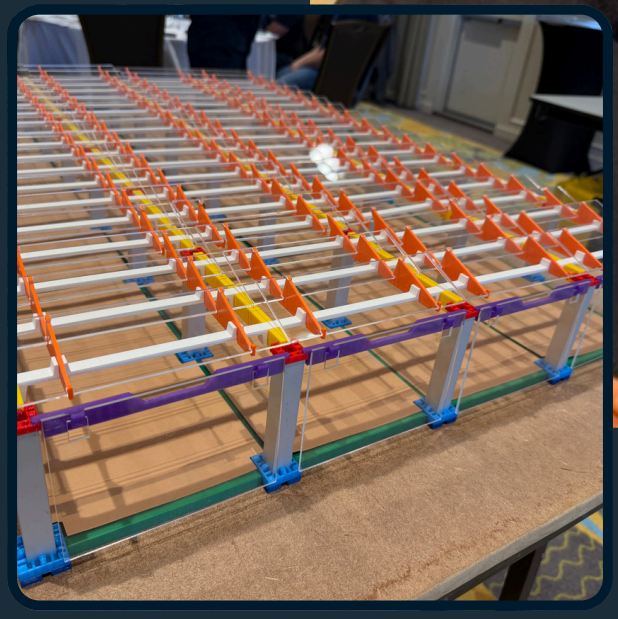
SUPERINTENDENT | PROJECT MANAGER

Boot Camp Guidebook





ELEVATE CONSTRUCTION
INSIGHTS SOLUTIONS TRAINING

TABLE OF

CONTENTS

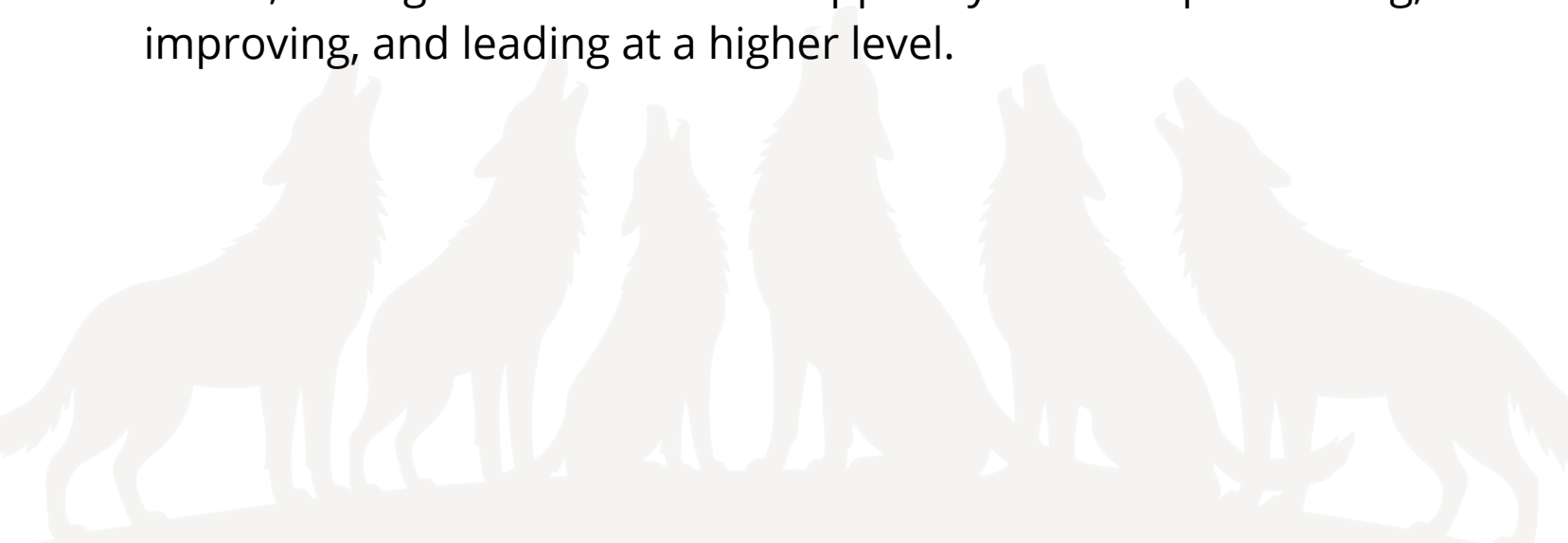
04 DAY ONE
67 DAY TWO
136 DAY THREE
164 DAY FOUR
217 DAY FIVE
225 GLOSSARY

WELCOME TO BOOTCAMP

This guidebook is designed to walk you step by step through the Superintendent/Project Manager Bootcamp, giving you a clear path to follow during training and a reliable resource to return to long after it's over. As you move through each section, you'll find space to capture your thoughts, lessons learned, and key takeaways—turning this into a personalized tool you can use in your day-to-day work.

We recognize that there is a lot of information to learn, and our goal is not to overwhelm you. Instead, this guide breaks everything down into clear, practical, and implementable steps so you can focus on steady progress and real application in the field.

Everything in this book is organized with the field in mind. The resources, systems, and processes are compiled in a practical, intuitive way so you can confidently apply what you've learned on your projects. Whether you're in the classroom or back onsite, this guide is here to support you in implementing, improving, and leading at a higher level.



DAY One

PERFORMANCE DAY

ELEVATE CONSTRUCTION
INSIGHTS SOLUTIONS TRAINING

DAY ONE

TRAINING OVERVIEW

	TRAINING
	LUNCH
	TRAINING

TOPICS

- GET INTO TEAMS
- SAFETY & LOGISTICS
- STRETCH & FLEX
- MORNING ROUTINE & PLAN DAY
- TEAMS INTROS + YELLS + EXPECTATIONS
- FOCUS, PHYSIOLOGY, WORDS + YELLS
- TEAM NAME AND YELL
- BLOCKS TO LEADERSHIP & YOUR BIGGEST THING
- INTERVIEW FOR THE PROJECT
- ALPHA AWARD
- HOMEWORK

TODAY'S CHECKLIST ☑

- ☐ FINISH READING THE PRE-REQ BOOK
- ☐ CONFIRM YOUR WAIVER IS SIGNED
- ☐ COMMUNICATE ANY SAFETY NEEDS
- ☐ STRETCH AND FLEX
- ☐ FILL OUT DAY 1 OF PLANNER
- ☐ CHECK OUT 6S AND 9 WASTES
- ☐ DOWNLOAD WHATSAPP
- ☐ GIVE US PERMISSION TO COACH YOU
- ☐ GET TO KNOW YOUR TEAM
- ☐ VISIT THE HEALTH TABLE
- ☐ CHECK OUT OUR SUPPLIES
- ☐ BEGIN THINKING OF A LEAN IMPROVEMENT VIDEO
- ☐ SELECT A TEAM LEADER
- ☐ ARE YOU HELPING YOUR TEAM GET BACK ON TIME?
- ☐ PARTICIPATE IN TEAM INTRODUCTIONS
- ☐ PARTICIPATE FULLY IN TEAM NAME AND YELL
- ☐ RAISE YOUR HAND AND ANSWER A QUESTION
- ☐ GIVE YOUR TEAM A SHOUT-OUT
- ☐ IDENTIFY YOUR BIGGEST BLOCK
- ☐ IDENTIFY YOUR WORD ORDER
- ☐ VOTE FOR THE ALPHA
- ☐ CONSIDER WRITING "NEXT STEP" NOTES
- ☐ TIDY UP NOTES IN THE BACK
- ☐ DO DAY 1 HOMEWORK

IF ALL ARE CHECKED BY END OF DAY HONESTLY, YOU GET ONE POINT FOR YOUR TEAM.

EXPECTATIONS

TAKE REAL-TIME BATHROOM BREAKS
PHONE FREE ENVIRONMENT- TAKE PHONE CALLS OUTSIDE
BE RESPECTFUL
NO HECKLING
MORNING AND AFTERNOON BREAKS WILL BE ANNOUNCED

RULES

YOU MUST PASS ASSIGNMENTS & EXAMS TO PROCEED
YOU MUST COMPLETE ALL ASSIGNMENTS & HAVE INTEGRITY
YOU MUST GO ALL OUT & GIVE 100%
CALL EVERYONE MR. OR MS. & THEIR LAST NAME

TEAM LEADERS

LEAD YOUR TEAM BY:

BUILDING THE TEAM INTO HIGH PERFORMING TEAMS
HOLD THE ATTENDEES ACCOUNTABLE
PROVIDE FEEDBACK FOR IMPROVEMENT
CHALLENGE ATTENDEES TO:

- **COME OUT OF THEIR SHELL**
- **BREAK THROUGH MENTAL WALLS**
- **PARTICIPATE**
- **REMEMBER ASSIGNMENTS**

SCORING POINTS

YOU WILL EARN POINTS FOR YOUR TEAM WHEN YOU:

PARTICIPATE

ADD VALUE

5S YOUR AREA - 3 POINTS

- **SORT**
- **SET IN ORDER**
- **SWEEP/SHINE**

RECITE THE 8 WASTES

- **THE PAUL AKERS WAY...**
- **PER PERSON - 3 POINTS**
- **ENTIRE TEAM - AN ADDITIONAL 8**

ADD FLARE - PUT YOUR PERSONALITY INTO THE WORK

AMAZING NOTETAKING

LEAN IMPROVEMENT VIDEOS

YOUR TEAM WILL SHARE ONE VIDEO EACH DAY THROUGHT THE GROUP WHATSAPP CHAT THAT:

- **REDUCES WASTE**
- **IMPROVES A PROCESS**
- **PROVIDES CLARITY**

THE ROMAN GLADIUS

THE SWORD



AT EVERY BOOT CAMP, A FEW PEOPLE WALK OUT CARRYING A SWORD. IT ISN'T A PRIZE FOR THE BEST SCORE OR THE LOUDEST VOICE. IT GOES TO A GUARDIAN – SOMEONE WHO WILL STAND IN FRONT OF WASTE, VARIATION, AND DISRESPECT AND REFUSE TO LET IT THROUGH.

THE SWORD IS A REPLICA OF THE ROMAN GLADIUS, AND THE FIRST THING YOU NOTICE IS THAT IT'S SHORT. NO REACH. NO SWEEP. IT LOOKS LIKE THE WRONG TOOL. THAT UNREMARKABLE BLADE CARRIED ROME ACROSS THREE CONTINENTS FOR FOUR HUNDRED YEARS.

IT WORKED BECAUSE OF HOW IT WAS USED. A SLASH NEEDS ROOM, AND ROOM MEANS A MAN FIGHTS ALONE. A THRUST NEEDS A FEW INCHES – BEHIND THE SHIELD, THROUGH THE GAP, DONE. SO THE LEGIONARY HELD THE LINE, SHIELD LOCKED TO THE MAN BESIDE HIM. HIS SAFETY WAS HIS NEIGHBOR'S SHIELD. HIS NEIGHBOR'S SAFETY WAS HIS. ANYONE WHO BROKE RANKS FOR GLORY GOT THE MAN NEXT TO HIM KILLED. SAME KIT, SAME STANDARD WORK, SAME SHORT STRIKE, EVERY TIME. THE WEAPON WAS ORDINARY. THE SYSTEM WAS UNSTOPPABLE.

THAT'S WHAT WE'RE HANDING YOU: THE SHORT BLADE. THE SMALL, REPEATABLE ACT DONE SHOULDER TO SHOULDER WITH YOUR CREW. YOU HOLD THE LINE AT THE HUDDLE. YOU STRIKE AT THE WASTE IN FRONT OF YOU TODAY. YOU KEEP YOUR SHIELD OVER THE PERSON BESIDE YOU – BECAUSE PRODUCTION SYSTEMS PROTECT PEOPLE, AND GUARDIANS PROTECT THE SYSTEM.

THE ALPHA IS ON THE BLADE. THE ALPHA GOES FIRST AND ANSWERS FOR THE PACK. THAT'S THE STANDARD YOU ACCEPT WHEN YOU TAKE IT, AND IT MEANS YOU DON'T GET TO STAY QUIET WHEN A SCHEDULE TURNS ABUSIVE OR A CREW GETS SENT INTO A ZONE THAT ISN'T READY.

THERE IS ONE RULE: ONLY A SWORD CARRIER CAN AWARD A SWORD. IT CAN'T BE BOUGHT, REQUESTED, OR ISSUED BY A TITLE. IT PASSES HAND TO HAND.

IT STARTED IN 2018, WHEN GRAY CHILDS HANDED JASON SCHROEDER A SWORD. WHEN YOU RECEIVE YOURS, YOU AREN'T RECEIVING AN AWARD. YOU'RE JOINING A LINE – AND YOU'RE NOW RESPONSIBLE FOR FINDING THE NEXT PERSON WORTHY OF ONE.

THE ALPHA AWARD



A WOLF PACK HAS NO SINGLE LEADER OUT FRONT FOR THE WHOLE JOURNEY. THE ONE WHO KNOWS THE CROSSING TAKES THE RIVER. THE ONE WITH FRESH LEGS BREAKS TRAIL. THE ONE WHO HEARS SOMETHING WRONG TURNS THE FAMILY. EACH CARRIES THE PACK FOR A STRETCH, THEN FALLS BACK AND LETS THE NEXT ONE CARRY IT.

THAT'S A FAMILY. EVERY MEMBER EXPECTED TO STEP FORWARD WHEN THE MOMENT CALLS THEIR NAME.

WE BUILD THE SAME WAY. A CREW IS STUCK. A PLAN IS WRONG. A TEAMMATE IS DROWNING. A HARD TRUTH NEEDS SAYING OUT LOUD IN FRONT OF EVERYBODY. SOMEONE HAS TO MOVE, AND IT'S NEVER CONVENIENT.
WHEN WE ARE NEEDED, WILL WE STAND UP?

THE ALPHA AWARD GOES TO THE PERSON WHO ALREADY ANSWERED. NOT THE LOUDEST VOICE. NOT THE MOST EXPERIENCED. THE ONE WILLING TO BE WRONG IN FRONT OF THE GROUP SO THE GROUP COULD GET IT RIGHT. THE ONE WHO RAN AT THE EXERCISE THEY WERE WORST AT. THE ONE WHO PULLED A STRUGGLING TEAMMATE THROUGH INSTEAD OF FINISHING FIRST ALONE. THE ONE HUMBLE ENOUGH TO GROW ON PURPOSE.

SOMEONE MADE A DIFFERENCE HERE, AND PAID FOR IT WITH THEIR OWN COMFORT.

THE CHALLENGE
DON'T HUNT FOR THE AWARD THIS WEEK. HUNT FOR THE MOMENT – THE ONE WHERE THE FAMILY NEEDS SOMEBODY AND EVERYONE IS LOOKING AT THE FLOOR.

TAKE IT. THEN TAKE IT HOME TO YOUR PROJECT, WHERE THE AWARD DOESN'T EXIST AND THE MOMENT STILL DOES.

PERSONAL CLARITY

THROUGHOUT THIS EVENT, YOU WILL USE THIS RESOURCE TO ORGANIZE YOUR THOUGHTS AND BUILD CLARITY. IT IS REQUIRED FOR YOUR FINAL AND WILL BE ESSENTIAL FOR APPLYING WHAT YOU LEARN IN THIS BOOT CAMP TO YOUR DAILY WORK.

YOUR TEAM

YOU WILL PARTICIPATE WITH OTHERS THROUGHOUT THIS CAMP. TEAMS WIN. LET'S GET STARTED AND BUILD YOUR TEAM.

DAY ONE

EVERYONE'S NAMES ON TEAM:

--
--
--
--
--

TEAM NAME

TEAM YELL

ROLES:

1 - TEAM LEADER:
2 - PARTICIPANT:
3 - PARTICIPANT:
3 - PARTICIPANT:
5 - PARTICIPANT:
6 - PARTICIPANT:
PARTICIPANT:
PARTICIPANT:
PARTICIPANT:

OVERALL CAMP ASSIGNMENT:
CLARITY: MISSON + VALUES + ACTIONS

VALUES - WRITE DOWN ASAP

STRENGTHS - WRITE DOWN ASAP

MISSION- 100 YEAR GOAL - FILL OUT BY MONDAY NIGHT

5 - 10 YEAR - FILL OUT BY MONDAY NIGHT

THEMATIC GOAL - FILL OUT BY TUESDAY NIGHT

DAY ONE
CLARITY: MISSON + VALUES + ACTIONS

DEFINING GOALS - FILLED OUT BY WEDNESDAY NIGHT

1

2

3

4

5

What is fulfillment?

What is success?

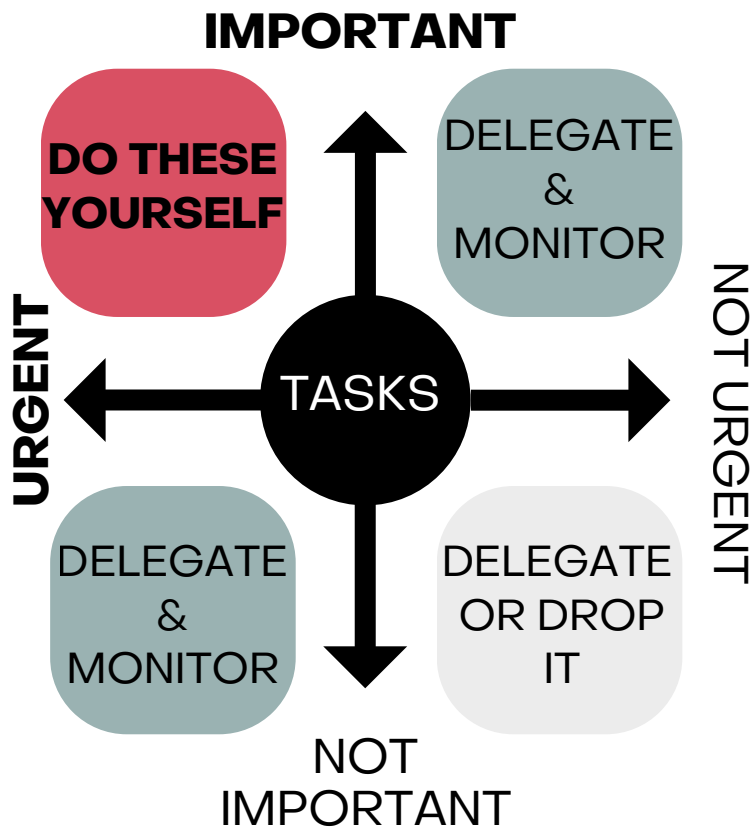
OUR FATIGUE IS OFTEN CAUSED NOT BY WORK, BUT BY WORRY, FRUSTRATION, AND RESENTMENT. DALE CARNEGIE

DAY ONE CLARITY

WHAT WILL YOU DO THAT ONLY YOU CAN DO?

WHAT WILL YOU NOT DO THAT OTHERS SHOULD DO?

IDENTIFY YOUR ROLE



LEADER STANDARD WORK WEEK - FILLED OUT BY THURSDAY NIGHT

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
5: 30AM					
6: 00AM					
6: 30AM					
7: 00AM					
7: 30AM					
8: 00AM					
8: 30AM					
9: 00AM					
9: 30AM					
10: 00AM					
10: 30AM					
11: 00AM					
11: 30AM					
12: 00PM					
12: 30PM					
1: 00PM					
1: 30PM					
2: 00PM					
2: 30PM					
3: 00PM					
3: 30PM					
4: 00PM					
4: 30PM					
5: 00PM					
5: 30PM					
6: 00PM					
6: 30PM					

6 MONTH PLAN

Month 1	Month 2	Month 3	Month 4	Month 5	Month 6

NOTES | AM & PM ROUTINE | TDL + LSW

AM ROUTINE

MONDAY

TUESDAY

WEDNESDAY

6 AM		6 AM		6 AM	
7 AM		7 AM		7 AM	
8 AM		8 AM		8 AM	
9 AM		9 AM		9 AM	
10 AM		10 AM		10 AM	
11 AM		11 AM		11 AM	
12 PM		12 PM		12 PM	
1 PM		1 PM		1 PM	
2 PM		2 PM		2 PM	
3 PM		3 PM		3 PM	
4 PM		4 PM		4 PM	
5 PM		5 PM		5 PM	
6 PM		6 PM		6 PM	
7 PM		7 PM		7 PM	

PM ROUTINE

NOTES | AM & PM ROUTINE | TDL + LSW

AM ROUTINE

THURSDAY

6 AM	
7 AM	
8 AM	
9 AM	
10 AM	
11 AM	
12 PM	
1 PM	
2 PM	
3 PM	
4 PM	
5 PM	
6 PM	
7 PM	

PM ROUTINE

FRIDAY

6 AM	
7 AM	
8 AM	
9 AM	
10 AM	
11 AM	
12 PM	
1 PM	
2 PM	
3 PM	
4 PM	
5 PM	
6 PM	
7 PM	

SATURDAY

SYSTEM:

KEEP A TO DO LIST
LEADER STANDARD WORK
MORNING ROUTINE
AFTERNOON ROUTINE
TIME BLOCK THE DAY
TIME TRACKING
CONTINUOUS IMPROVEMENT

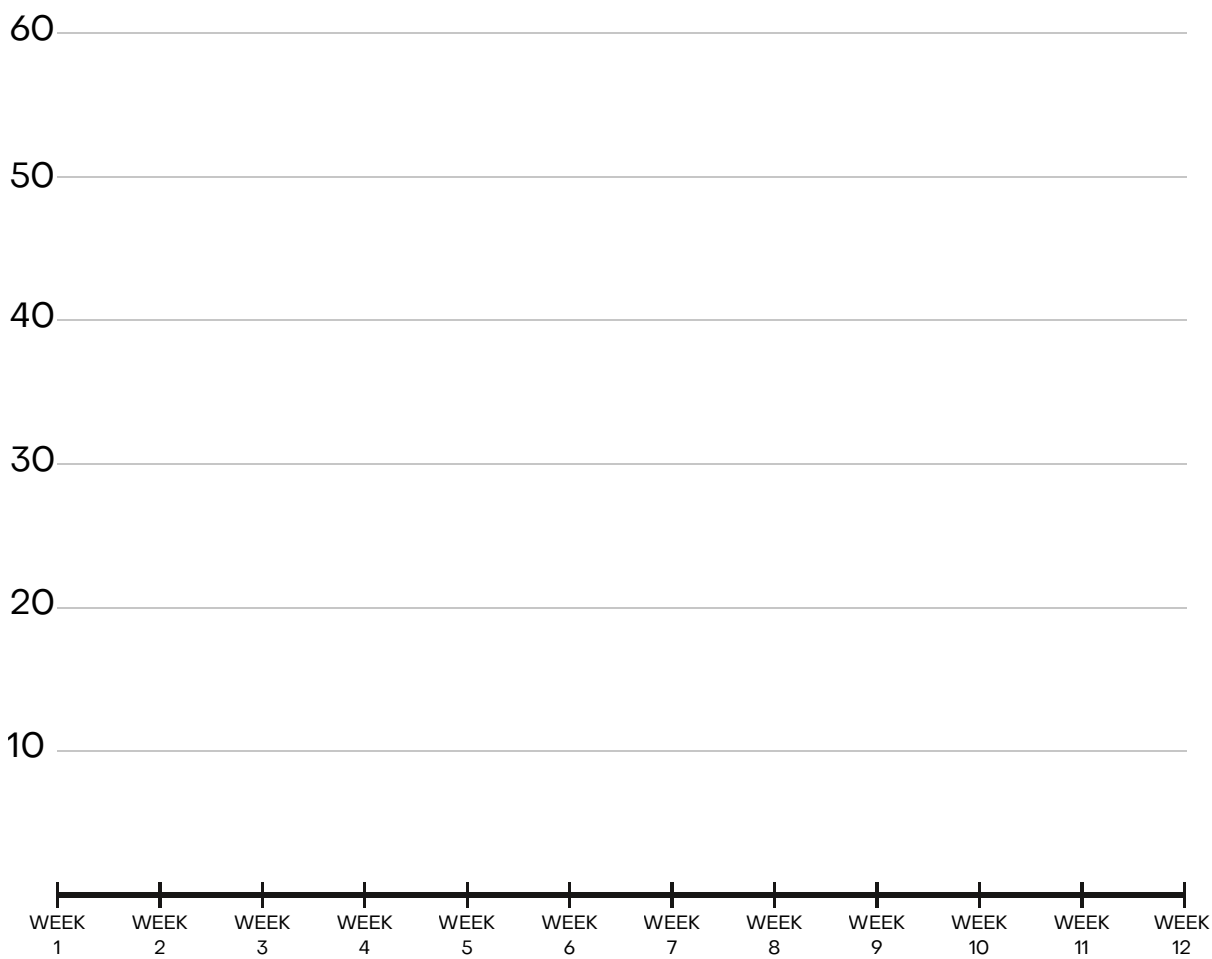
REFLECTION:

DAY ONE
PPC SCORE:

S	M	T	W	T	F	S		TOTAL		# OF DAYS		PPC
☐	☐	☐	☐	☐	☐	☐	=	☐	/	☐	=	☐
☐	☐	☐	☐	☐	☐	☐	=	☐	/	☐	=	☐
☐	☐	☐	☐	☐	☐	☐	=	☐	/	☐	=	☐
☐	☐	☐	☐	☐	☐	☐	=	☐	/	☐	=	☐
☐	☐	☐	☐	☐	☐	☐	=	☐	/	☐	=	☐

TARGET
ABOVE 80%

WEEKLY TRACKER:



WHAT COULD YOU DO TO GET THIS DOWN?

I WILL....

TOTAL HOURS?

☐

DAY ONE
EMOTIONAL STATE

3 HABITS OF A BUILDER

- STUDY THE DRAWINGS ☐
- BE IN THE SCHEDULE ☐
- TAKE A REFLECTION WALK ☐

YOU ARE FULLY ENGAGED WHEN YOU'RE



RELEVANT ☐
CONNECTED ☐
WINNING ☐

MOOD METER

	S	M	T	W	TH	F	S
+16 ECSTATIC							
+15 TRIUMPHANT							
+14 VIVACIOUS							
+13 ELATED							
+12 DELIGHTED							
+11 JOYFUL							
+10 HAPPY							
+9 LIGHTHEARTED							
+8 PLEASED							
+7 PEACEFUL							
+6 SATISFIED							
+5 CHEERFUL							
+4 ENCOURAGED							
+3 PURPOSEFUL							
+2 DETERMINED							
+1 HOPEFUL							
0 NEUTRAL							
−1 LOW							
−2 ANXIOUS							
−3 WORRIED							
−4 LONELY							
−5 FRUSTRATED							
−6 UPSET							
−7 DISILLUSIONED							
−8 DOWNCAST							
−9 GLOOMY							
−10 DOWNHEARTED							
−11 DISCOURAGED							
−12 DISGUSTED							
−13 DEPRESSED							
−14 DESPAIRING							
−15 DESPERATE							
−16 MISERABLE							
TOTALS							

HOW I CHANGED MY STATE:

DAY ONE
PERSONAL ORGANIZATION

NEXT STEPS TO IMPLEMENT:

1. Order a personal organization planner.
2. Listen to the introduction podcast.
3. Go through the assignments for the success formula and clarity document.
4. Use the personal organization planner for 90 days.
5. Make sure your plan includes: serve your partner like never before.
6. Make sure your plan includes: go on date night every week.
7. Keep a to-do list in a disciplined way.
8. Follow leader standard work.
9. Time block your days.
10. Avoid emails.
11. Use buffers.
12. Work in one piece flow.

RESOURCES:

1. Personal Organization Planners
2. Consider reading *Getting Things Done* by David Allen
3. Consider reading *Elevating Construction Project Teams*



LEAN IMPROVEMENT VIDEOS

YOU WILL USE THE NEXT FOUR GUIDE PAGES TO COME UP WITH YOUR DAILY LEAN IMPROVEMENT VIDEOS.

REMEMBER TO SHOW BEFORE (WHAT WAS BUGGING YOU) AND AFTER THE IMPROVEMENT WITH NEW TOOLS/ SYSTEM/ ACTIONS, AS WELL AS WASTES IDENTIFIED.

THE VIDEO SHOULD BE MADE IN UNDER 10 MINUTES. SEND YOUR VIDEO TO THE WHATSAPP GROUP EACH DAY.

IF YOU WANT INSTRUCTIONS, SEARCH THESE VIDEOS ON YOUTUBE:



How to Make a Professional Video with Your Phone | Simple iMovie Tutorial

3.2K views • 6 years ago

Paul Akers

Learn how to **create** amazing **videos** using just your smartphone and iMovie! In this tutorial, Paul Akers walks you through the ...

9 chapters How to Make a Movie the Simple Way | The Right Way to Hold Your Phone | Showing the Flush Mount...



My Favorite Improvements | Fix What Bugs You the Lean Way

9.7K views • 9 years ago

Paul Akers

Some of my favorite **improvements** don't happen at work — they happen right at home. In this **video**, I'll show you how I apply ...

8 chapters My Favorite Improvements Aren't at Work | The Bathroom Mirror Problem | Building a Simple Hair Dryer...

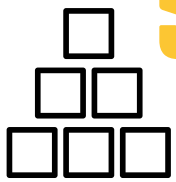
6S



SORT

REMOVE EVERYTHING THAT ISN'T NEEDED FOR THE DAY'S WORK.

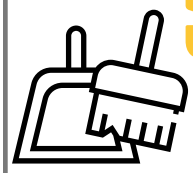
- Check work packaging kit- nothing extra or unnecessary for the day
- JIT deliveries with no extra amounts
- Keep floor clear of everything that isn't installed today or crucial to the work



SET IN ORDER

STRAIGHTEN AND ORGANIZE ALL TOOLS AND MATERIAL.

- Every work station organized
- Lay-down yards are properly sequenced according to needs
- Color code trash and recycling bins
- Deliveries go to the right place and are sorted immediately



SHINE

WORK SITE IS CLEAN AND ORGANIZED AT ALL TIMES. CLEAN AS YOU GO.

- Every morning, work and crew areas are swept and wiped
- Before lunch and at the end of the day, areas are tidied and trash is removed

STANDARDIZE



STANDARDS FOR ALL PROCESSES ARE CLEAR, VISUAL, AND REPEATABLE.

- Visuals are used to manage tasks and organization
- Maintenance routines are in place for tools/equipment
- Material and tool storage is customized and labeled

SELF DISCIPLINE



SUSTAIN REPEATABLE SYSTEMS WITH DAILY HABITS AND BEHAVIOR.

- Huddles should included training to reinforce project standards
- Mine for issues and solve problems daily
- Enforce a daily 6S practice



SAFETY

PRIORITIZE A CULTURE OF SAFETY WITH ACCOUNTABILITY.

- Provide all workers with free PPE to remove all excuses for not having
- Update Safety Logistics maps weekly
- Safety training should occur daily, monthly, and as needed
- Safety standards are visible

9 WASTES

Setup work area for success by eliminating the nine wastes

OVER-PRODUCTION  BUILDING WORK BEFORE THE NEXT CREW NEEDS IT.

EXCESS INVENTORY  MATERIALS AND INFORMATION STOCKPILED BEFORE THEY'RE NEEDED.

EXCESS MOTION  CREWS WALKING, SEARCHING, AND REACHING INSTEAD OF INSTALLING.

INCREASED TRANSPORTATION  MOVING MATERIALS FARTHER AND MORE OFTEN THAN NECESSARY.

DEFECTS  WORK INSTALLED WRONG, THEN TORN OUT AND REDONE.

OVER-PROCESSING  ADDING DETAIL OR STEPS NOBODY DOWNSTREAM ACTUALLY NEEDED.

WAITING  CREWS STANDING IDLE BECAUSE THE WORK ISN'T READY.

UNUSED GENIUS OF THE TEAM  IGNORING THE IDEAS OF THE PEOPLE BUILDING IT.

LACK OF ALIGNMENT  TEAMS FIGHTING EACH OTHER INSTEAD OF THE PROBLEM.

LEAN BEHAVIORS 1.0

ELEVATE CONSTRUCTION
INSIGHTS SOLUTIONS TRAINING

- EVERYONE KNOWS HOW TO **BE SAFE** IN THEIR TASK.
- EVERYONE KNOWS **WHAT THEY ARE INSTALLING.**
- EVERYONE MAKES **IMPROVEMENTS DAILY.**
- KEEP BATHROOMS **CLEAN.**
- **BE GOOD NEIGHBORS** & TAKE CARE OF CUSTOMER NEEDS.
- **NOTHING HITS THE FLOOR.** NO MATERIALS, TRASH, NOR ANY OTHER ITEMS HIT THE FLOOR.
- **JUST-IN-TIME** DELIVERIES & SCHEDULED DELIVERIES: CREATE CORRECTLY SIZED MATERIAL INVENTORY BUFFERS FOR ALL MATERIAL & COORDINATION DAILY.
- **ALL CORDS ARE OFF THE FLOOR** & MANAGED IN A REMARKABLE WAY.
- **EVERYTHING IS ON WHEELS**, PIPE RACKS, OR PAINTED PALLETS.
- ALL **ACCESS WAYS ARE CLEAR** AT ALL TIMES.
- ORGANIZE WORKSPACES- **EVERYTHING CLEAN & ORGANIZED**. A PLACE FOR EVERYTHING; EVERYTHING IN ITS PLACE.
- **PULL WORK** BEHIND YOU- NOTHING LEFT BEHIND, CLEAR & SWEEP YOUR AREAS, & LEAVE THE AREA COMPLETELY FINISHED.

LEAN BEHAVIORS 2.0

ELEVATE CONSTRUCTION
INSIGHTS SOLUTIONS TRAINING

- EVERYTHING WE DO IS BASED IN **RESPECT FOR PEOPLE.** AND WE DO NOT **WASTE RESOURCES**. REDUCE, REUSE, AND RECYCLE.
- BUILD **ONE TEAM.** CRITICIZING, COMPLAINING, COMPARING, COMPETING, AND CONTENDING CREATE THE 9TH WASTE OF UNHEALTHY CONFLICT.
- BUILD PEOPLE BEFORE THINGS. ALWAYS **TRAIN BEFORE** DOING THE WORK.
- YOUR WORK IS YOUR BRAND. TAKE **PRIDE IN CRAFTSMANSHIP.**
- WE ARE **NOT A BURDEN TO OTHERS.** THE PUBLIC, VENDORS, DELIVERY DRIVERS, OR OTHER CREWS. TREAT THEM LIKE CUSTOMERS.
- WORKERS AND FOREMEN ARE **THE HEROS**. AND EVERYONE **SUPPORTS THE HEROS**. ALL WE DO IS TO ADD VALUE TO THEM.
- **ALIGN WORK IN PROGRESS TO CAPACITY.** NEVER OVERBURDEN PEOPLE OR THE SYSTEM.
- WE DO NOT START A TASK UNTIL WE ARE READY TO FINISH. **ALWAYS BEGIN WITH FULL KIT.**
- ONLY **BRING IN MATERIALS JUST-IN-TIME**, THROUGH LEVEL AND PERFECTLY ORGANIZED STAGING YARDS, KITTED FOR TRANSPORT TO THE PLACE OF WORK WITH LITTLE WASTE OR PACKING TRASH.
- **STOP, CALL, & WAIT** IF YOU SEE VARIATION OR PROBLEMS. NEVER PUSH THROUGH. NEVER RUSH. STOP PRODUCTION AND SOLVE THE PROBLEM AT THE SOURCE.
- **PROBLEMS ARE NOT A PROBLEM.** THE ONLY PROBLEM IS THINKING WE DON'T HAVE PROBLEMS. ALL MEETINGS AND INTERACTIONS FOCUS ON IDENTIFYING, DISCUSSING, AND SOLVING PROBLEMS TO CLEAR THE WAY.
- DON'T FIGHT FIRES. **FOCUS ON FINDING AND REMOVING ROADBLOCKS** BEFORE THEY IMPACT YOUR WORK AND LOOKING FOR BOTTLENECKS IN THE FIELD.
- STOP FOCUSING ON GOALS AND PROFIT. **FOCUS ON QUALITY.**

FRAMEWORKS

THESE FRAMES ARE KEY TO YOUR POSITION.

