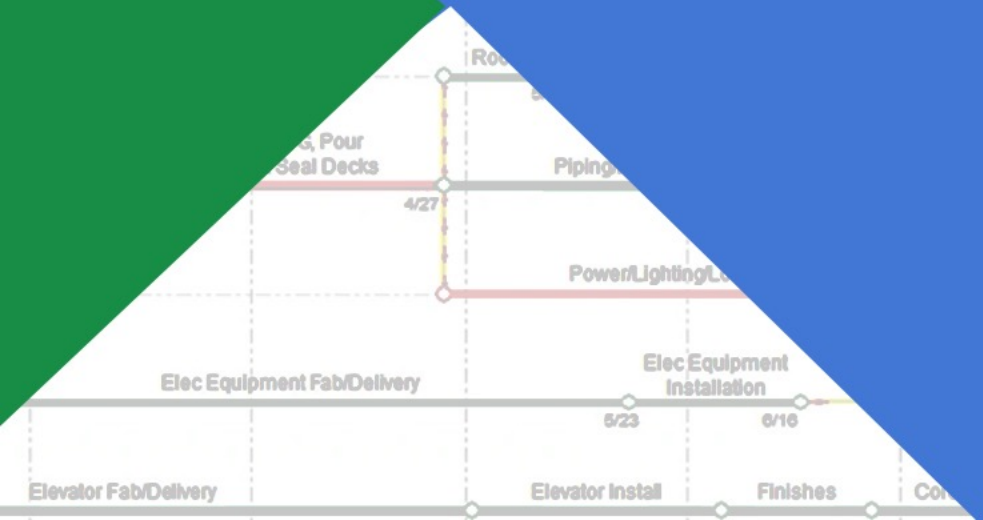


NetPoint + GPM
CONFERENCE
May 12 & 13, 2022

NetPoint & The Last Planner Process

Improving Pull Planning with NetPoint



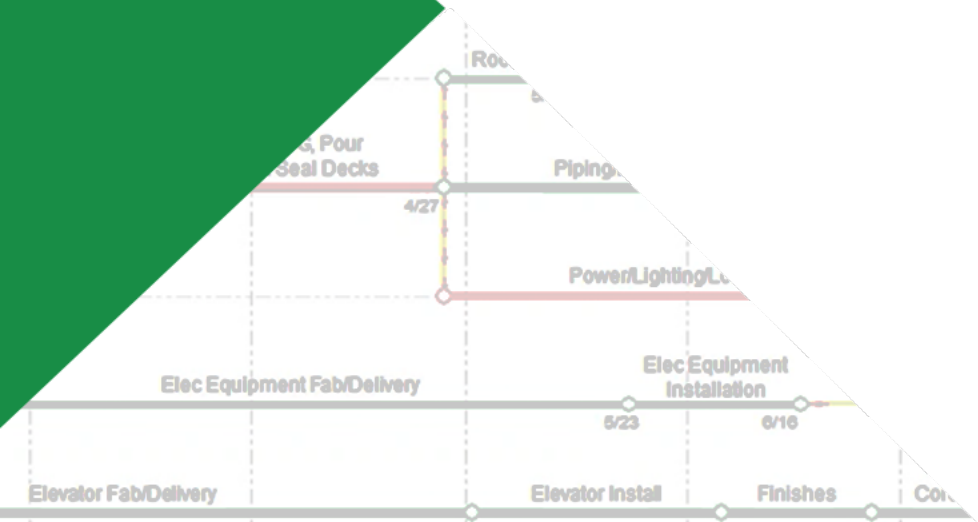
Presented by:
Nick Gendron



Agenda

Today we are going to:

- Walk through how implementing NetPoint in a last planner delivery system can improve communication and project execution.
- Touch on the last planner process and workflow from start to finish
- Look at the steps of the last planner process and how NetPoint can be used to speed up the process
- Take a look at real examples of project schedules and outputs of the process





Meet The Presenter

Nick Gendron

- Director of the Pacific Northwest Office
- 6 years with PMA
- Worked as a scheduling professional with many general contractors
- Worked in vertical and horizontal construction, power, healthcare, heavy civil, high technology, wastewater, refineries

