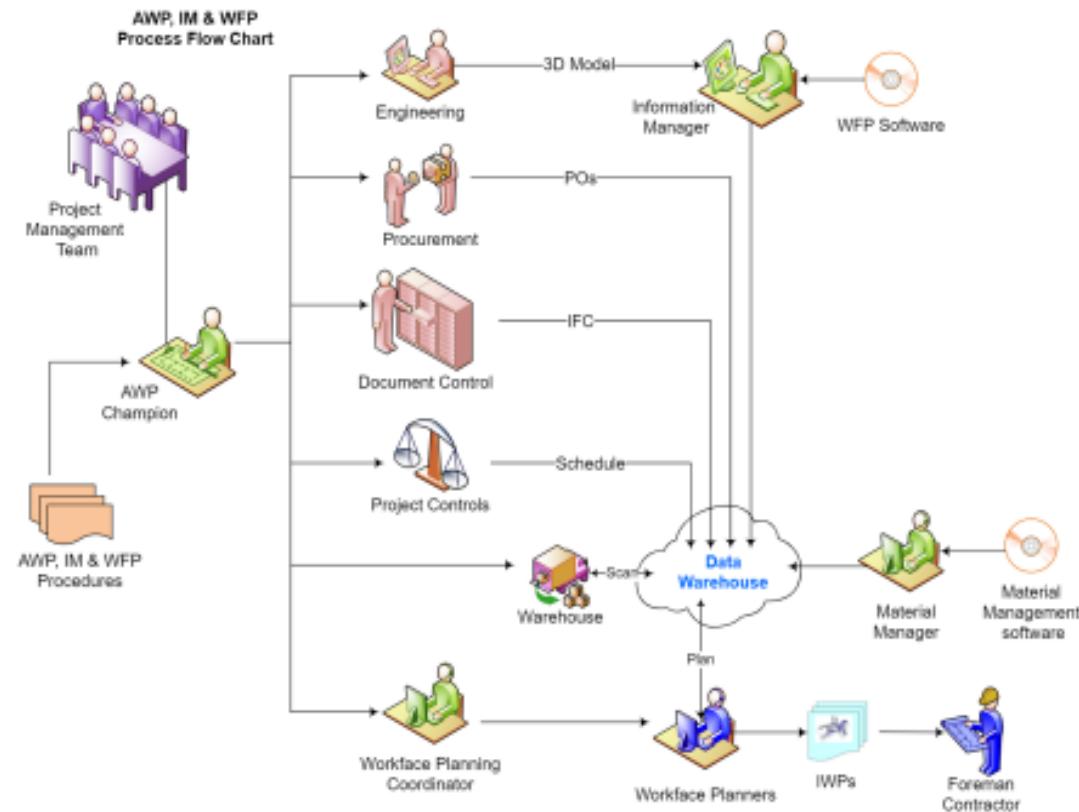


Figure 3

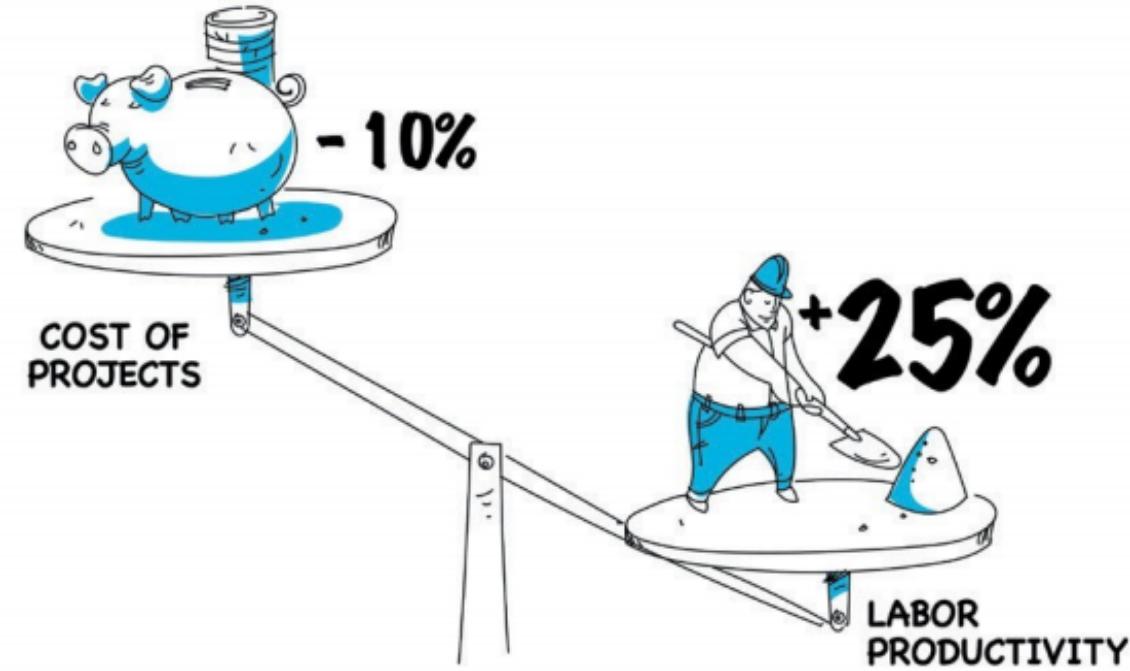


Figure 4

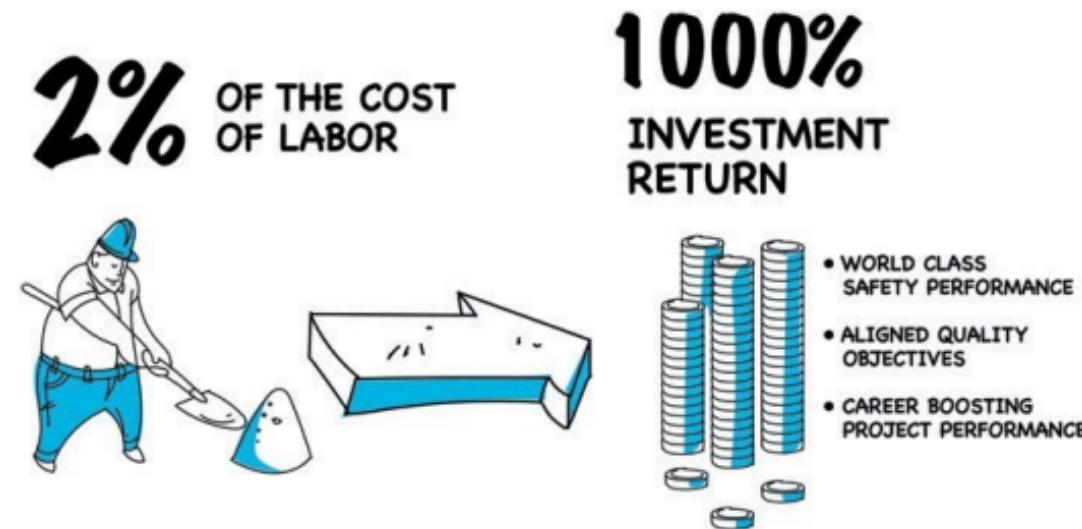
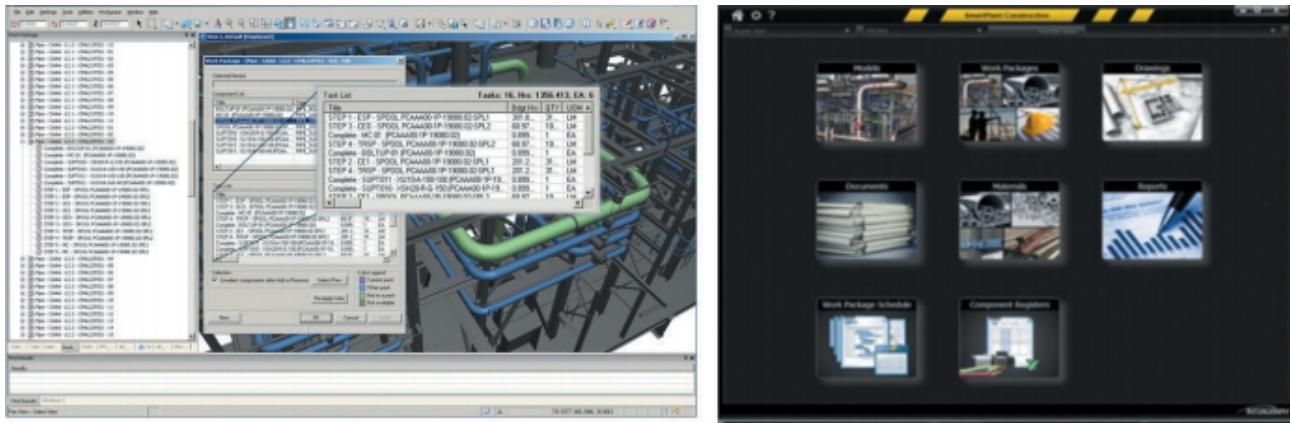


Figure 5



Figure 6



Bentley
Advancing Infrastructure
ConstructSim

 HEXAGON
PPM
Smart Construction

Figure 7

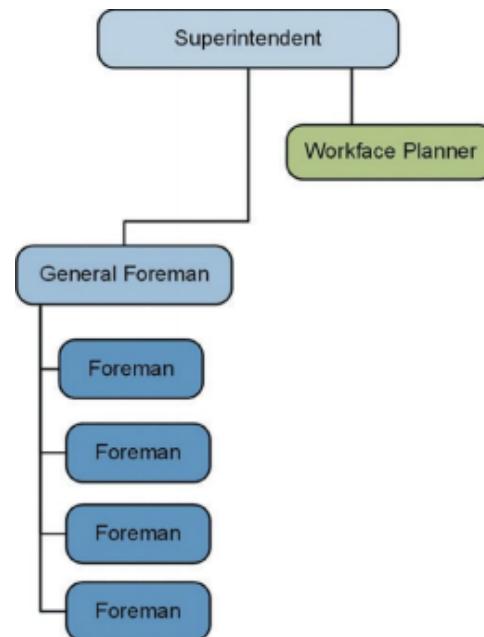


Figure 8

			90 Day Planning			IWP Assembly				3 Week Look Ahead											
			Weeks prior to execution			12	12	12	4	4	4	4	3	3	3	3	2	2	1	1	-1
CWP PE3-57	IWP	Description	Planned Value	Scoped	IWP Created in 3D	Inserted into LS Schedule	Documents IFC	Materials Available	Technical Review (RFIs)	Enter Backlog	Enter 3 Week Look Ahead	Bag and Tag Material	Request Scaffold	Request Cranes & Equipment	IWP Hard Copy	Safety	Quality	Resources Confirmed	Proceeding Work Confirmed	Issued to the Field	Work Complete
Civil																					
PE3-57-EW																					
Grade	PE3-57-EW-01	Survey for Grade	840	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-EW-02	Strip Top Soil	1340	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-EW-03	Grade to Elevation 1	890	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-EW-04	Grade to Elevation 2	730	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Piling	PE3-57-EW-05	Survey for Piling Placement	620	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-EW-06	Mobilize Piling rig and materials	450	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-EW-07	Install Piles North Side	980	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-EW-08	Install Piles South Side	730	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-EW-09	Cut and Cap Piles North	860	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-EW-10	Cut and Cap Piles South	1250	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PE3-57-CO	PE3-57-CO-01	Survey for form work	820	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Formwork	PE3-57-CO-02	Excavate for form work	1420	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-CO-03	Install form for EB-43	850	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-CO-04	Build Rebar cage EB-43	640	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-CO-05	Construct Forms for CG3-9	790	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Rebar	PE3-57-CO-06	Build Rebar cage CG3-9	550	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-CO-07	Pour EB-43 and CG3-9	350	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Figure 9