THE BUILDER APPROACH

THE MEETING SYSTEM

LEAN IN CONSTRUCTION

THE IPCS™

TRADE PARTNER PREPARATION PROCESS

THE BUILDER APPROACH

01 CLARITY + ORGANIZATION

- Learning Habit
- Personal Organization System

02 PLANNING + EXECUTION

- Three Short-Term Habits
- Three Long-Term Habits
- The Planning Method
- The Meeting/Huddle System
- Standing Tactical Orders

03 MINDSET

- The Lean Way

DAY ONE
MEETING SYSTEMS

Organize the project management team with coverage so they can support the field, based on field walks and huddles from previous week.
Team Weekly Tactical

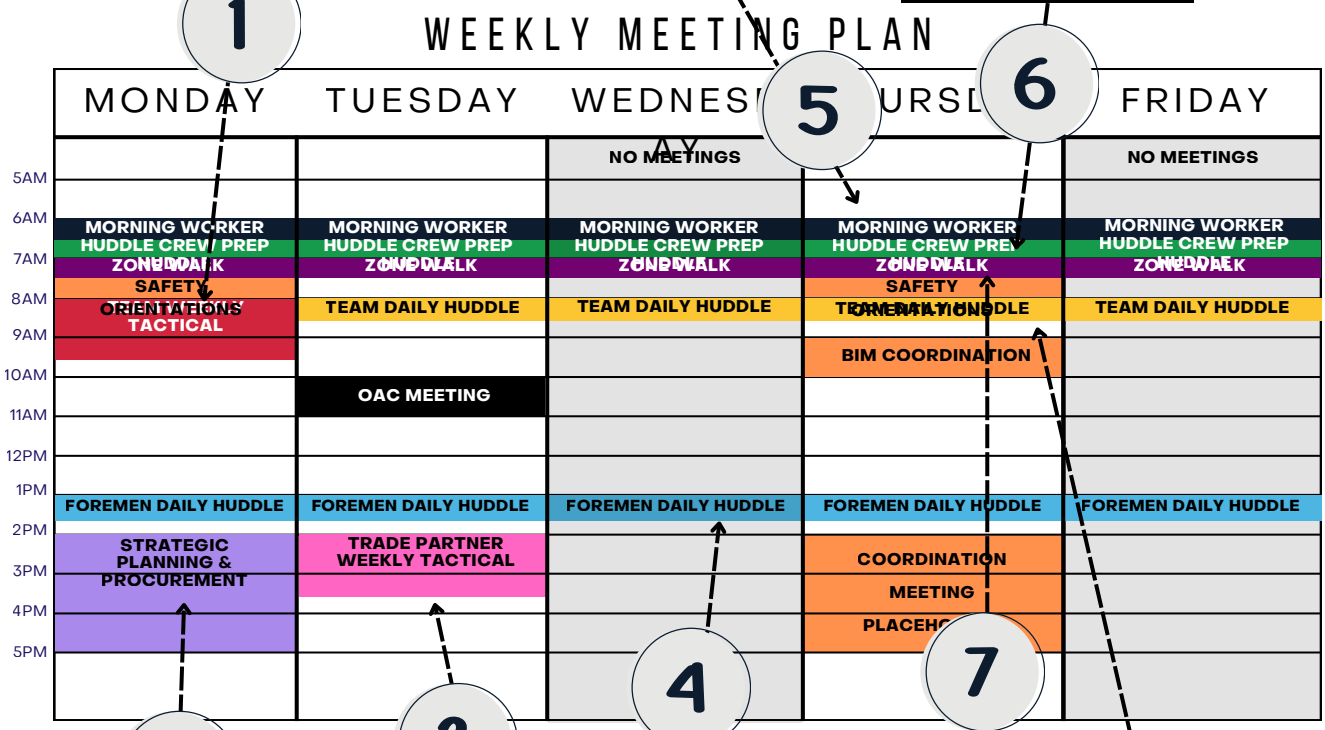
1

Which is then communicated with workers.
Morning Worker Huddle

5

Which becomes the base for crew planning.
Crew Prep Huddle

6



2

Use the Master Plan and Procurement Log to strategically control the project.
Strategic Planning & Procurement

3

Which allows the team to create look-ahead plans and WWP.
Trade Partner Weekly Tactical

4

Which enables day planning.
Foremen Daily Huddle

7

The zone managers then walk the job to maintain flow.
Zone Control Walks

8

All roadblocks from all meetings, huddles and walks are covered as a team.
Team Daily Huddle

DAY ONE
MEETING SYSTEMS

Everything we do in these meetings should enable flow—the meeting cycle, the visuals, and the outcomes are all designed to allow information to flow throughout the entire team and project. This will allow you to effectively steer and control the work flow on your project, and each meeting yields the pre-kitting needs of the next meeting.

1 OUTCOMES OF THE TEAM WEEKLY TACTICAL:

- Team coverage plan
- Trade partner prep TP3 managed
- We are building the team
- There is a team ready to support the work in the field

THIS IS THE PRE-KIT NEEDED FOR THE STRATEGIC PLANNING AND PROCUREMENT MEETING

2 OUTCOMES OF THE STRATEGIC PLANNING AND PROCUREMENT MEETING:

- Macro Takt Plan updated
- Procurement is managed
- Strategic vision is clear
- Buffers clear and managed

THIS IS THE PRE-KIT NEEDED FOR THE TRADE PARTNER WEEKLY TACTICAL

3 OUTCOMES OF THE TRADE PARTNER WEEKLY TACTICAL:

- Pull plan hosted
- Sequences confirmed
- Obtained buy-in from trades
- Zones and throughput optimized
- Managed production plan
- Scheduled pre-cons based on start dates
- Pull plans triggered by start dates
- Buffers gained through optimization
- Manage production through visualization
- Procurement aligned to start dates
- Correct look-ahead plans
- Work made ready six weeks out
- Find and remove roadblocks
- Find and optimize system constraints
- Complete WWP
- Filter from the production plan
- Adjust dates for commitments and handoffs
- Make commitments from trade to trade
- Complete plan for handoffs
- Publish a visual plan

THIS IS THE PRE-KIT NEEDED FOR THE AFTERNOON FOREMEN HUDDLE

DAY ONE
MEETING SYSTEMS

4 OUTCOMES OF THE AFTERNOON FOREMEN HUDDLE:

- Day Plan Created
- Plan for next day completed together
- Roadblocks found and removed w/RRA
- Visuals created for all workers

THIS IS THE PRE-KIT NEEDED FOR THE MORNING WORKER HUDDLE, CREW PREP HUDDLE, AND THE ZONE CONTROL WALKS

5 OUTCOMES OF MORNING WORKER HUDDLE:

- Workers receive information
- Plan is communicated
- Social group strengthened
- Maintain operational excellence

6 OUTCOMES OF CREW PREPARATION HUDDLE:

- Workers receive information
- Plan is communicated
- Crews have visual plans
- Safety is prioritized
- Jobsite cleanliness is ensured

7 OUTCOMES OF ZONE CONTROL WALKS:

- Zone control is implemented
- Intentional prep for handoffs
- Work is punched as its completed
- Team understands the flow of the project

THIS IS THE PRE-KIT NEEDED FOR THE TEAM DAILY HUDDLE

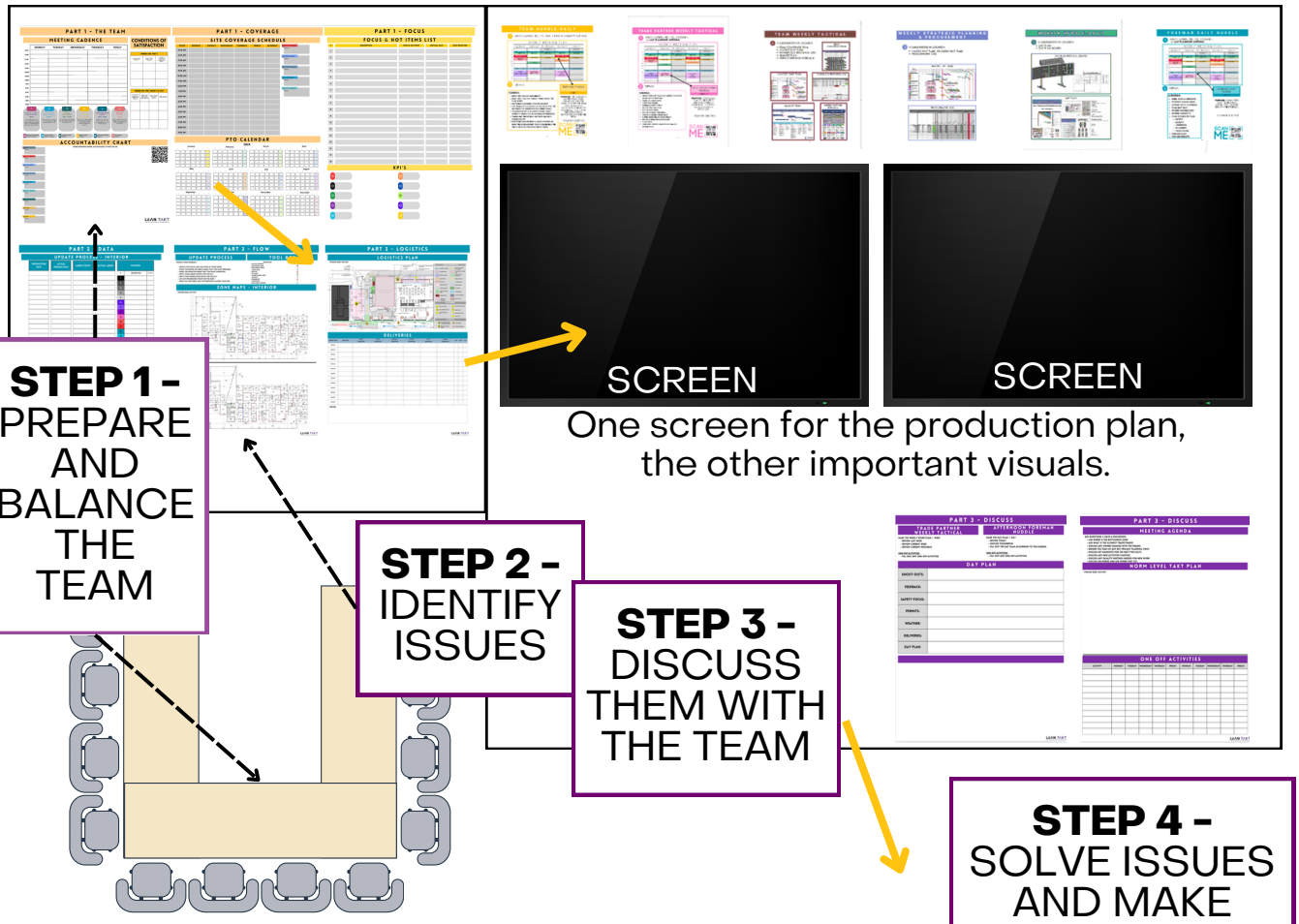
8 OUTCOMES OF TEAM DAILY HUDDLE:

- Office support is prioritized
- IDS for major issues
- Entire team aligned-office & field

THE OUTCOMES OF THE DAILY ZONE CONTROL WALKS, THE AFTERNOON FOREMEN, AND TEAM DAILY HUDDLES HELP SET THE AGENDA FOR THE NEXT WEEK'S TEAM WEEKLY TACTICAL.

DAY ONE
MEETING SYSTEMS

The visuals we use create flow. The **Team Boards** organize the support team, the **Identify Boards** help the Last Planners® identify constraints and roadblocks, the **inTakt, Excel, and Bluebeam** templates show the plan for discussion, which can be tracked on the **Discuss Boards**, and the **Solve Boards** are where roadblocks and constraints land for decisions and action. It all flows.



STEP 1 - PREPARE AND BALANCE THE TEAM

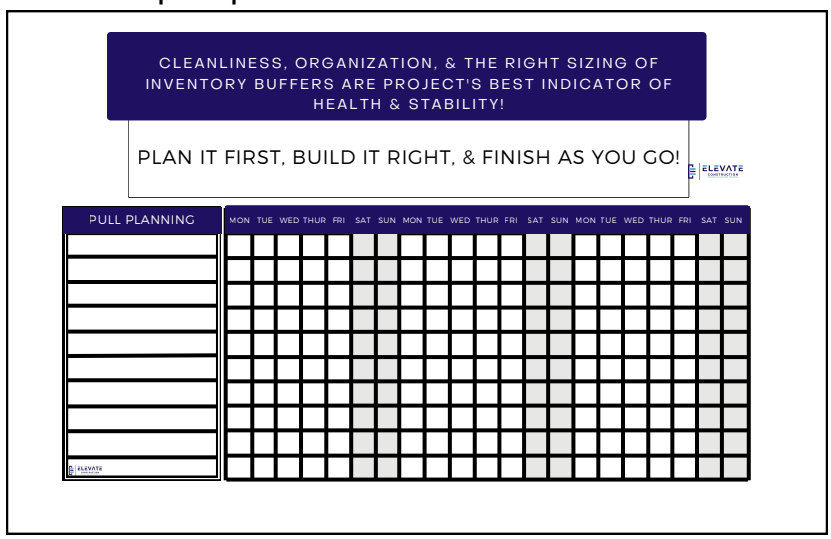
One screen for the production plan, the other important visuals.

STEP 2 - IDENTIFY ISSUES

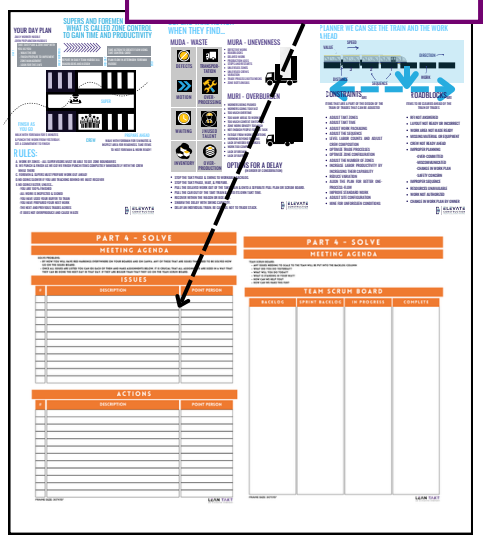
STEP 3 - DISCUSS THEM WITH THE TEAM

STEP 4 - SOLVE ISSUES AND MAKE ASSIGNMENTS

Wall C- pull plan chart



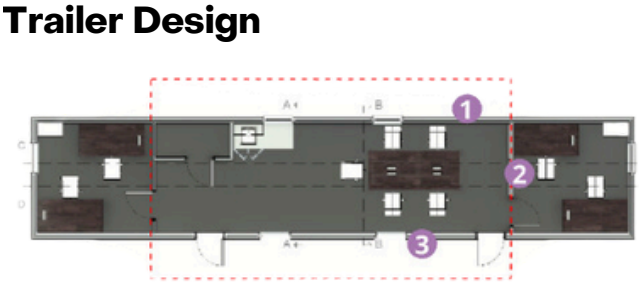
Wall D-



DAY ONE
MEETING SYSTEMS

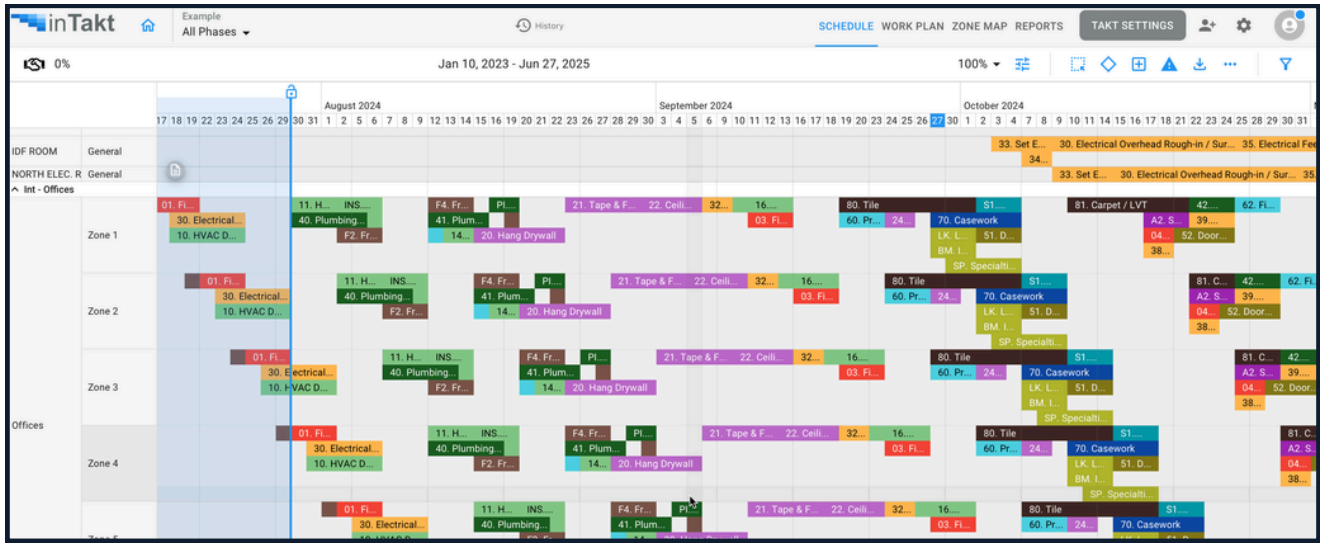
We have a Miro board that lays out how to organize your trailer for optimal flow. Please reach out to me if it would be of use to you.

Trailer Design

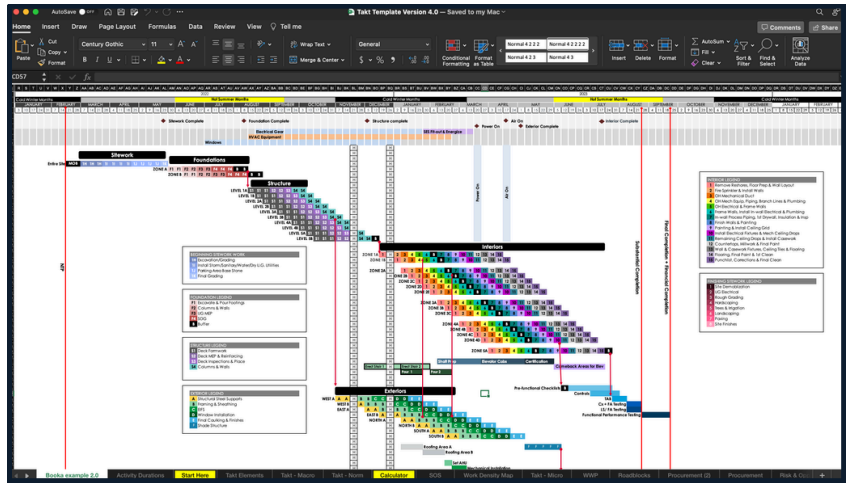




We're working with inTakt to accommodate all functions of the Takt Production System® and make it easier for you to run your projects electronically. We work with inTakt daily and are constantly adding features that Takt practitioners like you need for your projects. Connect at www.intakt.app.



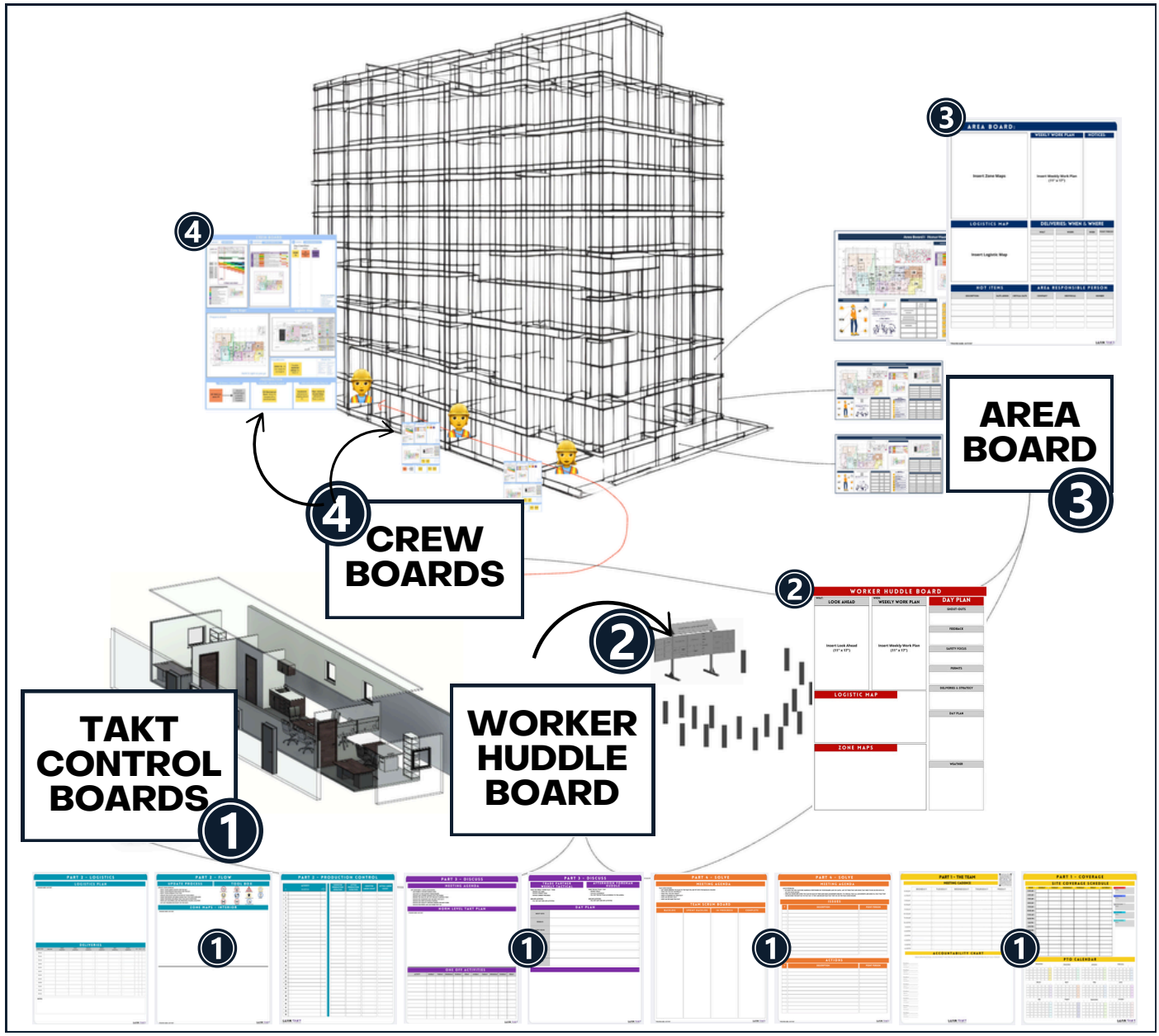
Don't forget our Excel Takt template used for Macro level Takt planning and creating any deliverables that are not yet available in inTakt. You can find this at www.leantakt.com



DAY ONE
MEETING SYSTEMS

The entire job site is coordinated to bring information to the entire project team, which is Lean, respectful, and enables flow. Here is a sketch of where people huddle and in what order.

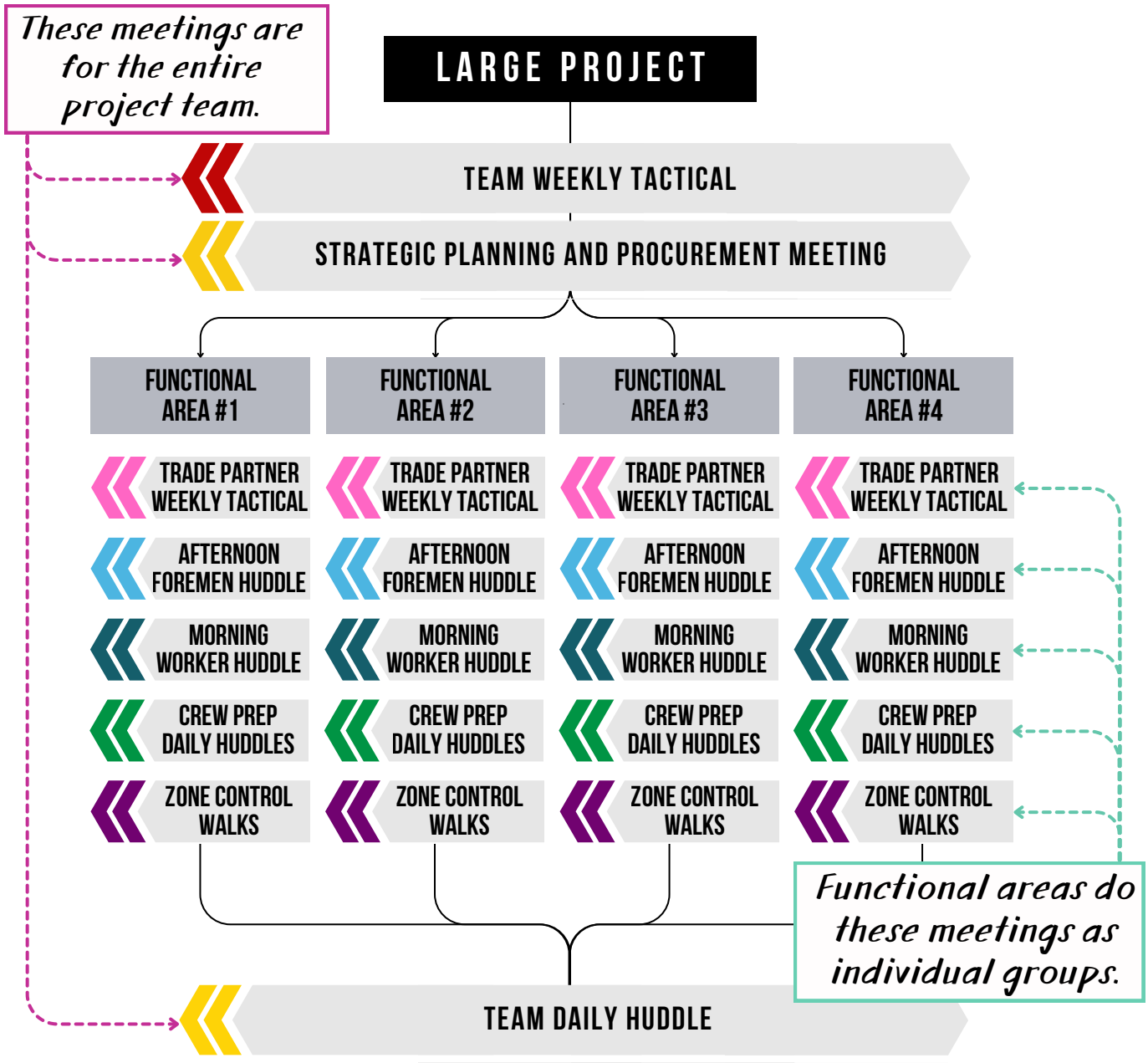
1. **Takt Control Boards** – Four sets of boards where planning with Last Planners® is done in the **Trade Partner Weekly Tactical**, **Afternoon Foreman Huddle**, and in pull plans.
2. **Worker Huddle** – Where the day plan is communicated to workers in the **Morning Worker Huddle**.
3. **Area Board** – Where crews in an area can access general information. These are not referenced in any meeting. It's a general information board.
4. **Crew Board** – Where trades can plan their work as a crew in one-process flow in the **Crew Preparation Huddle**.



DAY ONE
MEETING SYSTEMS

These **control boards** are designed to communicate important information to the entire team and is populated through the IPCS™ meeting system. Some boards are for functional areas and groups, and some are for specific meetings. Together, they work to make sure that everyone can see as group, know as a group, and act as a group.

Remember that each functional area will have its own **Trade Partner Weekly Tactical**, **Afternoon Foreman Huddle**, **Morning Worker Huddle** and **Zone Control Walks**. It is essential to separate these meetings to prevent them from becoming too lengthy and ineffective. If we don't, we risk getting sidetracked and discussing irrelevant information. This could lead to chaos on-site, hindering our ability to manage our areas and delays effectively.



MONDAY'S PLAN

· DATE

Today's Thought:

· TO DO LIST

- [ ]
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]

· NOTES

--USE THESE TO PLAN MEETINGS AND YOUR WORK--

MORNING WORKER HUDDLE

CREW PREP HUDDLE

ZONE CONTROL WALK

TAKE TAKT PLAN & ZONE MAP WITH YOU AS YOU:

- **WALK THE JOB**
- **FINISH/PREPARE EACH ZONE**
- **LOOK FOR:**
  - WASTE
  - OVERBURDEN
  - UNEVENNESS

TEAM WEEKLY TACTICAL

- GATHER ALL ROADBLOCKS AND ASSIGN.

- TAKE ACTION TO CREATE FLOW USING **TAKT CONTROL CARDS.**
- **PLAN FLOW** IN AFTERNOON FOREMAN HUDDLE.

AFTERNOON FOREMEN HUDDLE

STRATEGIC PLANNING & PROCUREMENT MEETING

TUESDAY'S PLAN

· DATE

Today's Thought:

· TO DO LIST

- [ ]
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]

· NOTES

MORNING WORKER HUDDLE

CREW PREP HUDDLE

ZONE CONTROL WALK

TAKE TAKT PLAN & ZONE MAP WITH YOU AS YOU:

- **WALK THE JOB**
- **FINISH/PREPARE EACH ZONE**
- **LOOK FOR:**
  - WASTE
  - OVERBURDEN
  - UNEVENNESS

TEAM DAILY HUDDLE

- TAKE ACTION TO CREATE FLOW USING **TAKT CONTROL CARDS.**
- **PLAN FLOW** IN AFTERNOON FOREMAN HUDDLE.

AFTERNOON FOREMEN HUDDLE

TRADE PARTNER WEEKLY TACTICAL

WEDNESDAY'S PLAN

· **DATE** _____

Today's Thought:

· **TO DO LIST**

- ☐
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐

· **NOTES**

MORNING WORKER HUDDLE

CREW PREP HUDDLE

ZONE CONTROL WALK

TAKE TAKT PLAN & ZONE MAP WITH YOU AS YOU:

- **WALK THE JOB**
- **FINISH/PREPARE EACH ZONE**
- **LOOK FOR:**
  - WASTE
  - OVERBURDEN
  - UNEVENNESS

TEAM DAILY HUDDLE

- TAKE ACTION TO CREATE FLOW USING **TAKT CONTROL CARDS.**
- **PLAN FLOW** IN AFTERNOON FOREMAN HUDDLE.

AFTERNOON FOREMEN HUDDLE

THURSDAY'S PLAN

· **DATE** _____

Today's Thought:

· **TO DO LIST**

- [ ]
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]

· **NOTES**

MORNING WORKER HUDDLE

CREW PREP HUDDLE

ZONE CONTROL WALK

TAKE TAKT PLAN & ZONE MAP WITH YOU AS YOU:

- **WALK THE JOB**
- **FINISH/PREPARE EACH ZONE**
- **LOOK FOR:**
  - WASTE
  - OVERBURDEN
  - UNEVENNESS

TEAM DAILY HUDDLE

- TAKE ACTION TO CREATE FLOW USING **TAKT CONTROL CARDS.**
- **PLAN FLOW** IN AFTERNOON FOREMAN HUDDLE.

AFTERNOON FOREMEN HUDDLE

FRIDAY'S PLAN

· DATE

Today's Thought:

· TO DO LIST

- [ ]
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]

· NOTES

MORNING WORKER HUDDLE

CREW PREP HUDDLE

ZONE CONTROL WALK

TAKE TAKT PLAN & ZONE MAP WITH YOU AS YOU:

- **WALK THE JOB**
- **FINISH/PREPARE EACH ZONE**
- **LOOK FOR:**
  - WASTE
  - OVERBURDEN
  - UNEVENNESS

TEAM DAILY HUDDLE

- TAKE ACTION TO CREATE FLOW USING **TAKT CONTROL CARDS.**
- **PLAN FLOW** IN AFTERNOON FOREMAN HUDDLE.