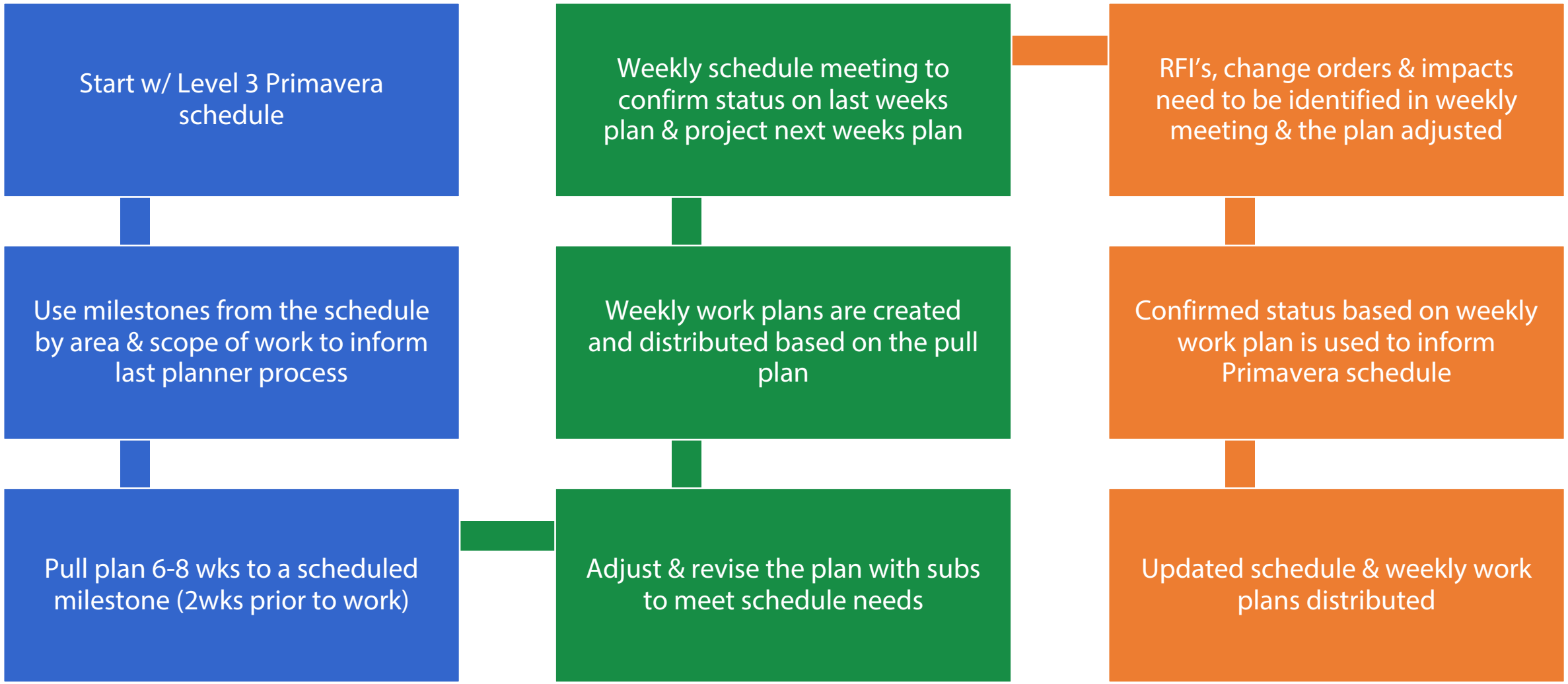
Featured Project

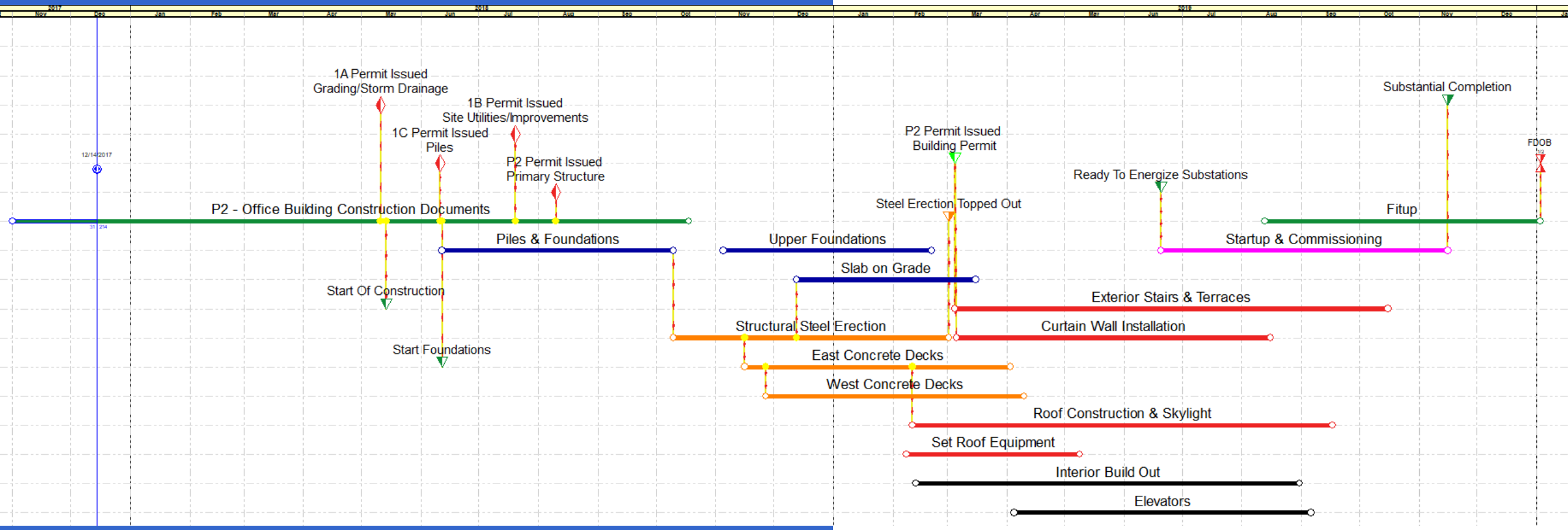
Technology Campus Expansion

$700M New Construction	457,000 SF	GC: Truebeck Construction	# of Contractors	LEED Platinum certification



Office space, outdoor rooftop garden terraces, full gourmet kitchens, eight-story parking structure, elevated pedestrian bridges