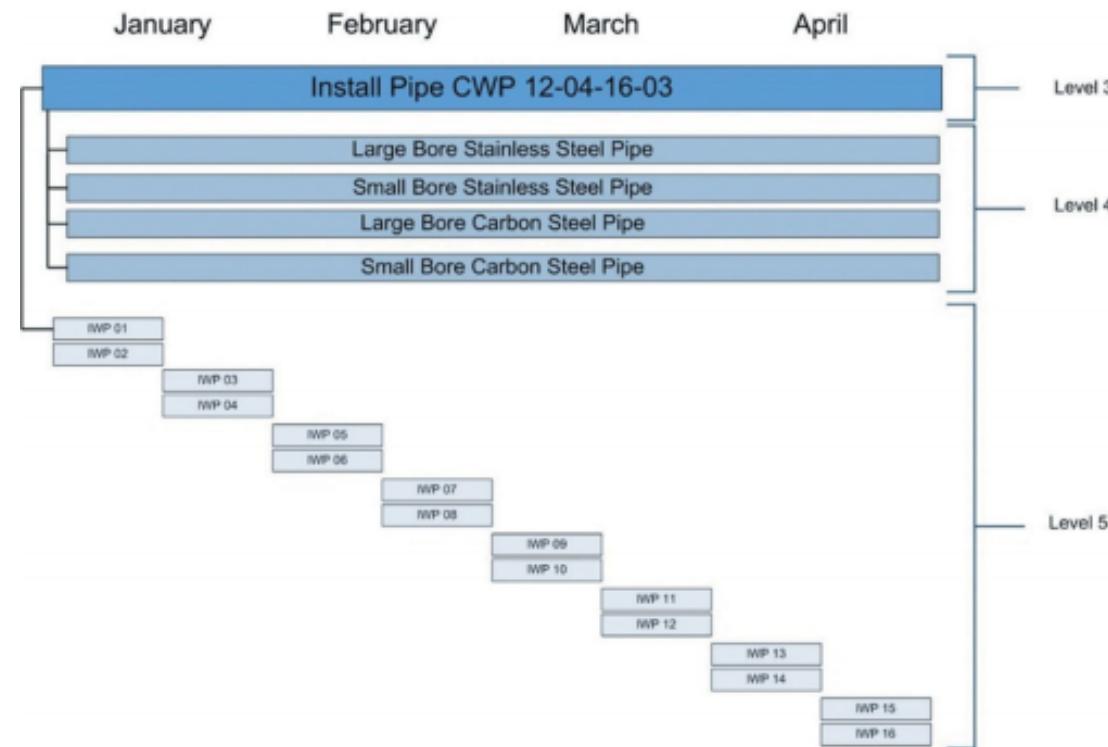


Figure 10

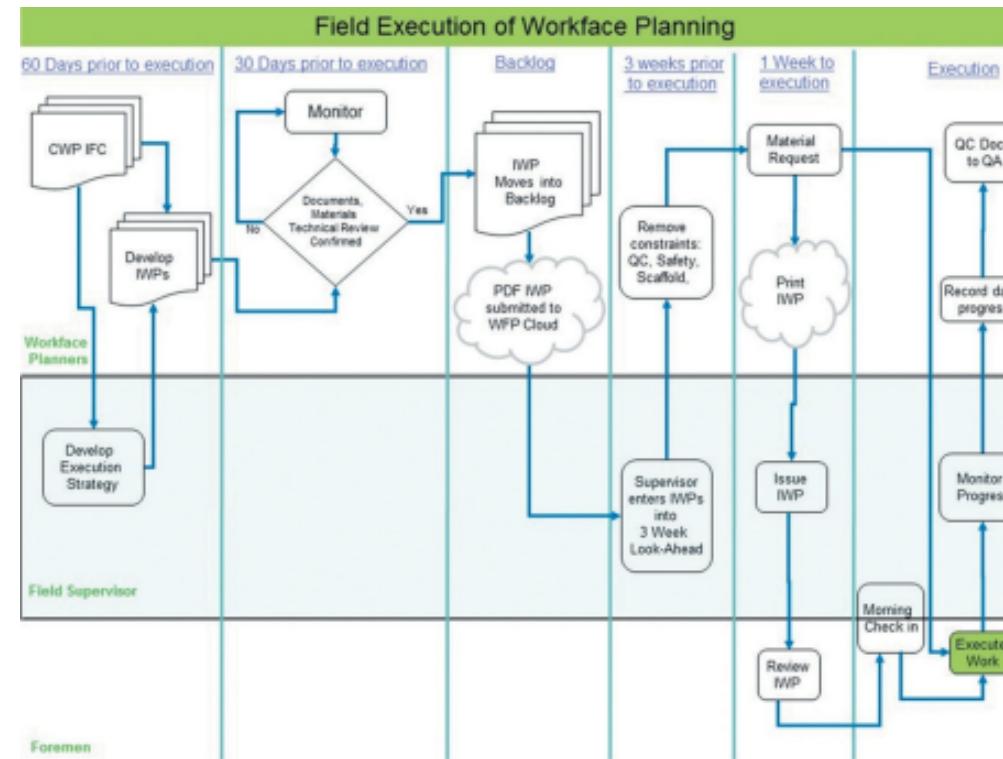


Figure 11

Contract	Discipline
8114	001 Piling
8114	002 Earthworks
8114	003 Foundations

Figure12

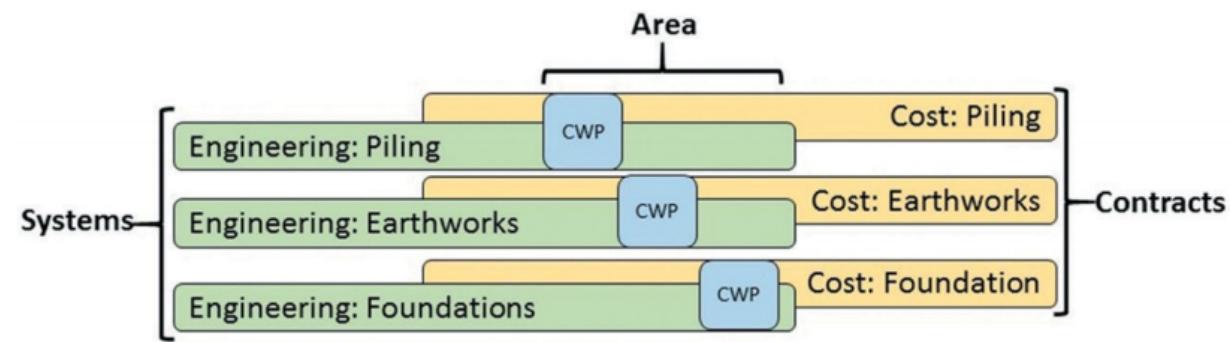


Figure 13

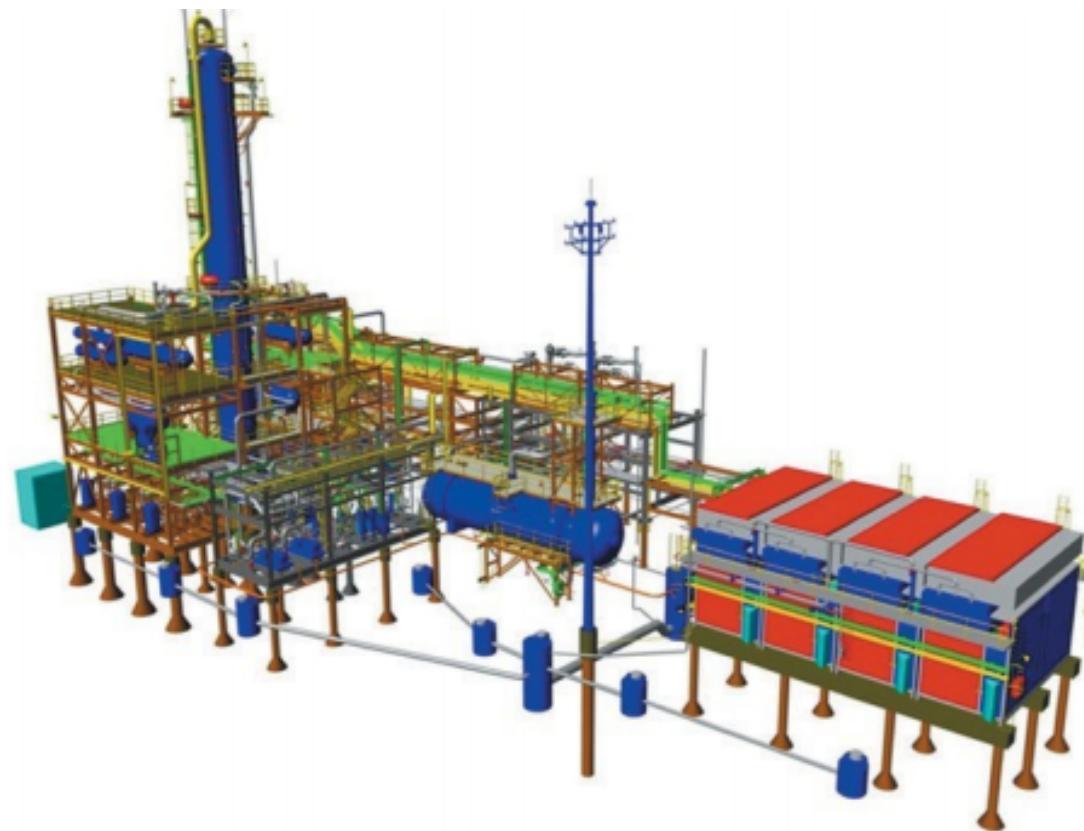


Figure 14

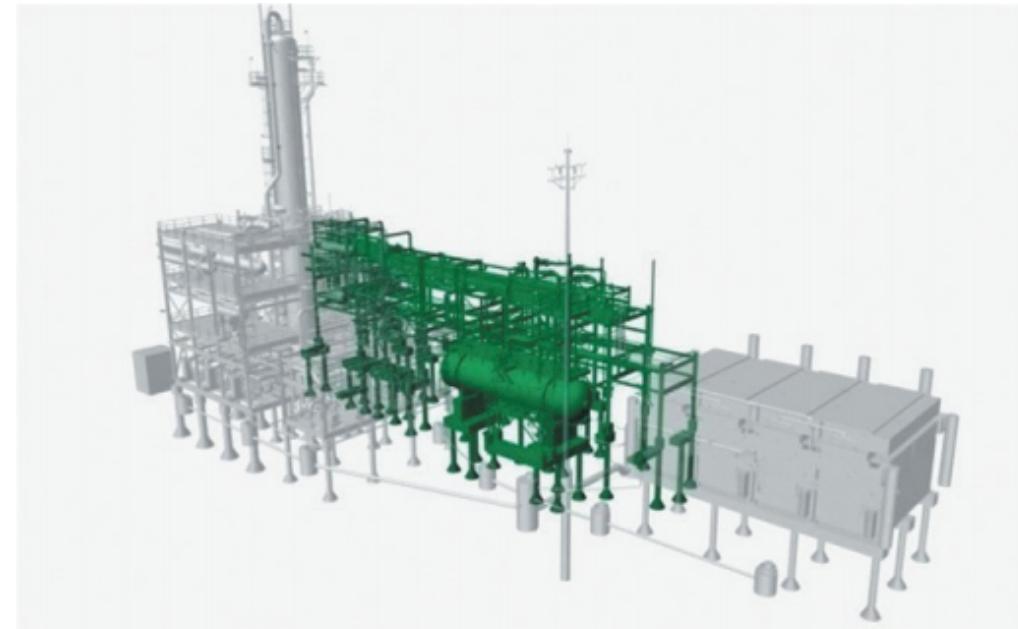


Figure 15

WTF- Water Treatment Facility (Plant)
I-ISBL: O-OSBL
12 - CWA
E - Major discipline (Earthworks)
4 - Sub Discipline
(Excavation)
**C05 - CWP (C- Construction, E-Engineering, M-
Modules, F- Fabrication, P-Procurement)**
14 - IWP
or **12006.1 - Drawing and spool**