AFTERNOON FOREMEN HUDDLE

BUYOUT MEETING

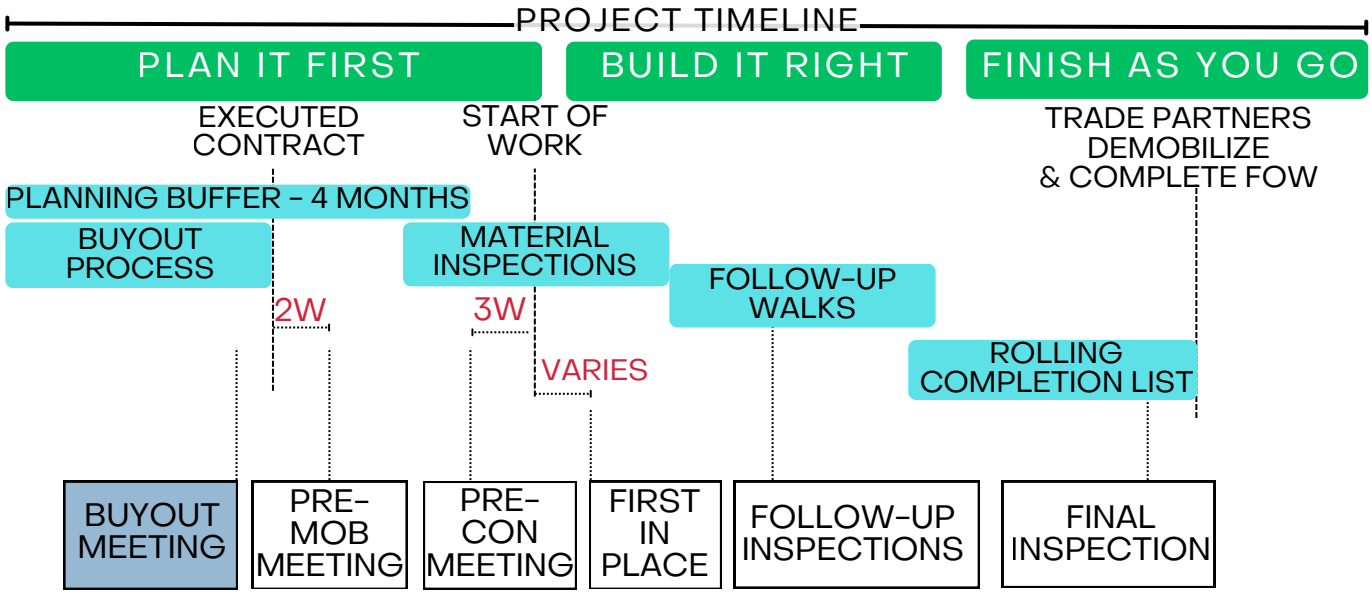
Who? Trade representative & GC PM

A First Planner® Meeting

Agenda:

- Review Owner's Top 10
- Review work package checklist
- Obtain commitments to comply with:
  - Project-specific plans (Safety / QC)
  - Schedule
  - Project-specific requirements
- Review Procurement log
- Identify need for mock-ups
- Schedule all other meetings
- Review permitting
- Verify testing & inspections
- Update buyout logs

Purpose: Verify contractor scope; ensure the contractor is legally obligated to perform



PRE-MOBILIZATION MEETING

2 WEEKS AFTER CONTRACT

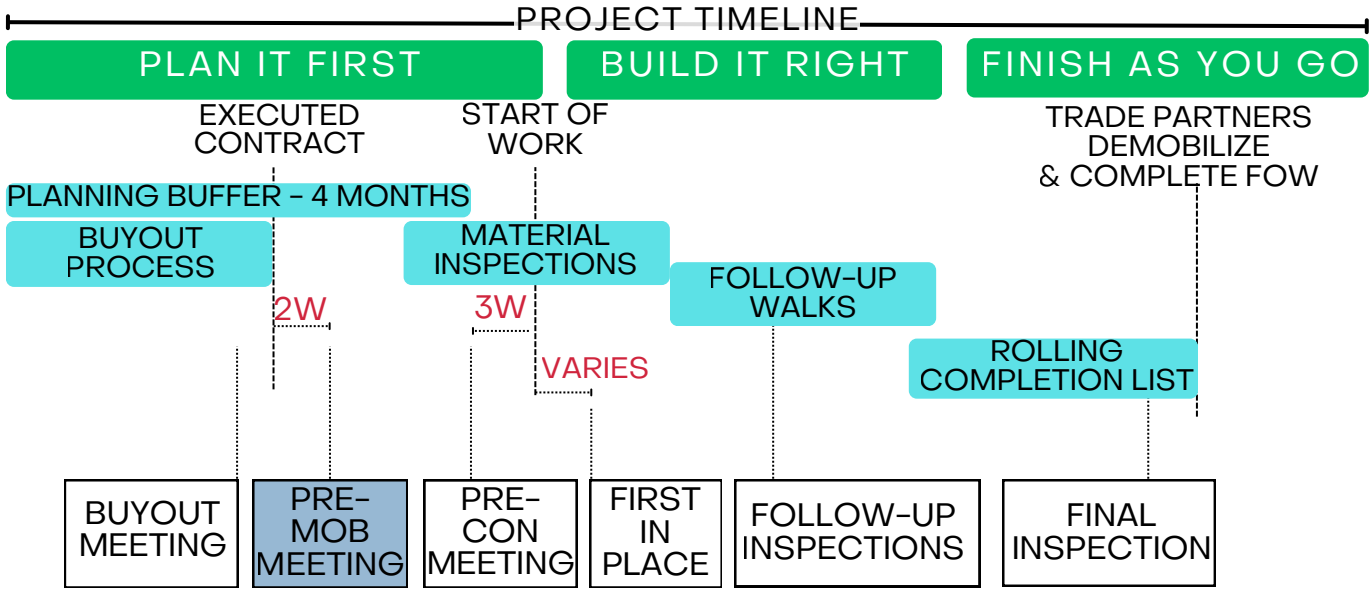
Who? Trade PM & GC PM

A First Planner® Meeting

Agenda:

- Review Owner's Top 10
- Review work package checklist
- Confirm commitments:
  - Project-specific plans (Safety / QC)
  - Schedule
  - FOW Project-specific requirements
- Develop Feature of Work breakout for contractor
- Define project office/admin requirements
- Get buy-in for scope of submittals and commit to schedule
- Follow-up on permitting action items
- Identify special / source inspections

Purpose: Explain to contractor deliverable needs. Commit contractor to deliver by pre-construction meeting



DAY ONE
MEETING SYSTEMS

PRE-CONSTRUCTION MEETING

3 WEEKS BEFORE FIRST WAGON

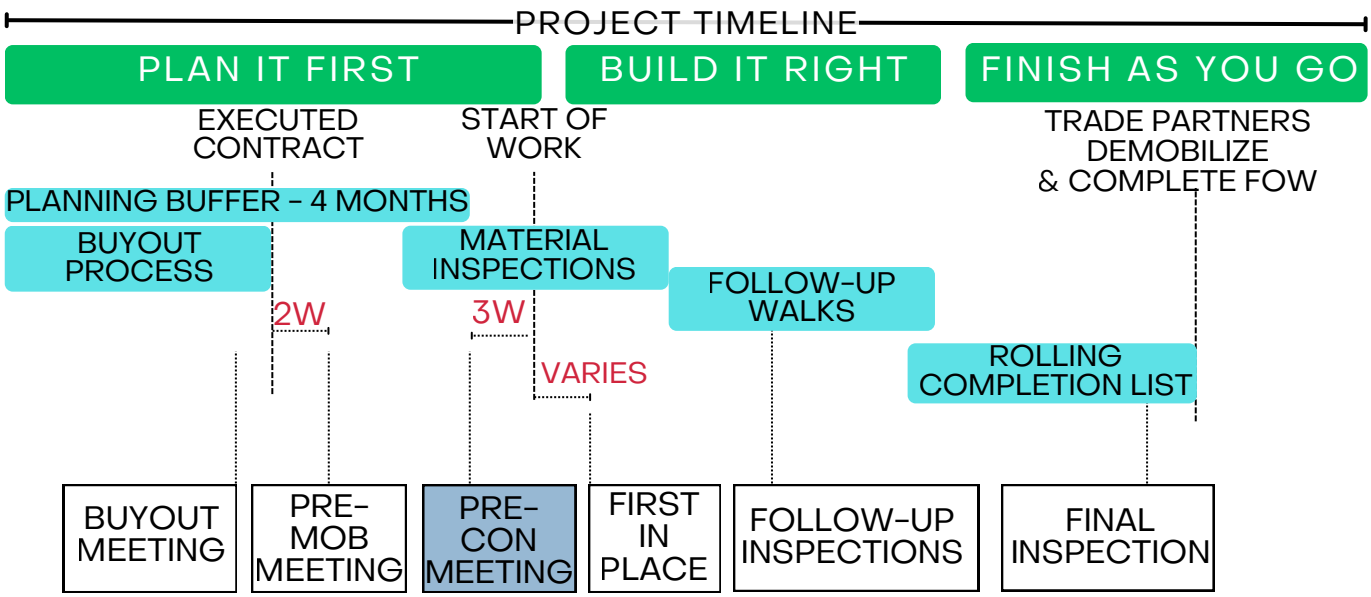
Who? Trade PM, Super, Foremen + Onsite Team

A First Planner® Meeting

Agenda:

- Review Owner's Top 10
- Review work package checklist
- Collect and review pre-mobilization deliverables
- Set safety and quality expectations
- Set-up the first in place inspection
- Coordinate with all applicable trades
- Review schedule for work
- Complete testing expectations
- Review current project plans
- Follow-up on source/special inspections
- Finish inspections requirements
- Review all drawings
- Review all specifications
- Review site logistics
- Review Pre-con Safety Quality Form
- Detail the checklist or visual

Purpose: Collect and explain deliverables; enable the foreman and superintendent. Develop the quality checklist or visual.



FIRST IN PLACE INSPECTION

ONCE FIRST PROCESS/WAGON IS DONE

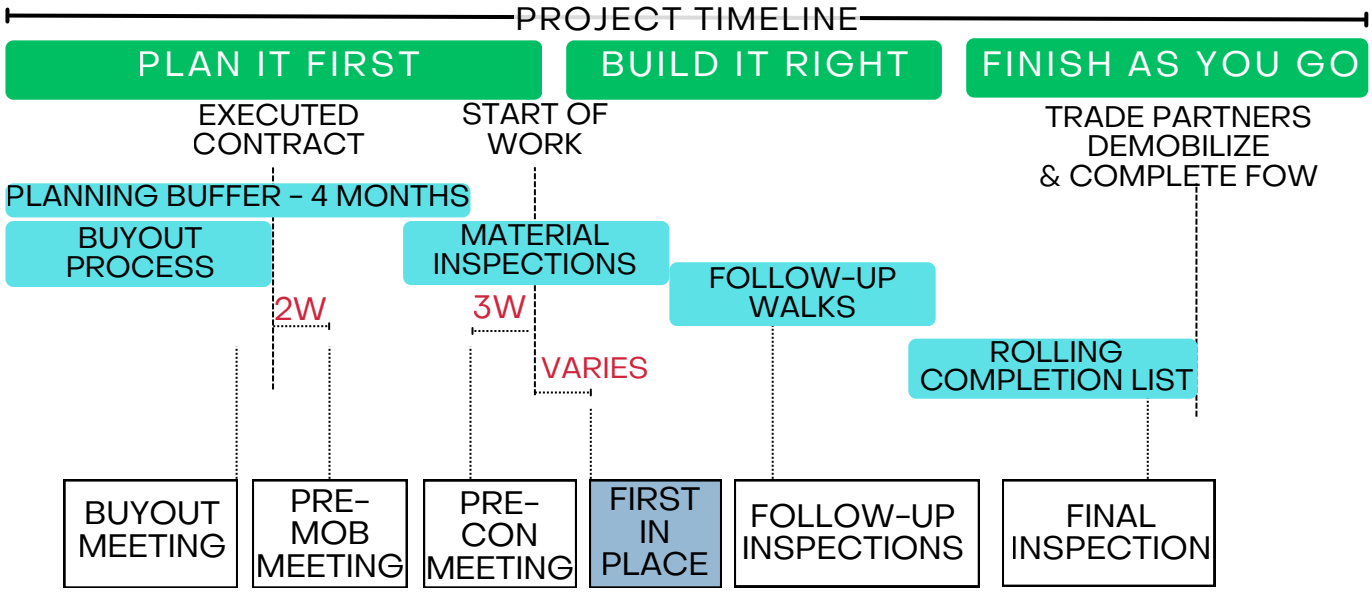
Who? GC Super & FE + Trade (Super, Foreman, & Crew)

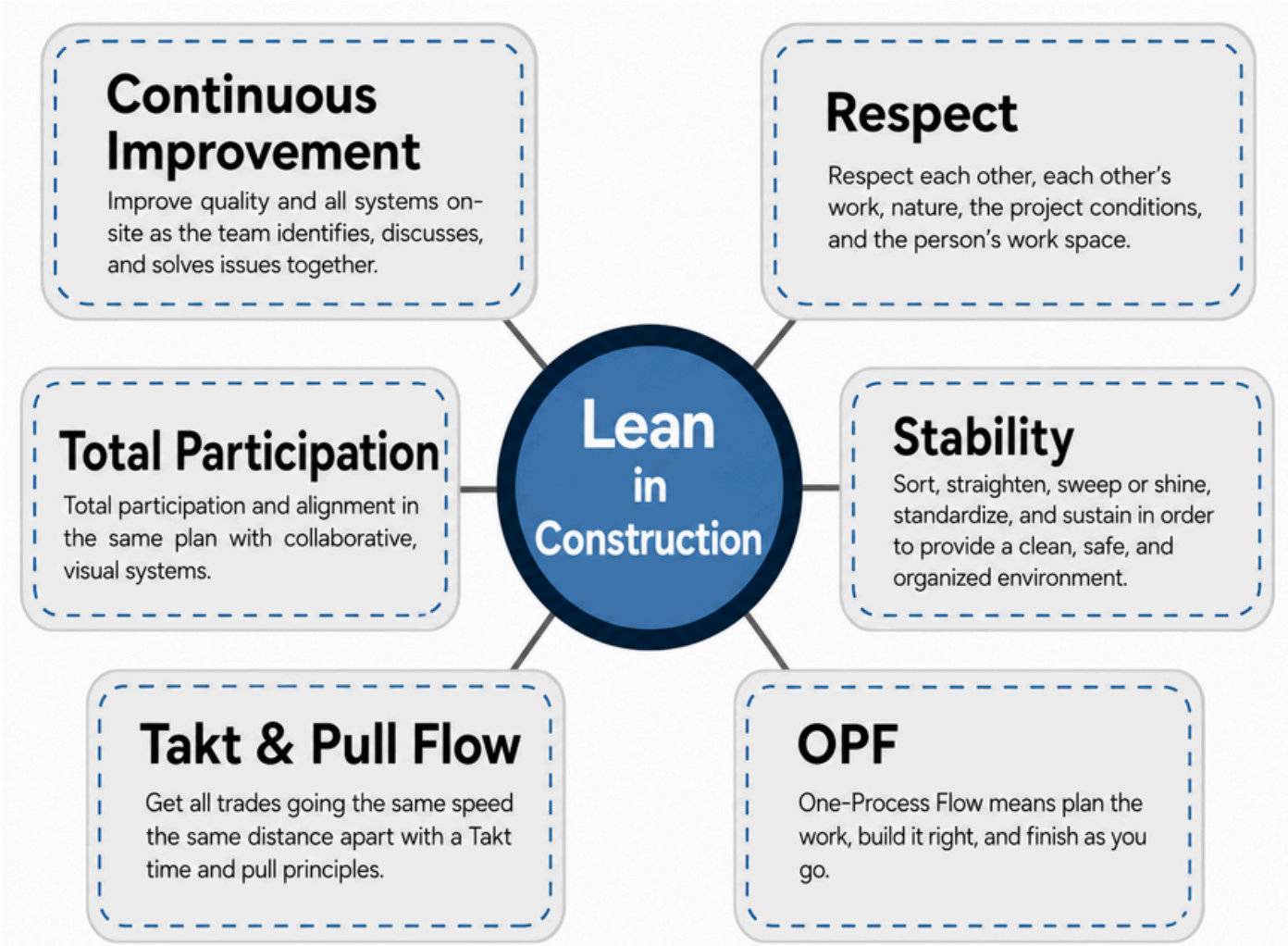
A First Planner® Meeting

Agenda:

- Review Owner's Top 10
- Review work package checklist
- Review quality checklist and visual
- Review installation
- Confirm crew knowledge
- Congratulate the team
- Educate, educate, educate
- Are the checklists being used?
- Substrate accepted?
- Spec and drawings being reviewed?

Purpose: Get the crews off on the right foot; set the expectation and make sure it is followed.



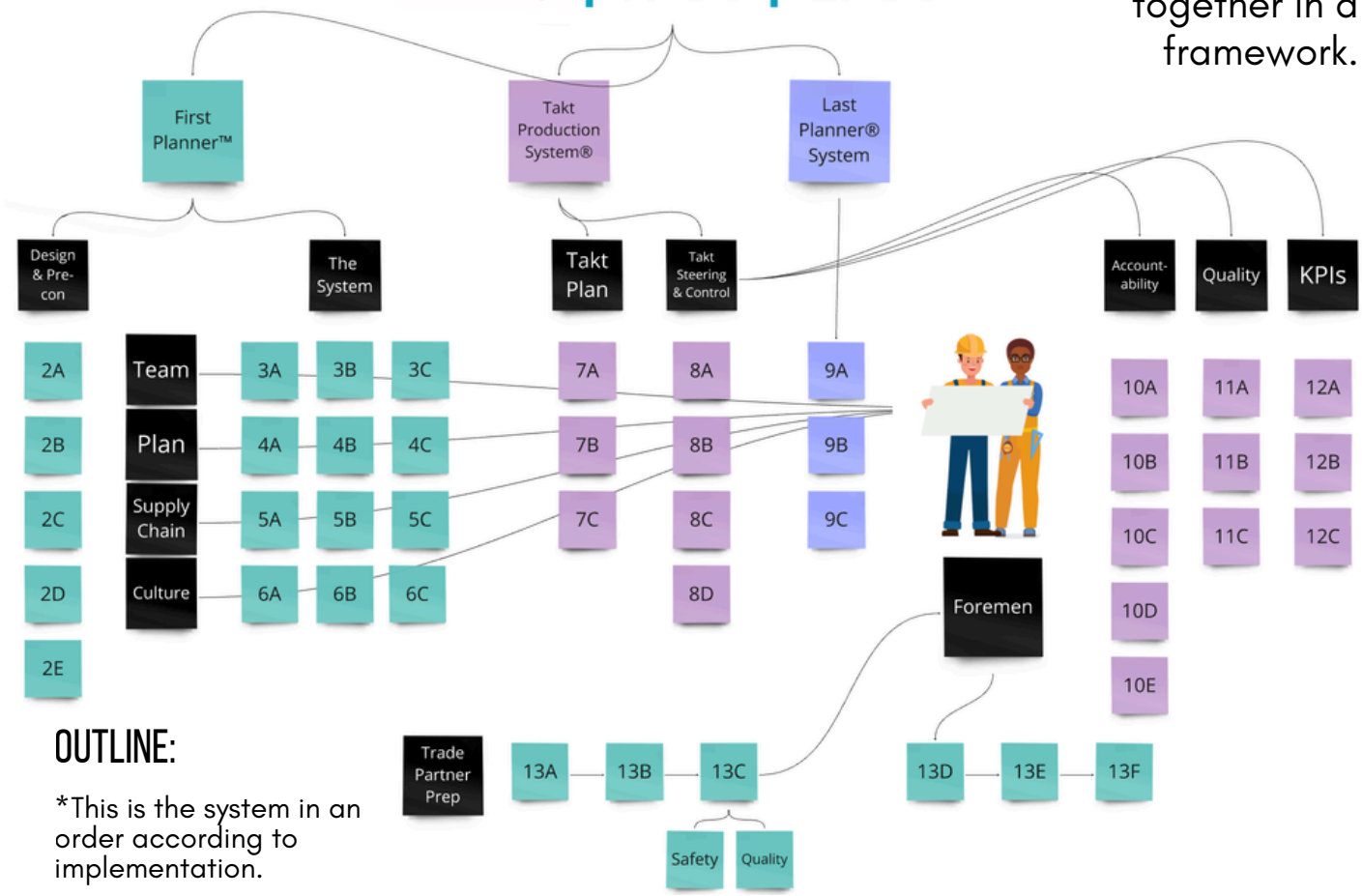

Continuous Improvement
Improve quality and all systems on-site as the team identifies, discusses, and solves issues together.
Respect
Respect each other, each other's work, nature, the project conditions, and the person's work space.
Total Participation
Total participation and alignment in the same plan with collaborative, visual systems.
Lean in Construction
Stability
Sort, straighten, sweep or shine, standardize, and sustain in order to provide a clean, safe, and organized environment.
Takt & Pull Flow
Get all trades going the same speed the same distance apart with a Takt time and pull principles.
OPF
One-Process Flow means plan the work, build it right, and finish as you go.

NOTES

IPCS™

FPS® | TPS® | LPS®

This is an outline showing these components together in a framework.



OUTLINE:

*This is the system in an order according to implementation.

2A: Project Proposal
2B: Build the Design Team
2C: Enable Design
2D: Builder Planning
2E: Start Strong
3A: Build the Project Team
3B: Team Balance
3C: Individual Balance
4A: The Production Plan
4B: Lean in Contracts
4C: Manage Risks
5A: Procure Resources
5B: Prefabrication
5C: Logistics
6A: Win Over the Workforce
6B: Clean, Safe, and Organized Project
6C: Onboarding and Orientation
7A: Takt Plan Creation
7B: Plan Use and Management
7C: First & Last Planner® Coordination
8A: Constraint Management
8B: Roadblock Removal
8C: Zone Control
8D: Delay Management
9A: Meeting and Huddle System
9B: Collaboration
9C: Planning Deliverables
10A: Zero Tolerance
10B: Daily Correction System
10C: Quality at the Source
10D: Contractor Grading
10E: Team Health Score
11A: Continuous Improvement
11B: Customer Needs and Wants
11C: Conditions of Satisfaction
12A: Leading Indicators
12B: Lagging Indicators
12C: Foremen
13A: Buyout
13B: Pre-mobilization Meeting
13C: Pre-construction Meeting
13D: First-in-place Inspection
13E: Follow-up Inspection
13F: Final Inspection

*This framework combines many Lean and operational frameworks together into one. To create this, I overlaid the *This Is Lean*, *LeanCore*, *AGC Lean*, *14 Toyota Way Principles*, *2 Second Lean*, Military Doctrine, Human Systems, *How Big Things Get Done*, and *Built To Fail* frameworks to make sure it was complete and covered the bare minimum of what it means to have a complete system.*

DAY ONE
BLOCKS TO LEADERSHIP

WHAT IS HOLDING YOU BACK?

- WANTING TO BE LIKED
- BEING CLOSED-MINDED
- PLAYING SAVIOR
- FEAR OF TAKING RISKS
- BEING INDECISIVE
- LOW EXPECTATIONS OF OTHERS
- CRITICAL OF SELF AND OTHERS
- CONTROLLING VS. EMPOWERING
- HAVING LOW SELF-WORTH
- HAVING LOW SELF-ESTEEM
- FOCUSING ON PROBLEMS
- HAVING A LACK OF PURPOSE
- FEARING EMBARRASSMENT
- FEARING REJECTION
- NEEDING TO BE PERFECT
- HAVING TO WORK HARD

NOTE YOUR TOP THREE

NOTE YOUR NUMBER ONE BLOCK

BRAINSTORM HOW TO OVERCOME THIS BLOCK

WHAT IS ALWAYS IN YOUR WAY?

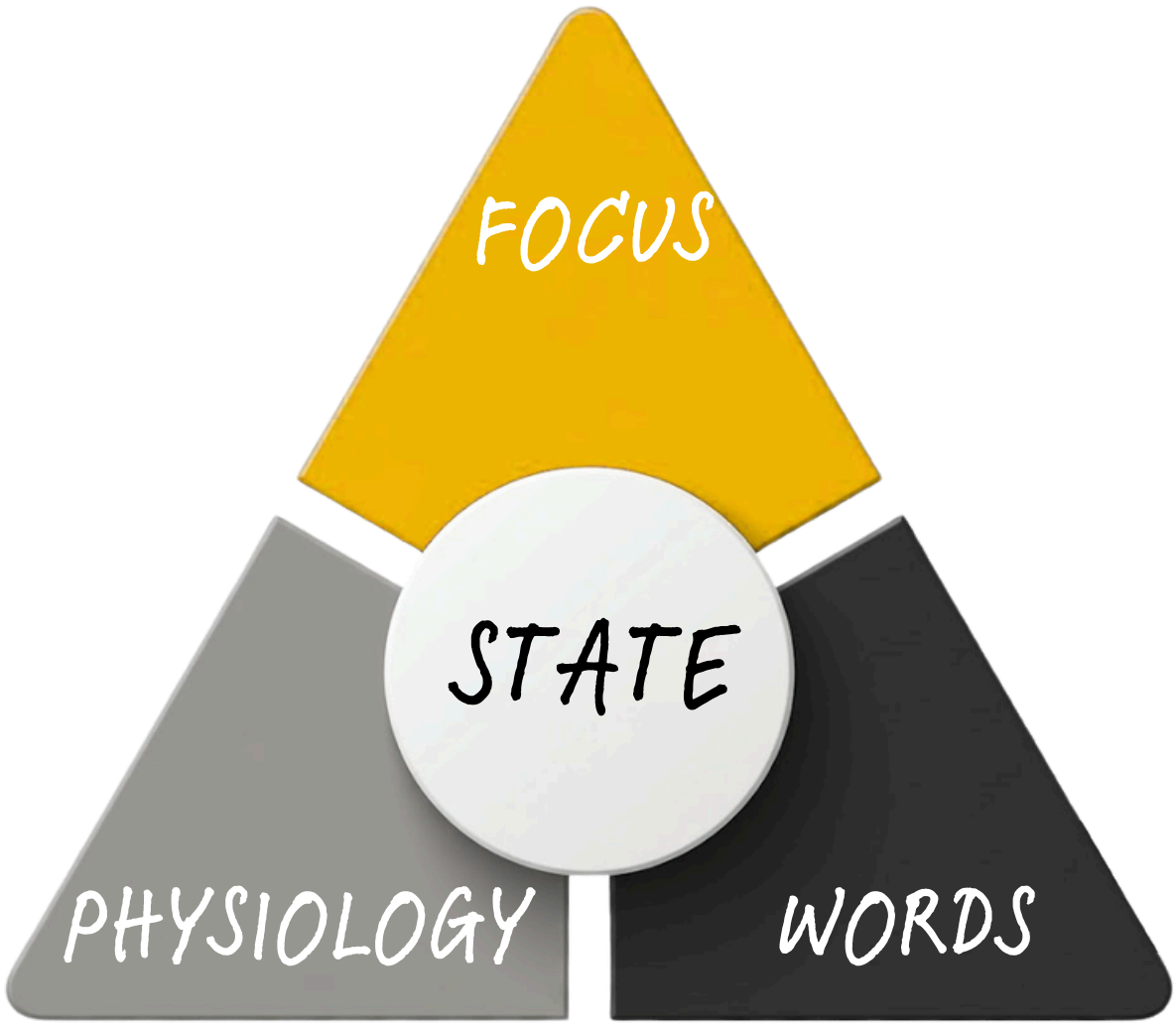
GETTING IN STATE

FOCUS +PHYSIOLOGY + WORDS

YOUR FOCUS— ARE YOU FOCUSED ON BELIEVING IT?

YOUR LANGUAGE + TONE— DO YOU SOUND LIKE YOU BELIEVE IT?

YOUR PHYSIOLOGY— DOES YOUR BODY SAY THAT YOU BELIEVE IT?



REFRAME

POWERLESS VS POWERFUL

INSTEAD OF SAYING...	CONSIDER THIS:
Try	I will
Need to	I get to
Don't	Do
Should	I choose to
Maybe	No
But	And

PATTERNS I RECOGNIZE:

HOW WILL I REFRAME FOR SUCCESS:

DAY ONE
MY INTENT

STEP ONE—

START WITH A QUESTION

Choose one or two of the following questions and jot down the first words that come to mind:

· What's a goal of yours?

· What brings you joy?

· Is there something that you want to let go of?

· Is there something you want to improve upon?

· What energizes you or makes you feel like your true-self?

STEP TWO—

DEVELOP

What's holding you back from achieving the answers in Step 1? What WORD, as a daily reminder, would help you achieve what you seek from Step 1?

- ·For example, if you want to start your own business but have some doubts you'd like to overcome, you could choose a word such as BELIEVE, COURAGE, or IGNITE. If you're feeling overwhelmed, you may choose a reminder like BREATHE, STRENGTH, or FAITH.

STEP THREE—

IDENTIFY YOUR WORD

You may have come up with a few words, and that's ok, but what is the one WORD that is the most important, the priority, to begin working on today? Declare out loud "My WORD is _____!"





REACH YOUR AUDIENCE

- Effective introductions
- Volume & pausing
- Gestures
- Audience contact
- Sense stress (feeling)
- Enthusiasm & warmth
- Poise & appearance

EXPECTATIONS

- I will **motivate** my audience.
- I will be **passionate** and give **100%** to this moment.
- I will **connect** with my audience and be **committed** to delivering something worth hearing.
- I will take my turn and **add value** to the team.
- I will not use notes- I will **prepare** myself for this moment.

TEAM PRESENTATIONS

Each team has 10 minutes to prepare a 2-minute speech for a Project interview. Your part is on the following topic:

HOW & WHY YOUR TEAM ON THIS PROJECT WILL CHANGE THE CONSTRUCTION INDUSTRY THROUGH INTENT

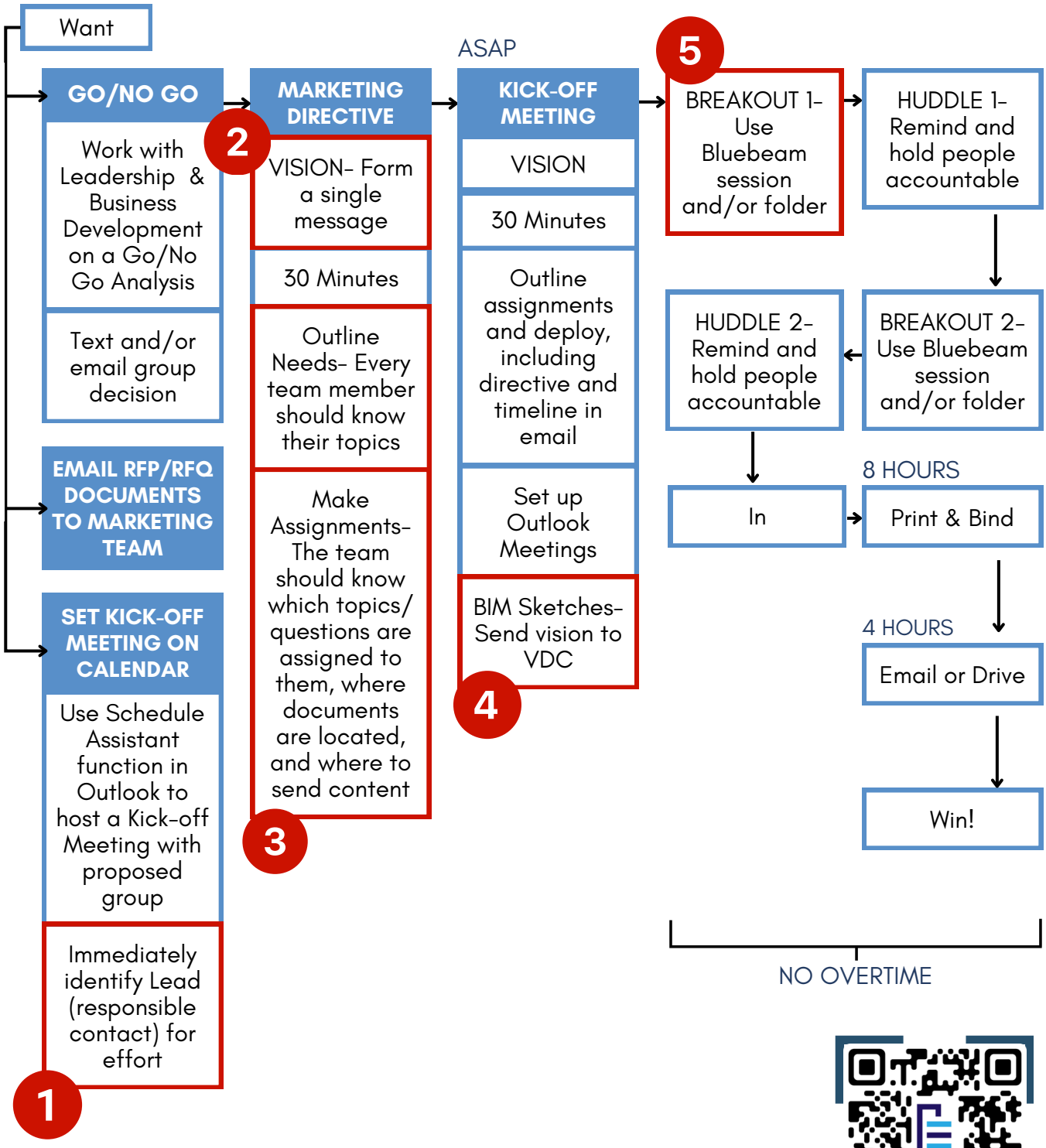
PROPOSAL PROCESSES

TAKEN FROM *ELEVATING PRE-CONSTRUCTION PLANNING*

PROPOSAL

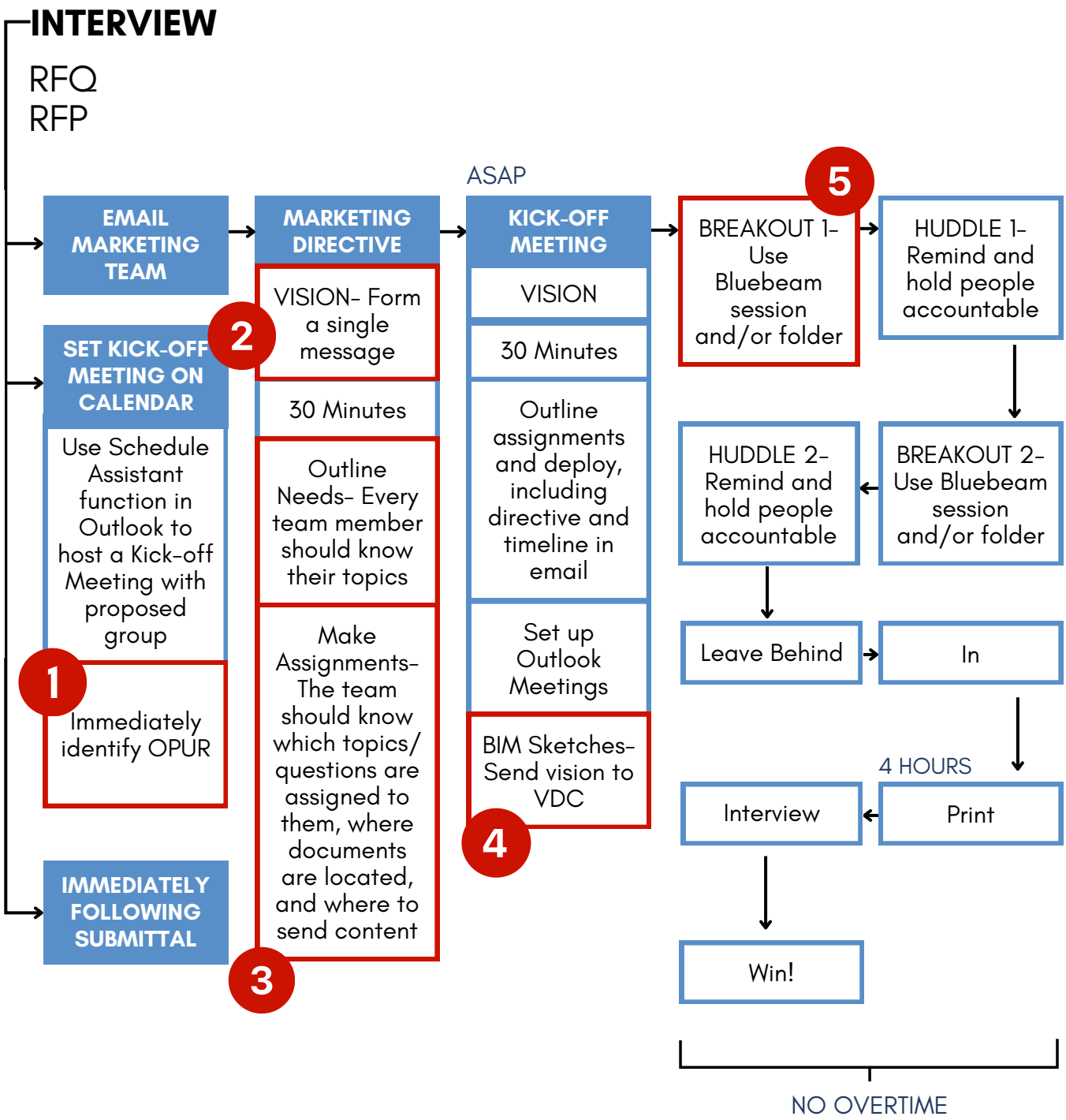
RFQ

RFP



INTERVIEW PROCESSES

TAKEN FROM *ELEVATING PRE-CONSTRUCTION PLANNING*



NOTES ON THE PROPOSAL & INTERVIEW PROCESSES...

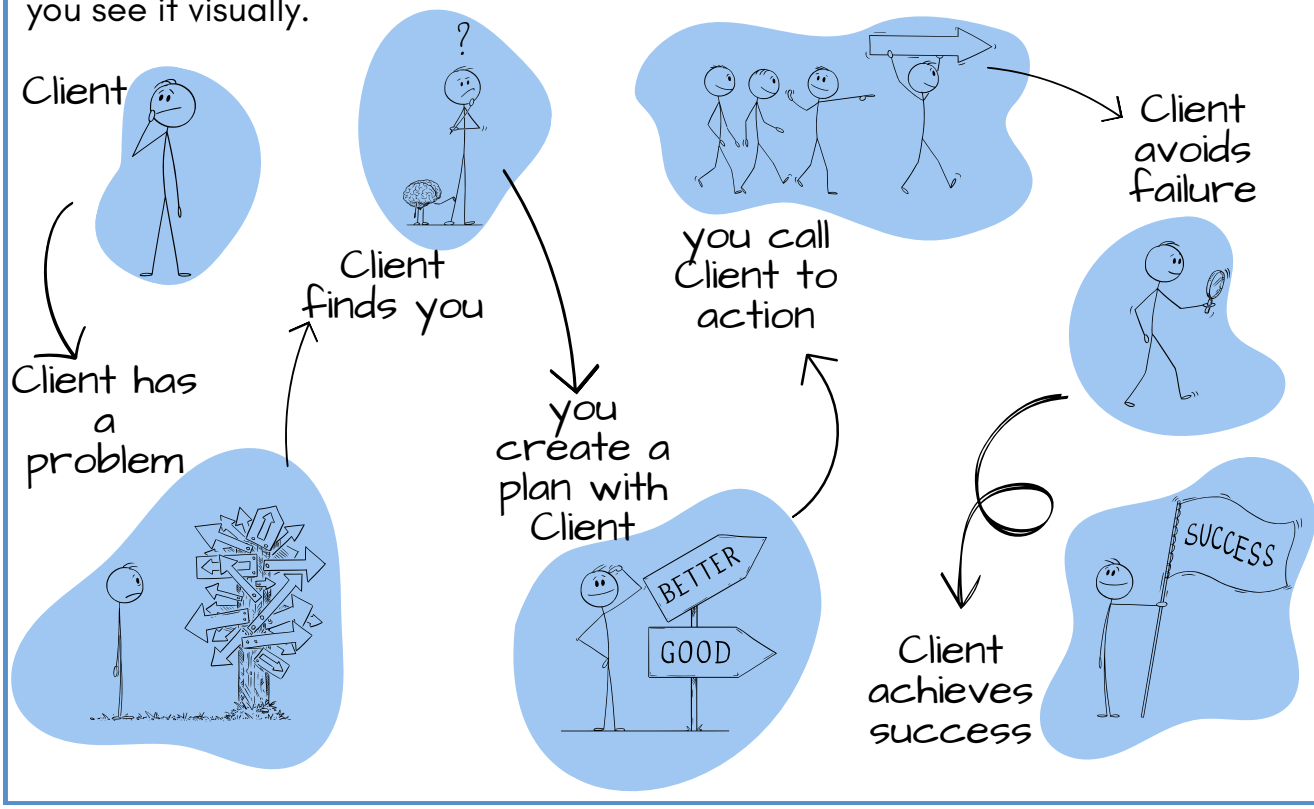
TAKEN FROM *ELEVATING PRE-CONSTRUCTION PLANNING*

1 These proposal and interview prep efforts always go best when there is a **OPUR**--One Person Ultimately Responsible--otherwise it will be a nightmare. You, the builder-planner, need to know who this is so you can align with him or her. Always stay aligned and in good communication with that person. This will give you more time to plan and prepare to be awarded the project.