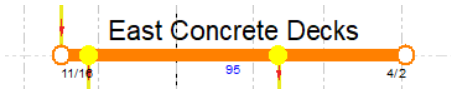

Start w/ Level 3 Primavera schedule
Use milestones from the schedule by area & scope of work to inform last planner process
Pull plan 6-8 wks to a scheduled milestone (2wks prior to work)
Adjust & revise the plan with subs to meet schedule needs
Weekly work plans are created and distributed based on the pull plan
Weekly schedule meeting to confirm status on last weeks plan & project next weeks plan
RFI's, change orders & impacts need to be identified in weekly meeting & the plan adjusted
Confirmed status based on weekly work plan is used to inform Primavera schedule
Updated schedule & weekly work plans distributed


2017
Nov
Dec
2018
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
2019
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
12/14/2017
1A Permit Issued
Grading/Storm Drainage
1B Permit Issued
Site Utilities/Improvements
1C Permit Issued
Piles
P2 Permit Issued
Primary Structure
P2 - Office Building Construction Documents
Piles & Foundations
Start Of Construction
Start Foundations
Upper Foundations
Slab on Grade
Structural Steel Erection
East Concrete Decks
West Concrete Decks
P2 Permit Issued
Building Permit
Steel Erection Topped Out
Exterior Stairs & Terraces
Curtain Wall Installation
Roof Construction & Skylight
Set Roof Equipment
Interior Build Out
Elevators
Ready To Energize Substations
Startup & Commissioning
Substantial Completion
Fitup
FDOB

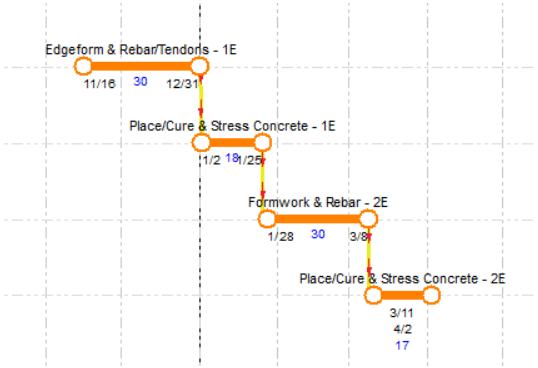
Step 1: Identify Milestones

Choosing Milestones & Developing a Planning Schedule

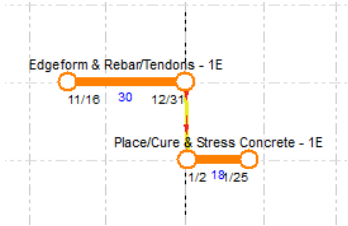
Looking at definitive scopes of work & chose realistic milestones that can be achieved in a realistic timeframe. 6-8 weeks worth of work at a time.



Level 1-2 schedule detail is not enough to plan off of. The duration is too long, the schedule would not be accurate.



The level 3 schedule is where to look for good milestones to plan off of.



In this case the completion of 1E concrete decks is a good scope and end date to work from.

Pull planning should start 2-3wks before the work is planned in the field. This ensures the most accurate information to plan off.

- So with the work planned to start on 11/16, pull planning should be scheduled around 11/1.

Step 2: Conduct Pull Planning Meeting

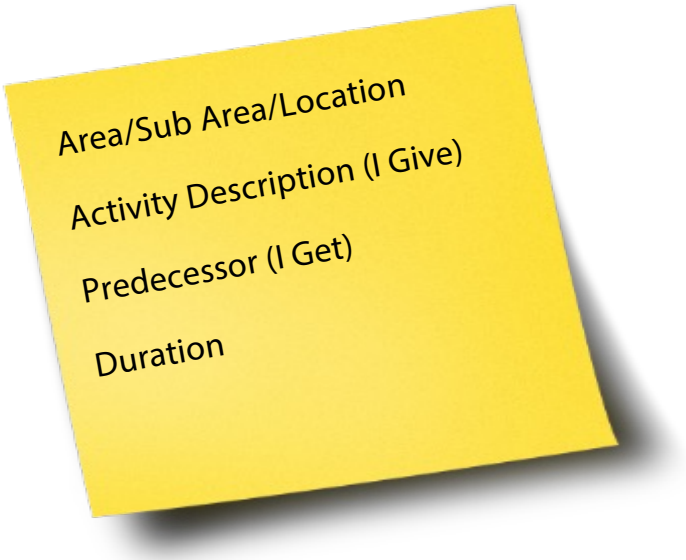
The initial pull planning session is the hardest part of following the last planner process

- Representatives from each of the subcontractors with vested interest in the scope of work being planned should be in the room.
- Responsible supers & PM/PE's should be verifying scopes, ensuring safe means & methods, bringing up roadblocks, etc.
- Scheduler should verify milestones & schedule dates. NetPoint engineer should be following along with the group adding activities and logic as the team confers.
- Meeting facilitator will keep the conversation constructive and keep the team on topic.



Facilitating the Conversation

Last planner/pull planning is about commitments from one contractor to another



Post-it notes used should be a wealth of information without being cluttered.