Work Breakdown Structure

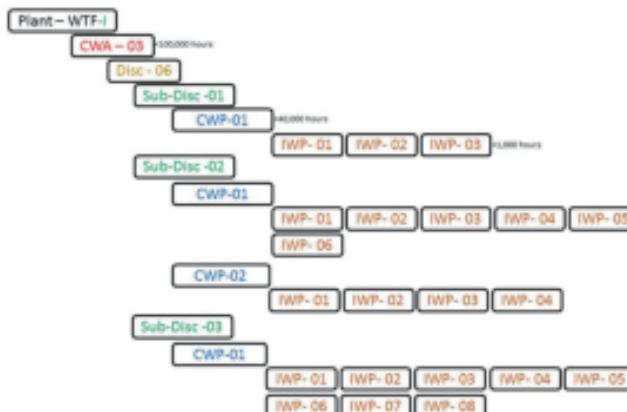


Figure 16

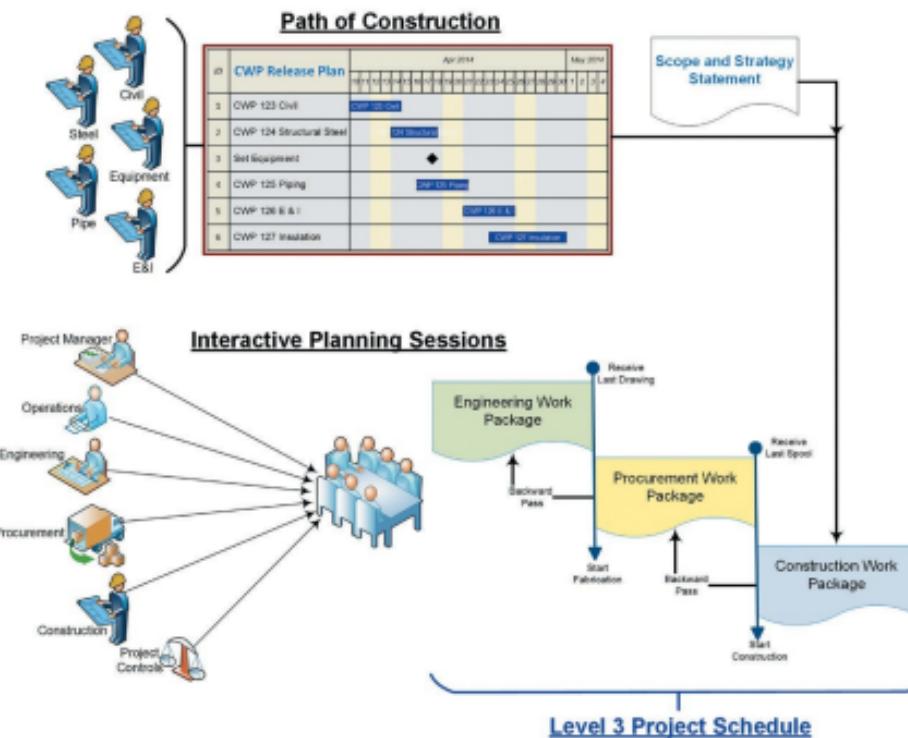


Figure 17

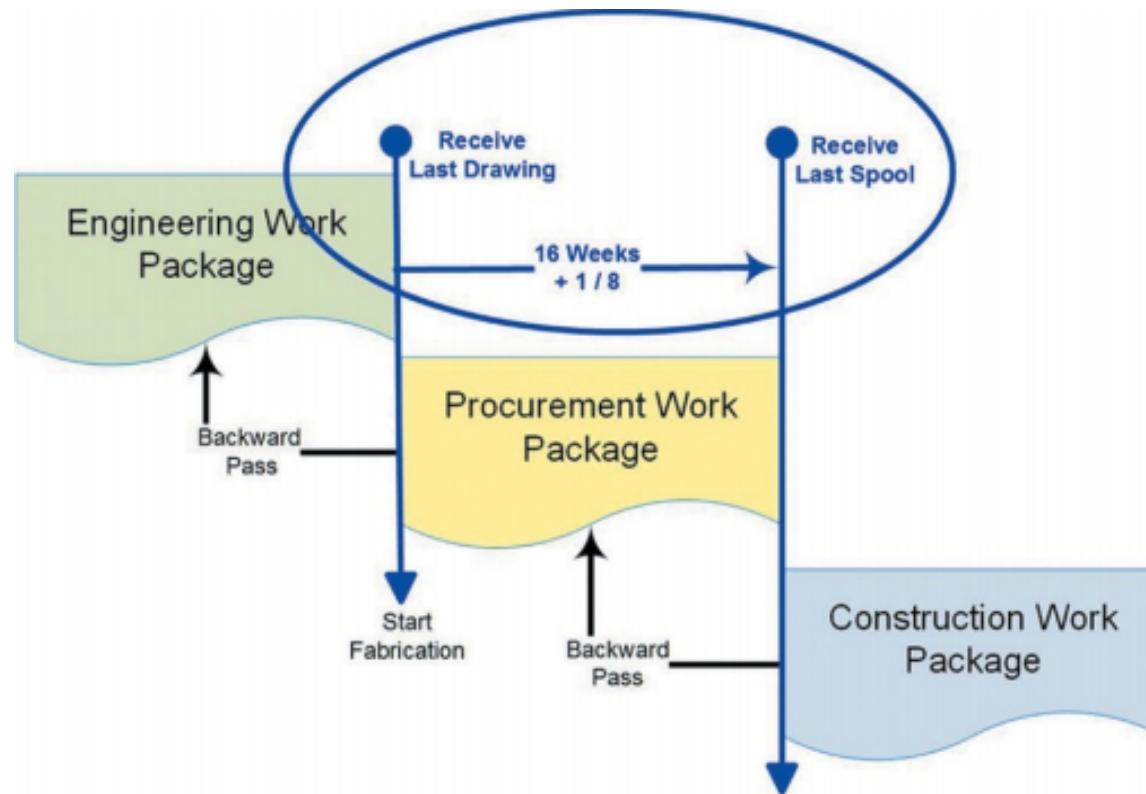


Figure 18

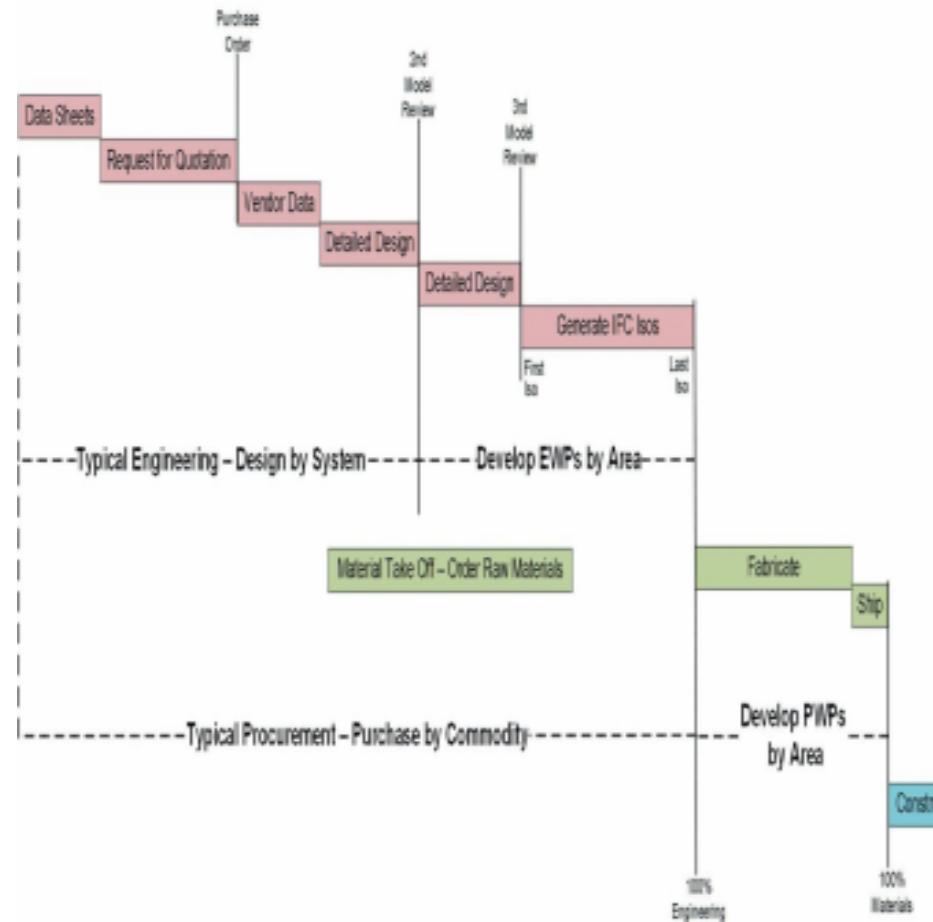


Figure 19

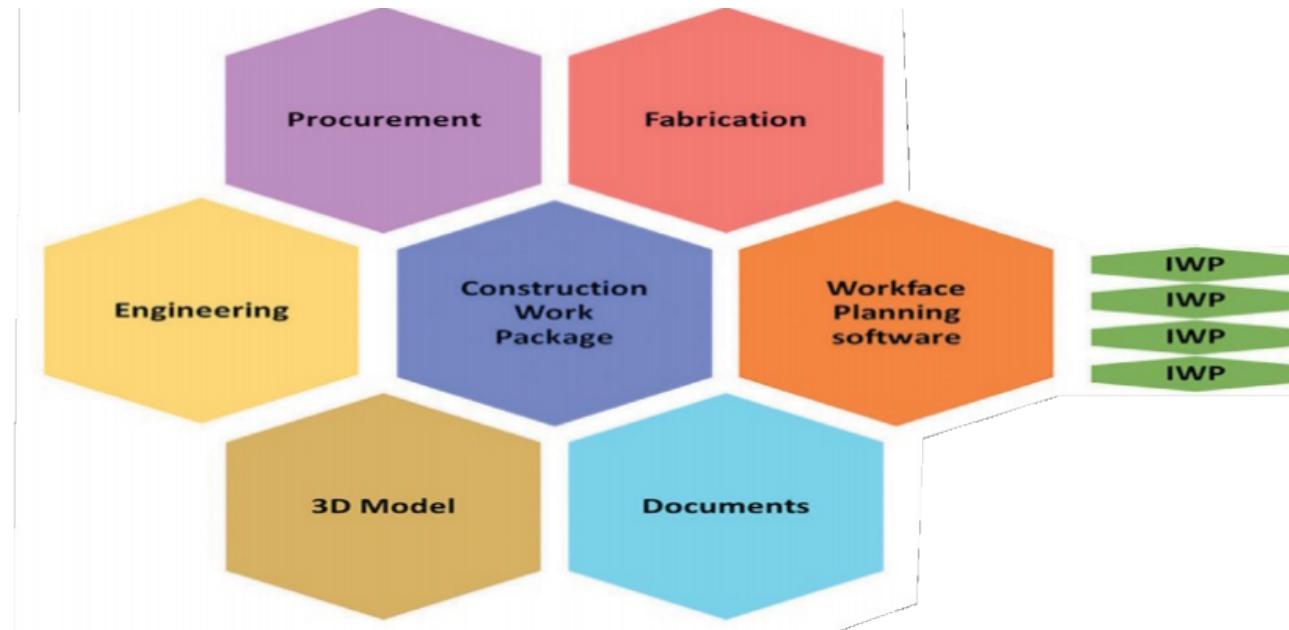


Figure 20

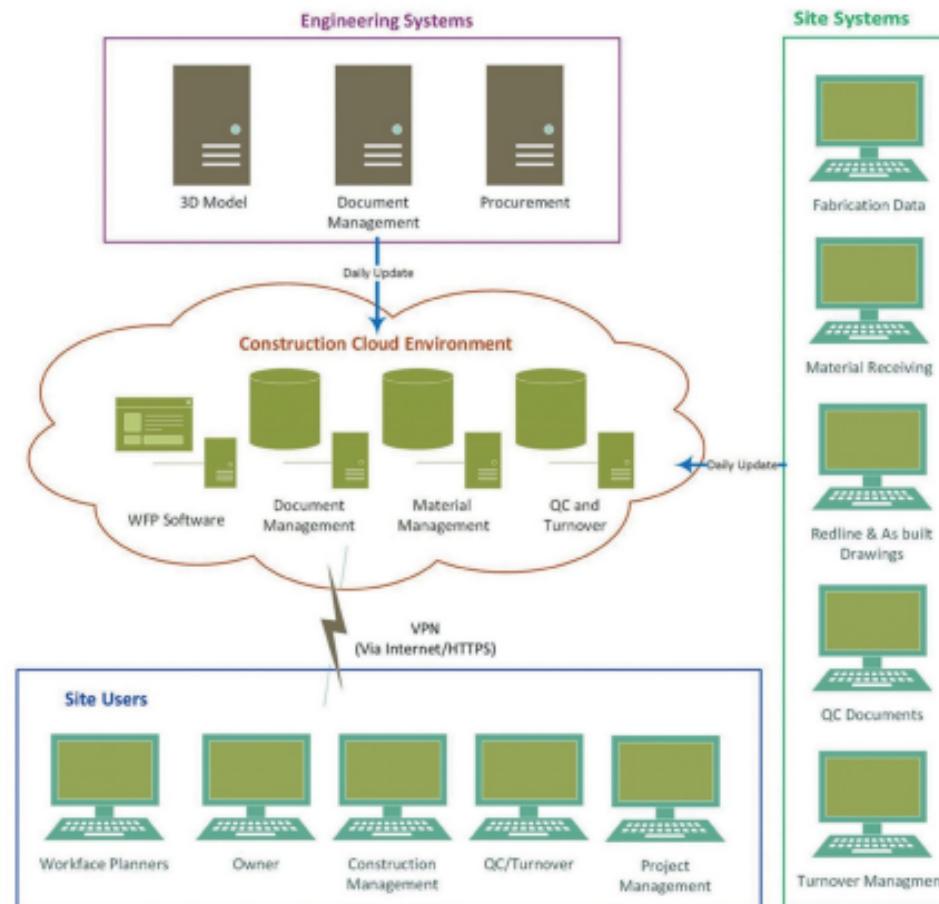


Figure 21

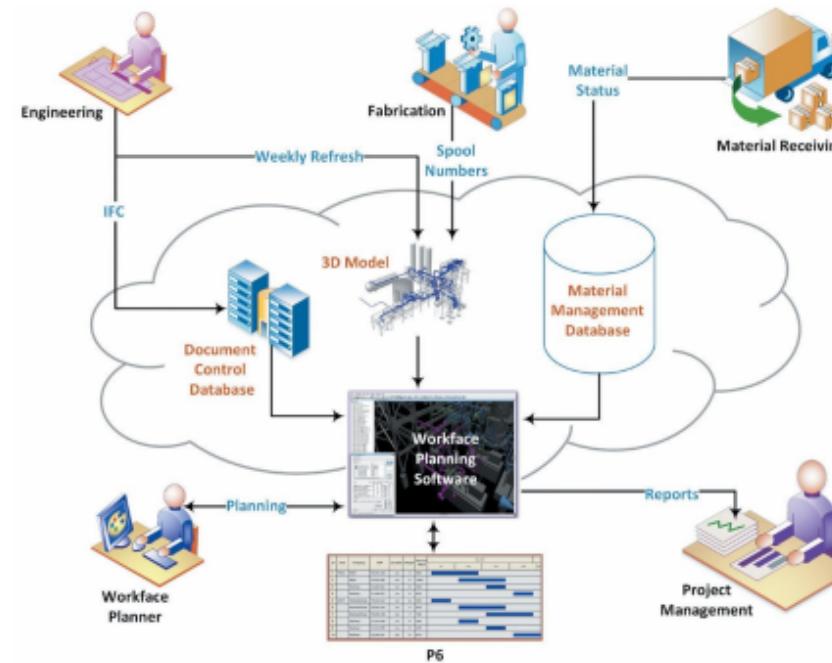


Figure 22

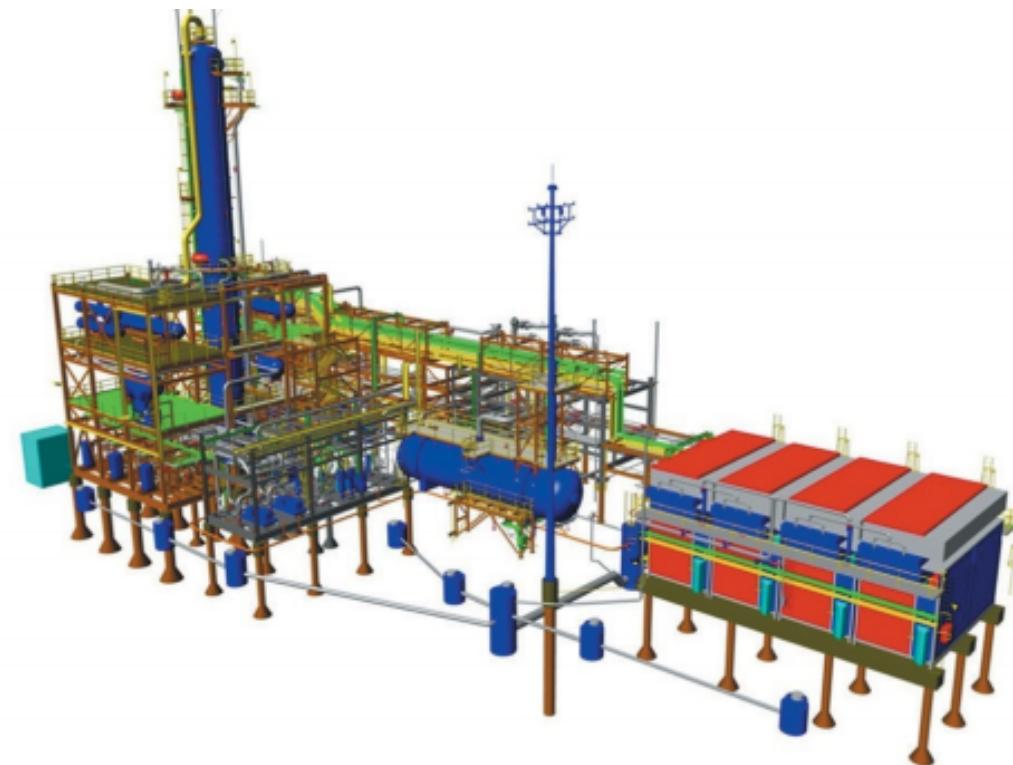


Figure 23

KEY ATTRIBUTES			COMMODITY									
Priority	Attribute	Division Of Responsibility	Source	Civil	Piling	Concrete	Steel	Equip	Pipe	Elec Equip	Cable	Inst
Must	Unique Tag #	Engineering	Engineering	Y	Y	Y	Y	Y	Y	Y	Y	Y
Must	Piece Mark #	Engineering	Engineering	N/A	N/A	N/A	Y	N/A	N/A	N/A	N/A	N/A
Must	Spool #	Workface Planning	Fabrication	N/A	N/A	N/A	N/A	N/A	Y	N/A	N/A	N/A
Must	Component type	Engineering	Engineering	N/A	Y	N/A	Y	Y	Y	Y	Y	Y
Must	Weight (Design Qty)	Engineering	Engineering	N/A	Y	N/A	Y	Y	N/A	N/A	N/A	N/A
Must	Length (Design Qty)	Engineering	Engineering	N/A	Y	N/A	Y	N/A	Y	N/A	Y	N/A
Must	Volume	Engineering	Engineering	Y	N/A	Y	N/A	N/A	N/A	N/A	N/A	N/A
Must	Class (Spec)	Engineering	Engineering	N/A	Y	Y	Y	Y	Y	Y	Y	Y
Must	Diameter	Engineering	Engineering	N/A	Y	N/A	N/A	N/A	Y	N/A	Y	N/A
Must	Wall Thickness	Engineering	Engineering	N/A	Y	N/A	N/A	N/A	Y	N/A	N/A	N/A
Secondary	Service	Engineering	Engineering	N/A	N/A	N/A	N/A	N/A	Y	N/A	N/A	N/A
Must	Insulation	Engineering	Engineering	N/A	N/A	N/A	N/A	Y	Y	Y	Y	Y
Must	Fireproof	Engineering	Engineering	N/A	N/A	N/A	Y	N/A	N/A	Y	Y	N/A
Must	Heat Trace	Engineering	Engineering	N/A	N/A	N/A	N/A	Y	Y	Y	N/A	Y
Must	On/Off Module	Engineering	Engineering	N/A	N/A	N/A	Y	Y	Y	Y	Y	Y
Must	Module #	Engineering	Engineering	N/A	N/A	N/A	Y	Y	Y	Y	Y	Y
Must	CWA	Construction	Construction	Y	Y	Y	Y	Y	Y	Y	Y	Y
Must	EWP	Engineering	Engineering	Y	Y	Y	Y	Y	Y	Y	Y	Y
Must	CWP	Construction	Construction	Y	Y	Y	Y	Y	Y	Y	Y	Y
Must	IWP	Workface Planning	Construction	Y	Y	Y	Y	Y	Y	Y	Y	Y
Secondary	WBS	Engineering	Project Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y
Secondary	Material Type	Engineering	Procurement	Y	Y	Y	N/A	Y	N/A	N/A	N/A	N/A
Must	Material Stock Code	Engineering	Procurement	Y	Y	Y	Y	N/A	Y	N/A	Y	N/A
Must	Design Drawing	Engineering	Engineering	Y	Y	Y	Y	Y	Y	Y	Y	N/A
Must	Fabrication Drawing	Fabricator	Fabricator	N/A	N/A	N/A	Y	Y	Y	Y	N/A	N/A
Must	P&ID	Engineering	Engineering	N/A	N/A	N/A	N/A	Y	Y	Y	N/A	Y
Secondary	General Arrangement	Engineering	Engineering	N/A	Y	N/A	N/A	Y	Y	Y	N/A	Y
Secondary	Connection detail	Fabricator	Fabricator	N/A	Y	N/A	Y	Y	Y	Y	N/A	Y
Secondary	RFID/Bar code	Fabricator	Procurement	N/A	N/A	N/A	Y	Y	Y	Y	Y	Y
Must	Engineering System #	Engineering	Engineering	N/A	N/A	N/A	Y	Y	Y	Y	Y	Y
Must	Turnover system #	Engineering	Operations	Y	Y	Y	Y	Y	Y	Y	Y	Y
Secondary	Activity ID	Workface Planning	Project Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y
Secondary	PC Cost code	Engineering	Project Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y
Secondary	Weld Number	Engineering	Engineering	N/A	N/A	N/A	N/A	N/A	Y	N/A	N/A	N/A
Secondary	Bolt up Number	Engineering	Engineering	N/A	N/A	N/A	N/A	N/A	Y	N/A	N/A	N/A
Must	Inspection Reqs	Engineering	Engineering	N/A	N/A	N/A	Y	Y	Y	Y	N/A	Y