2 The proposal and interview team need to have a **vision** for the proposal. You cannot just slam together different slides and stories into a PPT and win the job. It needs to have a theme. For example, take the client through the hero's journey. The client is the hero with a problem, and meets a guide (you), who has a solution, and the hero then wins. The plan you make needs to address this hero's journey and help the client anticipate and solve real problems. The problems, solutions, and finished project are what you need to research and address in your portion of the proposal. There are lots of ways to generate interest in the proposal; a hero's journey theme is only a suggestion. Be unique and be thorough. We've walked you through an example just to help you see it visually.



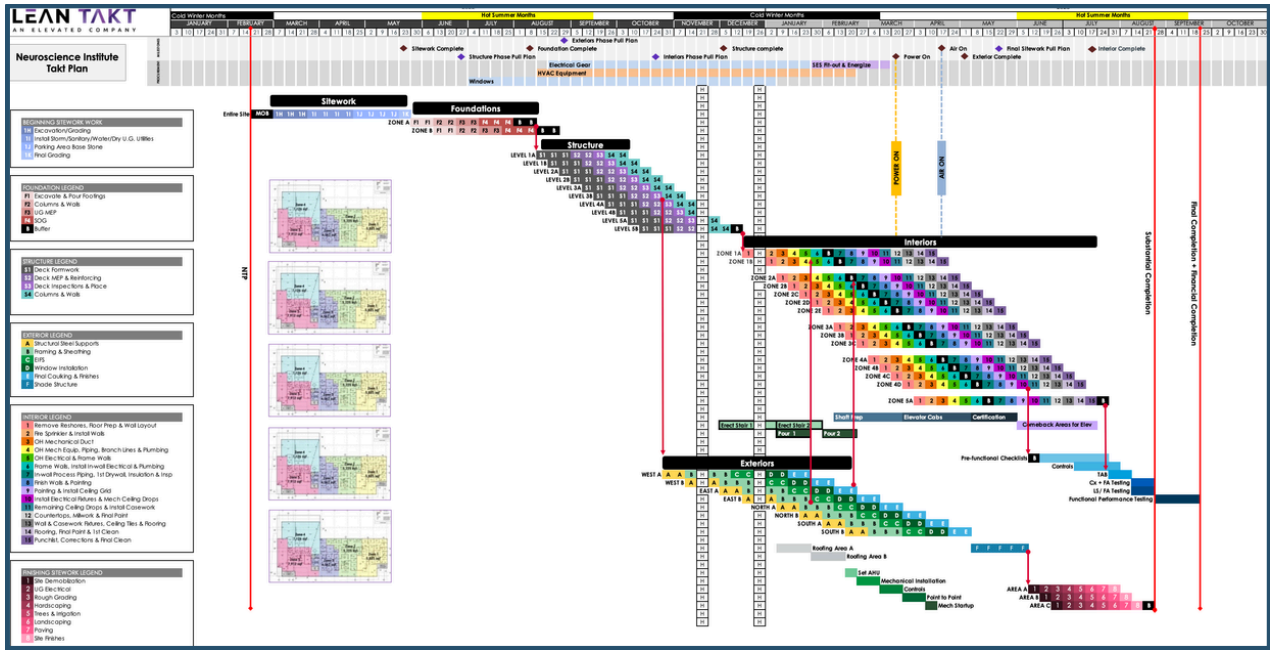


3 Once you have the overall vision of the proposal and interview, and as the guide with the plan, you need to know:

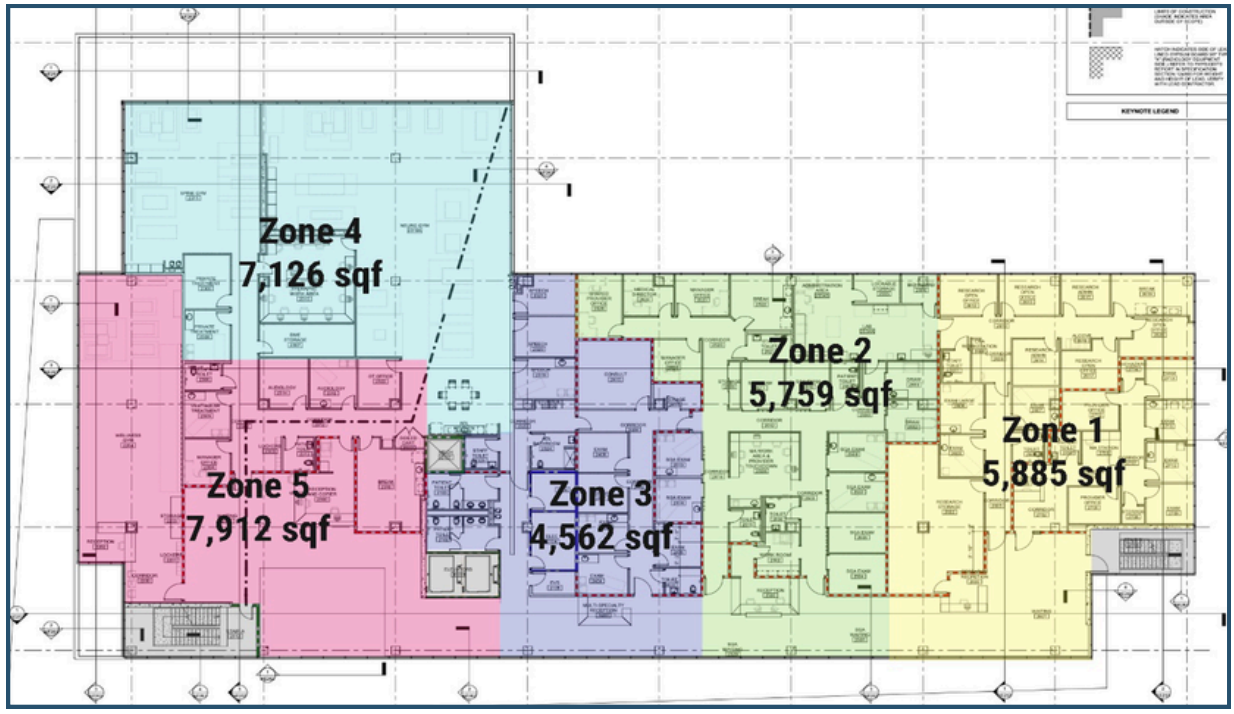
- What questions you will answer?
- What pages or slides you are responsible for?
- What content you need to make?

Once you understand the **assignment**, you'll work to create the Macro Takt Plan. This is an example, and we will walk you through the steps.

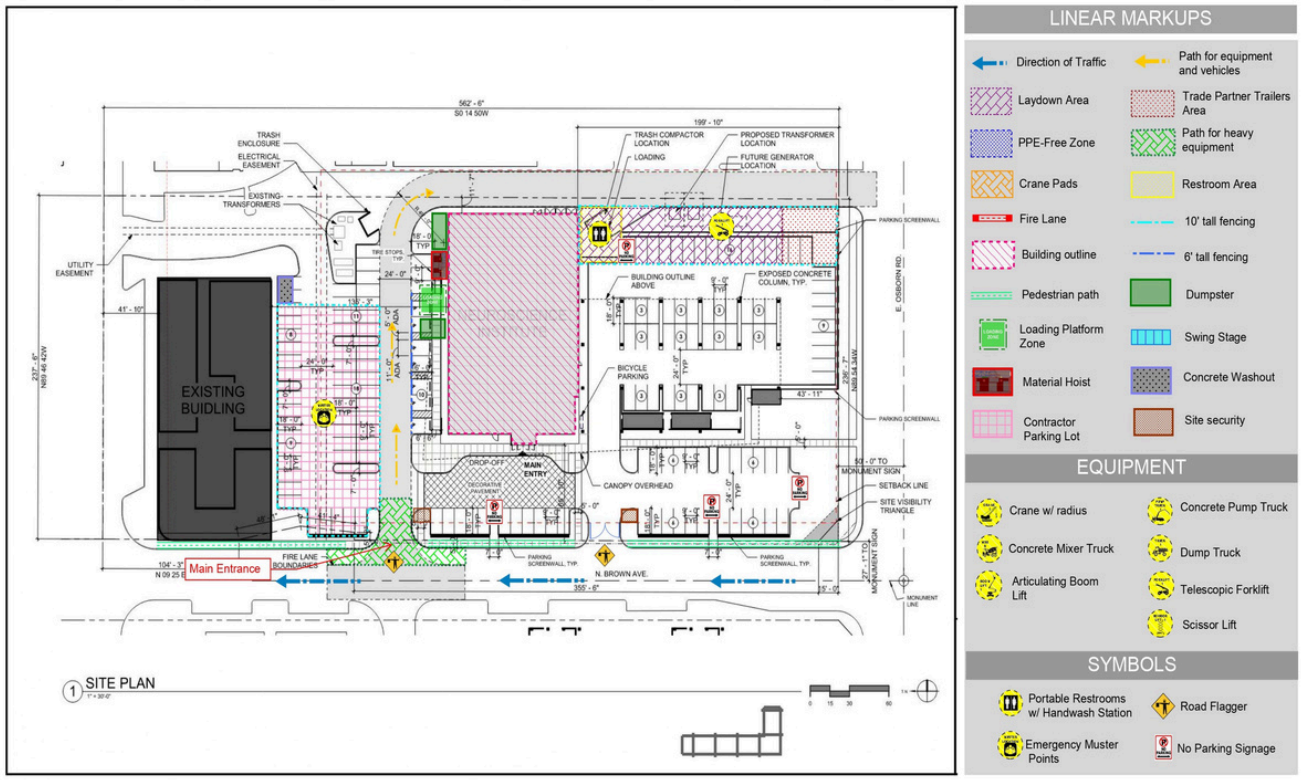
a. Create your Macro Level Takt plan



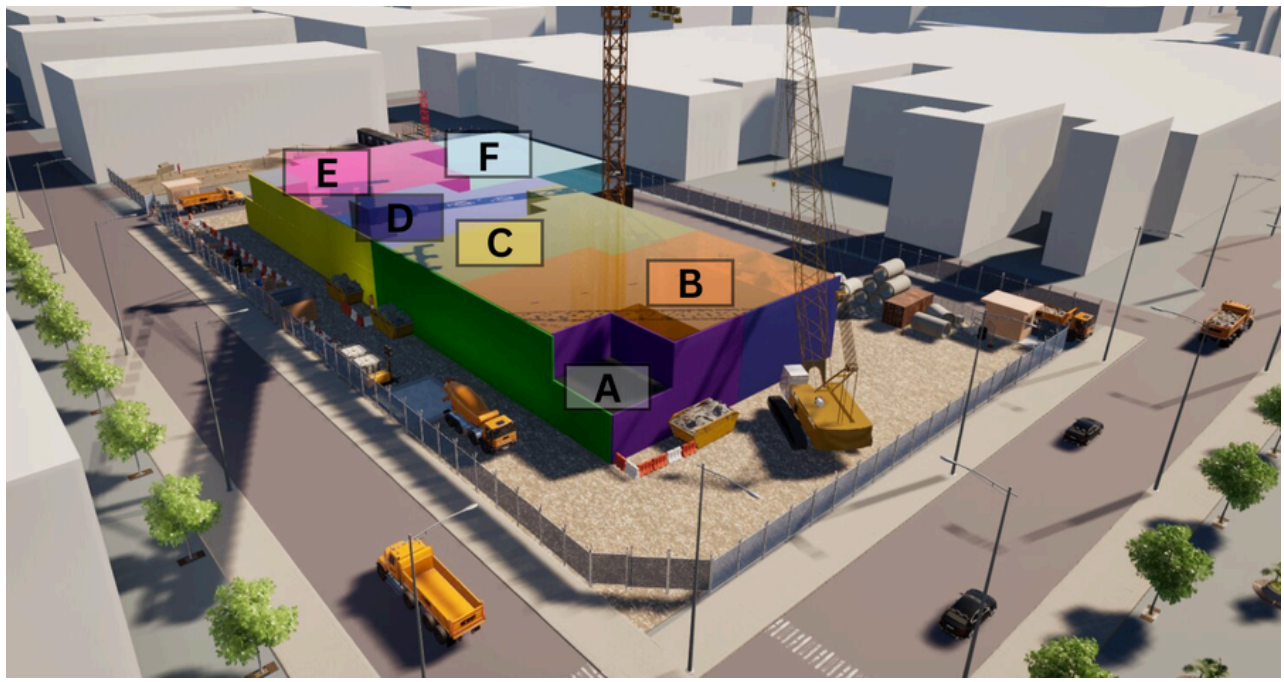
b. Map out your zoning



c. Strategically design your logistics for the project



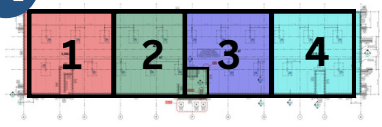
d. Showcase the right plan through 3- and 4D modeling

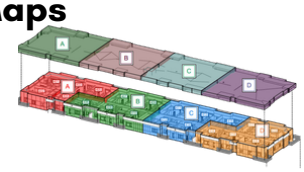


4 You won't get the model, 4D schedule, or images you need if you don't send your vision to the VDC team right away. Once you know your outline, get it to them asap. Don't assume modeling is quick and easy. I'm a Revit and AutoCAD certified professional and I've created many models and 4D schedules--trust me when I say it's not as simple as it seems. Please get the request out immediately so you have what you need for the proposal and interview and don't overburden your VDC peeps.



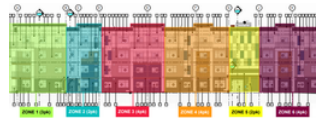
A Send **Interior Zone Maps**





to request **Interior 3D Zone Maps**

B Send **Exterior Zone Maps**



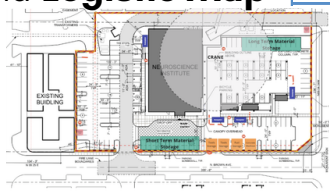


to request **Exterior 3D Zone Maps**

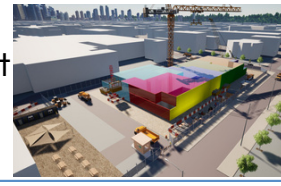
C Send **Google Earth location**



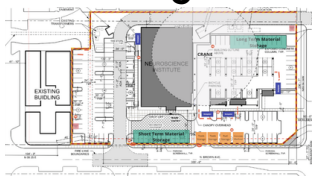
and **Logistic Map**



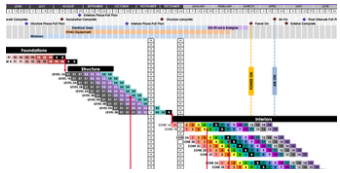
to request **Logistic 3D Maps**



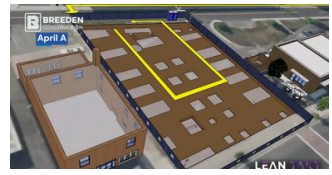
D Send **Logistic Map**



and **Takt Plan**



to request **4D Models**



5 Encourage the team to use a synchronized collaborative platform to create the proposal or interview prep. You will add your content as you develop the plan, and align with the vision and efforts as you go.



As a First Planner®, the proposal process is where your planning begins. You have the opportunity to use your Macro-level Takt Plan, Zone Maps, Logistics Plans, and Models in the presentation as a builder to showcase how you will help the client solve their problems. Let's break these down, one-by-one. We'll give you the overview, and you can refer to our Takt Planning book to dig deeper.

IF YOU HAVE NOT ALREADY BEEN ASKED TO HELP WIN A PROJECT, YOU EVENTUALLY WILL. THIS SECTION IS ABOUT YOU BECOMING A DOER/SELLER

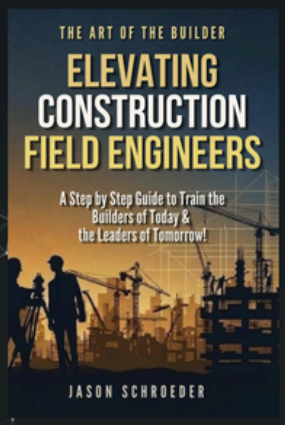
NEXT STEPS TO IMPLEMENT:

RESOURCES:



This book is all about principle based & step-by-step guide for the primary leadership role in construction

Amazon | Kindle | Audible



Elevating Construction Field Engineers: A Step by Step Guide to Train the Builders of Today & the Leaders of Tomorrow! (The Art of the Builder)

Amazon | Kindle | Audible



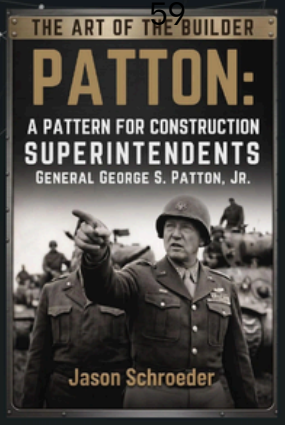
In this book Superintendents learn their role, a new mindset, and how to deliver in their position.

Amazon | Kindle | Audible



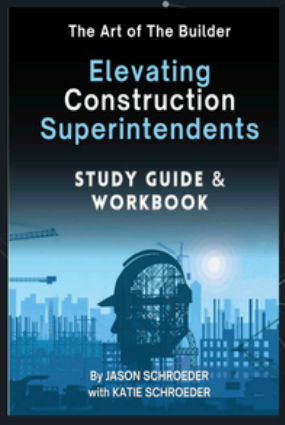
The Fixer: A Superintendent's Story: A Modernized Retelling of Calumet "K" for the Construction Professional (The Art of the Builder)

Amazon | Kindle | Audible



Patton: A Pattern for Construction Superintendents: The art of war and construction are similar. If we are willing to learn the lessons. (The Art of the Builder)

Amazon | Kindle | Audible



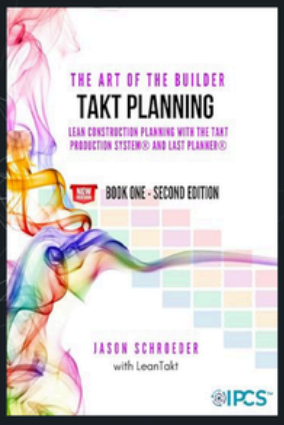
Official Study Guide & Workbook for Elevating Construction Superintendents: A Companion To Elevating Construction Superintendents by Jason Schroeder (The Art of the Builder)

Amazon



This book is all about teaming and how to run a remarkable project.

Amazon | Kindle | Audible



In this book construction professionals learn how to schedule projects with flow.

Amazon | Kindle



Takt Steering & Control: Creating & Maintaining Flow in the Field with the Takt Production System® (The Art of the Builder)

Amazon | Kindle



The Takt Production System®: A Complete Operating System for Flow in Construction (The Art of the Builder)

Amazon | Kindle



Elevating Pre-construction Planning: Book 2 – The First Planner System (The Art of the Builder)

Amazon



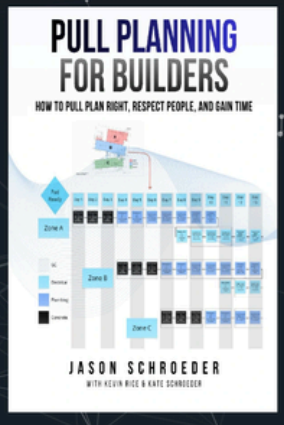
The First Planner System®: The Text & Audio Book Companion to Elevating Pre-construction Planning

Amazon | Kindle | Audible



Advanced Work Packaging Done Right!: The Way to Implement AWP in a Way That Actually Works, with Takt! (The Art of the Builder)

Amazon | Kindle | Audible



Pull Planning For Builders: How to Pull Plan Right, Respect People, and Gain Time (The Art of the Builder)

Amazon | Kindle



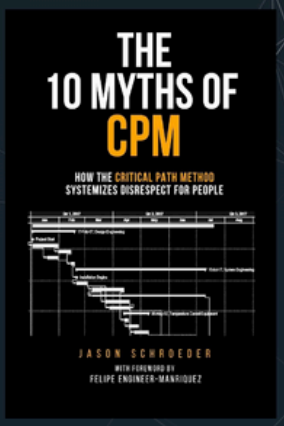
In this book Foremen learn their role, a new mindset, and how to deliver in their position.

Amazon | Kindle | Audible



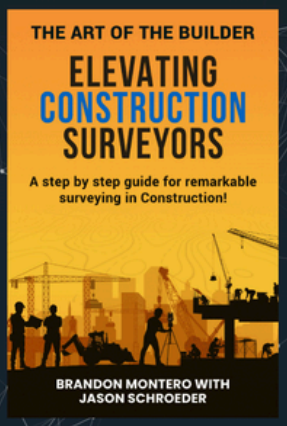
Official Study Guide & Workbook for Elevating Construction Foremen: A Companion To Elevating Construction Foremen (The Art of the Builder)

Amazon



The 10 Myths of CPM: How The Critical Path Method Systematizes Disrespect for People

Amazon | Kindle | Audible



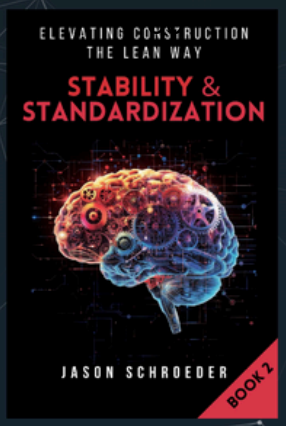
This book guides layout and control professionals to success on construction projects

Amazon | Kindle | Audible



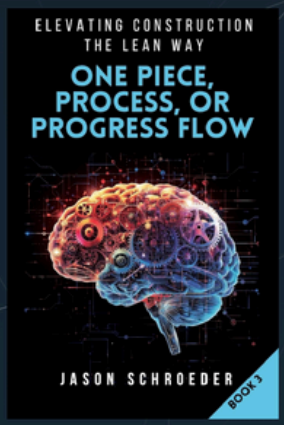
Respect for People, Nature, & Resources: A Practical Guide to Lean Construction Leadership (Elevating Construction The Lean Way)

Amazon | Kindle | Audible



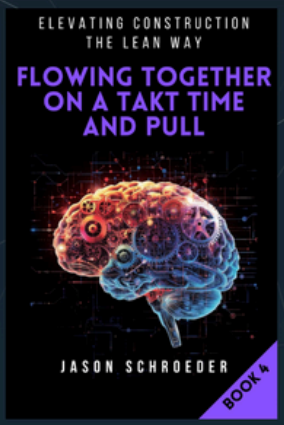
Stability & Standardization: Building Reliable Lean Systems in Construction (Elevating Construction The Lean Way)

Amazon | Kindle | Audible



One Piece, Process, or Progress Flow: How to Plan, Build, Finish One at a Time (Elevating Construction The Lean Way)

Amazon | Kindle



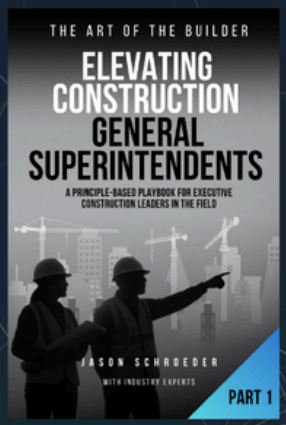
Flowing Together On A Takt Time & Pull: How To Flow On A Rhythm Without Push (Elevating Construction The Lean Way)

Amazon | Kindle | Audible



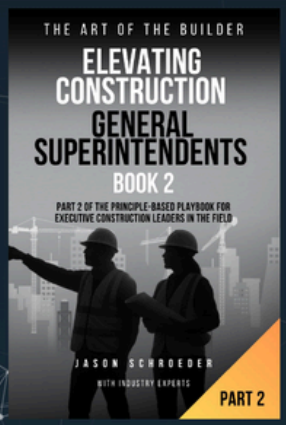
Ten Improvements to Lean Production Planning: What Lean Builders Can Do To Improve Short Interval Planning

Amazon | Kindle | Audible



Elevating Construction General Superintendents: A Principle-Based playbook for executive Construction Leaders in the Field – Book 1 (The Art of the Builder)

Amazon | Kindle | Audible



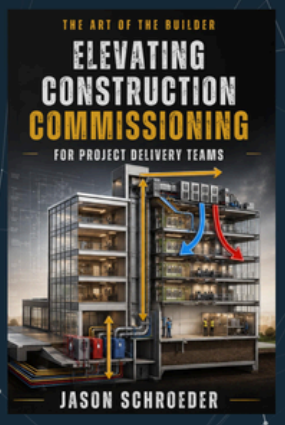
Elevating Construction General Superintendents – Book 2: Part 2 of The Principle-Based playbook for executive Construction Leaders in the Field (The Art of the Builder)

Amazon | Kindle | Audible



Elevating Construction Logistics: Field-First, Flow-State Logistics for the Modern Jobsite (The Art of the Builder)

Amazon | Kindle | Audible



Elevating Construction Commissioning for Project Delivery Teams: A Guide To Commissioning For Field Builders (The Art of the Builder)

Amazon | Kindle | Audible



Elevating Construction Project Managers: From Administrator to Leader: Replacing Paperwork with People, Process, and Quality (The Art of the Builder)

Amazon | Kindle | Audible



Elevating Construction Project Engineers: A Principle Based Playbook For The Trade Enablers Who Support Field Operations (The Art of the Builder)

Amazon | Kindle

DAY ONE HOMEWORK

PLEASE COMPLETE BEFORE DAY TWO:

CURIOUS TO LEARN MORE? OUR BOOKS ARE THE PERFECT PLACE TO START...

DAY ONE
EXAMPLE

VALUES

BE TRANSPARENT, CREATE RESPECT, BUILD PEOPLE, DO THE RIGHT THING, GIVE FIRST

STRENGTHS

POSITIVE COMMUNICATION, LEADER OF PEOPLE, DEVELOPING POTENTIAL OR COACHING, CONTEXTUAL LEARNING + TEACHING, CONNECTION

MISSION- 100 YEAR GOAL

To become a general superintendent in my company and develop training programs for all other superintendents in the company. To develop enough personal wealth to start all of my children with businesses so they can continue the family legacy of giving and contribution.

5 - 10 YEAR

To learn the position of senior superintendent and to learn everything I can about project scheduling and project controls within the next 5 years.

NEXT MILESTONE 6-18 MONTHS

Become proficient with project scheduling in the next 10 months.

DEFINING GOALS

1. Take a Takt planning control course and achieve Takt Master Certification/ Master Scheduling.
2. Actively create and update current project schedule and provide the weekly and monthly schedule updates.
3. Get a mentor from another Sr Super and shadow them in their scheduling process.
4. Reflect on the success of the schedule and improve on any mistakes that were made.
5. Learn the Last Planner® System and become proficient at pull planning.

DAY ONE
CLARITY: MISSON + VALUES + ACTIONS

VALUES

STRENGTHS

MISSION- 100 YEAR GOAL

5 - 10 YEAR

NEXT MILESTONE 6-18 MONTHS

DAY ONE
CLARITY: MISSON + VALUES + ACTIONS

DEFINING GOALS

1

2

3

4

5

What is fulfillment?

What is success?

DAY NOTES:

DAY NOTES:

DAY Two

FIRST PLANNER® DAY

DAY TWO

TRAINING OVERVIEW

	TRAINING
	LUNCH
	TRAINING

TOPICS

- SAFETY, LOGISTICS & STRETCH
- MORNING ROUTINE
- DAY PLANNER
- PLUS & DELTA
- GIVE TEAMS THEIR ASSIGNMENT
- SETUP JOBS + SIGNS + LOGISTICS
- REVIEW THE PLAN
- IPCS™ INSTRUCTION + TEAM BALANCE & HEALTH
- ADJUST THE PLAN
- REVIEW THE PLAN

TODAY'S CHECKLIST ☑

- ☐ COMMUNICATE ANY SAFETY NEEDS
- ☐ ARE YOU HELPING YOUR TEAM TO SHOW UP ON TIME?
- ☐ STRETCH AND FLEX
- ☐ FILL OUT DAY 2 OF PERSONAL ORGANIZATION PLANNER
- ☐ UNDERSTAND SUPPLIES AVAILABLE TO YOU
- ☐ HELP YOUR TEAM WITH THE BUILD
- ☐ REFERENCE THE PLANNING CHECKLIST
- ☐ UNDERSTAND YOUR ROLE
- ☐ KEEP YOUR AREA CLEAN
- ☐ HAVE YOU SUBMITTED YOUR WORD?
- ☐ SUGGEST AN IMPROVEMENT TO ANOTHER TEAM, OR,
- ☐ ACCEPT AN IMPROVEMENT SUGGESTION FOR YOUR TEAM
- ☐ TAKE NOTES DURING THE IPCS™ SEGMENT
- ☐ CHECK OUT EVERY LEAN IMAGE FOR TODAY
- ☐ SPEAK UP DURING THE FRESH EYES MEETING
- ☐ MAKE SURE YOUR BUILD TEAM HAS THE LEAN VIDEO
- ☐ VOTE FOR THE ALPHA
- ☐ CONSIDER WRITING "NEXT STEP" NOTES
- ☐ TIDY UP NOTES IN THE BACK
- ☐ HOMEWORK FOR DAY 2

IF ALL ARE CHECKED BY END OF DAY HONESTLY, YOU GET ONE POINT FOR YOUR TEAM.

DAY TWO
LOGISTICS RULES

LOGISTICS + **PEOPLE**

- Always remember public protection. Treat neighbors like your grandmother.
- Get workers to areas as your top priority on large & complex sites.
- If you don't let people eat, they will eat you.
- If you don't let people $&*# in a respectful restroom, they will $&*# on you.
- If you don't let people smoke, they will smoke you.

LOGISTICS + **PLANNING**

- Break the project down into bite-size areas.
- For logistics, always have plans A, B, C, & D. Never be surprised.
- All logistics are first created theoretically and conceptually, then in reality using best practices. You must have a thorough plan. This will include a:
  - Safety Plan
  - Mobilization
  - Logistics Plan
  - Superstructure Logistics Plan
  - Interiors and Exterior Logistics Plan
  - Final Site Work Logistics Plan
  - Wayfinding Signage Plan

LOGISTICS + **ACCESS**

- Mind the entryway. The jobsite entrance and perimeter must be remarkable & set the tone for the job.
- If you don't tell people where to go, they will go anywhere. Clearly map out access routes and walking paths (like an airport).
- Keep all supply line access ways open & clear.
- Guard Access Points - These are key interfaces like the hoist, crane, & forklift staging areas. Keep them clean, safe, organized, operational, & flowing with someone appointed to manage them.

DAY TWO
LOGISTICS RULES-CONTINUED

LOGISTICS + MATERIAL

- Bring materials to the site JUST-IN-TIME according to inventory buffers (time & quantity) to short-term and long-term lay down yards and staging areas.
- All deliveries are to be scheduled. No rogue deliveries. Rogue deliveries means rogue staging onsite.
- Production has more to do with material supply than pace of work. If materials are flowing, work can progress.

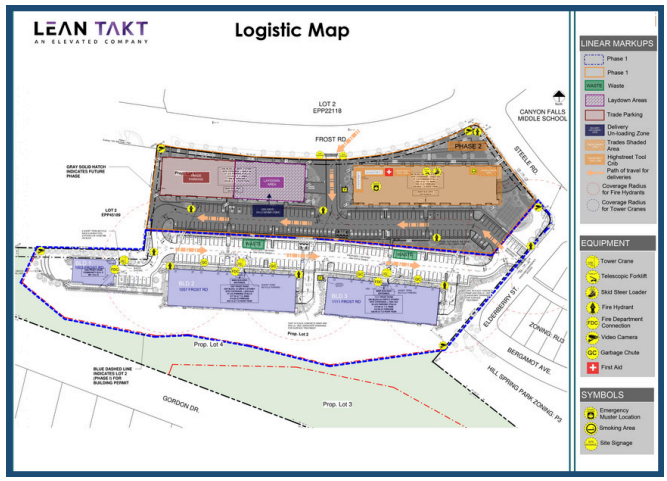
LOGISTICS + PRODUCTION

- All work must be broken down into phases & zones.
- Reduce transportation & movement whenever possible. Transportation and motion are waste!
- Know your interfaces & stacking on a project & confirm they work. Do not perform unsafe or out-of-sequence work.
- Supplying materials is not the same as doing work. Workers should be installing 30 minutes after the start of the day. Stage materials the night before.

> Remember, your logistics plans are just as important as your schedule. If you can get workers and materials to the place of work, you can build it.

A Checklist for Logistics Maps-

- **Review for clarity.**
- **Does it help you to properly control your project?**
- **Can you find the following items:**



☐ SAFETY AND EMERGENCIES

Site Security
Emergency Gathering Point
Disaster Planning
Emergency Personnel Access & Planning
First Aid
Fire Extinguishers
Fire Hydrants
Camera Locations

☐ SITE ORGANIZATION

Site Organization
Equipment Mobilization & Demobilization
Loading Platforms
Slick Lines and Placing Booms
The Hoist
The Crane
Equipment Staging
Staging Locations
Site Signage
Trailer Position and Organization
Flow of Deliveries
Traffic Patterns
Pedestrian Patterns
Temp Fence
Material Laydown
Buildings (Directional not letters)
Walking Paths from Parking to Work Sites
Drive Aisles
Fence Plan

☐ TEMPORARY INFRASTRUCTURE

Temp Water
Temp Restrooms
Trade Partner Offices
Trailer Location (Always get this off-site when possible or out to the construction area)
Dumpster Location
Parking Lots
Walking Path
Site Address
Pump Locations
Flammable Storage

☐ COMMON AREAS & WORKSPACES

Lunch Area
Smoking Area
Entrances to the Job site (provide 2 when possible)
North Arrow
Flow of construction
Site Area
Fire lane

NEXT STEPS TO IMPLEMENT:

RESOURCES:

DAY TWO

MODEL

INSTRUCTIONS

- LAY DOWN THE CIVIL 4 X 8 SHEET.
- CUT OUT ONLY ONE COPY OF LEVEL 2.
- SAVE THE OTHER LEVEL 2 FOR LATER.
- CUT OUT THE LEVELS FROM FOAM CORE.
- SETUP YOUR SITE LOGISTICS.
- USE ANY OF THE MATERIALS PROVIDED.

DAY TWO
ROLE ASSIGNMENTS

TEAM LEADER

SUPPORT SPECIALIST

STRATEGIC PLANNER

STRATEGIC PLANNER

PLAN & SCHEDULE REVIEWER

PLAN & SCHEDULE REVIEWER

LOGISTICS PLANNER

LOGISTICS PLANNER

3D MODEL ASSEMBLER

3D MODEL ASSEMBLER

OVERALL PROCESS INTEGRATOR - TACTICAL PLANNER

OVERALL PROCESS INTEGRATOR - TACTICAL PLANNER

PLANNING CHECKLISTS

THE FOLLOWING ARE PLANNING CHECKLISTS THAT WILL HELP YOU WITH YOUR MODEL. THE BEST WAY TO USE THESE IS TO CONSIDER EACH ITEM IN YOUR PLANNING.