Contractor performing the work (usually designated by post-it color)

Area/Subarea/Location of work to be performed

(I Give)—The description of the work

(I Get)—Description of the constraints that will hold up the work

Duration of the work being performed

Things to discuss:

Relationships between contractors/work

Constraints/road blocks

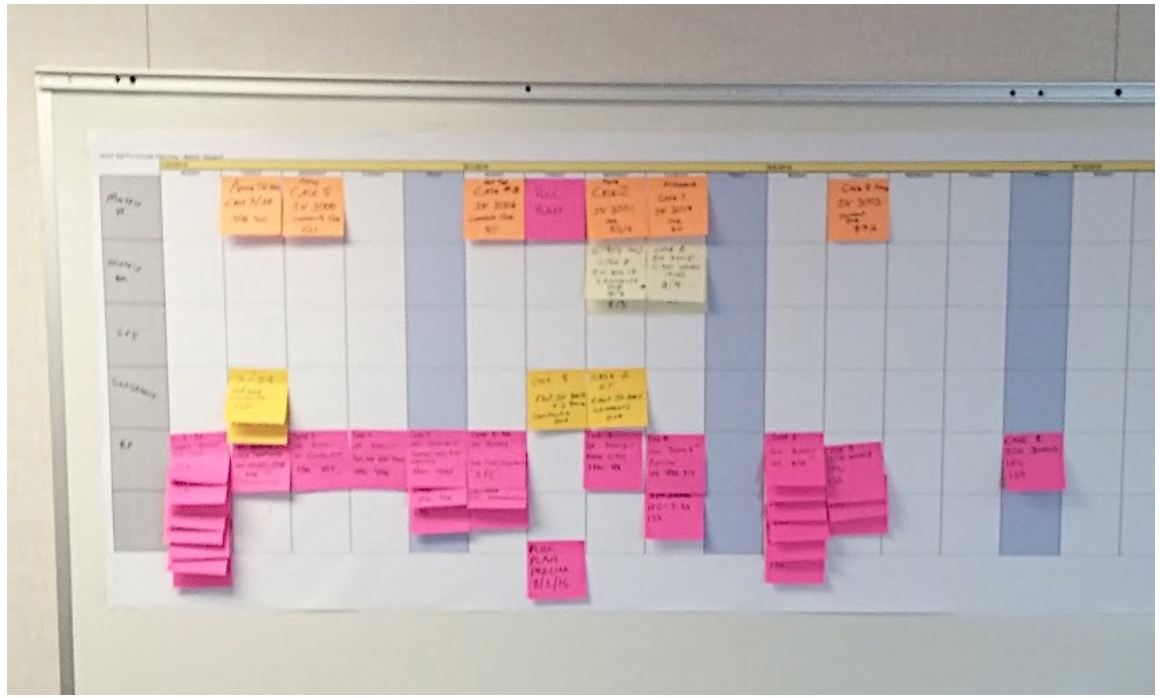
Safety concerns

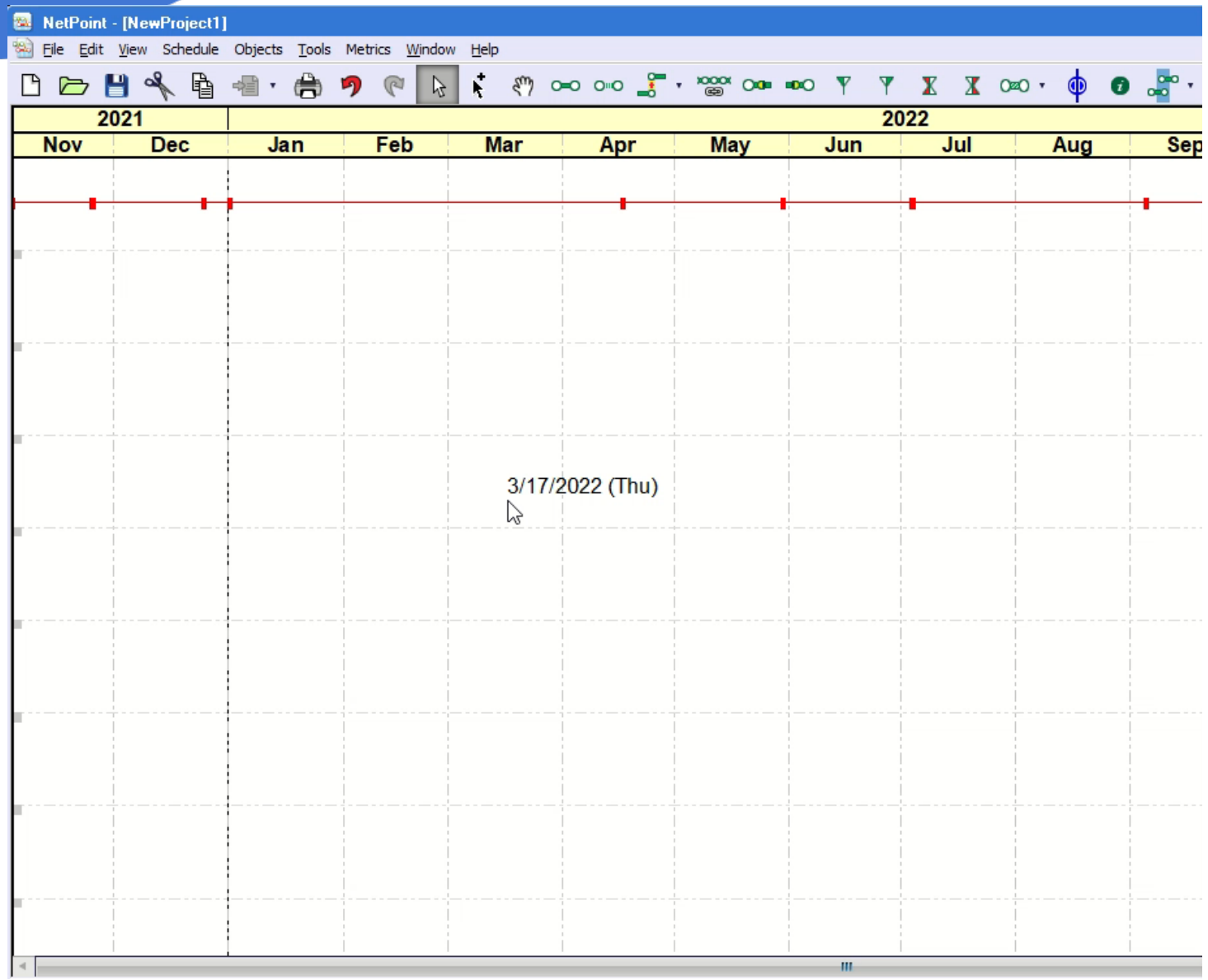
Equipment availability

Materials

Capturing Post-Its

- Pull Planning in NetPoint only requires basic skills and entry level training
- Project Engineers/Schedulers can be trained to build simple schedules