Figure 24

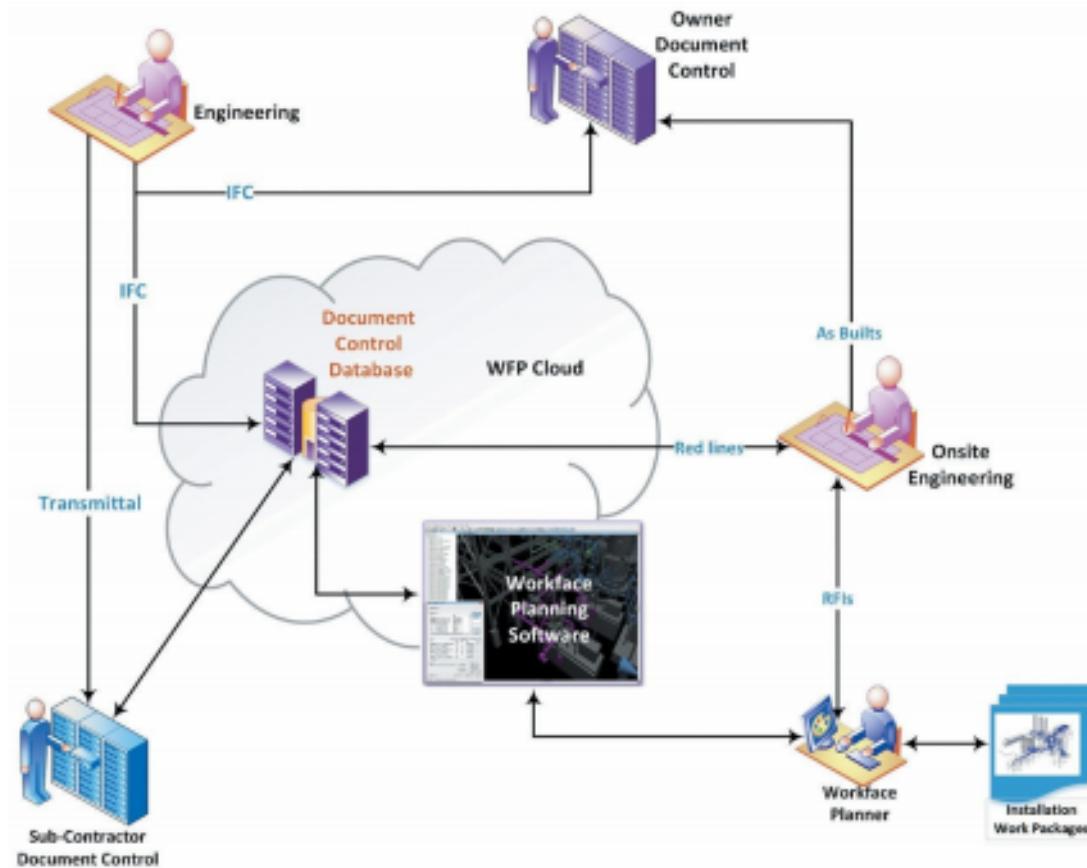


Figure 25

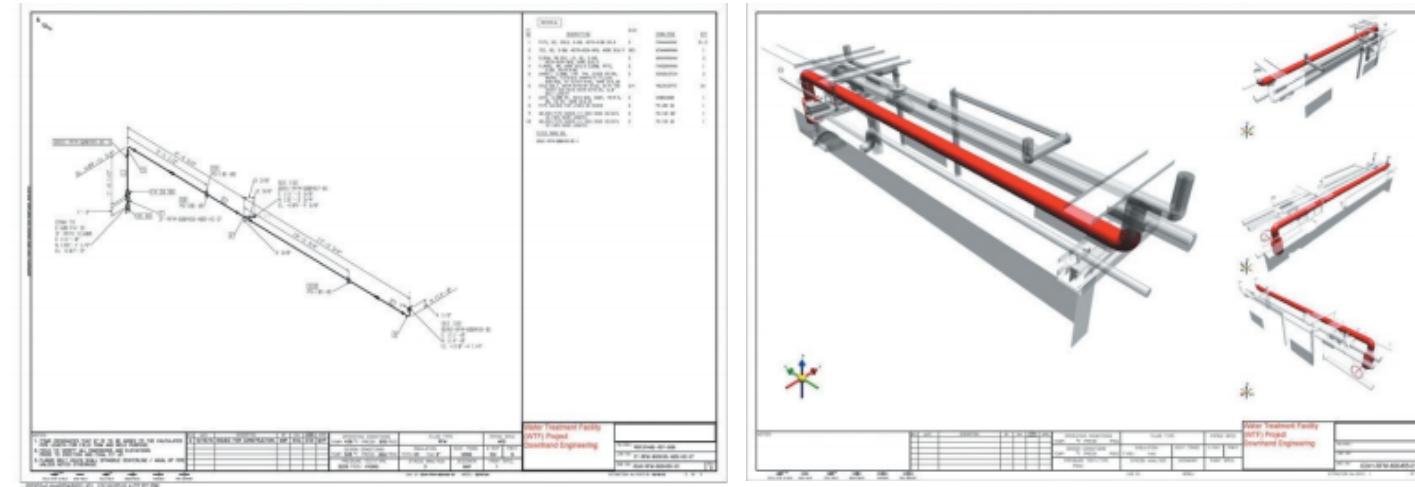


Figure 26

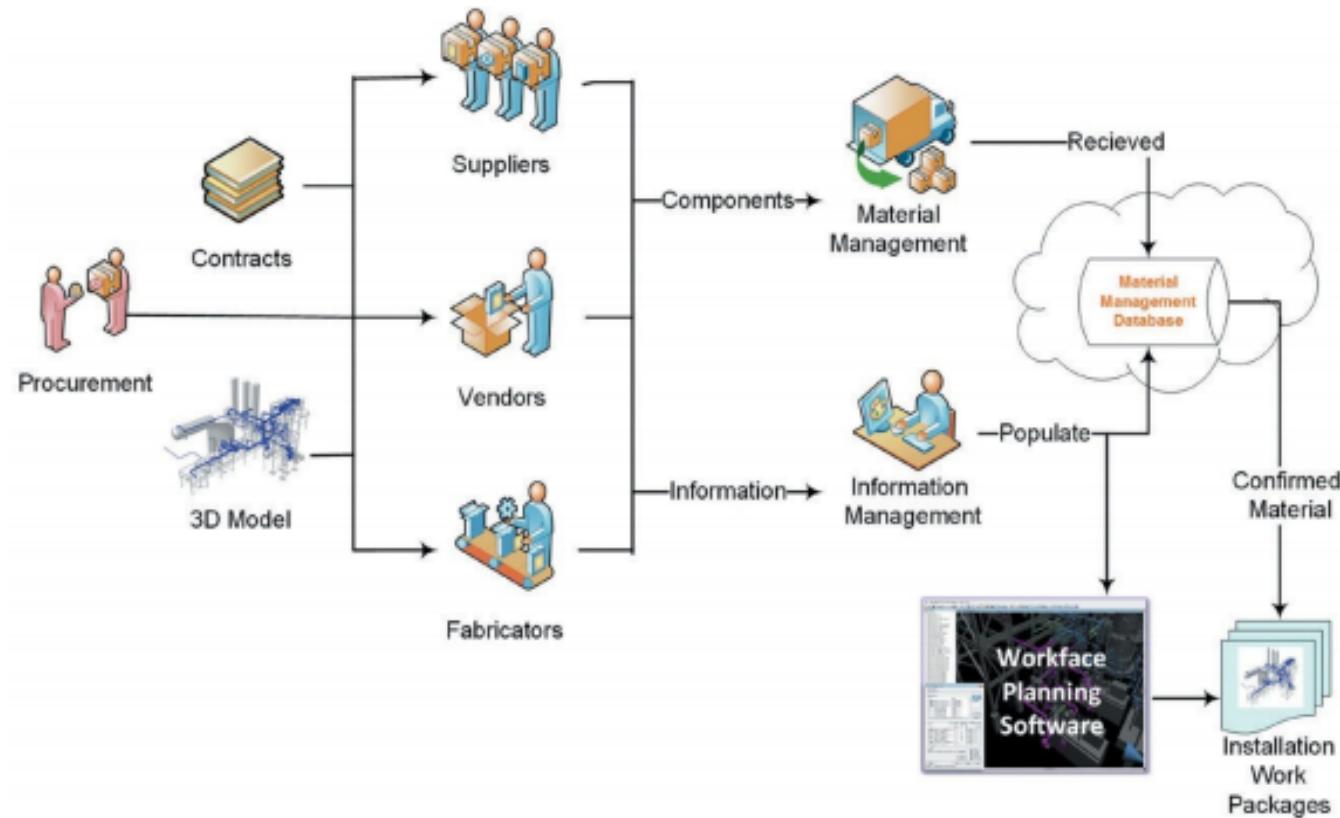


Figure27

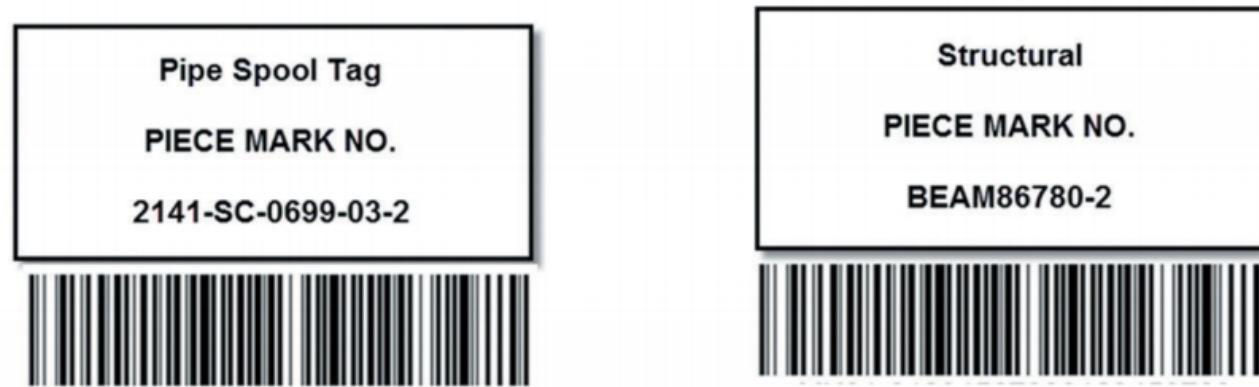


Figure 28

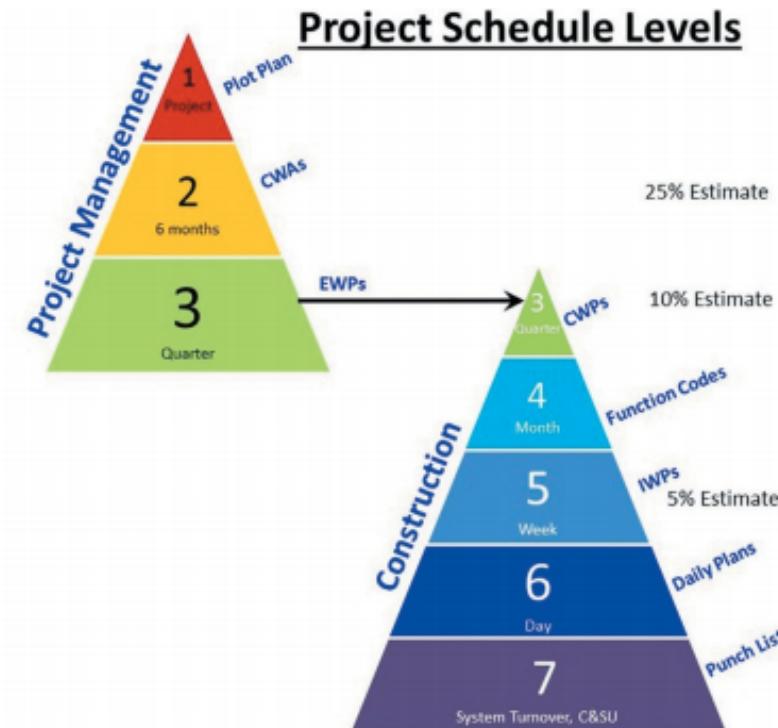


Figure 29

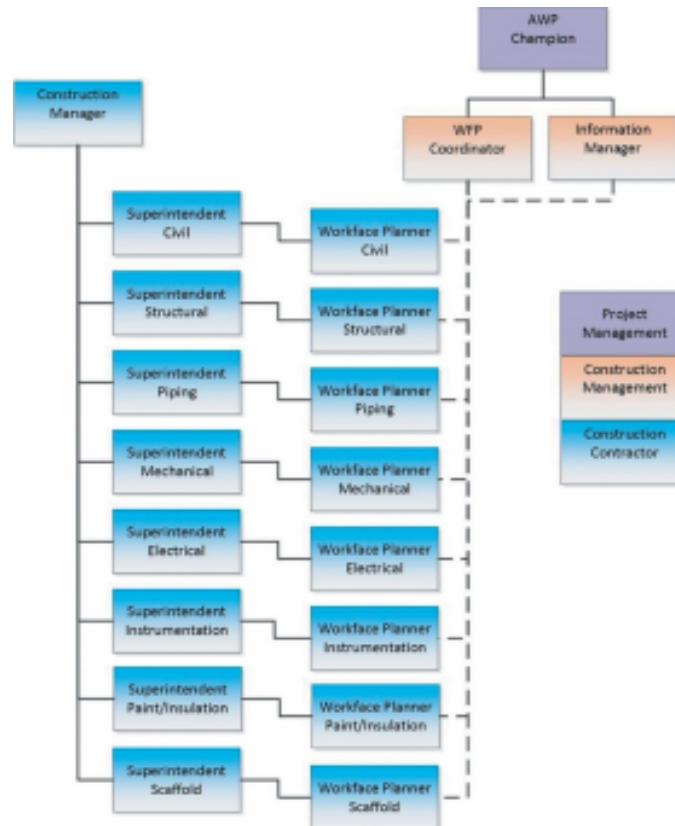


Figure 30

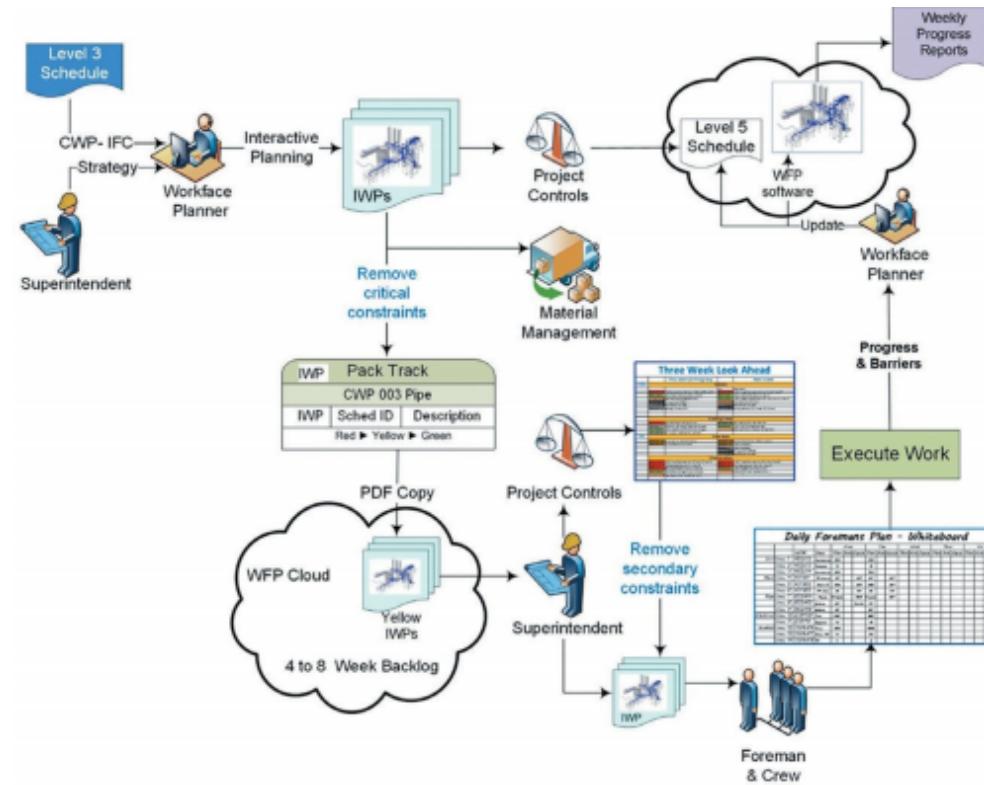


Figure 31

CWP PE3-57	IWP	Description	Planned Value	90 Day Planning			IWP Assembly				3 Week Look Ahead							IWP Hard Copy
				Weeks prior to execution			12	12	12	4	4	4	4	3	3	3	3	-1
				Scoped	IWP Created in 3D	Inserted into L5 Schedule	Documents IFC	Materials Available	Technical Review (RFIs)	Enter Backlog	Enter 3 Week Look Ahead	Bag and Tag Material	Request Scaffold	Request Cranes & Equipment	Safety	Quality	Resources Confirmed	Preceding Work Confirmed
Civil																		
PE3-57-EW																		
Grade	PE3-57-EW-01	Survey for Grade	840	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-EW-02	Strip Top Soil	1340	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-EW-03	Grade to Elevation 1	890	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-EW-04	Grade to Elevation 2	730	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Piling	PE3-57-EW-05	Survey for Piling Placement	620	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-EW-06	Mobilize Piling rig and materials	450	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-EW-07	Install Piles North Side	980	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-EW-08	Install Piles South Side	730	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-EW-09	Cut and Cap Piles North	860	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-EW-10	Cut and Cap Piles South	1250	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PE3-57-CO	PE3-57-CO-01	Survey for form work	820	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Formwork	PE3-57-CO-02	Excavate for form work	1420	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-CO-03	Install form for EB-43	850	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-CO-04	Build Rebar cage EB-43	640	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-CO-05	Construct Forms for CG3-9	790	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Rebar	PE3-57-CO-06	Build Rebar cage CG3-9	550	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	PE3-57-CO-07	Pour EB-43 and CG3-9	350	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Figure 32