REFLECTION-BUILDING A PROJECT TEAM



The purpose of this component in the First Planner System® is as the apparatus with which all other systems and components are delivered. The team will implement every other component of the system to the degree that the team is functioning. If your team enjoys coming to work, engages in healthy conflict and works together to create flow, you are meeting the critical needs of the team. An unhealthy team has diminished capability, capacity and inherent motivation. If the team is fragmented and not aligned in the right ways, tensions and siloing will take over and more time and effort will be required to produce value-add work.

Component Scoring: (1%-100%)

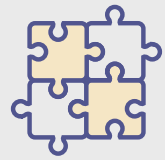
1. Is your team:
    a. taking time to know each other?___
    b. building trust?___
    c. engaging in healthy conflict?___
    d. making decisions and setting goals/standards together?___
    e. holding each other accountable?___
    f. a high performing group?___
2. Does your team have a strenuous performance goal that is pulling the team towards alignment, mutual trust, and accountability to the group?___
3. Have you been intentional about creating your team culture?___
4. Is your team focused on finding the real cause of problems in the system rather than blaming individuals?___
5. Do you have a multiplier leader that:
    a. builds the team?___
    b. has difficult conversations when and how they need to take place?___
    c. manages, coaches, mentors, and trains direct reports without micromanagement?___
    d. ensures remarkable meetings are taking place?___
    e. scales communication and clarity effectively about the vision and direction of the project?___

What is your final score, taking the average of all answers? ___

If your score is below 80%, what specific actions do you need to take to elevate your team and leadership?

NOTE

REFLECTION-BALANCING THE PROJECT TEAM



The purpose of this component in the First Planner System® is to ensure your team stays healthy throughout the duration of the project. Team building efforts will be overrun if you are not able to balance the changes your team will face as outside elements join your team. The project owner, owner's rep, designers, trades and even your own corporate policies have the potential to create an imbalance as you struggle to incorporate them and their demands into your own team dynamics. Once you and your team are over capacity, your project will begin to spiral. Simply put, the energy to control the project cannot be more than the combined team energy they have to offer. Your focus is to keep them balanced with high morale, at all costs.

Component Scoring: (1%-100%)

- Are you shielding your project team from impacts that will cause imbalance? ___
- Are you reducing variation and creating flow within your project leadership team?___
- Does your team have all the right people on and off the bus?___
- Does your team have all the right people in all the right seats on the bus?___

What is your final score, taking the average of all answers? ___

If your score is below 80%, what specific actions do you need to take to elevate your team and leadership skills?

NOTE

REFLECTION-INDIVIDUAL BALANCE



The purpose of this component in the First Planner System® is to ensure each person on the team is able to live a balanced and happy life and blend his or her work and family in a way that they can experience a win-win. If this component is not in place the team will not have the time to implement anything else in the system.

Component Scoring: (1%-100%)

- Does each person know about the fixed vs. growth mindset?___
- Does each person on your team have a clarity document?___
- Does each person have a personal organization system?___
- Does each person have a morning routine that sets them up for the day?___
- Are team members using to-do lists?___
- Does every member have Leader Standard Work?___
- Are team members time blocking their days with buffers and focus?___

What is your final score, taking the average of all answers? ___
If your score is below 80%, what specific actions do you need to take to elevate your team and leadership?

NOTE

REFLECTION-CREATE A PRODUCTION PLAN



The purpose of this component in the First Planner System® is to simulate what is possible with the resources we have and align it to what the owners want and will accept. I have never seen a project go well without this kind of visual planning of the production system. It aligns all others processes, systems, and supply chains to a rhythm that the project leaders can see, follow, adjust, and win with. Without it you will be lost in a "wish list" CPM schedule that means nothing and negatively impacts everything.

Component Scoring: (1%-100%)

1. Do you have a Macro level Takt plan?___
2. Do you have an optimized Norm level Takt plan with the right no. of zones and the right Takt time?___
3. Are you pull planning every phase?___
4. Are you using 6-week Make-ready Look-ahead plans?___
5. Are you collaborating with Trades in making Weekly Work Plans?___
6. Are you doing day planning with trades?___
7. Do you understand the Takt Production System® well enough to implement it? ___
8. Are you controlling and leveling WIP in a way that you can maintain flow?___

What is your final score, taking the average of all answers? ___

If your score is below 80%, what specific actions do you need to take to elevate your team and leadership?

NOTE

You cannot plan the project too early!

REFLECTION-LEAN IN CONTRACTS



The purpose of this component in the First Planner System® is to properly onboard trades to project expectations, ensure they have the right scope to accommodate lean systems, and ultimately support your production system in the field with capable trade partners. If you do not have this your trades will be surprised, will not be on board, and you will receive change orders for their trouble.

Component Scoring: (1%-100%)

1. Do you have a list of needs for contract inclusions?___
2. Has this list made its way into your Master Subcontract Agreement or inclusions in the contract or work order?___
3. Are you having collaborative sessions with trades throughout the buyout process to onboard them?___

What is your final score, taking the average of all answers? ___

If your score is below 80%, what specific actions do you need to take to elevate your team and leadership?

NOTE

REFLECTION-RISK MANAGEMENT



The purpose of this component is to confirm your production plan and contracts include everything needed to prevent risks from happening, and that they are structured to cover them. If you fail in this stage, you'll have an unrealistic plan and trade contract. If you do this properly you and your trades will be able to help each other prevent these risks from ever happening.

Component Scoring: (1%-100%)

1. Did you hold a fresh eyes meeting for this project?___
2. Did you identify as many possible risks for this project as possible?___
3. Did you anchor to past projects?___
4. Have you adjusted (increase) the plan accordingly?___
5. Do you have a risk and opportunity register your team uses weekly to prevent risks?___

What is your final score, taking the average of all answers? ___

If your score is below 80%, what specific actions do you need to take to elevate your team and leadership?

NOTE

Underpromise, and overdeliver!

REFLECTION-PROCUREMENT



The purpose of this component is to supply your production plan with materials, tools, equipment, and information. If you don't have a supply chain production system in place, you will struggle on site. With a good procurement system you will always have what you need. Without it, you can expect to wait on materials and therefore experience stops, restarts, delays, and an overburdened project. Never leave this component of construction to your trades. It is YOUR job to manage procurement on the project with them.

Component Scoring: (1%-100%)

1. Do you have a procurement system on your project?___
2. Do you have a way to track procurement on a log, software, or visual?___
3. Are you recovering delays in the supply chain proactively as you notice problems real-time?___
4. Have you designed the use of lay down and staging yards with any associated material inventory buffers?___
5. Are you effectively meeting with your team to manage procurement?___
6. Are you using buffers in your procurement efforts?___
7. Are you bringing materials out JIT?___
8. Are you focused on information and materials in your efforts?___
9. Have you leveraged Virtual Design & Construction in your efforts?___

What is your final score, taking the average of all answers? ___

If your score is below 80%, what specific actions do you need to take to elevate your team and leadership?

NOTE

REFLECTION-- PRE-FABRICATION



The purpose of this component is to supply your production plan with materials, tools, equipment, and information in pre-assembled ways and better enable the flow of construction. If you do not have pre-fabrication on the project you will be forced to stick build everything, will be victim to install bottlenecks, and the site will be riddled with waste and impacts.

Pre-fab should go from an afterthought to a major consideration in construction.

Component Scoring: (1%-100%)

1. Have you planned what you want to pre-fabricate?___
2. Have you engaged the design team early enough to design to what you will be pre-fabricating?___
3. Do you have a good pre-fab plan with your trades that has been coordinated? ___

What is your final score, taking the average of all answers? ___

If your score is below 80%, what specific actions do you need to take to elevate your team and leadership?

NOTE

REFLECTION-LOGISTICS



The purpose of this component is to make sure you receive your procured materials and equipment and get it to the place of install in the right way. Sometimes projects get the materials, fail to inspect them upon arrival, and let them end up anywhere onsite where they get moved, damaged, and put in the way of someone else. It's chaos and will kill your project. If you receive them, inspect them, and move them in an orderly fashion with your operators, you'll set yourself up for massive success.

*Remember, your logistics plans are just as important as your production plan. If you can get workers and materials to the place of work, you can build it.

Component Scoring: (1%-100%)

1. Are you utilizing a site logistics plan that everyone can access?___
2. Are you utilizing all 6 types of maps?___
3. Are deliveries all scheduled?___
4. Are staging locations coordinated daily in Foremen Huddles and distributed to the entire project team?___
5. Are you using your operators as guardians of logistical stability?___
6. Are you inspecting materials when they arrive?___
7. Are you enforcing the rule that things only go where coordinated in the Foreman Huddle?___
8. Are your staging yards beautifully organized?___

What is your final score, taking the average of all answers? ___

If your score is below 80%, what specific actions do you need to take to elevate your team and leadership?

NOTE

REFLECTION-WIN OVER THE WORKFORCE



The purpose of this component of winning over the workforce is to ensure the workers and Foremen are committed to doing a good job for the team. Again, we cannot piss off the workforce and still build a successful project. The way we win over the workforce will directly affect quality, safety, morale, and engagement among the wider team.

Without this component the people on the project may vandalize the site, do poor work, leave the areas dirty, perform below production targets, or engage in unsafe practices. One key indicator of this is graffiti in the bathrooms. It's an indication that the workforce on the project is disgruntled. Feeling disgruntled or resentful means the crews won't act as a united team. Guardedness and siloing will take over at all levels and the project will spend more time fighting and being defensive than producing actual value-add work.

Component Scoring: (1%-100%)

- Do project leaders fundamentally respect people?___
- Are bathrooms remarkably clean with hand wash stations and trash cans?___
- Are lunch areas provided in good enough condition to win over the craft?___
- Are the workers and foremen so connected to project leaders in the huddles that they collectively want to do a good job for the team?___
- Are site conditions clean, safe, and organized to levels of near perfection?___
- Are celebrations held at least quarterly to celebrate the skilled craft onsite? ___

What is your final score, taking the average of all answers? ___
If your score is below 80%, what specific actions do you need to take to elevate your team and leadership?

NOTE

REFLECTION-ORIENTATION AND ONBOARDING



The purpose of this component is to remarkably orient the workers to your lean systems. When workers arrive on site, we have an opportunity to make an impression, connect, and set the relationship off on the right foot. If we have this in place, then the workers will be engaged with total participation and the entire site can work toward rowing in the same direction as allies.

If you do not have this piece, you will have an entire workforce that feels disconnected, will likely struggle or fail right out of the gate, and you may not ever get the chance to fix your first impression. You will have the system, but not the people's hearts and minds in the system. It will be harder to keep the site clean, maintain operational control, and maintain Takt control within zones.

Component Scoring: (1%–100%)

- Do you have good directions to and signage at the parking lot?___
- Is there great signage and human support systems on the way to the orientation location?___
- Is there a person, process, or visual environment that will warmly welcome the worker?___
- Do you have an interesting and engaging orientation with personal connection?___
- Do you take the workers on a brief tour of the jobsite, orient them, and help them get to their crews?___
- Have you provided a visual indicator of the orientation and ensured they understand the content in a language they understand?___
- Are you onboarding them daily in the morning worker huddle?___
- Do you provide lean training for your foremen?___

What is your final score, taking the average of all answers? ___
If your score is below 80%, what specific actions do you need to take to elevate your team and leadership?

NOTE

REFLECTION-CLEAN, SAFE, AND ORGANIZED



The purpose of this component is to provide operational stability that will enable all other success. Cleanliness and safety are not only good ideas, they are pre-requisites in order to make any further progress. Your flow, problem solving, the morale of your project, and the flow of materials all depend on cleanliness, safety, and organization. If you do not have this piece, you will have chaos that will slow down production, clutter the minds of people onsite, and prohibit you from seeing what you need to see. No other lean system can be implemented successfully without this component coming first.

Component Scoring: (1%-100%)

1. Is your project clean?___
2. Is your project safe?___
3. Is your project organized?___
4. Do you have a 6S system in place that people will remember and use?___
5. Does your workforce know the 9 wastes and have reminder cards?___
6. Do you have a zero tolerance system for cleanliness and organization?___
7. Do you have a zero tolerance system for safety?___

What is your final score, taking the average of all answers? ___

If your score is below 80%, what specific actions do you need to take to elevate your team and leadership?

NOTE

REFLECTION-TRAINING



Without training on these systems as a team you run the risk of reverting back to old habits. The key here is to help people to know what is expected, motivate them to do it, and clear the path for them. Training will cover the first two.

Component Scoring: (1%-100%)

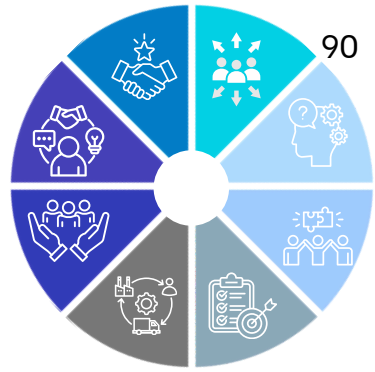
1. Has your team been trained on the Takt Production System®?___
2. Have your Supers and Foremen read the Art Of The Builder book for their role? ___
3. Have they attended their role's boot camp?___

What is your final score, taking the average of all answers? ___

If your score is below 80%, what specific actions do you need to take to elevate your team and leadership?

NOTE

First Planner System®



External Factors

1. You have a supportive owner that enables you to do your job, who respects people, and wants to build Lean
2. Your company leaders, all company stakeholders, and other influencers will support you and want to build the Lean way
3. The goal of the project is to finish on time while respecting people
4. The structure of the project system enables you to build the Lean way
5. The rules setup in your contracts enable you to build the Lean way

Pre-Construction Planning

1. Begin planning the project during the proposal and interview process
2. Build up the project team, meaning the owner, design team, and other stakeholders; set the right project targets
3. Adapt to and enable the designers so they can be successful throughout schematic design and design development
4. Make the plan with the builders who will execute the project
5. Prepare to start strong by getting out ahead of the work

The Team

1. Building the Project Team: Appoint a strong multiplier leader, form the team around the 5 key behaviors, and set a challenging performance goal.
2. Balancing the Project Team: Protect the team from impacts and variation, and ensure you have the right people on the bus—and in the right seats.
3. Creating Individual Balance: Make sure each team member has clarity, Leader Standard Work, a To-Do List, and a personal organization system.

The Plan

1. Create a Production Plan: The team is using a Macro-level Strategic Takt Plan, hosting pull plans, using a Norm-level Production Plan, A 3-6 Week Look-ahead plan, a Weekly Work Plan, and a Day Plan to run work collaboratively in the field.
2. Lean in Contracts: The MSA & individual contracts have Lean inclusions in them to guide behaviors on the project
3. Risk Management: A fresh eyes meeting was held for the project. Risks were identified and placed on a register and the project plan was compared to a reference class.

The Supply Chain

1. Procurement: A procurement log or strategy is being used to proactively manage the supply chain.
2. Prefabrication: The project team knows what they want to pre-fabricate and design and construction is working to get it done
3. Logistics: A logistics plan is being used to drive the receipt, handling, and delivery of materials onsite.

The Culture

1. Win over the Workforce: The project workers are won over with amazing worker care systems, signage, onboarding, connection, and great restrooms and lunch areas
2. Orientation & Onboarding: Onboarding for worker is amazing and creates real connection
3. Clean, Safe, and Organized: The project is always beautifully clean, safe, and organized

Training

1. Your team is trained on the operating system
2. Your team has individual role training
3. Your team has been to a Super/PM Boot Camp

Trade Partner Preparation Process

1. A buyout process is in place to capture the right scope
2. A Pre-mobilization Meeting is in place to share expectations
3. A Pre-construction Meeting is in place to orient the Foremen to the work and create a visual that can be used by the crew to install in the field
4. A First-in-place Inspection is scheduled to help get the crew off on the right foot
5. Follow-up inspections are happening in Zone Control walks to maintain quality and safety
6. A Final Inspection is held to finalize the work and close-out contractors before they de-mobilize from the site

ELEVATE CONSTRUCTION LLC

First Planner System® Audit



Project Name: **Date:**

Auditor: **Total Score:**

EXTERNAL FACTORS — SECTION SCORE:

System Component	Score 1-5	Comments
The owner is supportive, enables you to do your job, respects people and wants to build in a lean way.		
Company leaders, all stakeholders, and other influencers will support you and build the Lean way.		
The goal of the project is finishing on time while respecting people.		
The structure of the project system enables you to build the Lean way.		
The rules setup in your contracts enable you to build the Lean way.		

PRE-CONSTRUCTION PLANNING — SECTION SCORE:

Begin planning the project during the proposal and interview process.		
Build up the project team, meaning the owner, design team, and other stakeholders; set the right project targets.		
Adapt to and enable the designers so they can be successful throughout schematic design and design development.		
Make the plan with the builders who will execute the project.		
Prepare to start strong by getting out ahead of the work.		

THE TEAM		SECTION SCORE:
Building the Project Team: Appoint a strong multiplier leader, form the team around the 5 key behaviors, and set a challenging performance goal.		
Balancing the Project Team: Protect the team from impacts and variation, and ensure you have the right people on the bus—and in the right seats.		
Creating Individual Balance: Make sure each team member has clarity, Leader Standard Work, a To-Do List, and a personal organization system.		

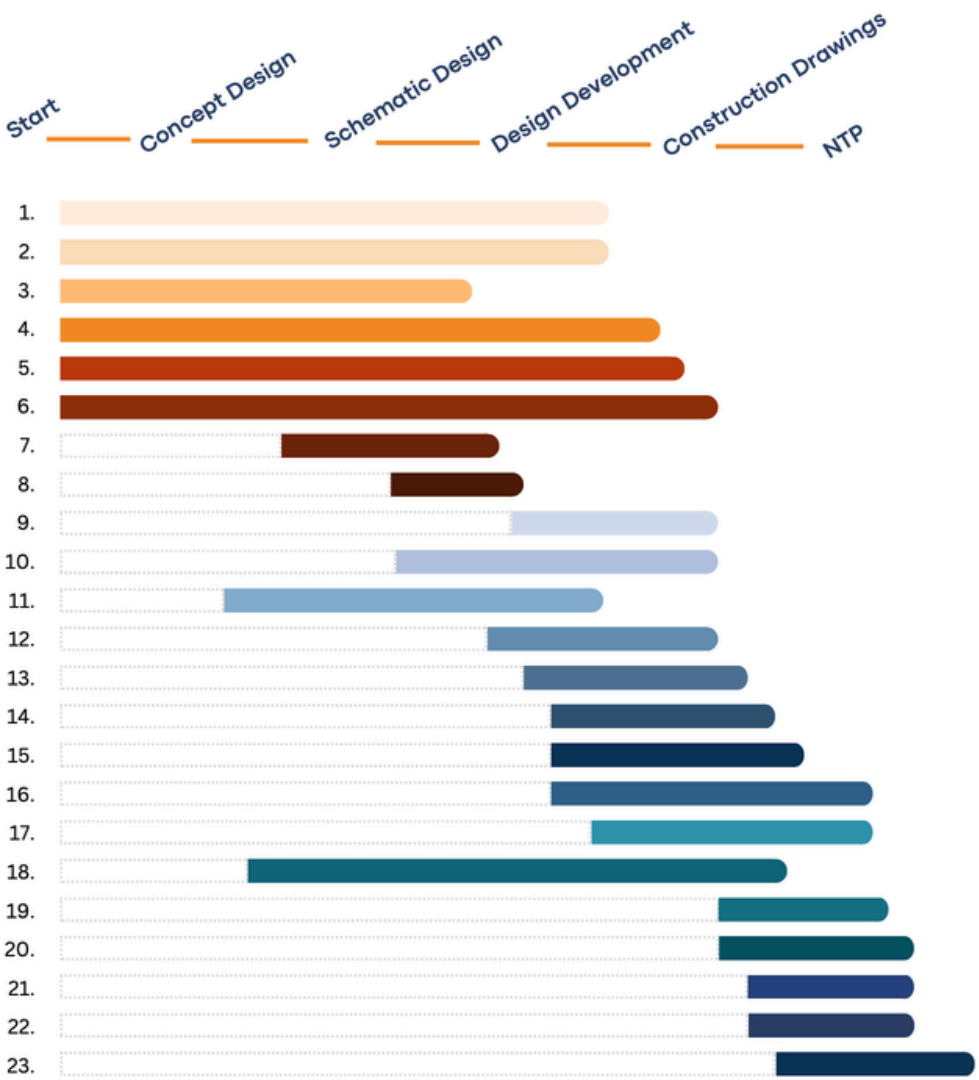
THE PLAN		SECTION SCORE:
Create a Production Plan: The team is using a Macro-level Strategic Takt Plan, hosting pull plans, using a Norm-level Production Plan, A 3-6 Week Look-ahead plan, a Weekly Work Plan, and a Day Plan to run work collaboratively in the field.		
Lean in Contracts: The MSA & individual contracts have Lean inclusions in them to guide behaviors on the project.		
Risk Management: A fresh eyes meeting was held for the project. Risks were identified and placed on a register and the project plan was compared to a reference class.		

THE SUPPLY CHAIN		SECTION SCORE:
Procurement: A procurement log or strategy is being used to proactively manage the supply chain.		
Prefabrication: The project team knows what they want to pre-fabricate and design and construction is working to get it done.		
Logistics: A logistics plan is being used to drive the receipt, handling, and delivery of materials onsite.		

THE CULTURE		SECTION SCORE:
Win over the Workforce: The project workers are won over with amazing worker care systems, signage, onboarding, connection, and great restrooms and lunch areas.		
Orientation & Onboarding: Onboarding for each worker is amazing and creates real connection.		
Clean, Safe, and Organized: The project is always beautifully clean, safe, and organized.		

TRAINING		SECTION SCORE:
Your team is trained on the operating system.		
Your team has individual role training.		
Your team has been to a Super/PM Boot Camp.		

TRADE PARTNER PREPARATION PROCESS		SECTION SCORE:
A buyout process is in place to capture the right scope.		
A Pre-mobilization Meeting is in place to share expectations.		
A Pre-construction Meeting is in place to orient the Foremen to the work and create a visual that can be used by the crew to install in the field.		
A First-in-place Inspection is scheduled to help get the crew off on the right foot.		
Follow-up inspections are happening in Zone Control walks to maintain quality and safety.		
A Final Inspection is held to finalize the work and close-out contractors before they de-mobilize from the site.		



Solution Timeline

1 **ESTABLISH**
Conditions of satisfaction.

2 **UNDERSTAND**
The owners' goals and priorities developed through the Construction Manager's project charter.

3 **CREATE**
Macro Takt Plan.

4 **CONFIRM**
GC's and GR's with the CM.

5 **CREATE**
Logistics Plan & Zone Maps to match.

6 **SUPPORT**
Long lead early procurement.

7 **BUILD**
Your LEGO process to design to the work package.

8 **IDENTIFY**
What needs to be pre-fabricated.

9 **DESIGN**
Human systems onsite.

10 **INVOLVE**
VDC services for design support and QC.

11 **ALIGN**
With the CM on team organization, meetings, and schedule maintenance.

12 **SUPPORT**
The organizing of the project team.

13 **COLLABORATE**
to create interactive plans.

14 **CREATE**
Norm Takt plans.

15 **UPDATE**
- Update Norm zoning.
- Update logistics with all six types.

16 **CREATE**
The Lean inclusions for contracts.

17 **PARTICIPATE**
In the creation of the risk and opportunity register.

18 **RESEARCH**
Your reference class.

19 **HOST**
A fresh eyes meeting. x3

20 **MAKE**
All needed corrections. x3

21 **UPDATE**
The risk and opportunity register.

22 **SUPPORT**
The trade partner preparation process.

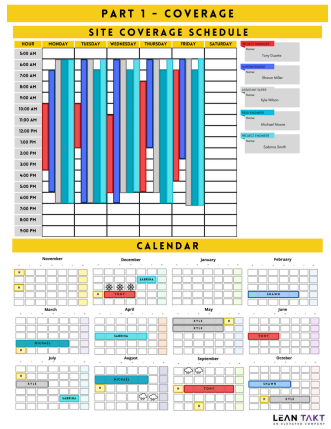
23 **PREPARE**
To start strong.

LEAN TAKT
AN ELEVATED COMPANY

REMEMBER TO

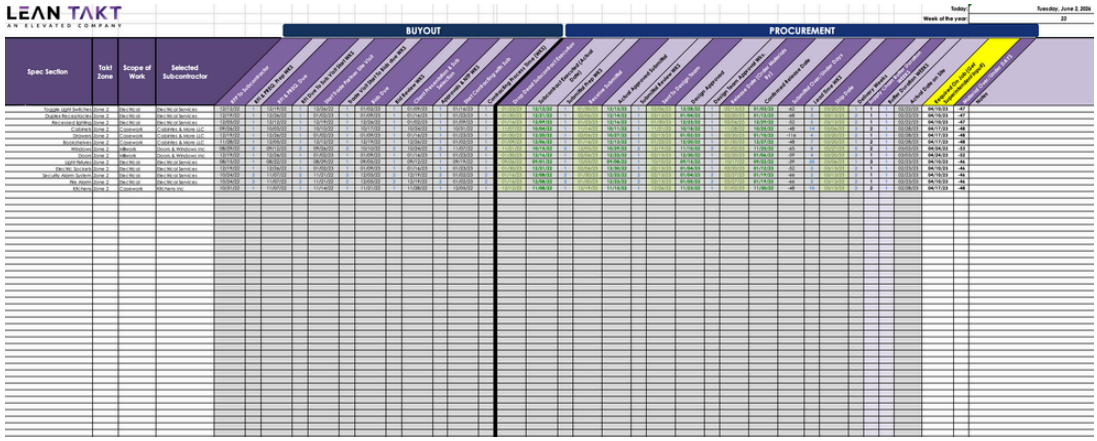
☐ FILL OUT THESE BOARDS



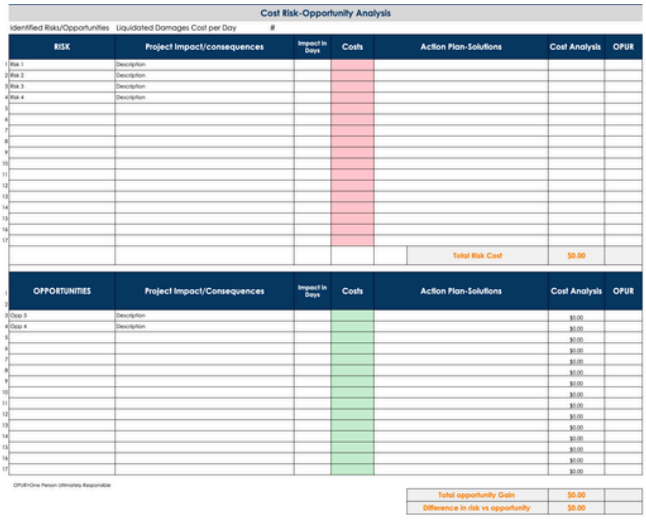




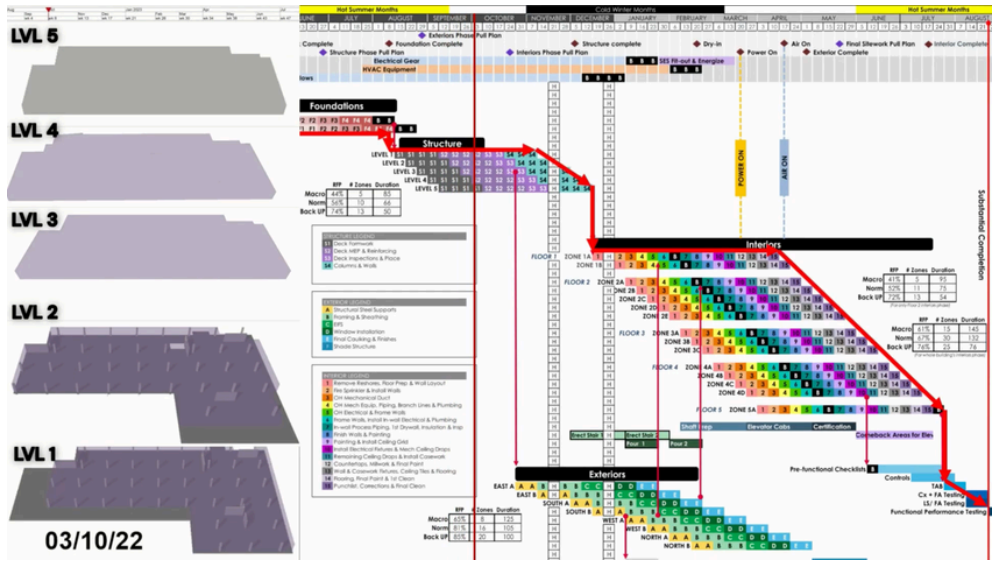
☐ LOG IN 2 ITEMS INTO THE PROCUREMENT LOG



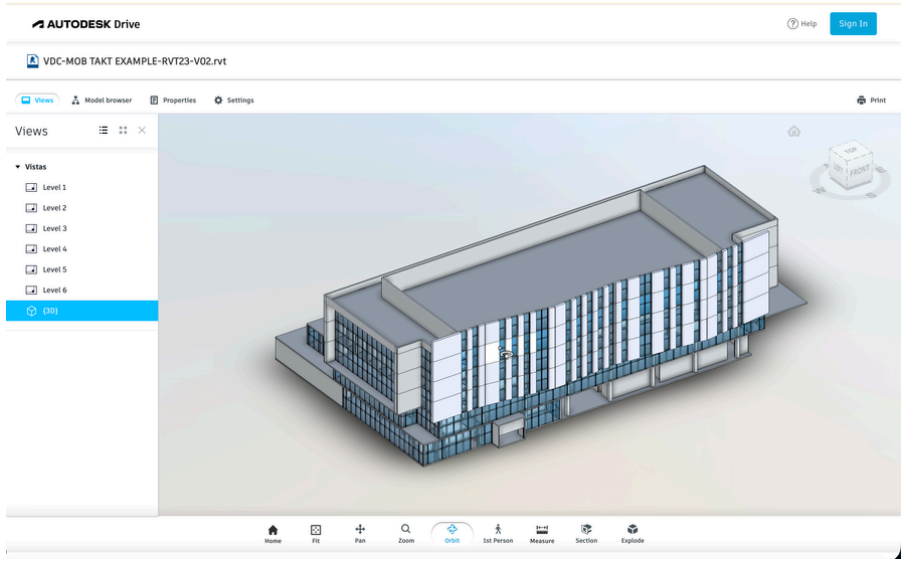
☐ LOG IN 2 ITEMS INTO THE RISK/OPPORTUNITY ANALYSIS



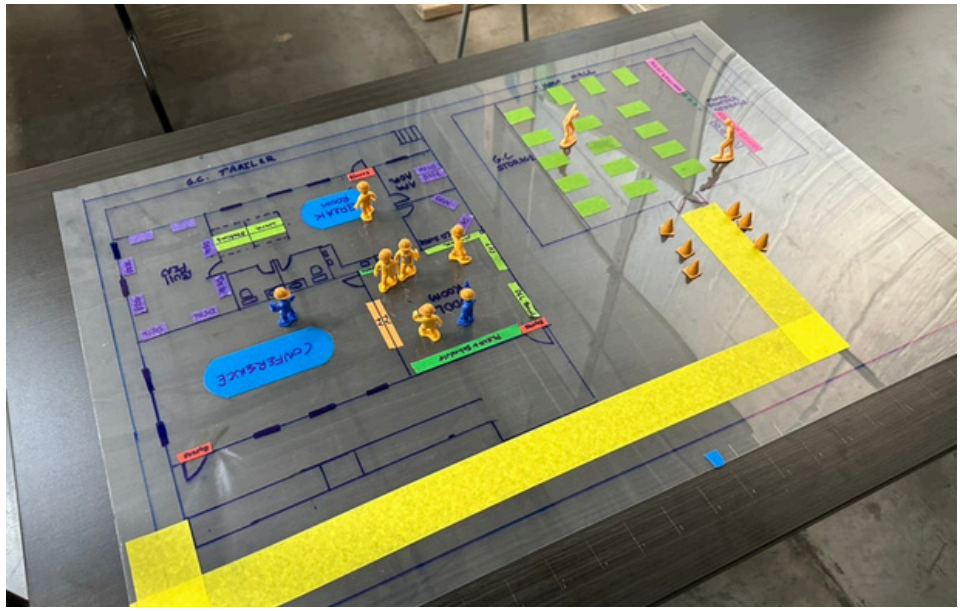
☐ CHECK OUT THE 4D FROM VDC



☐ LOOK AT THE MODEL VIEWER



☐ PLAN THE OFFICE–MAKE IT VISUAL



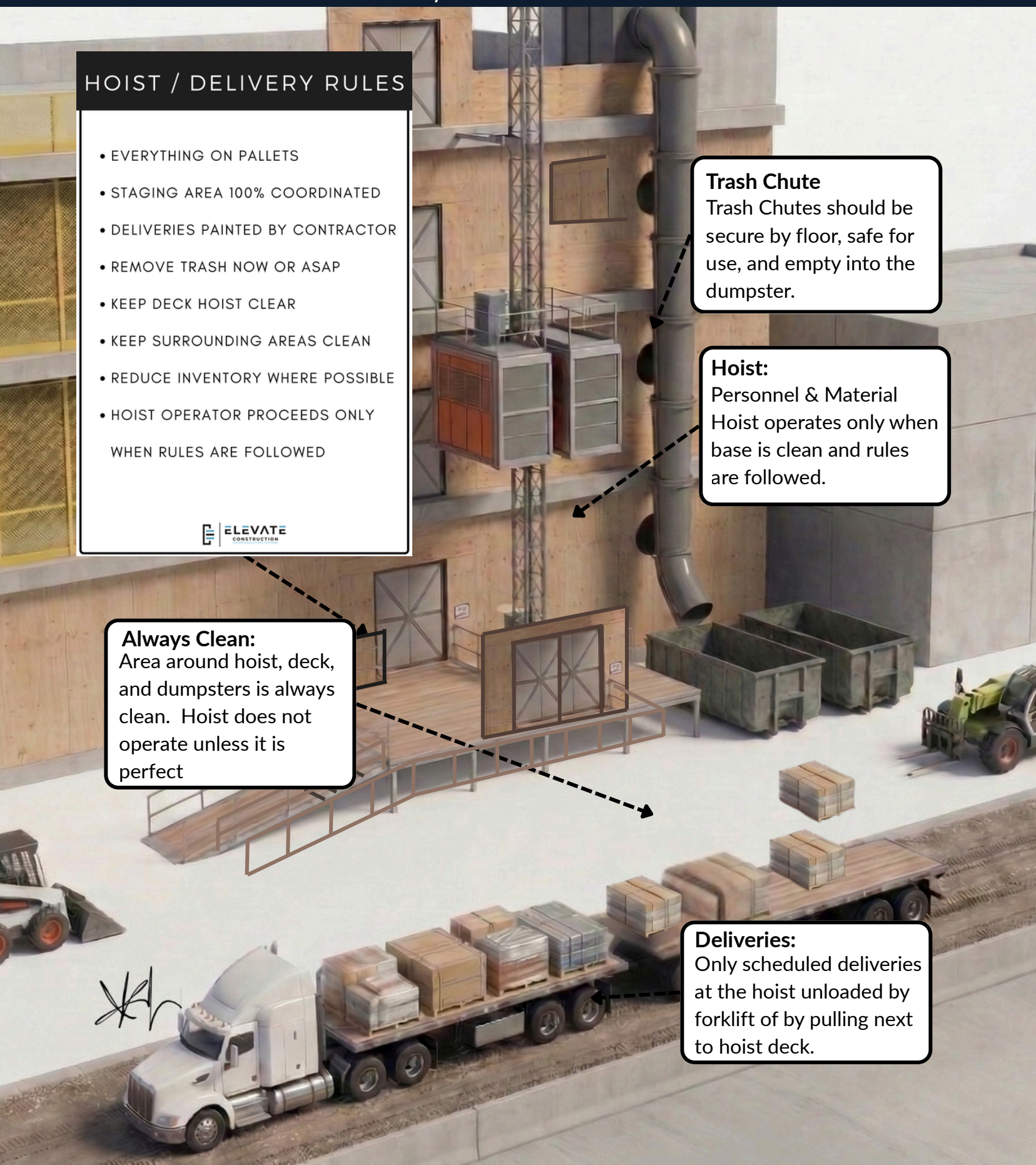
SUGGESTIONS

THESE ARE SUGGESTIONS FOR YOUR BUILD. CONSIDER ADDING THESE TO YOUR BUILD.