- Information on the post-its can be boiled down to:
  - Activity Description
  - Duration
  - Predecessors
  - Successors





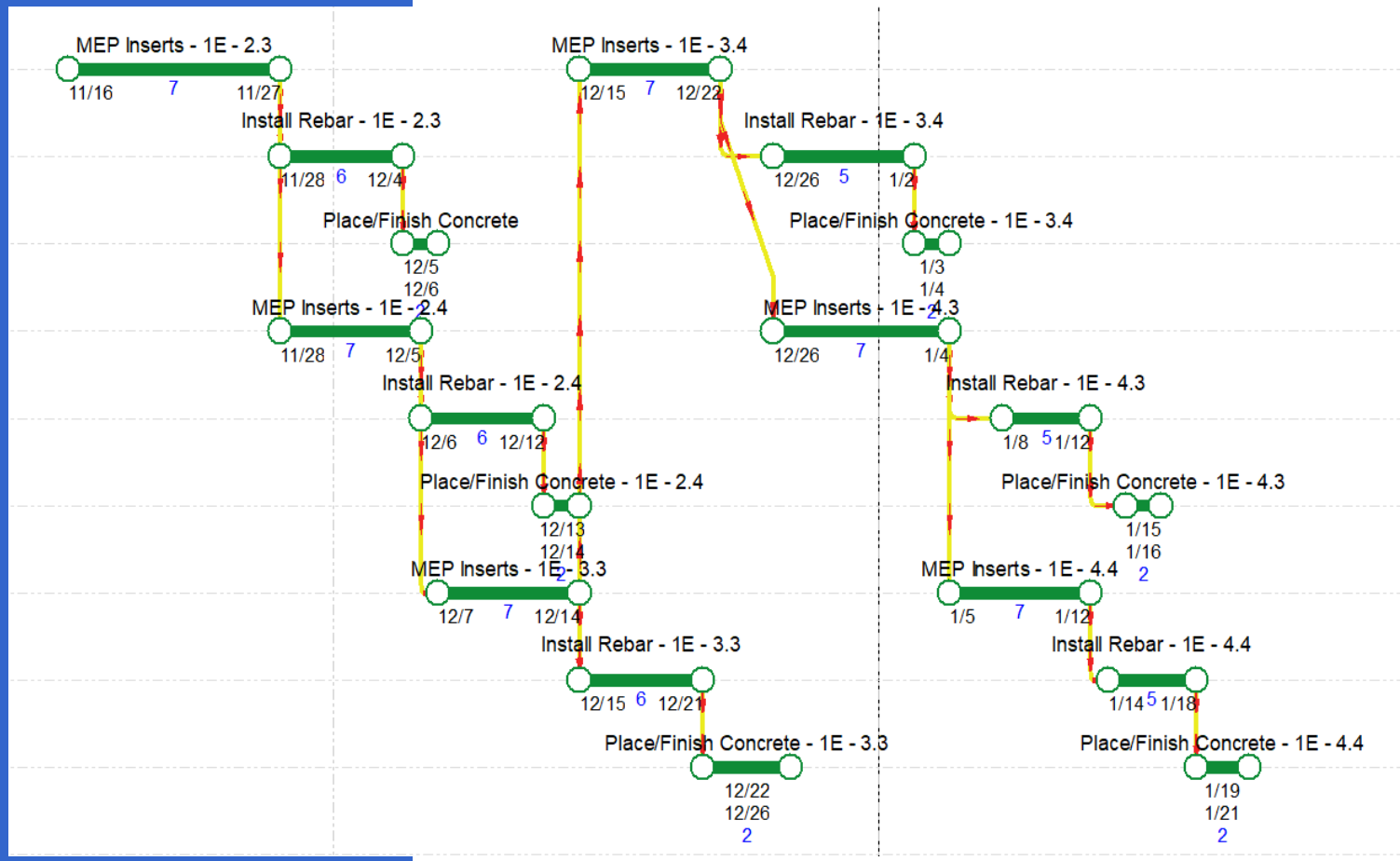
Building a Simple Schedule from Post-it Info

Things to Keep in Mind

Pull Planning must include logic in order to be input into a master schedule.

- Working backwards from an end date, a subcontractors work is reliant on other subs to be complete with another scope those relationships must be captured.

The pull plan must be agreed upon because it will feed the Weekly Work Plan as well as the master schedule



Integrating NetPoint into Primavera

NetPoint schedules can be imported into Primavera/MS Project/Excel/Etc.