Three Week Look Ahead							
OSBL	This week (In Progress)		Next week		Week two		Week three
	Sphere						
		IWP	Description				
	PE3-57-PI-10	Weld connections between Modules 3	PE3-57-PI-02	Install Large bore pipe on lower level of	PE3-57-PI-03	Install Large bore pipe on mid level of	PE3-57-PI-03
	PE3-57-SS-01	Install Steel for lower level in Area 57	PE3-57-SS-01	Install Steel for mid level in Area 57	PE3-57-PI-11	Weld connections on LB LL Area 57	PE3-57-PI-12
	PE3-57-SC-25	Erect Scaffolds 36,38,39,40 &41	PE3-57-SS-02	Install ladders and platforms for lower	PE3-57-PI-14	Bolt up connections on LB LL Area 57	PE3-57-SS-02
	PE3-58-CO-15	Paving around DB36A	PE3-57-SC-25	Erect Scaffolds 37,42,44	PE3-57-SS-02	Install Steel for upper level in Area 57	PE3-57-SS-02
	PE3-58-CO-16	Foundations for CS03	PE3-58-CO-16	Foundations for CS03	PE3-57-SC-25	Erect Scaffold Tower for EB3 & Scaffolds	PE3-57-SC-25
	PE3-58-EW-12	Grading Nth end of PR	PE3-58-CO-18	Paving sections 2, 3, 4 under PR Nth end	PE3-58-CO-18	Foundations for Pumps part A	PE3-58-EQ-31
					PE3-58-CO-19	Paving sections 5 thru 9	PE3-58-CO-16
					PE3-58-CO-25	Hoarding for heat foundation Part A	PE3-58-CO-16
Cooling Tower							
	PE3-59-PI-04	Dress SB Pipe on Stripper tower	PE3-59-EQ-29	Set Modules 124, 125, 126, 127	PE3-59-EQ-30	Set Modules EB Tower	PE3-59-SS-04
	PE3-59-EL-17	Terminate instrument cables on Stripper	PE3-59-SS-04	Install steel for expansion loop	PE3-59-SS-04	Install light steel in PR	PE3-59-PI-10
	PE3-59-SS-04	Install Ladders and Platforms on stripper	PE3-59-SC-25	Erect scaffold for module interconnects	PE3-59-PI-10	Weld connections between 124,125	PE3-59-SC-25
	PE3-59-EQ-28	Set Modules 119,120,121, 122,123			PE3-59-SC-25	Erect scaffold for module interconnects	
ISBL							
	PE3-60-EW-16	Drive piles for Heater Structure	PE3-60-EW-22	Cut and Cap piles for heater structure	PE3-60-EW-18	Excavate for undergrounds NE corner	PE3-60-PI-04
	PE3-60-EW-21	Cut and Cap piles for tanks	PE3-60-EW-17	Install duct bank	PE3-60-EL-17	Set up pull for underground cables	PE3-60-EL-17
			PE3-60-EL-17	Install duct bank	PE3-60-CO-15	Paving around NE PR	PE3-60-EW-23
			PE3-60-CO-15	Paving around DB36A	PE3-60-CO-16	Pour and cure Foundations for CS03	Backfill and grade NE after hydro and c
			PE3-60-CO-16	Foundations for CS03	PE3-60-SC-25	Hoarding for heat foundation Part A	
Fractionation							
	PE3-61-PI-03	Install Large bore pipe on mid level of	PE3-61-PI-03	Install Large bore pipe on mid level of	PE3-61-EW-17	Align pumps part A	PE3-61-EW-17
	PE3-61-PI-11	Weld connections on LB LL Area 61	PE3-61-PI-12	Weld connections -2 on LB LL Area 61	PE3-61-PI-03	Install Large bore pipe on mid level of	PE3-61-PI-03
	PE3-61-PI-14	Bolt up connections on LB LL Area 61	PE3-61-SS-02	Install supports for field run tray	PE3-61-PI-12	Weld connections -2 on LB LL Area 61	PE3-61-PI-12
	PE3-61-SS-02	Install Steel for upper level in Area 61	PE3-61-SC-25	Hoarding for heat foundation Part A	PE3-61-SS-02	Install supports for field run tray	PE3-61-SS-02
	PE3-61-SC-25	Hoarding for heat foundation Part A			PE3-61-SC-25	Hoarding for heat foundation Part A	PE3-61-SC-25

Figure 33

Trade	Colour Code	Ident
Scaffold	Orange	SC
Foundations	Black	CO
Structural Steel	Green	SS
Pipe	Red	PI
Mechanical	Yellow	ME
Equipment	Blue	EQ
Electricial & I	Grey	EL

Figure 34

Daily Foremans Plan - Whiteboard																	
	IWP#	Desc	Mon			Tue			Wed			Thur			Fri		
			Plan	Act	Equip	Plan	Act	Equip	Plan	Act	Equip	Plan	Act	Equip	Plan	Act	Equip
Civil	Crew 7	452C12	Foundations	50%			65%										
	Crew 2	452C13	Pedestals	15			12										
Steel	Crew 3	452C14	Foundations	65%			70%										
	Crew 4	431S01	PR Columns	12T		65T	18T		65T								
Steel	Crew 5	431S02	Stairs CL	75%		35T	85%		35T								
	Crew 6	431S03	PR brace	28		15T	26		15T								
Pipe	Crew 7	652P04	Rigging	12 Spools		12.5T	8 spools		65T								
	Crew 8	652P05	Welding	32"		Manlift	18"										
Electrical	Crew 9	652P06	Welding	42"			20"										
	Crew 10	278T09	Trey	245'			390'										
Scaffold	Crew 11	278T10	Supports	12			10										
	Crew 12	1009576	Tower	65%			100%										
	Crew 13	1009577	Mods, A12	12			A15										
	Crew 14	1009578	PR	4			7										

Figure 35

2 x 15 min breaks and 30 mins for lunch.		
	Activity	Time at the workface
6:30	Foreman daily meeting	
7am	Boots on and ready for work	
7:30	Start work meeting complete, tools in hand	
	Work period	110
9:20	Tools down, travel to facilities for break	
9:30	Coffee break	
9:45	Return to workface	
9:55	Tools in hand	
	Work Period	115
11:50	Tools down, travel to facilities for break	
Noon	Lunch break	
12:30	Return to workface	
12:40	Tools in hand	
	Work period	130
14:50	Tools down, travel to facilities for break	
15:00	Coffee break	
15:15	Return to workface	
15:25	Tools in hand	
	Work Period	100
17:05	Tools down, travel to facilities for clean up	
17:15	Clean up period	
17:30	End of shift	
	Total time at the workface	455
		x 40% 182
	Out of	600
		600
		76%
		30%

Figure 36

2 x 30 minute breaks		
	Activity	Time at the workface
6:30	Foreman daily meeting	
7am	Boots on and ready for work	
7:30	Start work meeting complete, tools in hand	
	Work period	200
10:50	Tools down, travel to facilities for break	
11:00	First Break	
11:30	Return to workface	
11:40	Tools in hand	
	Work Period	130
13:50	Tools down, travel to facilities for break	
14:00	Second Break	
14:30	Return to workface	
14:40	Tools in hand	
	Work period	145
17:05	Tools down, travel to facilities for clean up	
17:15	Clean up period	
17:30	End of shift	
	Total time at the workface	475
	Out of	x 40% 190
		600
		79%
		32%

Figure 37

DELAY CODES		
Delay Title	Code	Description
Safety - Concerns	S 1	Task could not be performed safely
Safety - Inadequate Training	S 2	Safety training requirements not met.
Plan - Preparation Not Complete	PL 1	Preparation for task execution inadequate.
Plan - Preparation - Scaffolding	PL 2	Delayed by the lack of scaffold or modifications
Plan - Trade Coordination	PL 3	Access to the workface restricted by other trades
Plan - Work Scope Insufficient	PL 4	Insufficient instruction, scope not identified / understood.
Plan - Change to Workfront	PL 5	Workforce delayed due to unplanned change in workfront
Rework - Fabrication / Engineering	RW 1	Components do not fit
Rework - Workmanship	RW 2	Rework task due to poor workmanship.
Resources - Material Unavailable	RS 1	Materials for the task were not available
Resources - Equipment Unavailable	RS 2	Equipment not available. (Cranes, lifts, welders, pumps)
Resources - Tools Unavailable	RS 3	Tools not available. (equipment under \$1500 in value)
Resources - Trades Absent	RS 4	Workforce did not show up (sick/absent/late/).
Resources - Trades Unavailable	RS 5	Workforce shortages
Permit Delays - Issuer	PM 1	Permitting not efficient. (permit not ready at start of shift)
Permit Delays - Operating Unit	PM 2	Operating unit withheld permits for operational activities
Permit Delays - Other	PM 3	Permits not requested in time. (previous day)
Permit Delays - Unit Upset	PM 4	Permits cancelled due to Unit upset.
Travel Delay	T 1	Travel between facilities and the workface > 5 minutes.
Travel Delay - Vehicle	T 2	Travel delays created by lack of access to vehicles
Weather - Precipitation	W 1	Rain, Fog, Snow.
Weather - Wind	W 2	Wind creates a hazardous environment
Weather - Temperature	W 3	Too hot or too cold
Other	O	Explain