Hoist Requirements

How to Manage Effective Logistics with Your Worker/Material Hoist



HOIST / DELIVERY RULES

- EVERYTHING ON PALLETS
- STAGING AREA 100% COORDINATED
- DELIVERIES PAINTED BY CONTRACTOR
- REMOVE TRASH NOW OR ASAP
- KEEP DECK HOIST CLEAR
- KEEP SURROUNDING AREAS CLEAN
- REDUCE INVENTORY WHERE POSSIBLE
- HOIST OPERATOR PROCEEDS ONLY WHEN RULES ARE FOLLOWED

ELEVATE CONSTRUCTION

Trash Chute
Trash Chutes should be secure by floor, safe for use, and empty into the dumpster.

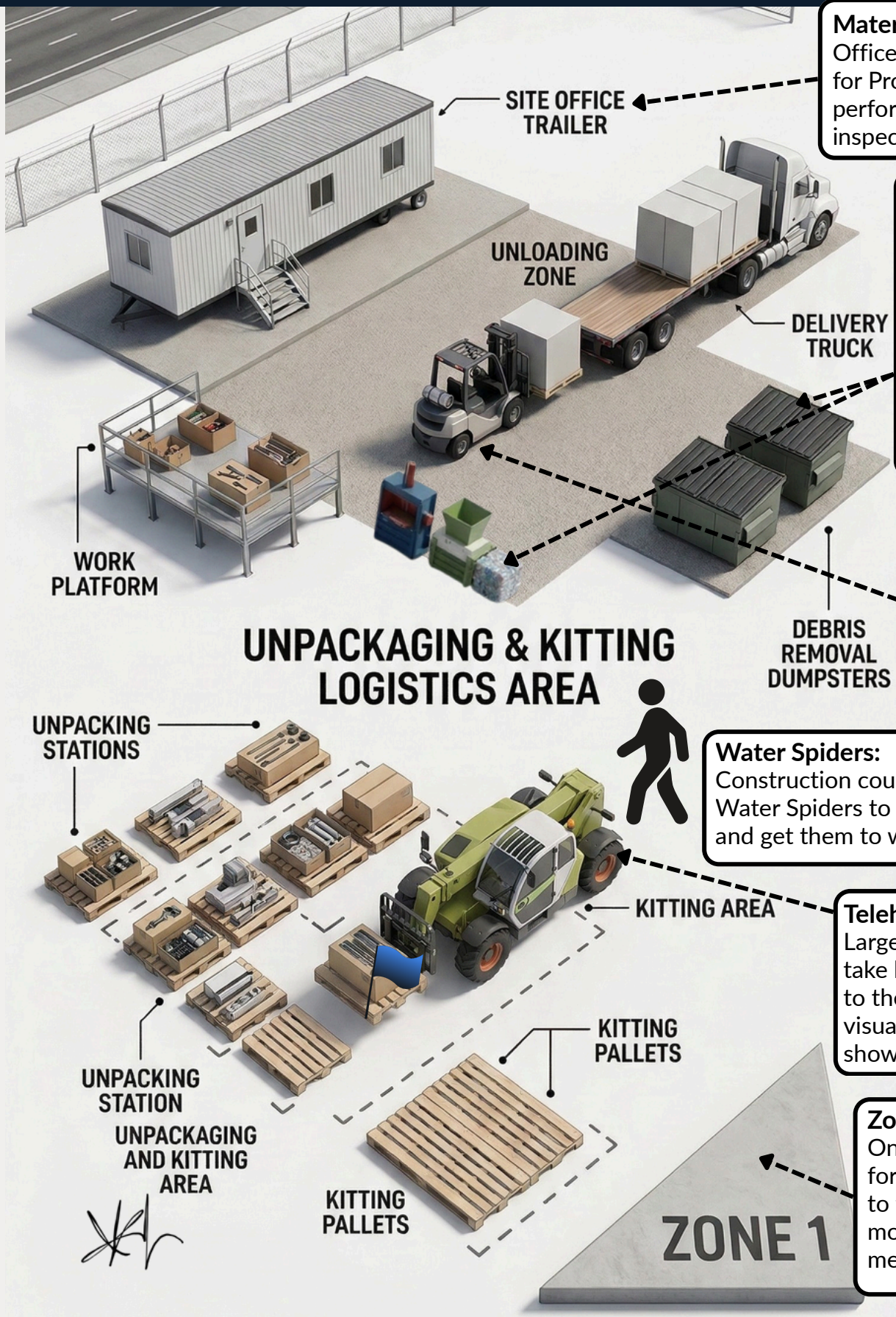
Hoist:
Personnel & Material Hoist operates only when base is clean and rules are followed.

Always Clean:
Area around hoist, deck, and dumpsters is always clean. Hoist does not operate unless it is perfect

Deliveries:
Only scheduled deliveries at the hoist unloaded by forklift of by pulling next to hoist deck.

Advanced Logistics Queuing

Prepare Materials Properly to be Staged in Zones - Bring Only What Is Needed



Material Inspections:
Office is close enough for Project Engineers to perform materials inspections for deliveries.

Waste:
Instead of hauling trash into the building, wrapping, cardboard, and shipping is disposed of here, recycled, compacted, and bailed.

Yard Layout:
A smaller and cheaper shop lift can be used on stabilized ground to unload and kit for zones.

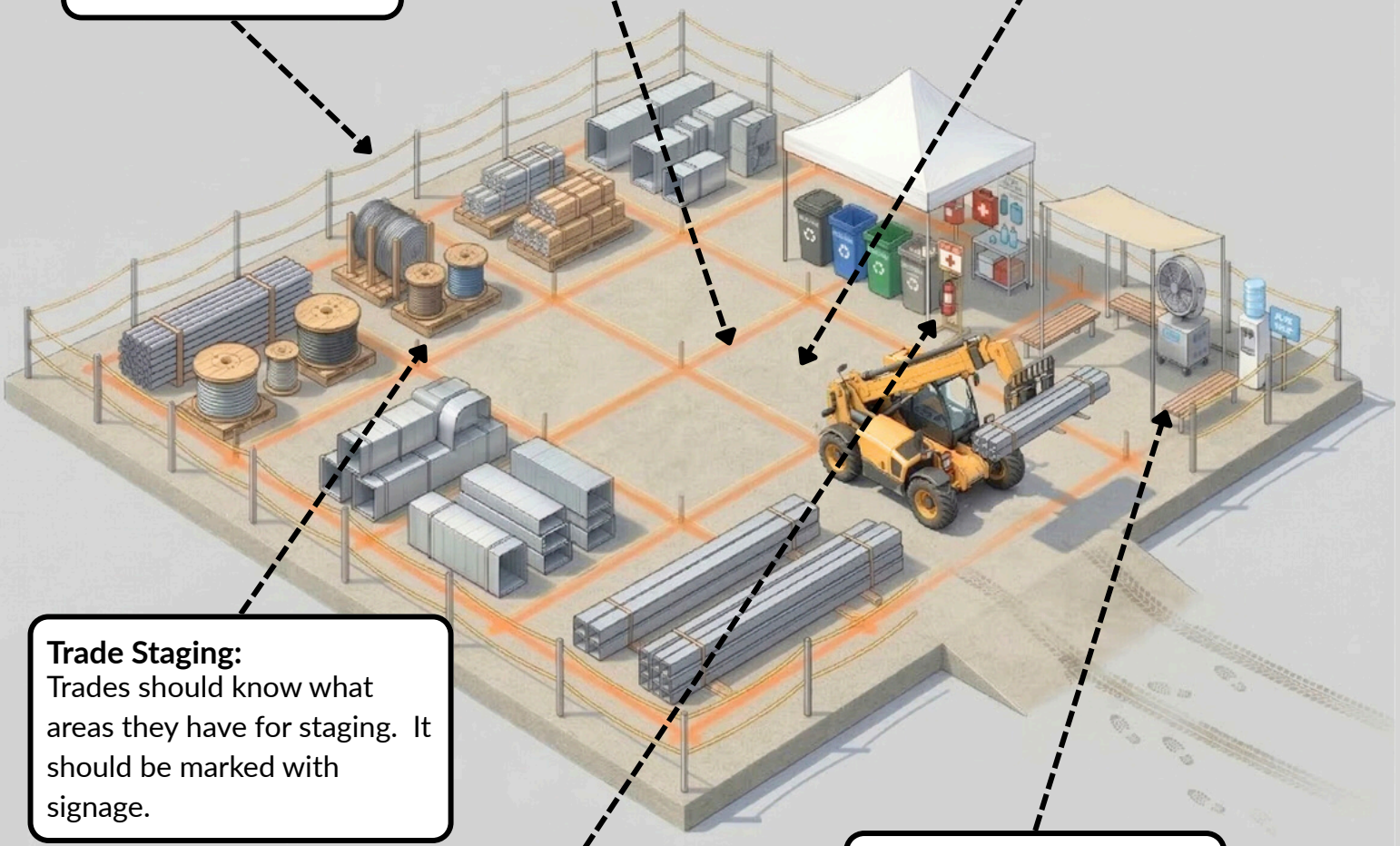
Water Spiders:
Construction could begin using Water Spiders to shake out materials and get them to workers in zones.

Telehandlers:
Larger forklifts then take kitted materials to the zone. Use visual indicators to show readiness.

Zone Thinking:
Only what is needed for the zone is taken to the zone in the most frictionless method.

Lean Staging Yards

How To Setup Your Staging for Success and Worker Care



Roped off:
The staging yards should be named, labeled, and roped off so we know the extents.

Grid Pattern:
The best staging yards have a marked grid so staging can be neat and orderly with good separation.

Stabilized Base:
The yard should have base, neatly leveled and compact, or concrete or asphalt.

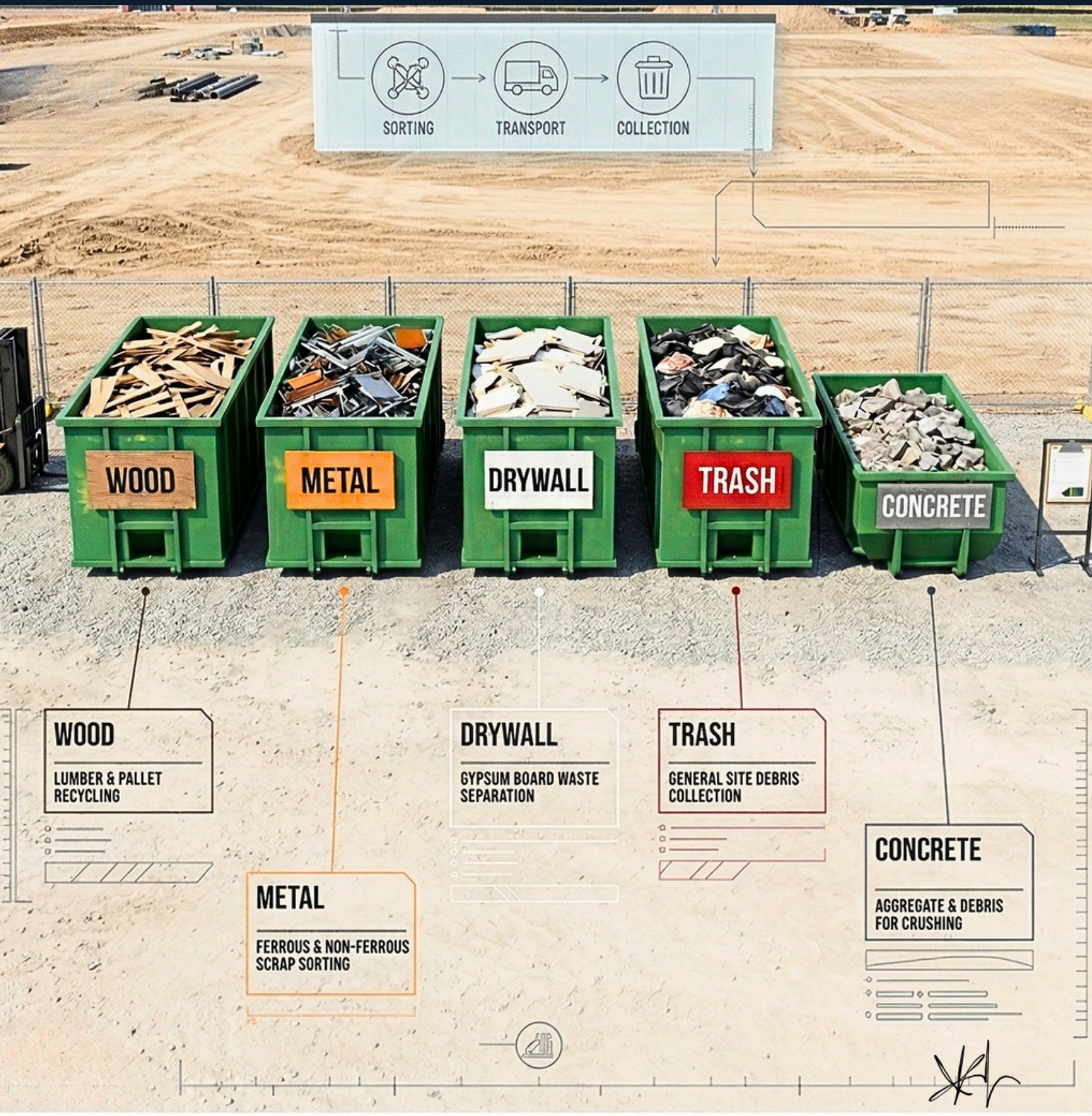
Trade Staging:
Trades should know what areas they have for staging. It should be marked with signage.

Safety Station:
There should be an area in the laydown yard for safety and housekeeping supplies.

Heating or Cooling Area:
A cooling area near the laydown is helpful if workers are there constantly.

Waste Sorting Station

A Lean Logistics Visual Management System

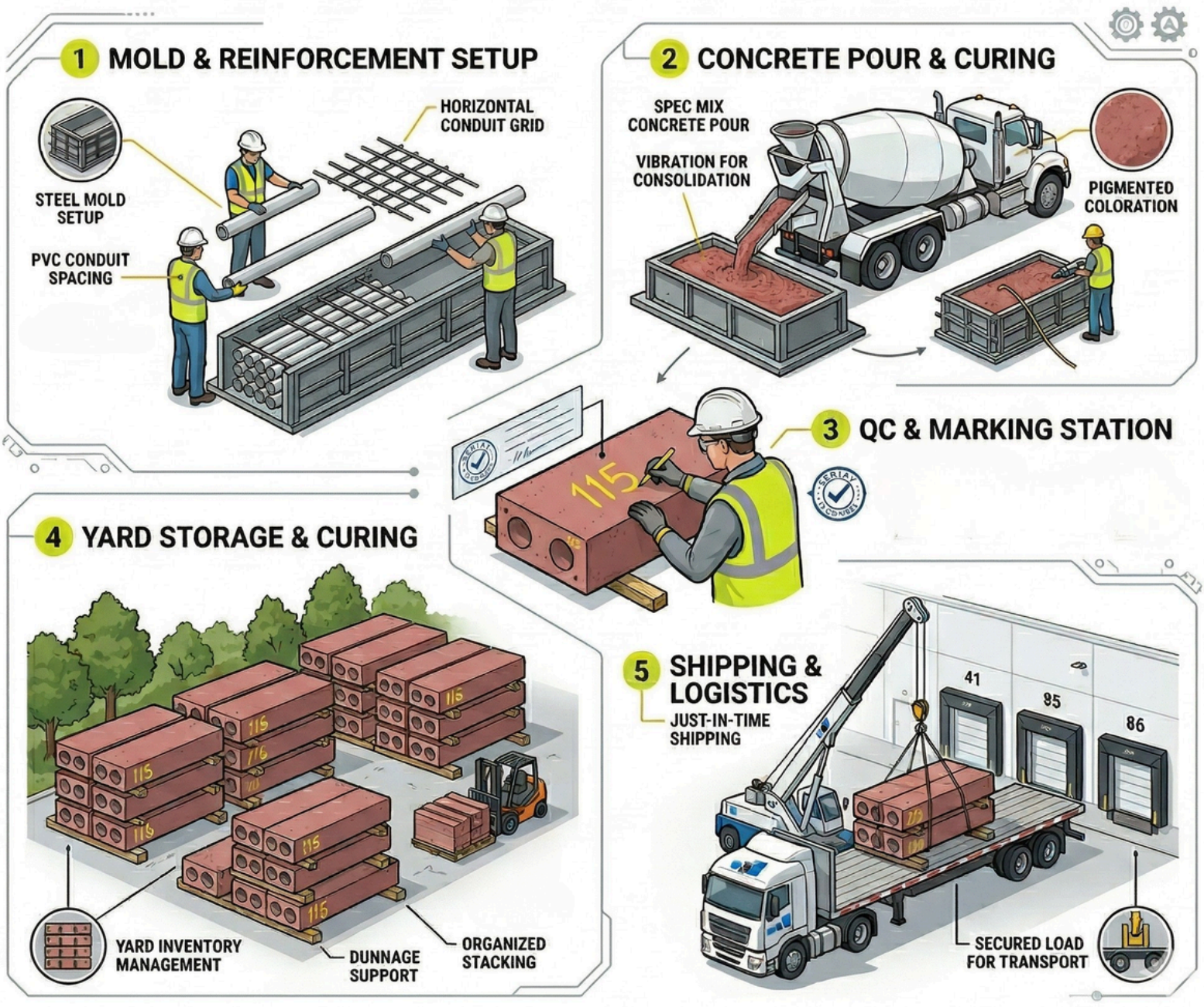




Pre-Fabricated Duct Bank

Setup Your Staging for Success and Worker Care

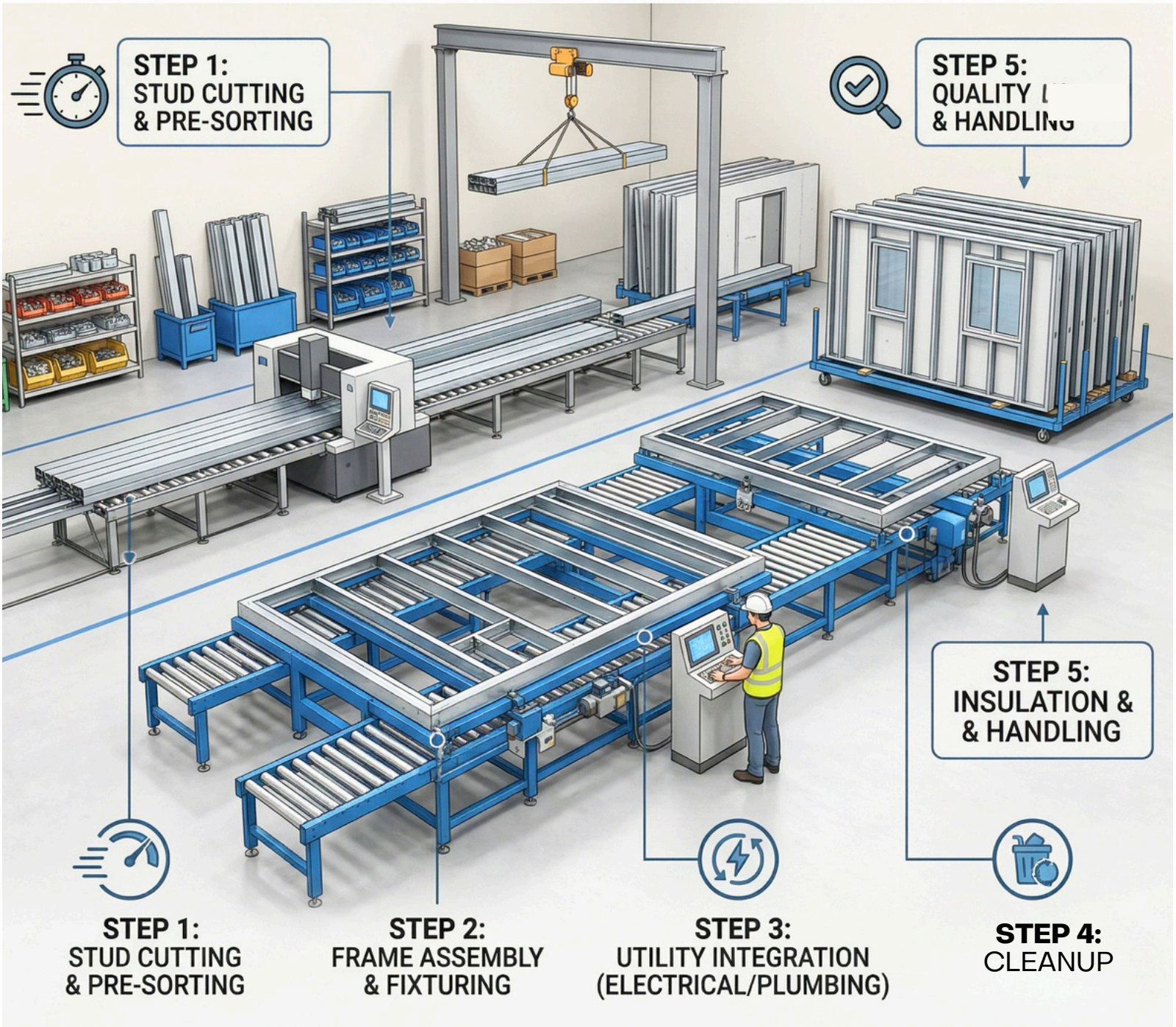
- Offsite fabrication yard.
- Custom built formwork.
- Quick templated assemblies.
- Designed for best fit in the field.
- W/ guide rods and connectors at each end.
- Shipped to the project site Just In Time.
- Faster installation.
- Safer environment for workers.



Pre-fabricated Wall Panels

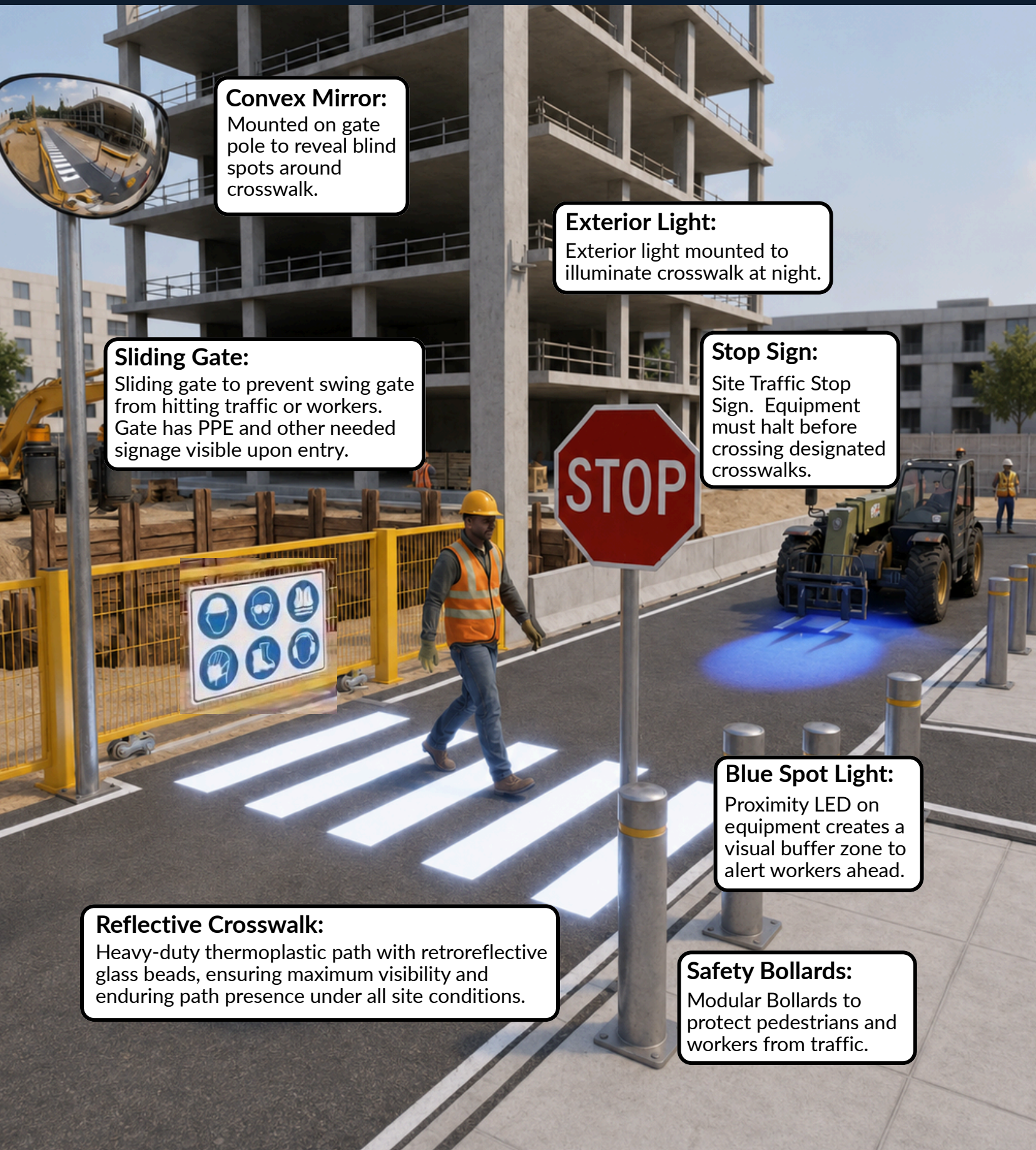
Setup Your Staging for Success and Worker Care

- Cut stud lengths
- Assemble walls on tables
- Install MEP on a tilt table
- Sheath walls
- Package in book ends
- Shipped to project Just In Time



Worker Crosswalks & Traffic

Engineered Barriers, Dynamic Alerts, and Visible Paths to Protect Workers



Convex Mirror:
Mounted on gate pole to reveal blind spots around crosswalk.

Exterior Light:
Exterior light mounted to illuminate crosswalk at night.

Sliding Gate:
Sliding gate to prevent swing gate from hitting traffic or workers. Gate has PPE and other needed signage visible upon entry.

Stop Sign:
Site Traffic Stop Sign. Equipment must halt before crossing designated crosswalks.

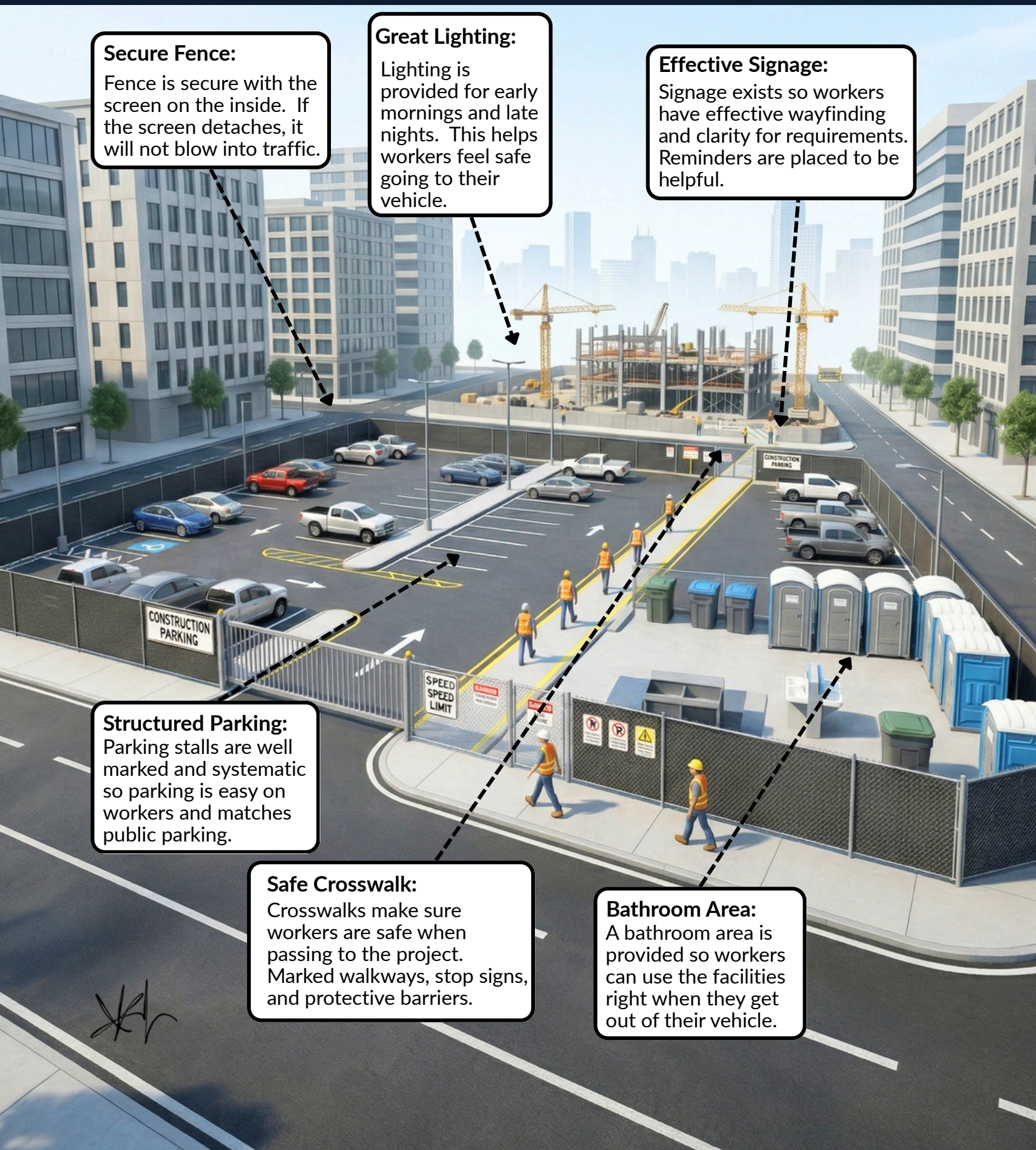
Blue Spot Light:
Proximity LED on equipment creates a visual buffer zone to alert workers ahead.

Reflective Crosswalk:
Heavy-duty thermoplastic path with retroreflective glass beads, ensuring maximum visibility and enduring path presence under all site conditions.

Safety Bollards:
Modular Bollards to protect pedestrians and workers from traffic.

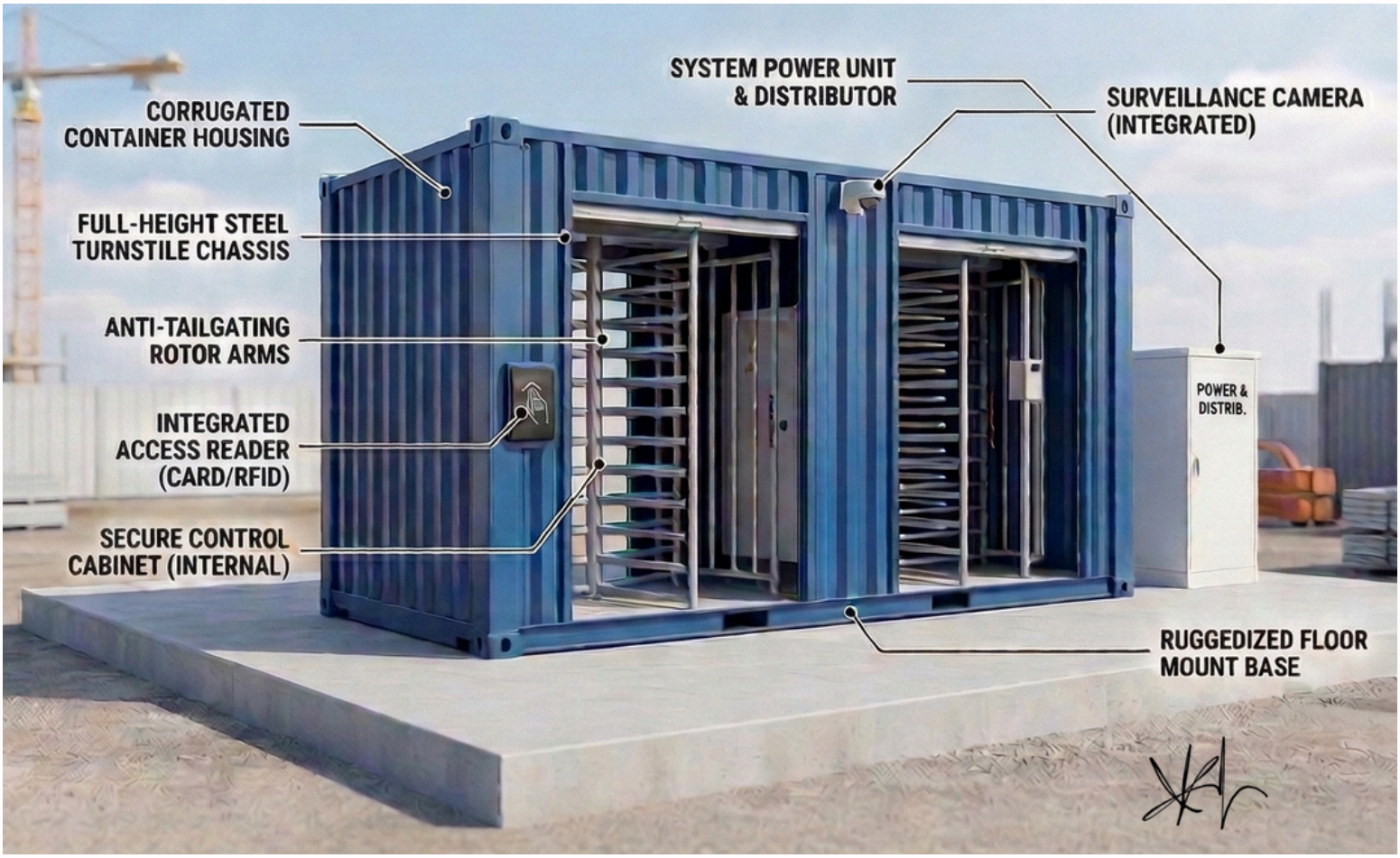
The Respectful Parking Lot

How Workers Are Welcomed into the Project Site Is a Reflection of How They Will Perform. It Starts Here.