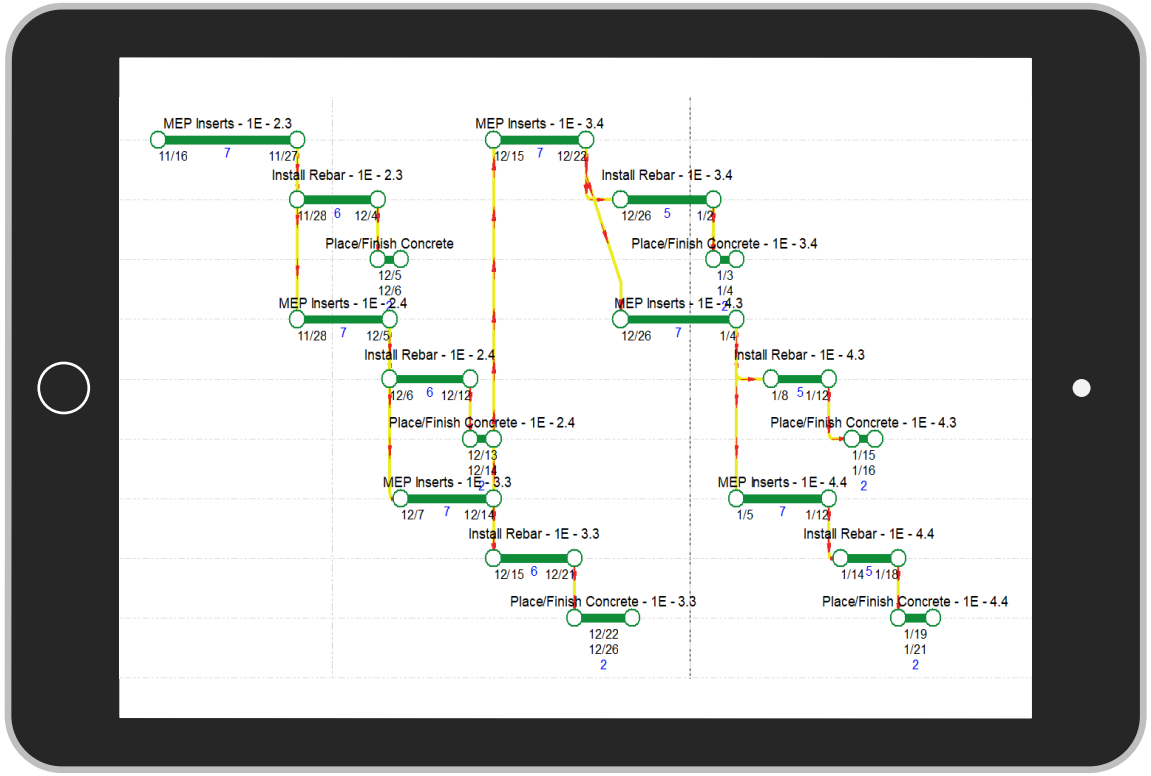
Importing as Stand Alone

- Works well if the team is working off a high-level schedule with milestones
- Requires more external ties between projects and the milestones
- Can require a team of schedulers to manage multiple small schedules
- Separates scopes of work into teams for field management

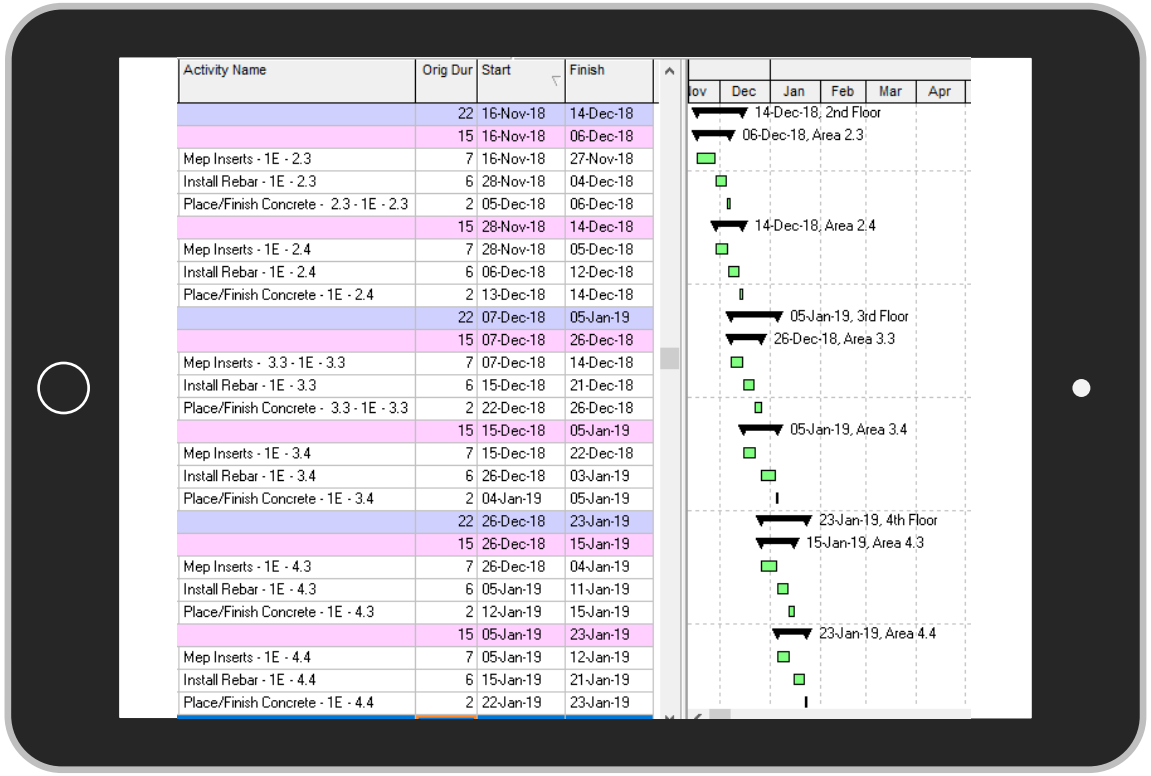
Integration Into Master

- The small pull plan schedules will replace high-level schedule detail with the pull planned schedule
- Full integration into the master schedule must be the standard
- Requires schedule knowledge to import and logically tie activities into milestones