Figure 38

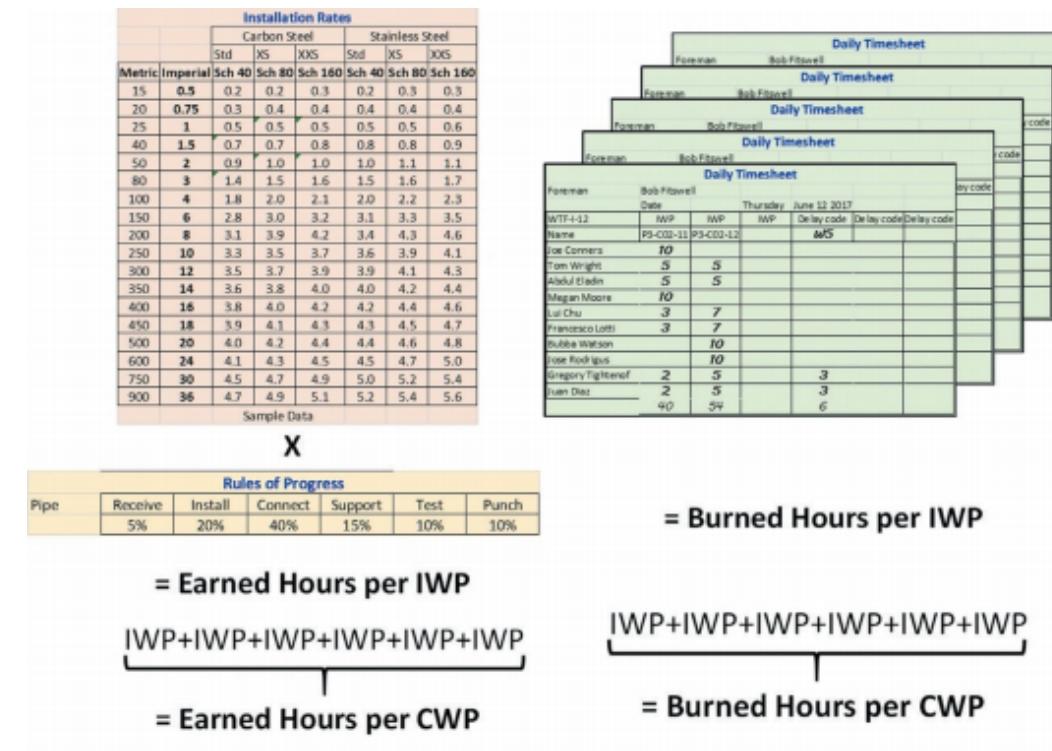


Figure 39

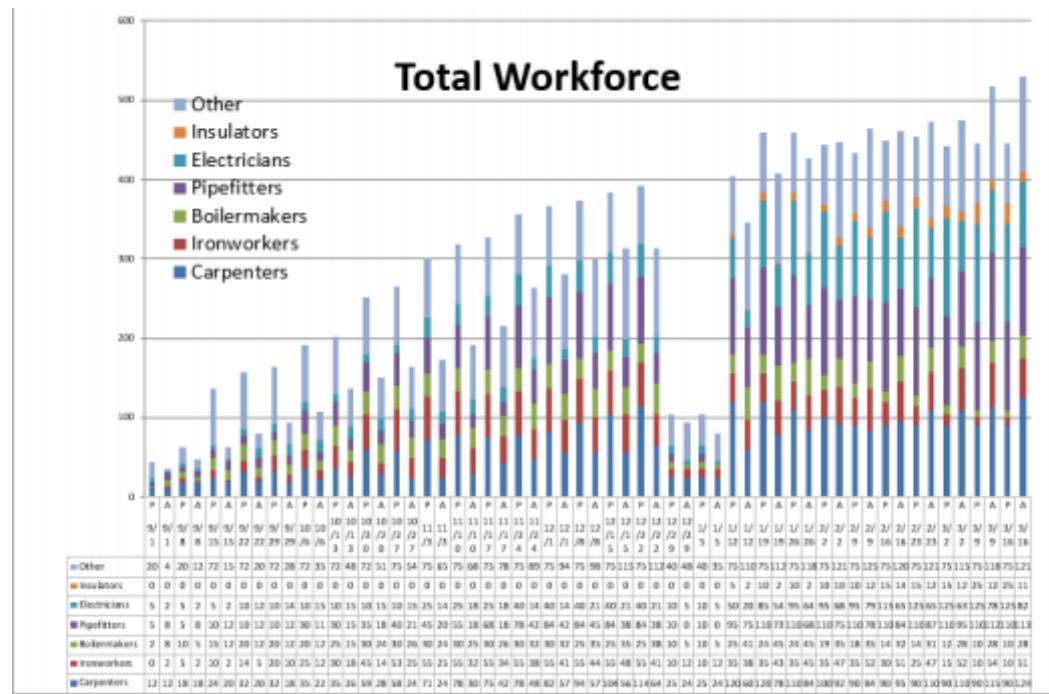
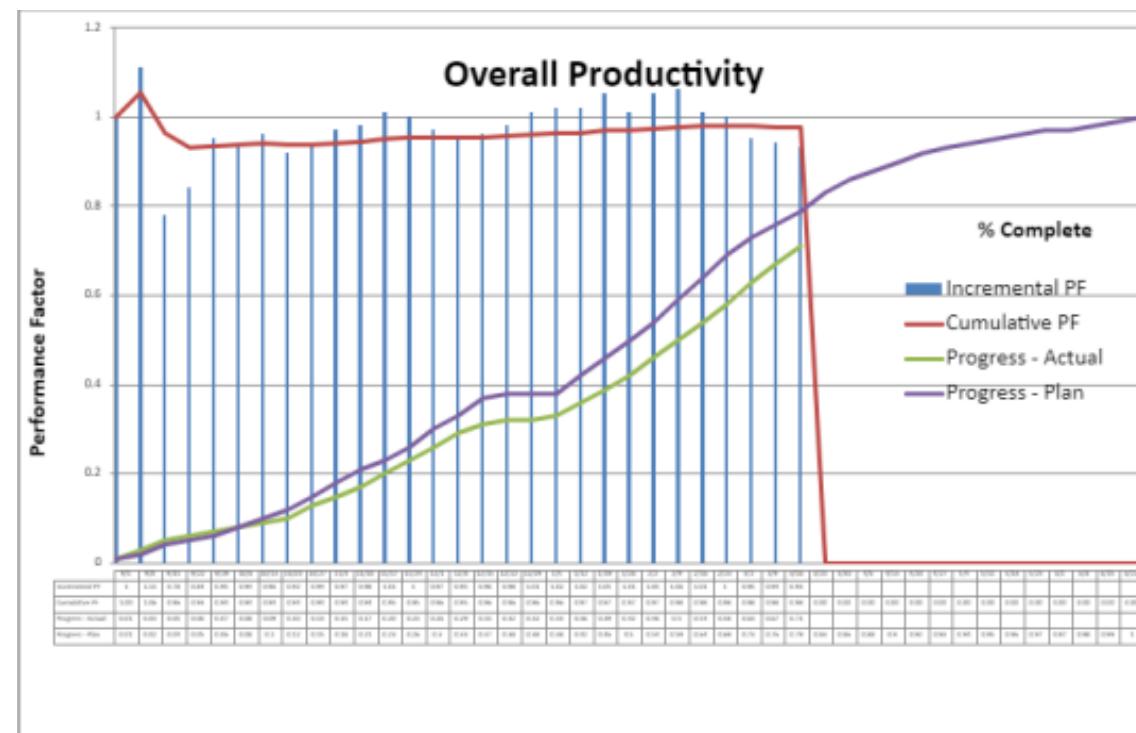