The Secure Access Turnstyle System

Integrated Site Entry and Workforce Management Solutions



Uses:

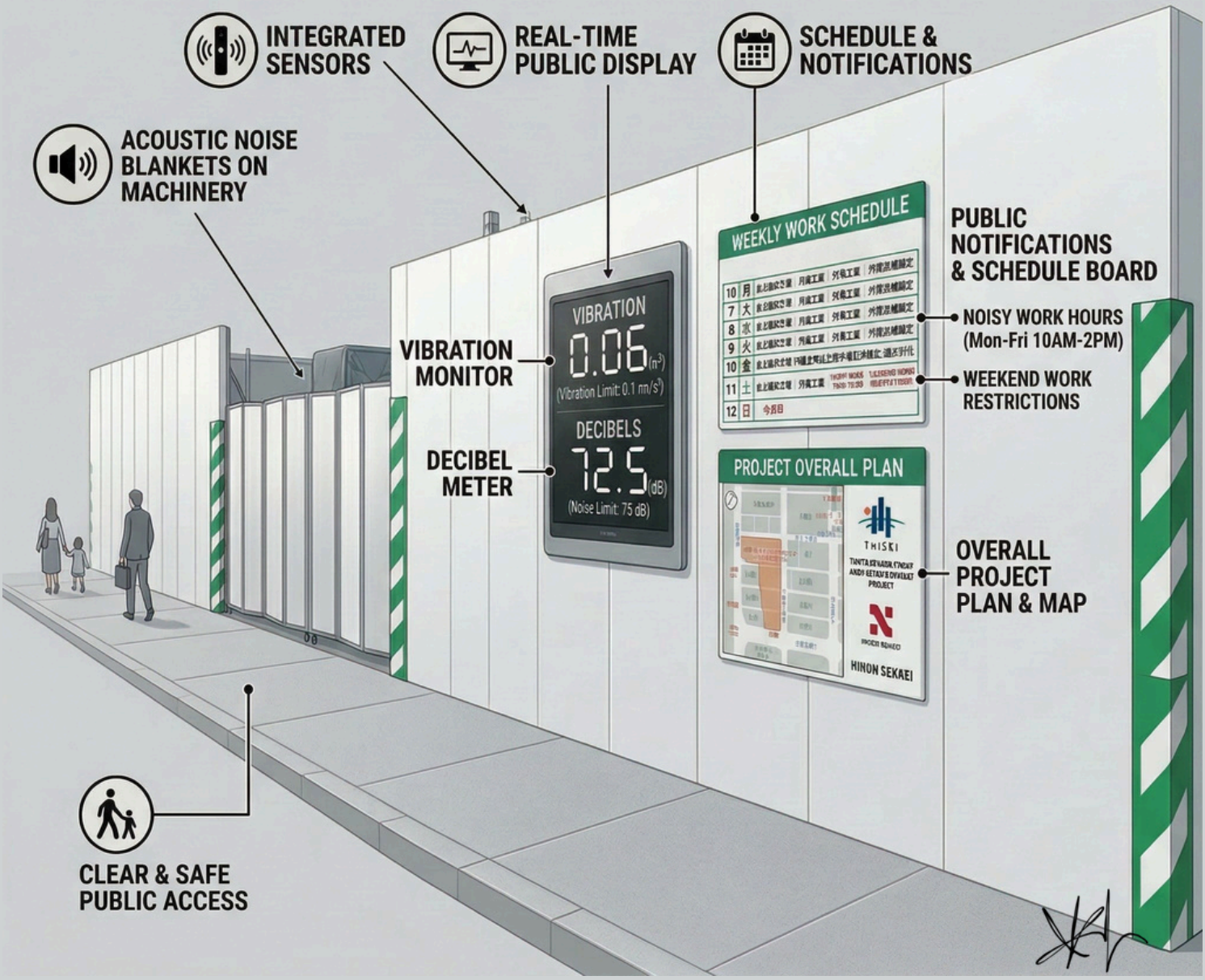
1. Secure entry to the project site.
2. Can regulate entry based on orientation, permission, and other requirements.
3. Can track entry and exit and confirm no one is left inside.
4. Is great for preventing entry to the site before the Morning Worker Huddle is complete.

The Project Neighbors

How to Care For Pedestrians, Motorists, and Neighbors

Other Ideas:

- Tire wash systems to prevent dirt tracking onto public roads
- Street sweeping around the project perimeter
- Daily perimeter cleanup
- Temporary acoustic barriers or sound walls
- Electric equipment where possible to reduce noise
- Equipment idle-reduction policies
- QR code for neighbors to see updates or submit concerns
- Dedicated community hotline or email
- Flaggers and traffic control during deliveries
- Off-peak delivery scheduling
- Clearly marked pedestrian detours
- Work hour restrictions that respect local quiet times
- Weekend work minimized or restricted
- Shielded lighting to reduce nighttime glare
- Odor control for certain operations



Visual Area Boards

How to Keep all Workers Informed Within a Functional Area or Work Area

Area Board Items:

- Zone maps.
- Logistics plan.
- The current WWP
- Key handoffs for the week
- Contact information
- Delivery information for the floor
- Benchmark locations
- Valve shut-off locations
- Other important information

Area Board:
These area boards provide visual information for crews in their area of work.

Location:
Area boards are best placed near stairs, entryways, hoists, and elevators.

Visual Access:
Anyone can access accurate information that should by known by all.

Access Ways:
Yellow Painter's Tape marks the open accessways on the floor for moving materials.

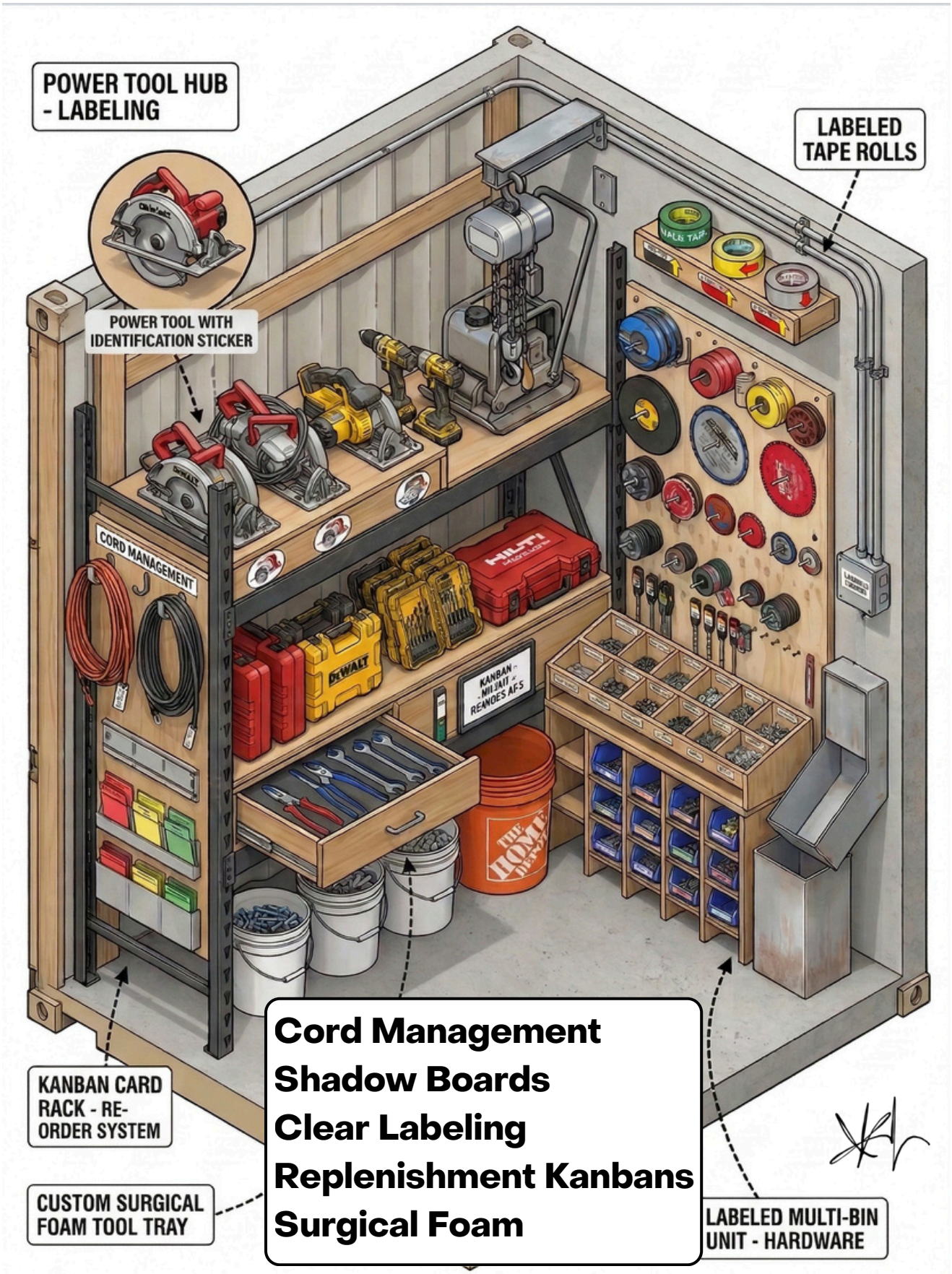
Lean Behaviors Posters

How Can we Expect People to Fundamentally Know Lean Unless we Teach It and Talk About It?



Connex Box Organization

How to Organize your Tools for Enjoyment and Productivity



Worker Lunch Areas

To Properly Care for Workers, We Must Provide a Dignified Area to Eat Lunch with Respect

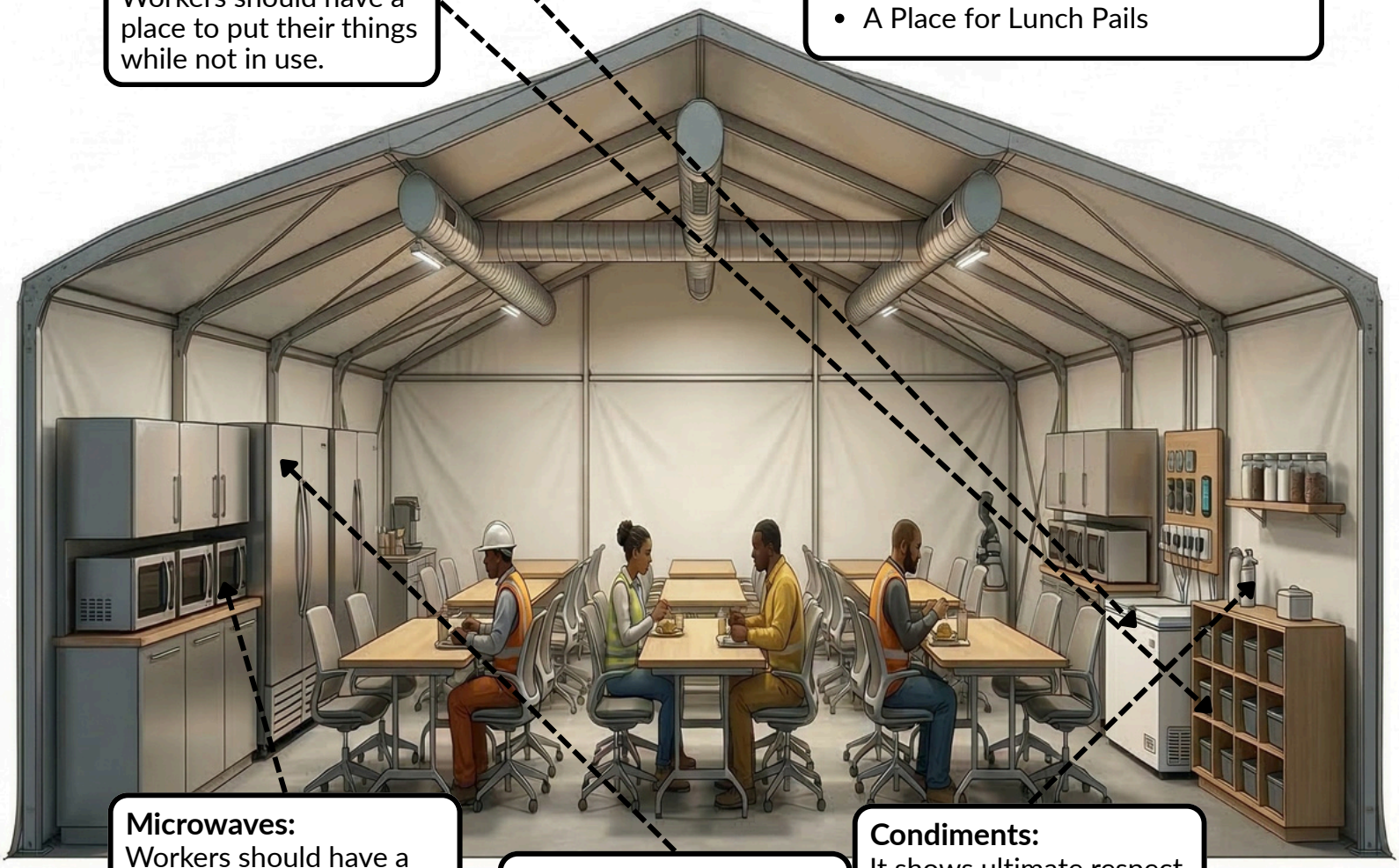
Freezer:
It is best practice to have a freezer with popsicles or some other treat for workers.

NOTE: For large sites, it is important to stagger lunch times for groups of Trades.

Lunch Area:

- Tables
- Comfortable Seating
- Conditioned
- Well Lit
- With Easy Worker Access
- Close to the Project
- Clean
- With Microwaves & Refrigerators
- Cell Phone Charing Stations
- A Place for Lunch Pails

Lunch Pail Storage:
Workers should have a place to put their things while not in use.



Microwaves:
Workers should have a way to heat up their food in the lunch tent. And enough for all workers.

Refrigerators:
Often workers need a place to cool their food until lunch-time. Having clean fridges works well.

Condiments:
It shows ultimate respect to have condiments, salt, pepper, and other commodities available.

The Lean Bathroom

- One plunger, brush, and cleaner in every stall—no excuses, fix it immediately
- No one wants to leave a mess—so give them what they need right there
- Standardized stalls: everything in the same place, every time
- Hooks added because the field asked for them—listen and respond fast
- Clean, air-conditioned bathrooms show respect for the craft
- When people feel respected, they take pride—no graffiti, no trash
- Orientation includes cleaning the bathroom—ownership starts day one
- “Leave it better than you found it”—small actions, every visit
- Visual Lean reminders (5S, signage) reinforce the culture daily
- A clean bathroom creates a clean jobsite mindset



Worker Huddle Area

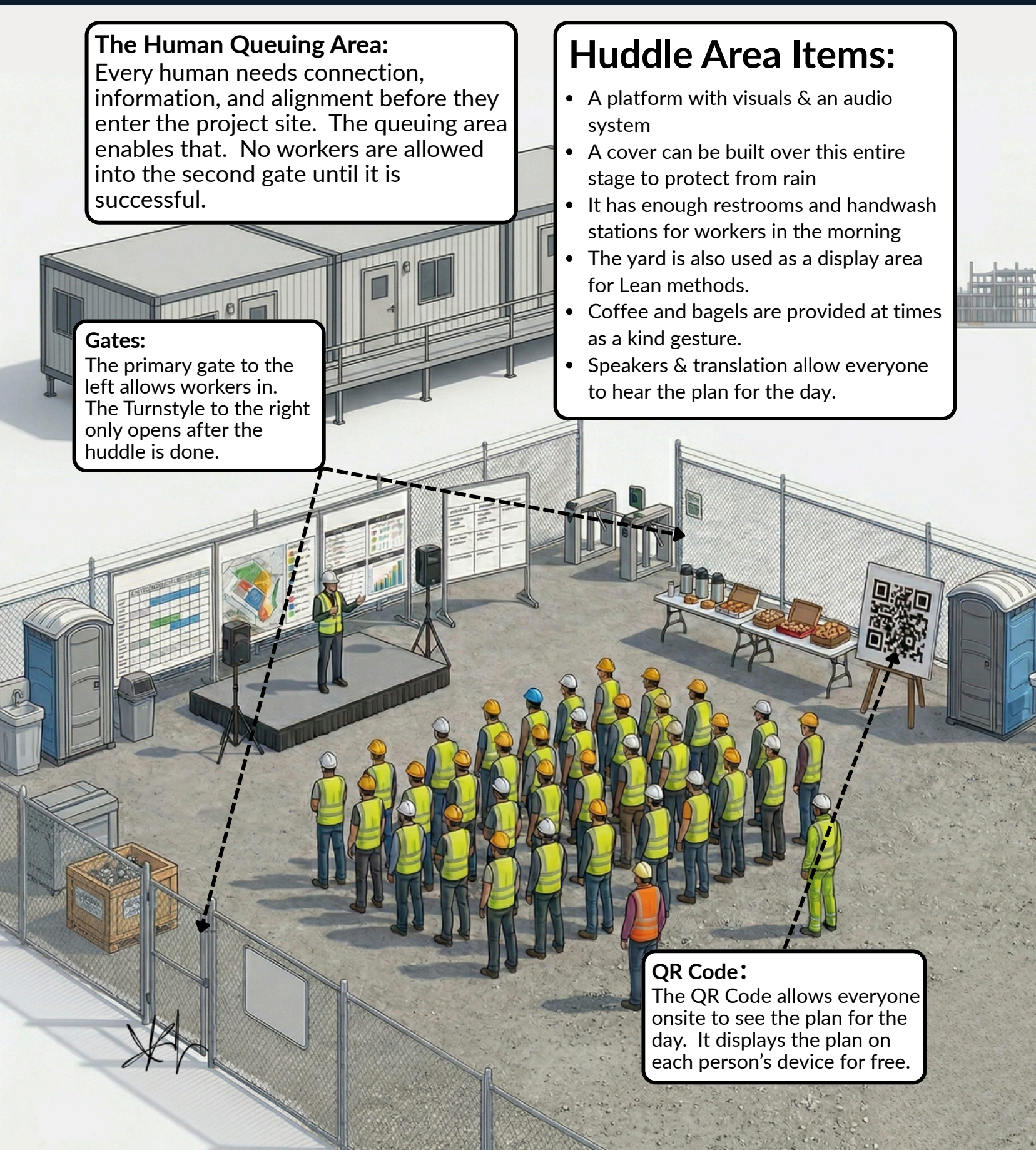
Before Workers Enter the Site, They are Connected with, Oriented, and Aligned to The Plan For The Day

The Human Queuing Area:
Every human needs connection, information, and alignment before they enter the project site. The queuing area enables that. No workers are allowed into the second gate until it is successful.

Huddle Area Items:

- A platform with visuals & an audio system
- A cover can be built over this entire stage to protect from rain
- It has enough restrooms and handwash stations for workers in the morning
- The yard is also used as a display area for Lean methods.
- Coffee and bagels are provided at times as a kind gesture.
- Speakers & translation allow everyone to hear the plan for the day.

Gates:
The primary gate to the left allows workers in. The Turnstyle to the right only opens after the huddle is done.



QR Code:
The QR Code allows everyone onsite to see the plan for the day. It displays the plan on each person's device for free.

The Construction Craft BBQ

Fostering Morale and Team Unity within the Trailer Complex



Heat Stress Prevention System

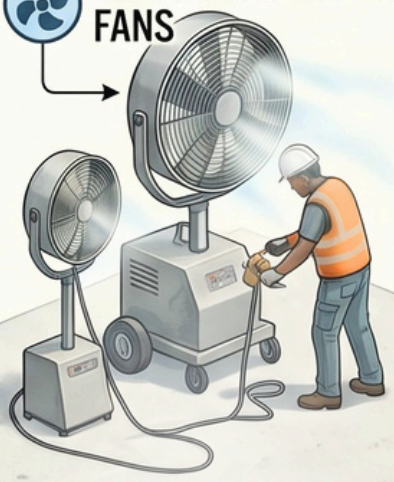
Strategies for Maintaining Safety & Productivity in Extreme Summer Conditions for Project Workers

CHILLED POTABLE WATER STATION

Easily accessible chilled water, Consume 1 quart (32 oz) per hour.

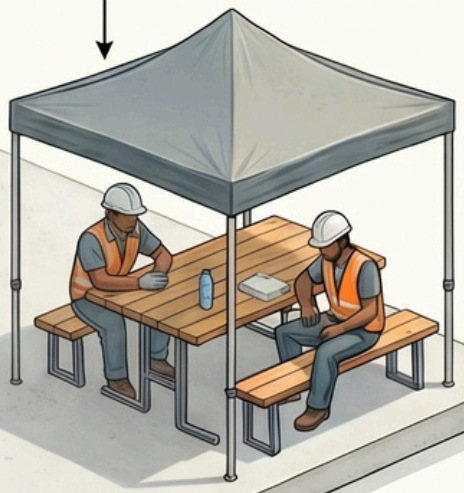


INDUSTRIAL MISTING FANS



DESIGNATED COOLING STATION/SHADE TENT

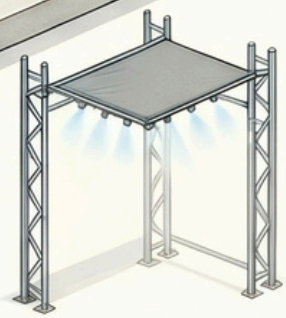
Mobile units for significant ambient temperature reduction via evaporative cooling.



Keep workers cool. Heat illness can affect us all!

DESIGNATED COOLING STATION/SHADE TENT

Structured rest breaks in a cooler environment to prevent heatstroke.



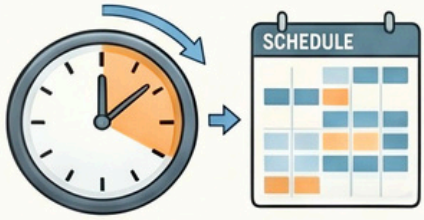
INTEGRATED MISTING SYSTEMS (e.g., AT THE HOIST)

Point-o-source cooling for critical equipment operators and high-intensity work zones.



PERSONAL COOLING EQUIPMENT

Ice pack vests, circulatory cooling vests, and evoporative neck wraps for direct contact relief.

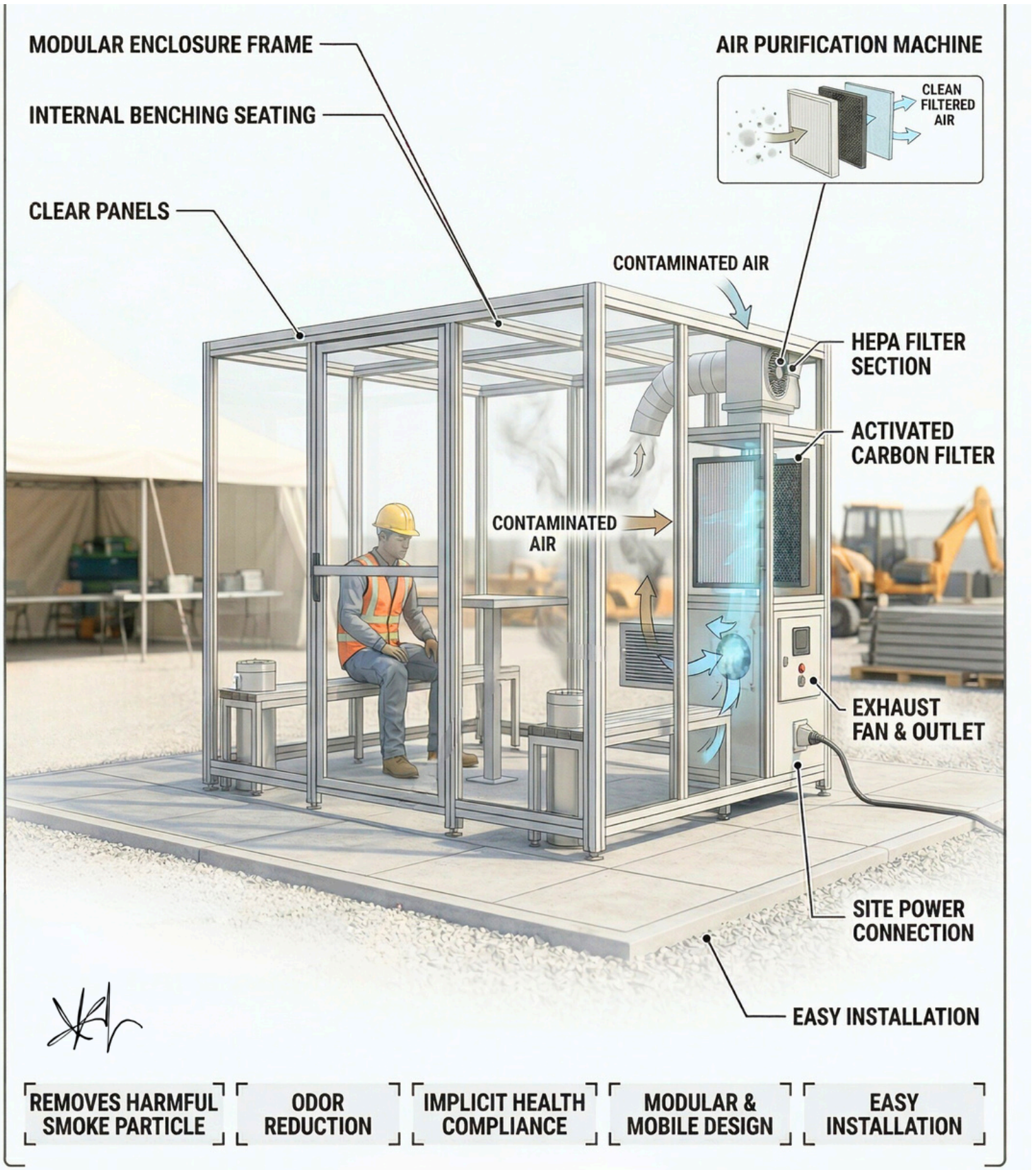


ACCLIMATIZATION PROGRAMS & WORK-REST SCHEDULES

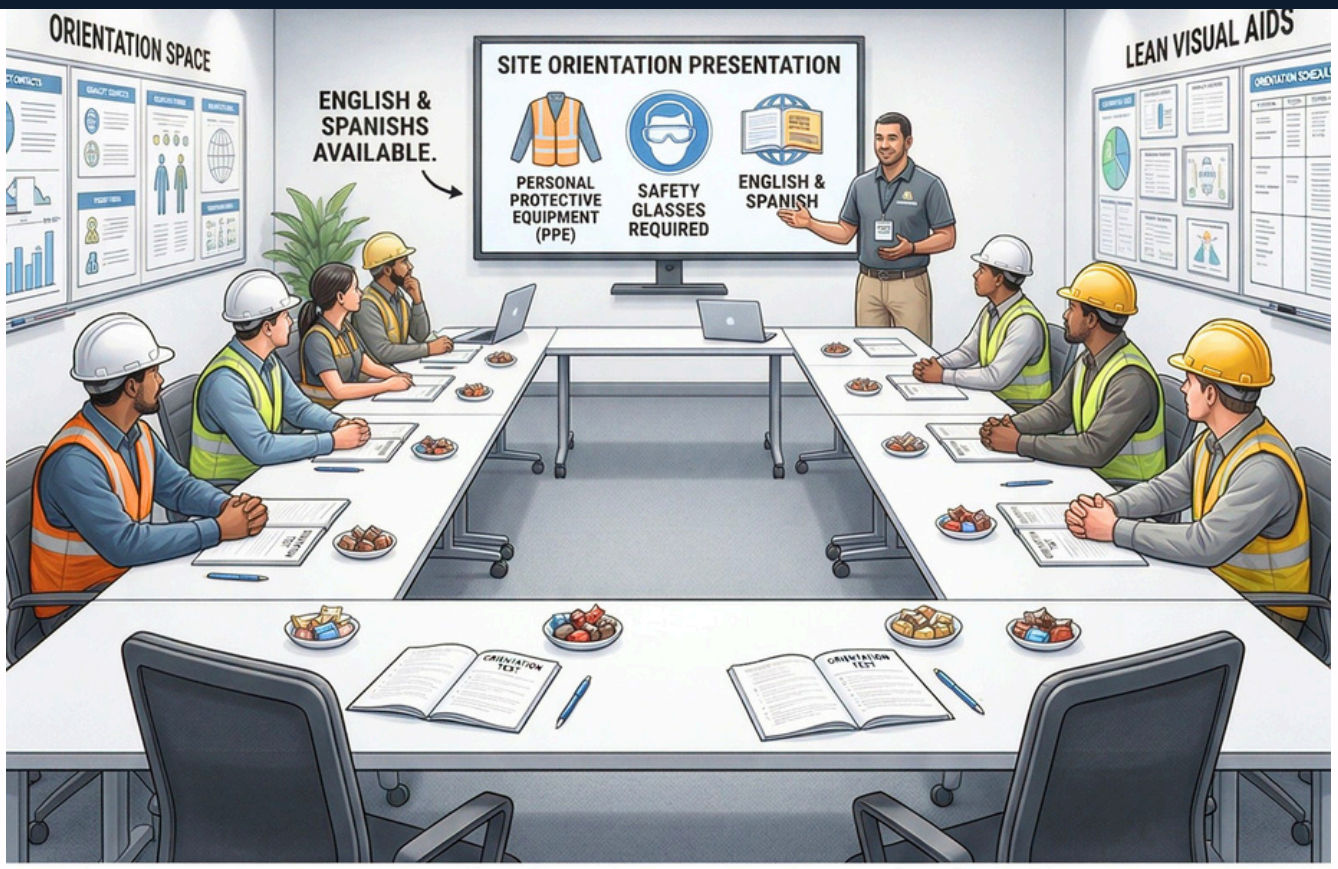
- Gradual exposure for new hires (7-14 days).
- Scheduled mandatory rest breaks.
- Modified shifts for peak heat hours.

Enclosed Smoking Station

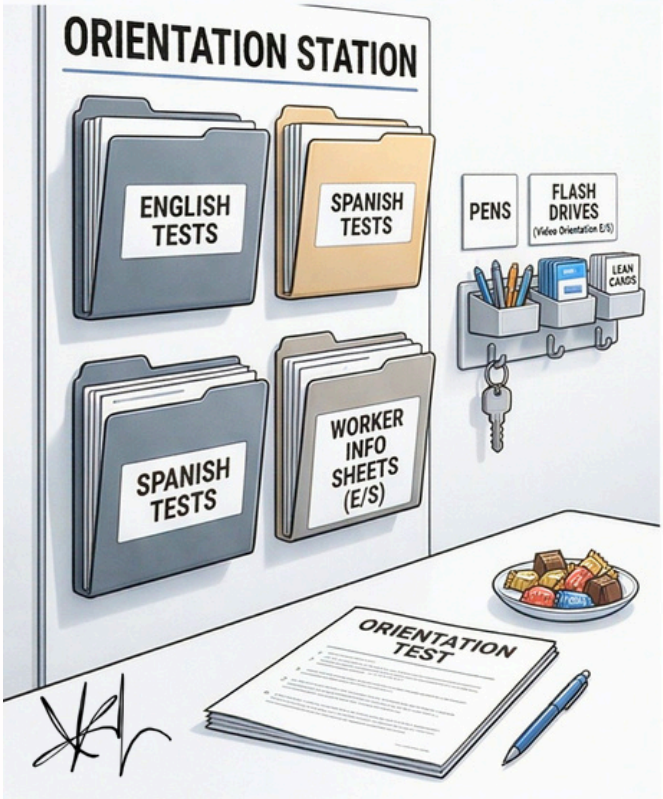
Improving Site Health and Safety with Advanced Air Purification Systems



Effective Worker Orientation System



VIDEO → TEST (80%+ PASS) → ACCESS GRANTED






SITUATION ROOM
DELEGATION & REPORT BACK
GENERAL SUPERINTENDENT
CONIXARD CENTER
Safety & Environmental Compliance
SYSTEM roadblocks
DELEGATION
DELEGATION network
6.05%
3.90%
Project KPIs


LIVE SITE CAMERAS 1-4
TAKT PLAN & LOGISTICS MAP
KEY PROJECT KPI DASHBOARD
FIELD INTELLIGENCE REPORT
CONSTRAINTS & SYSTEM ROADBLOCKS
2024. 10.27
Building the Empire State
PROJECT COORDINATOR
Construction Business Owner

Developing Your Battle Perch

A Lean Construction Guide to Elevated Project Observation & Leadership

THE PURPOSE & ANALOGY

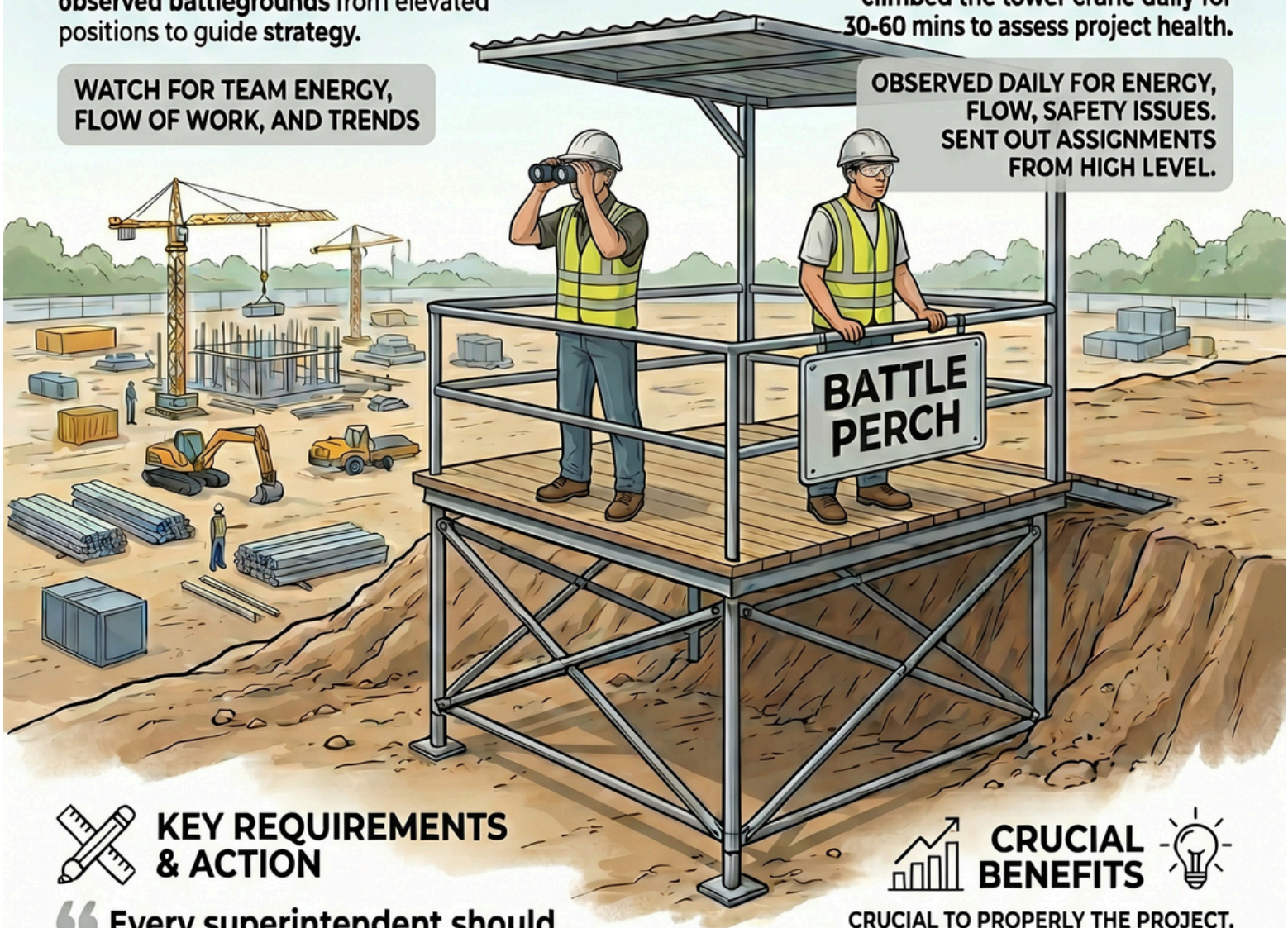
A **dedicated place to overlook the project site.** Inspired by historical generals who **observed battlegrounds** from elevated positions to guide **strategy.**

WATCH FOR TEAM ENERGY, FLOW OF WORK, AND TRENDS

OPERATIONAL EXAMPLE: THE TOWER CRANE SUPERINTENDENT

A real-world example: A superintendent **climbed the tower crane daily for 30-60 mins to assess project health.**

OBSERVED DAILY FOR ENERGY, FLOW, SAFETY ISSUES. SENT OUT ASSIGNMENTS FROM HIGH LEVEL.



KEY REQUIREMENTS & ACTION

> **"Every superintendent should have a place to overlook the project and reflect."**

CRUCIAL BENEFITS

CRUCIAL TO PROPERLY THE PROJECT. Easier to anticipate potential problems, intuitively know project status, and make effective course corrections.

FIND, DESIGN, USE, AND REFLECT on an elevated place. Could be on top of existing bailing, or trailer, existing building, or crane, and investment to design a functional perch.

SEE WHAT YOU NEED TO SEE TO MAKE YOUR PROJECT REMARKABLE.