NetPoint & Primavera



NETPOINT



Activity Name	Orig Dur	Start	Finish
	22	16-Nov-18	14-Dec-18
	15	16-Nov-18	06-Dec-18
Mep Inserts - 1E - 2.3	7	16-Nov-18	27-Nov-18
Install Rebar - 1E - 2.3	6	28-Nov-18	04-Dec-18
Place/Finish Concrete - 2.3 - 1E - 2.3	2	05-Dec-18	06-Dec-18
	15	28-Nov-18	14-Dec-18
Mep Inserts - 1E - 2.4	7	28-Nov-18	05-Dec-18
Install Rebar - 1E - 2.4	6	06-Dec-18	12-Dec-18
Place/Finish Concrete - 1E - 2.4	2	13-Dec-18	14-Dec-18
	22	07-Dec-18	05-Jan-19
	15	07-Dec-18	26-Dec-18
Mep Inserts - 3.3 - 1E - 3.3	7	07-Dec-18	14-Dec-18
Install Rebar - 1E - 3.3	6	15-Dec-18	21-Dec-18
Place/Finish Concrete - 3.3 - 1E - 3.3	2	22-Dec-18	26-Dec-18
	15	15-Dec-18	05-Jan-19
Mep Inserts - 1E - 3.4	7	15-Dec-18	22-Dec-18
Install Rebar - 1E - 3.4	6	26-Dec-18	03-Jan-19
Place/Finish Concrete - 1E - 3.4	2	04-Jan-19	05-Jan-19
	22	26-Dec-18	23-Jan-19
	15	26-Dec-18	15-Jan-19
Mep Inserts - 1E - 4.3	7	26-Dec-18	04-Jan-19
Install Rebar - 1E - 4.3	6	05-Jan-19	11-Jan-19
Place/Finish Concrete - 1E - 4.3	2	12-Jan-19	15-Jan-19
	15	05-Jan-19	23-Jan-19
Mep Inserts - 1E - 4.4	7	05-Jan-19	12-Jan-19
Install Rebar - 1E - 4.4	6	15-Jan-19	21-Jan-19
Place/Finish Concrete - 1E - 4.4	2	22-Jan-19	23-Jan-19

PRIMAVERA

Step 3: Weekly Meetings

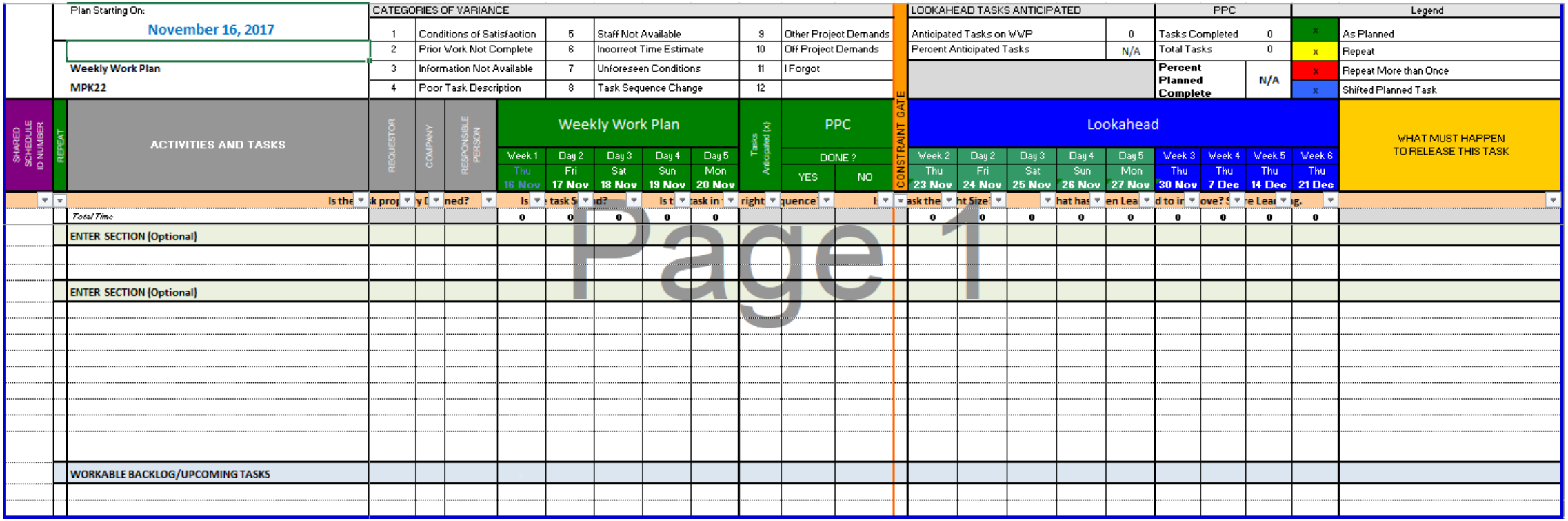
Weekly Status & Weekly Work Plans



- From the established pull plan the weekly work plan should be created and distributed.
  - Weekly Work Plan should include:
    - Last weeks activities with status for each contractor
    - Next weeks activities for each contractor
    - RFI's, Change Orders, Impacts, constraints, etc.
    - Workable backlog that can be done
- The meetings should include the same people that helped build the pull plan and are executing the work.
- Status given in the meetings will feed into the master schedule, so accurate updates are required.