Figure 40



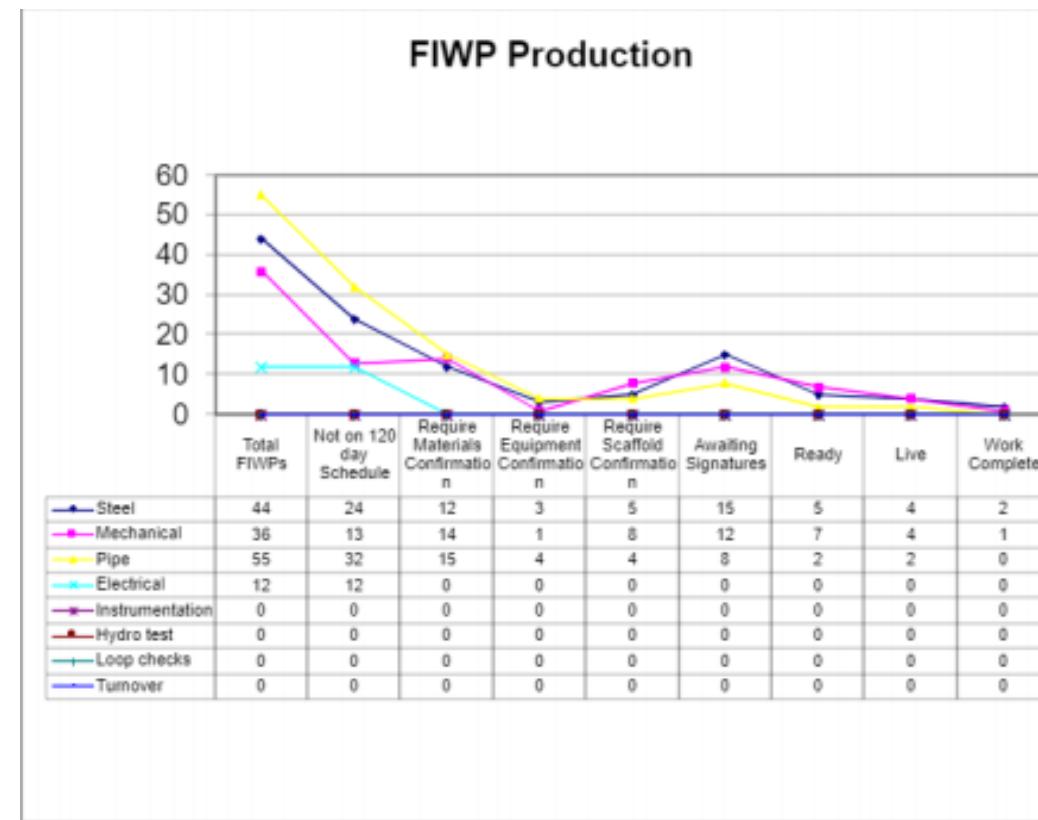


Figure 42

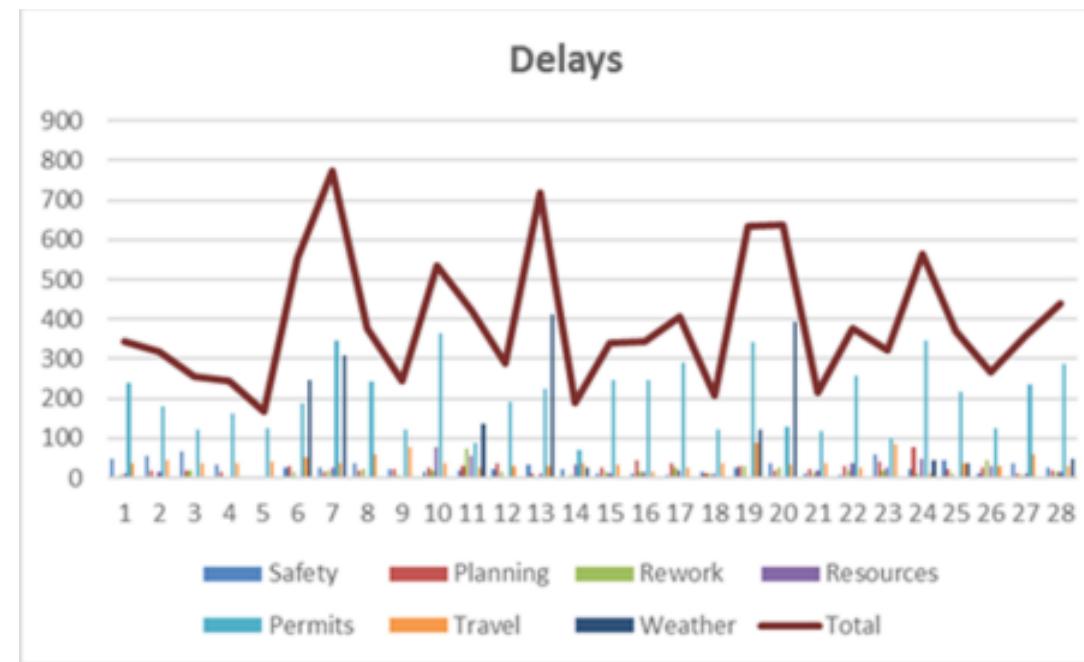


Figure 43

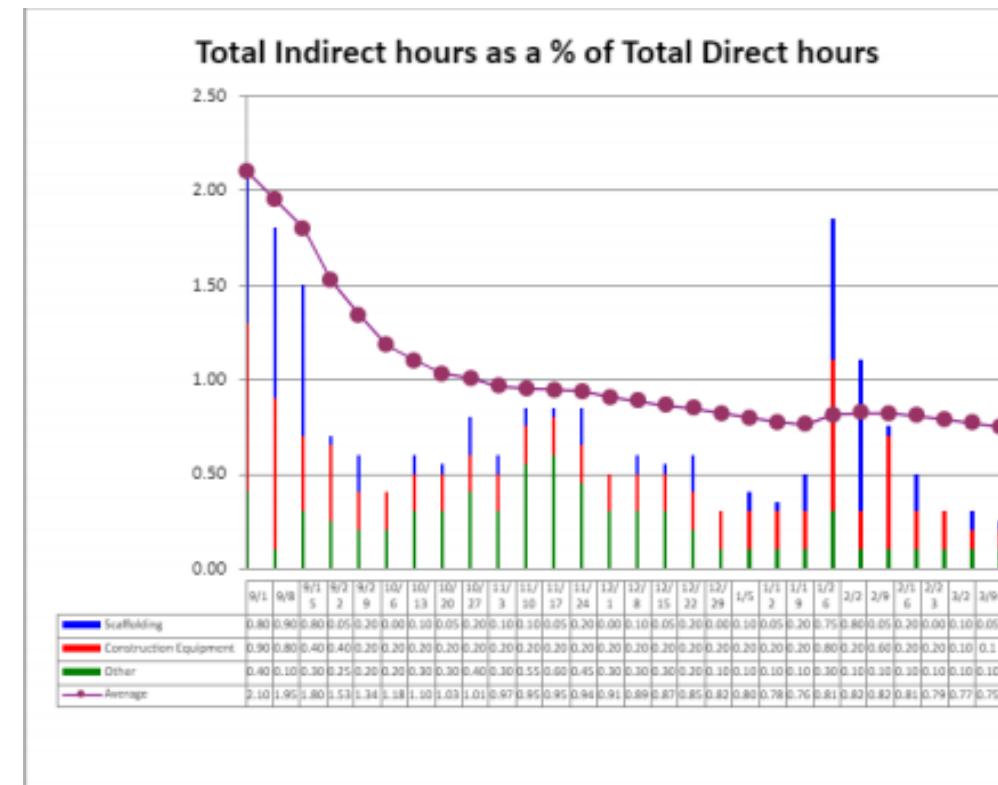


Figure 44

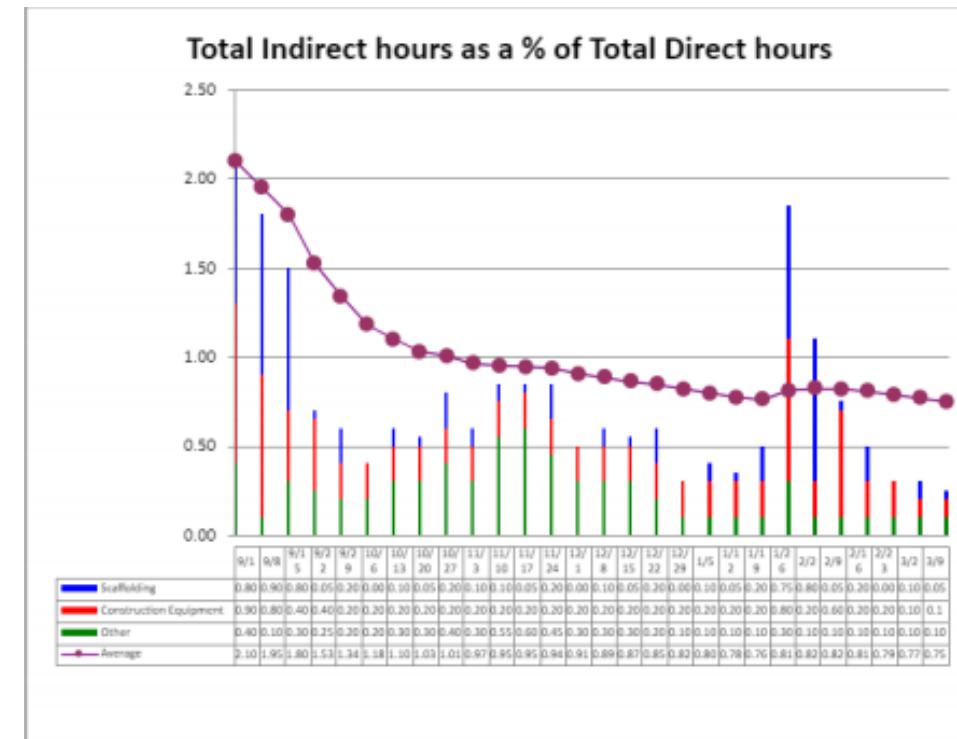


Figure 45

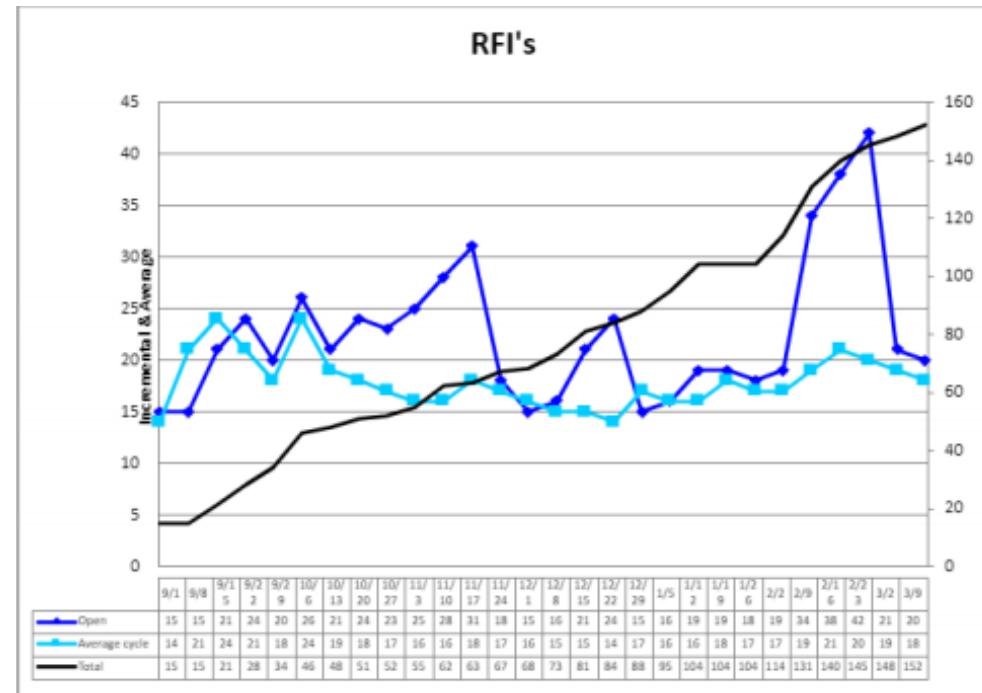


Figure 46

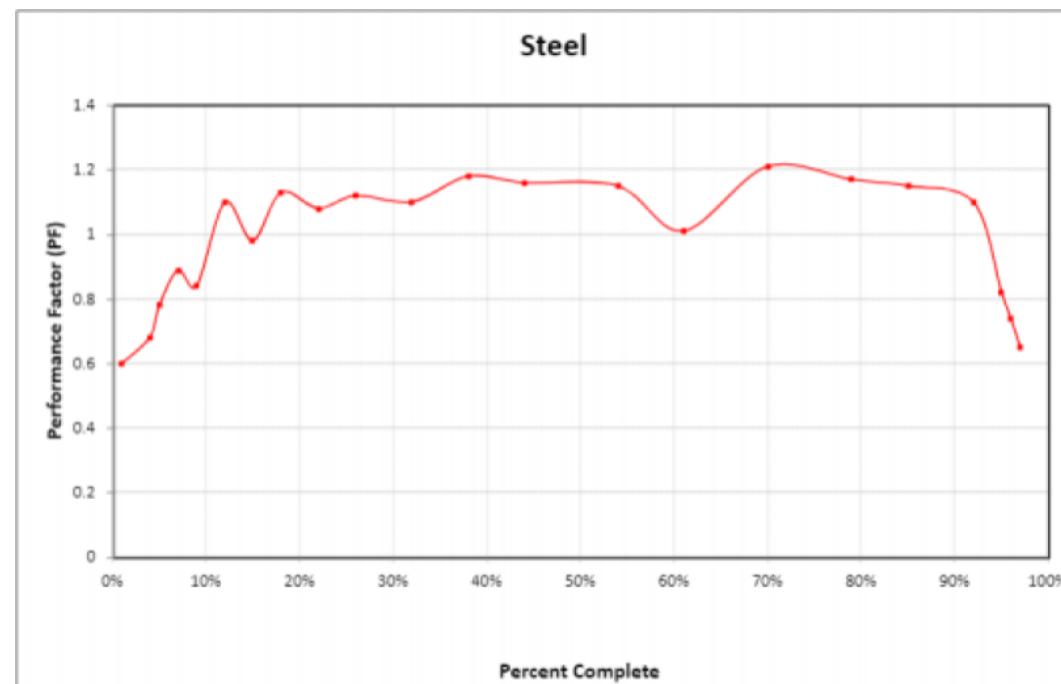


Figure 47

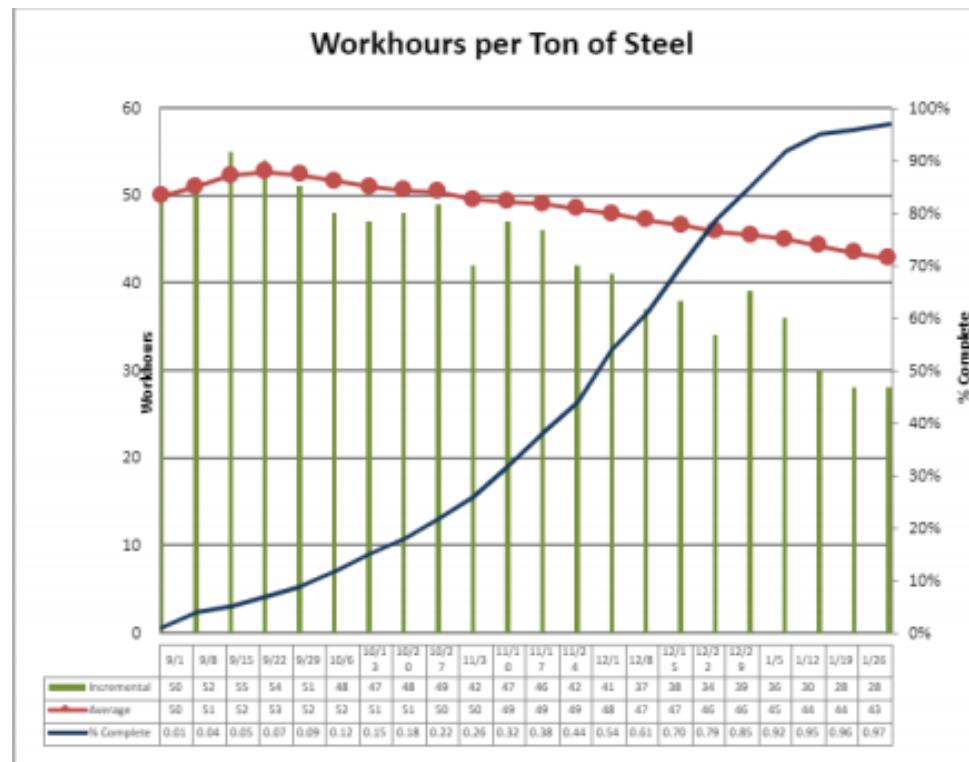


Figure 48

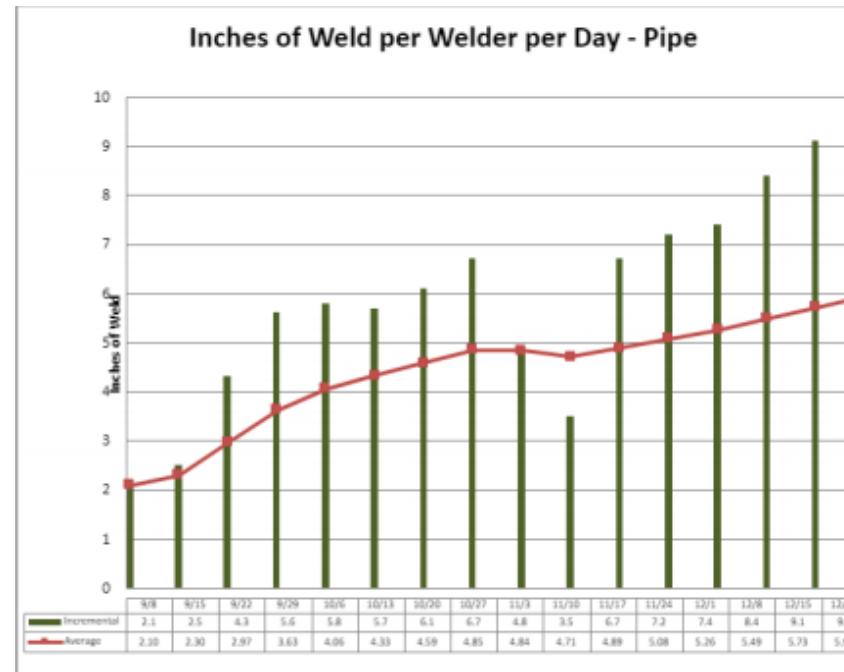


Figure 49

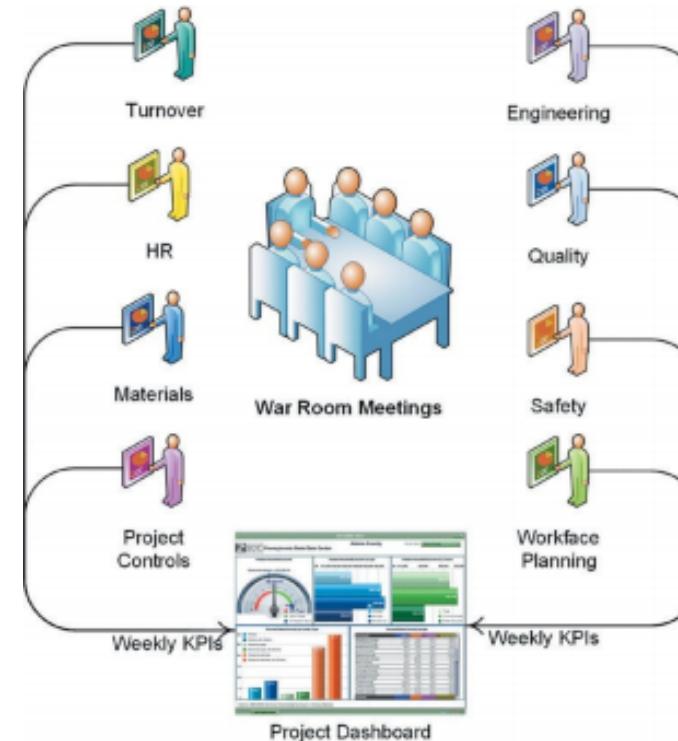


Figure 50

The Diffusion of Innovation Applied to AWP

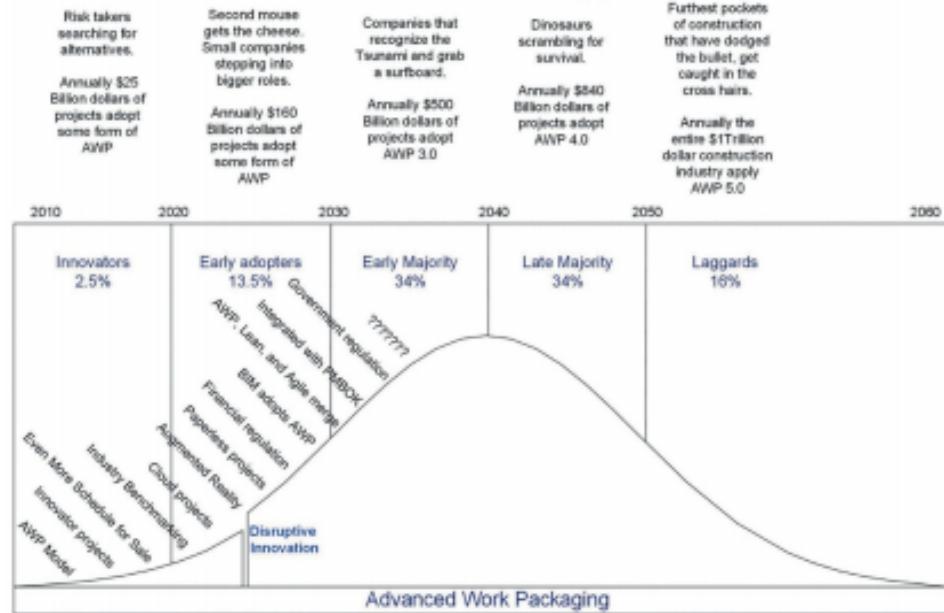


Figure 51

Collaboration Organizations

Construction Owners Association of Alberta: <https://www.coaa.ab.ca>

Construction Industry Institute: <https://www.construction-institute.org>

Fiatech: <http://fiatech.org> Curt: <https://www.curt.org>

ECC: <http://www.ecc-conference.org>

Lean Construction Institute Australasia: <http://www.lcia.org.au>

Advanced Work Packaging Institute: <https://www.workpackaging.org>

LinkedIn AWP groups:

Support for AWP applications can also be provided by:

ASI Group (also conduct the annual conferences): <https://www.groupasi.com>

Bentley ConstructSim: <https://www.bentley.com> Construct-X:
<http://www.construct-x.com>

Element Industrial Solutions: <http://elementindustrial.com> Hexagon (Intergraph) Smart Construction: <https://hexagonppm.com>

Insight-awp (us): www.insight-awp.com

Academia that are involved in the exploration and education of AWP.

University of Queensland University of Alberta University of Calgary University of California, Berkley University of Houston University of Texas at Austin

Also check out the tutorial videos on youtube.com