Weekly Work Plan

Weekly Work Plans should be developed from the pull plan by the responsible superintendent. The idea is that the super is communicating the plan to the subcontractors.



Plan Starting On: November 16, 2017

Weekly Work Plan

MPK22

CATEGORIES OF VARIANCE

1	Conditions of Satisfaction	5	Staff Not Available	9	Other Project Demands
2	Prior Work Not Complete	6	Incorrect Time Estimate	10	Off Project Demands
3	Information Not Available	7	Unforeseen Conditions	11	I Forgot
4	Poor Task Description	8	Task Sequence Change	12	

LOOKAHEAD TASKS ANTICIPATED

Anticipated Tasks on WWP	0
Percent Anticipated Tasks	N/A

PPC

Tasks Completed	0
Total Tasks	0
Percent Planned Complete	N/A

Legend

x	As Planned
x	Repeat
x	Repeat More than Once
x	Shifted Planned Task

SHARED SCHEDULE ID NUMBER	REPEAT	ACTIVITIES AND TASKS	REQUESTOR	COMPANY	RESPONSIBLE PERSON	Weekly Work Plan Week 1 Thu 16 Nov	Day 2 Fri 17 Nov	Day 3 Sat 18 Nov	Day 4 Sun 19 Nov	Day 5 Mon 20 Nov	Tasks Anticipated (x)	PPC DONE? YES	PPC DONE? NO	CONSTRAINT GATE	Lookahead Week 2 Thu 23 Nov	Day 2 Fri 24 Nov	Day 3 Sat 25 Nov	Day 4 Sun 26 Nov	Day 5 Mon 27 Nov	Week 3 Thu 30 Nov	Week 4 Thu 7 Dec	Week 5 Thu 14 Dec	Week 6 Thu 21 Dec	WHAT MUST HAPPEN TO RELEASE THIS TASK
		Total Time				0	0	0	0	0					0	0	0	0	0	0	0	0	0	
		ENTER SECTION (Optional)																						
		ENTER SECTION (Optional)																						
		WORKABLE BACKLOG/UPCOMING TASKS																						

Page 1

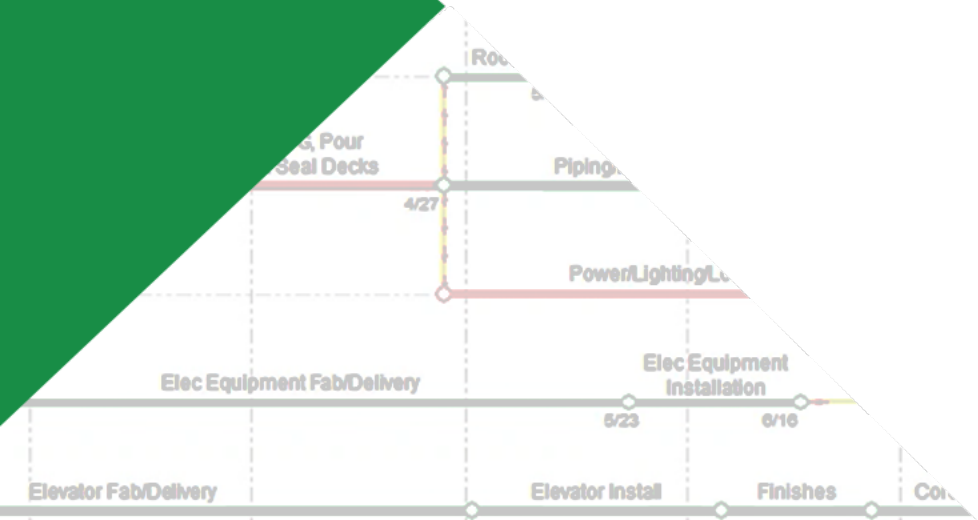
Pull Planning Calendar

** Weekly status meetings should continue throughout the duration of the scope*

November 2018						
S	M	T	W	T	F	S
				1 PULL PLANNING MEETING W/ SUBS (Half Day)	2 Confirm or Revise Pull Plan	3
4	5 Confirm or Revise Pull Plan	6 Confirm or Revise Pull Plan	7 Confirm or Revise Pull Plan	8 Confirm or Revise Pull Plan	9 Confirm or Revise Pull Plan	10
11	12 Confirm or Revise Pull Plan	13 Confirm or Revise Pull Plan	14 Confirm or Revise Pull Plan	15 KICK OFF MEETING Weekly Work Plan Distributed	16 Start Construction @ 1E Decks	17
18	19	20	21	22	23 Weekly Status Meeting (45 mins) Weekly Work Plan Distributed	24
25	26	27	28	29	30 Weekly Status Meeting (45 mins) Weekly Work Plan Distributed	



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Q & A Time



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Thank You!