THE CONSTRUCTION WORKER CARE HUB

An on-site support system for rest, communication, training, and daily workforce care



WHY IT MATTERS

- Improves worker experience
- Supports communication and learning
- Creates an organized, respectful jobsite environment

DETAILED CRANE SCHEDULE ANALYSIS

A day-to-day view of tower crane demand, task sequencing, and available lift capacity



	MON 1		TUE 2		WED 3		THU 4		FRI 5		MON 6		TUE 7		WED 8		THU 9		FRI 10		MON 11		TUE 12		WED 13	
	Strip & Jump 4		Weld Knife Plates 4		Weld Knife Plates 4		Weld Knife Plates 4		Place Level 2 El Decks		Reinforce Core 5				Strip & Jump 5		Weld Knife Plates 5		Weld Knife Plates 5		Place Level 3 El Decks		Reinforce Core 6			
TIME (30-MIN INCREMENTS)	General Contractor	Rebar	General Contractor	Rebar	General Contractor	Rebar	General Contractor	Rebar	General Contractor	Rebar	General Contractor	Rebar			General Contractor	Rebar	General Contractor	Rebar	General Contractor	Rebar	General Contractor	Rebar	General Contractor	Rebar	General Contractor	Rebar
6:00 AM																										
6:30 AM	Prep		Prep												Prep											
7:00 AM	Core Jump Prep	Rebar Prep/ Staging	Install Embeds & Form Savers S7/ Weld Knife Plates 4		Fly Soor OCC Sons OCC Picks	Install Embeds & Form Wall Rrble Maintnint & Sons Walls	Install Embeds & Form Savers S7/ Weld Knife Placement & Sons OCC Picks Picks	Wall Assembles Sons OCC Oicks	Install Embeds & Form Sovers S7/ Weld Knife Placement & Sons Pialls	Install Assembles Sons OCC Picks	Install Embeds & Form Savers S7/ Weld Knife Wall Rebar Placement & Sons OCC Picks Picks	Crane mostly free	Place Walls	Crane mostly free	Core Jump Prep	Rebar Prep/ Staging	Install Embeds & Form Savers S7/ Weld Knife Plates 5	Wall Assembles Sons OCC Picks	Install Embeds & Form Savers S7/ Wall Knife Placement & Sons OCC Picks Picks	Wall Assembles Sons OCC Picks	Install Embeds & Form Savers S7/ Wald Rebar Placement 8G Soes Walls	Wall Assembles Sons OCC Picks	Install Embeds & Form Savers S7/ Wall Rebar Placement & Sons OCC Picks Walls	Crane mostly free	Place Walls	Crane mostly free
7:30 AM																										
8:00 AM																										
8:30 AM																										
9:00 AM																										
9:30 AM																										
10:00 AM																										
10:30 AM																										
11:00 AM	Jump Core	Crane Free													Jump Core	Crane Free										
11:30 AM																										
12:00 PM																										
12:30 PM																										
1:00 PM	Set Inside Walls														Set Inside Walls											
1:30 PM																										
2:00 PM																										
2:30 PM																										
3:00 PM																										
3:00 PM																										
4:00 PM																										
4:30 PM	Fly Door Bucks				Inspections						Inspections				Fly Door Bucks		Inspections						Inspections			
5:00 PM																										
5:30 PM																										
6:00 PM																										
								Crane half use		Crane quarter use										Crane half use		Crane quarter use					

WHAT THIS ANALYSIS REVEALS

- 13-workday look-ahead
- 6:00 AM–6:00 PM planning window
- 30-minute scheduling increments
- Separate crane demand lanes for General Contractor and Rebar
- Free-capacity windows highlighted for opportunistic picks

HOW TO READ IT

1. Read left to right by day
2. Read top to bottom by time
3. Track crane demand by trade lane
4. Use green windows to identify open crane capacity

LEGEND

- Core work
- Rebar activity
- Wall placement / picks
- Inspections
- Free capacity

LEAN DISPLAY AREA

VISUAL MANAGEMENT THAT DRIVES PERFORMANCE

- IMPROVE COMMUNICATION
- STANDARDIZE PROCESSES
- INCREASE ACCOUNTABILITY
- BUILD A CULTURE OF CONTINUOUS IMPROVEMENT



1 BATHROOMS & CARE

Clear expectations keep facilities clean, safe and respected.

2 CREW BOARD

Daily plans, safety metrics and announcements keep the team aligned.

3 LOGISTICS BINS

Organized, easy access to common materials reduces waste and delays.

4 FLOOR MARKING COLOR CODE

Standardized colors communicate information quickly and consistently.

5 STANDARD SIGNAGE

Visual reminders promote safety and reinforce expectations.

6 LEAN GANGBOX

Secure, organized tools and supplies owned by the crew.

7 LEAN SUPPLIES STATION

Right items, right quantity, right place—ready when needed.

8 BUILT ON LEAN PRINCIPLES

Eliminate waste, improve flow and empower people.

VISUAL MANAGEMENT. STANDARD WORK. CONTINUOUS IMPROVEMENT.

A CLEAN SITE IS A SAFE SITE. | A SAFE SITE IS A PRODUCTIVE SITE.

WHAT GOOD TRAFFIC CONTROL LOOKS LIKE

Clean, visible, well-maintained examples of common work-zone traffic control devices.



CLEAN & NEW | HIGH VISIBILITY | PROPERLY ORIENTED | CONSISTENT & PROFESSIONAL

CONSTRUCTION TRAINING DOJO

EXAMPLE AREAS

Hands-on learning zones designed to build skills, reinforce standards, and develop lean construction habits.



1 UNDERGROUND UTILITIES AREA

Teaches proper installation and alignment of underground utilities.

- **LEARN:** Pipe alignment, spacing, and depth
- **PRACTICE:** Bracing, bedding, and backfill techniques
- **FOCUS:** Quality, safety, and standard work
- **OUTCOME:** Build confidence through hands-on repetition

2 PRECAST STRUCTURES PRACTICE AREA

Hands-on practice installing precast structures with proper methods.

- **LEARN:** Proper placement, leveling, and joint alignment
- **PRACTICE:** Setting rings, adjusting frames, and sealing joints
- **FOCUS:** Accuracy, durability, and workmanship
- **OUTCOME:** Develop skills that reduce rework and defects

BUILD SKILLS. FOLLOW STANDARDS. IMPROVE EVERY DAY. | **ONE TEAM. ONE STANDARD. ZERO EXCUSES.**

LEAN DOJO

A Hands-On Training Environment for Flow, Standard Work, Problem Solving, and Continuous Improvement



Pegboard Flow Exercise
Builds awareness of motion, handoffs, and standardized movement.

Coaching & Reflection
Whiteboard debriefs help teams capture learning and improve the process.

Rope / Path Exercise
Demonstrates flow paths, variation, and work sequence control.

Kitting & Sorting
Teaches part presentation, sequencing, and efficient material handling.

Safe Visual Layout
Clear boundaries, portable stations, and visual controls support focused learning.

Puzzle Assembly Station
Simulates assembly, takt, constraints, and repeatable work patterns.

Builds Capability | Improves Flow | Trains Standard Work | Develops Problem Solvers

AUTO-LAUNCH DRONE DAILY VISIBILITY SYSTEM

How a construction team captures daily aerial footage for huddles and command centers



1 SCHEDULED MISSION

Pre-set flight time launches the drone automatically each day.

2 AUTO-LAUNCH DOCK

The dock stores, charges, protects, and deploys the drone on site.

3 SITE FLIGHT

The drone follows a repeatable route to capture progress, logistics, and safety conditions.

4 CLOUD UPLOAD

Images and video sync automatically for same-day review.

5 DAILY MEETING

Teams review footage during morning huddles to align work and solve issues faster.

6 COMMAND CENTER

Leaders display live jobsite visuals in the command center for planning and coordination.

KEY BENEFITS

- Better Daily Planning
- Visual Progress Tracking
- Faster Issue Recognition
- Improved Team Alignment

360° CAMERAS
REAL-TIME SITE VISIBILITY

LIVE INFORMATION FOR MEETINGS & COMMAND CENTERS

SEE EVERY ANGLE • SHARE INSTANTLY • DECIDE FASTER • BUILD BETTER

KEY FEATURES

360° PANORAMIC COVERAGE
Complete site visibility with no blind spots

REAL-TIME STREAMING
Live view to meetings & command centers

CLOUD CONNECTED
Secure storage & anytime access

TIMELAPSE & HISTORICAL VIEW
Track progress over time

BUILT FOR JOB SITE
Rugged • Weatherproof
Dustproof • Reliable



WHERE IT GOES

COMMAND CENTER

MEETINGS (REMOTE & ONSITE)

STAKEHOLDER UPDATES

- Share Snapshots
- Annotate & Comment
- Make Faster Decisions

HOW IT WORKS

1. **CAPTURE** — 360° Camera on Site
2. **CONNECT** — Wi-Fi / 4G / 5G Network
3. **UPLOAD** — Secure Cloud Storage
4. **ACCESS** — Anytime, Anywhere Live View
5. **DECIDE** — Collaborate & Take Action

BENEFITS

- Better Visibility
- Improved Communication
- Faster Decision Making
- Less Travel & Site Visits
- Safer & More Productive Sites
- Higher Project Transparency

ONE CAMERA. COMPLETE VISIBILITY. BETTER COLLABORATION.

LEAN TRAILER COFFEE & BREAK AREA

An organized construction trailer station using visual management, kanban replenishment, and point-of-use storage.



NEXT STEPS TO IMPLEMENT:

RESOURCES:

DAY TWO
EXAMPLE

VALUES

BE TRANSPARENT, CREATE RESPECT, BUILD PEOPLE, DO THE RIGHT THING, GIVE FIRST

STRENGTHS

POSITIVE COMMUNICATION, LEADER OF PEOPLE, DEVELOPING POTENTIAL OR COACHING, CONTEXTUAL LEARNING + TEACHING, CONNECTION

MISSION- 100 YEAR GOAL

To become a general superintendent in my company and develop training programs for all other superintendents in the company. To develop enough personal wealth to start all of my children with businesses so they can continue the family legacy of giving and contribution.

5 - 10 YEAR

To learn the position of senior superintendent and to learn everything I can about project scheduling and project controls within the next 5 years.

NEXT MILESTONE 6-18 MONTHS

Become proficient with project scheduling in the next 10 months.

DEFINING GOALS

1. Take a Takt planning control course and achieve Takt Master Certification/ Master Scheduling.
2. Actively create and update current project schedule and provide the weekly and monthly schedule updates.
3. Get a mentor from another Sr Super and shadow them in their scheduling process.
4. Reflect on the success of the schedule and improve on any mistakes that were made.
5. Learn the Last Planner® System and become proficient at pull planning.

DAY TWO
CLARITY: MISSON + VALUES + ACTIONS

VALUES

STRENGTHS

MISSION- 100 YEAR GOAL

5 - 10 YEAR

NEXT MILESTONE 6-18 MONTHS

DAY TWO
CLARITY: MISSON + VALUES + ACTIONS

DEFINING GOALS

1

2

3

4

5

What is fulfillment?

What is success?

DAY NOTES:

DAY NOTES:

DAY Three

TAKT DAY

ELEVATE CONSTRUCTION
INSIGHTS SOLUTIONS TRAINING

DAY THREE

TRAINING OVERVIEW

	TRAINING
	LUNCH
	TRAINING

TOPICS

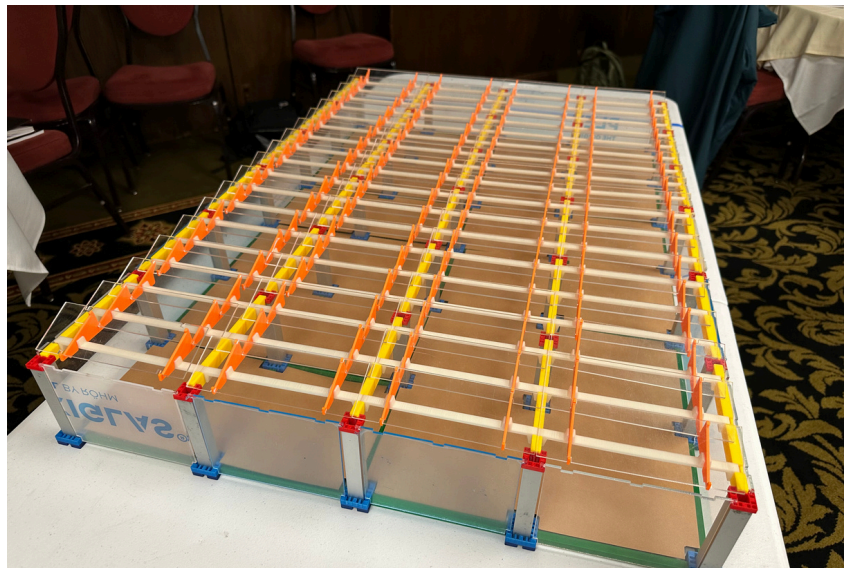
- NAME TAGS
- SAFETY, LOGISTICS & STRETCH
- MORNING ROUTINE
- DAY PLANNER
- PLUS & DELTA
- REVIEW THE PLAN
- HOW BIG THINGS GET DONE REVIEW
- IPCS™ INSTRUCTION
- FIX (SCHEDULE, ZONE, LOGISTICS, TRAILER, ORG & PROCUREMENT)
- FRESH EYES
- PRE-CON OVERVIEW
- TAKT SIMULATION

TODAY'S CHECKLIST ☑

- ☐ COMMUNICATE ANY SAFETY NEEDS
- ☐ STRETCH AND FLEX
- ☐ CONFIRM HOMEWORK IS CAUGHT UP
- ☐ ARE YOU HELPING YOUR TEAM GET BACK ON TIME?
- ☐ FILL OUT DAY 3 OF PERSONAL ORGANIZATION PLANNER
- ☐ PARTICIPATE IN THE FRESH EYES MEETING
- ☐ ASK ANY QUESTIONS ABOUT TAKT AND THE SIM
- ☐ PARTICIPATE IN THE TAKT SIMULATION
- ☐ IF NOT PARTICIPATING, MAKE OBSERVATIONS
- ☐ ARE YOU TAKING GOOD NOTES?
- ☐ HELP BUILD TEAM WITH LEAN VIDEO
- ☐ KEEP YOUR AREA CLEAN
- ☐ SPEAK UP DURING THE DAY
- ☐ RAISE YOUR HAND AND ANSWER A QUESTION
- ☐ COMPLIMENT A TEAM MEMBER
- ☐ CONSIDER WRITING "NEXT STEP" NOTES
- ☐ VOTE FOR THE ALPHA
- ☐ TIDY UP NOTES IN THE BACK
- ☐ HOMEWORK FOR DAY 3

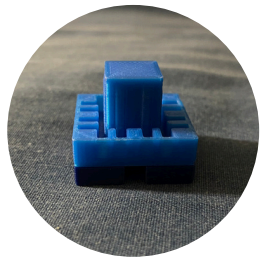
IF ALL ARE CHECKED BY END OF DAY HONESTLY, YOU GET ONE POINT FOR YOUR TEAM.

SIMULATION MODEL AND PIECES

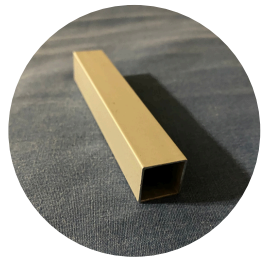




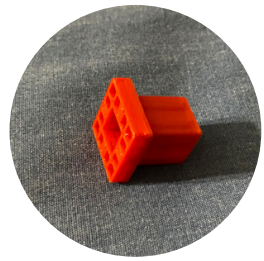
GRADE BEAMS (GREEN)



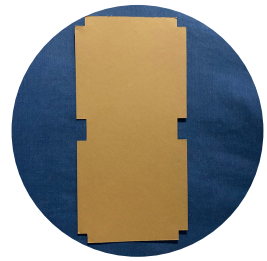
SPOT FOOTING (BLUE)



COLUMNS



COLUMN CAPS



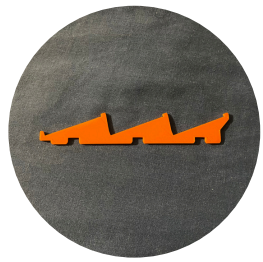
SOG OR FLOOR



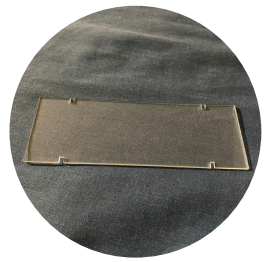
PRIMARY BEAMS (YELLOW)



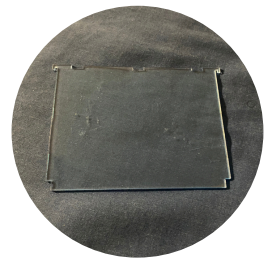
SECONDARY BEAMS



TRUSSES (ORANGE)



ROOF PANELS

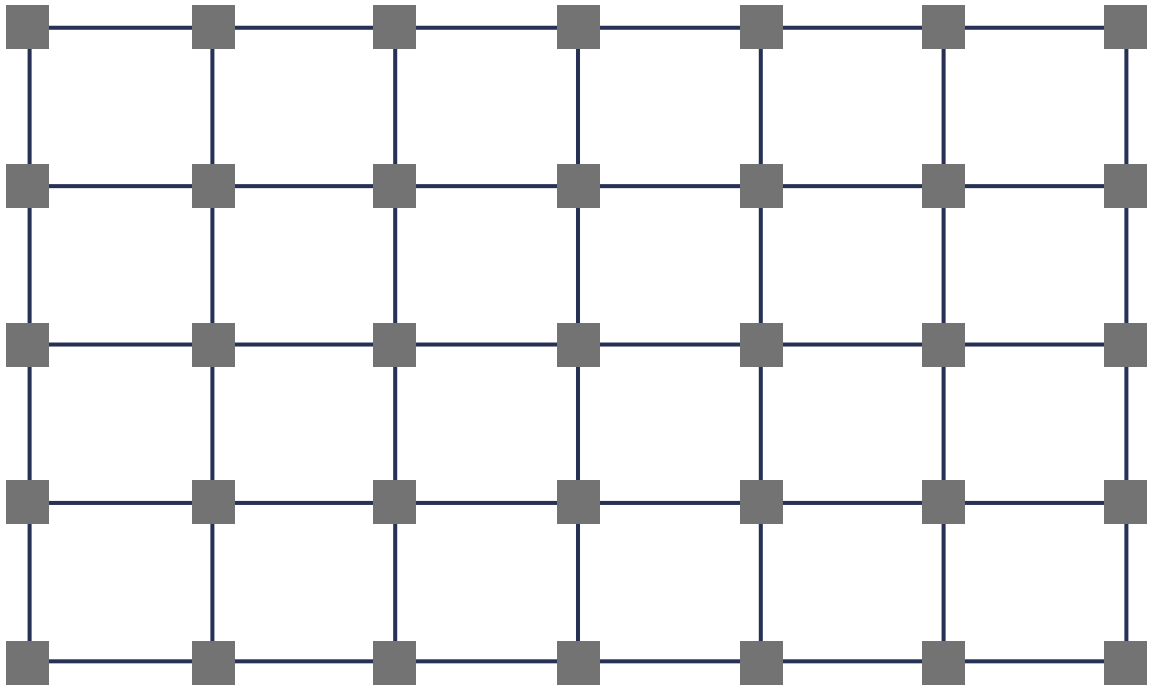


STORE-FRONT OR WALLS

TAKT SIMULATION RULES

1. Each trade partner is one color.
2. One person represents one crew.
3. Work is contracted as trades and crews. You can only install your contracted scope of work.
4. Anyone, including your logistics person can stage materials with you or for you.
5. Materials staged on or next to a square make the square inactive for everyone but the installer.
6. Mass staging laydown yard is separated from the project area.
7. You may only install with one piece (or one pre-fabricated assembly) in each hand at a time.
8. Only stage materials within the taped lines (project extents). No ‘holding’ onto un-staged materials.
9. You can prefabricate assemblies before their time starts. You cannot pre-fab the spot footings together with the grade beams or columns. Anyone can help with pre-fabricating.
10. Blue spot footings can be prefabbed together, and columns with red caps can be prefabbed together.
11. Pre-fabricating does not count against your time.
12. You can pause the time if you need to but everyone must stop production before the timer stops.
13. You are complete when the building is built and owner accepts that there are no defects.
14. No more than 10 people at the table, plus logistics support.

ROUND ONE
PLAN + BUILD YOUR WAY



Buyout:

GRADE BEAMS-

SPOT FOOTINGS-

COLUMNS-

COLUMN CAPS-

SOG / FLOOR-

PRIMARY BEAMS-

SECONDARY BEAMS-

TRUSSES-

ROOF PANELS-

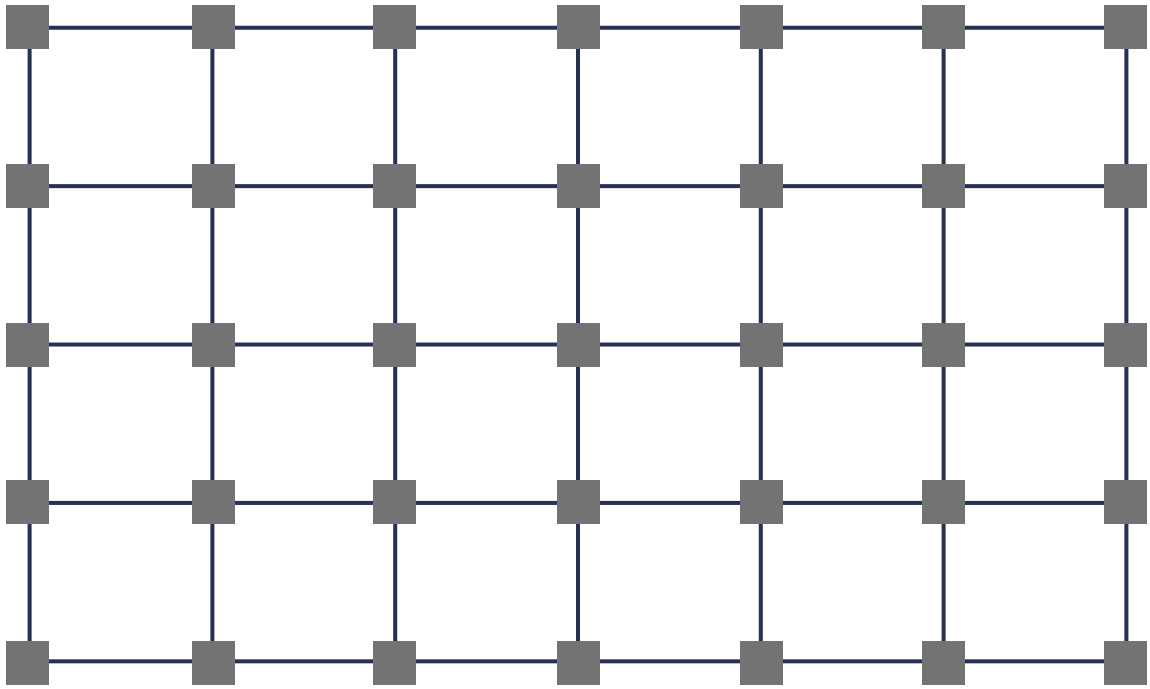
STOREFRONT/ WALLS-

Notes:

REFLECTION
ROUND ONE
WHAT DID YOU LEARN?

ROUND TWO
PLAN + BUILD WITH TAKT

SEQUENCE & LOGISTICS + ZONES



Buyout:

GRADE BEAMS-

SPOT FOOTINGS-

COLUMNS-

COLUMN CAPS-

SOG / FLOOR-

PRIMARY BEAMS-

SECONDARY BEAMS-

TRUSSES-

ROOF PANELS-

STOREFRONT/ WALLS-

Takt Time:

Notes:

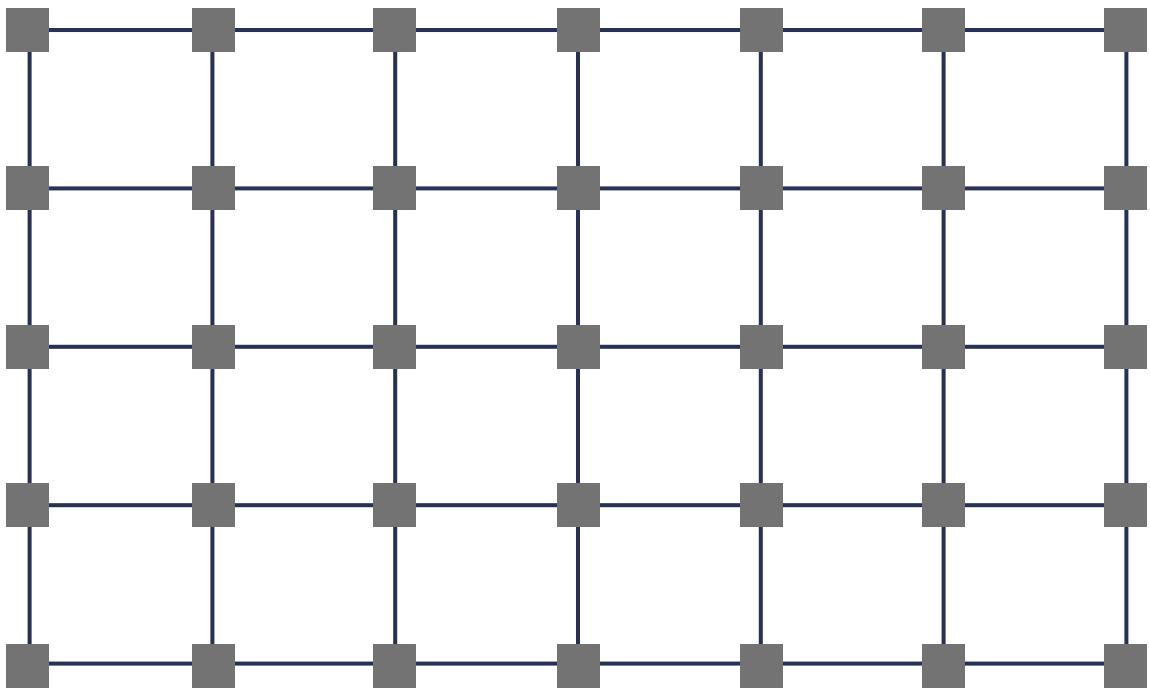
REFLECTION
ROUND TWO

WHAT DID YOU LEARN?

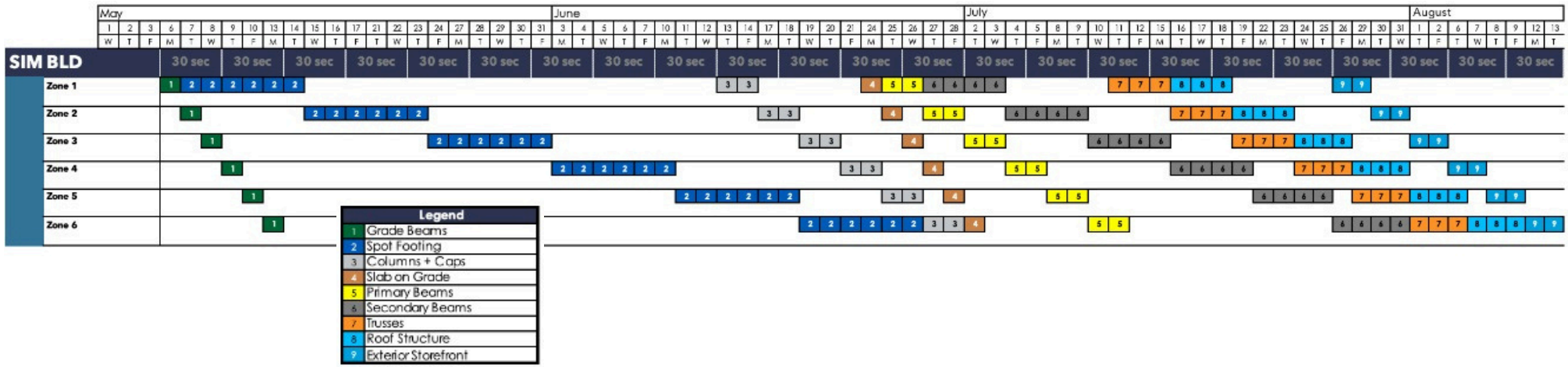
ROUND THREE
PLAN, BUILD, + CONTROL WITH TAKT

DISCUSS, DECIDE & SET GOALS AS A TEAM

1. What time will you achieve this round? (VOTE)
2. How will you zone it?
3. How many zones will you use?



SIMULATION TAKT PLAN



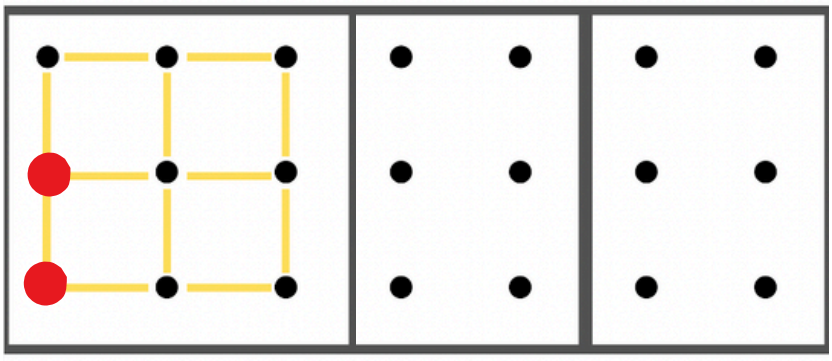


ROUND THREE
PLAN, BUILD, + CONTROL WITH TAKT

HOW TO SPLIT CREWS

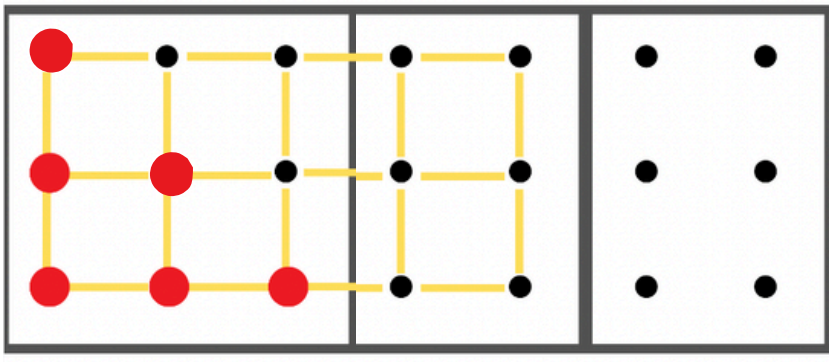
GB

TT 1



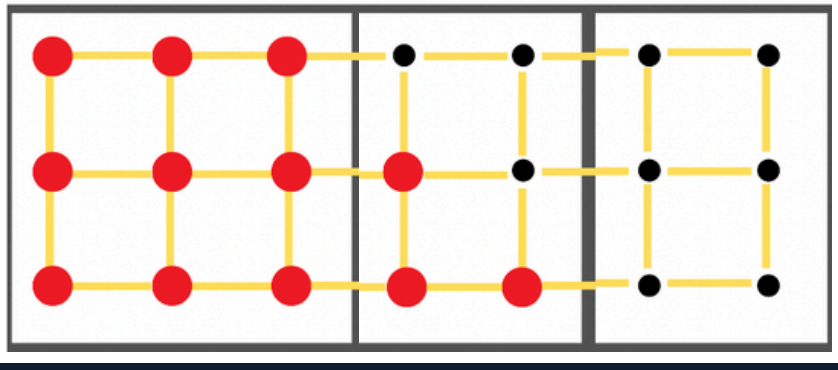
SF 1

TT 2



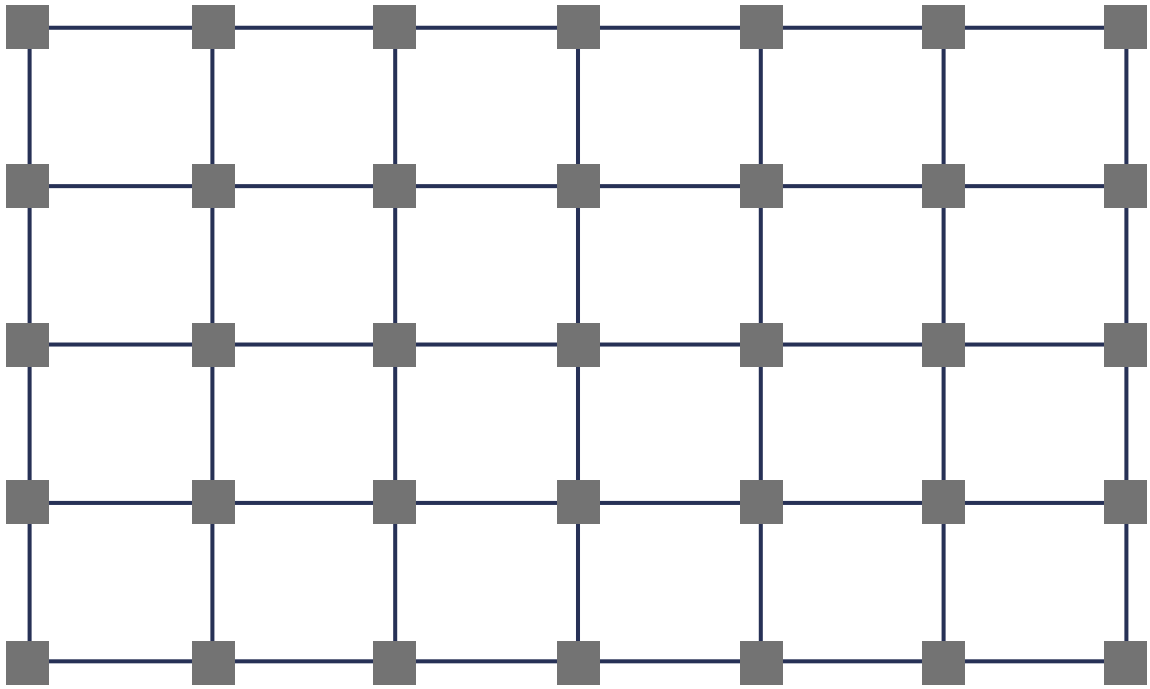
SF 2

TT 3



ROUND THREE
PLAN, BUILD, + CONTROL WITH TAKT

SEQUENCE & LOGISTICS + ZONES + YOUR GENIUS



Takt Wagon Packaging:

GRADE BEAMS –
SPOT FOOTINGS 1 –
SPOT FOOTINGS 2 –
COLUMNS–
COLUMN CAPS–
SOG / FLOOR–
PRIMARY BEAMS–
SECONDARY BEAMS 1 –
SECONDARY BEAMS 2 –
TRUSSES–
ROOF PANELS–
STOREFRONT/ WALLS–

Takt Time:

Notes:

ROLE DESCRIPTIONS:

Building Representative

1. Quality control building
2. Confirm completion
3. Ensure contractor is following the rules

Project Superintendent Role

1. Run the huddle
2. Make sure team is following rules
3. Maintain Takt control

General Superintendent Role

1. Keep overall time
2. Manage use of buffers
3. Teach the group

FOREMEN HUDDLE AGENDA:

1. Welcome
2. Safety prep & focus
3. Shout-outs
4. Last Takt time update
5. Prepare next Takt time
    a. Quality
        - First run study
        - Pre-con meeting
        - Mock-up
    b. Materials
    c. Roadblocks
    d. Logistics & staging
    e. Coordinate plan

NEXT STEPS TO IMPLEMENT:

RESOURCES:

Takt Planning



Programs and Projects

1. Program levels identified
2. Functional areas identified and teams separated
3. Program Master Schedule on-line for core team

Milestones

1. Start milestone set
2. Substantial Completion milestone set
3. Final Completion milestone set
4. Financial Completion milestone set

Phases

1. Phases are identified by functional area
2. All phases for project identified

Zones

1. Physical Constraints identified
2. Macro zones identified
3. Norm and backup zones identified
4. Work Density done by the Norm
5. Identify types of flow: work, logistical, trade
6. Identify Workable Backlog
7. Macro and Norm strategy is clear from calculator
8. Buffers gained

Takt Time

1. Start with 5-day for Macro
2. Go to shorter Takt times
3. Decide on Takt-time based or resourced based Takt planning
4. Do not use the weekends for the Takt time
5. Always have a macro, norm, and backup Takt time

Trains & Trade Flow

1. Start with reliable production data
2. Decide on single or multi-train packaging
3. Work Package for flow
4. Obey the rules of flow
5. Always pull plan for the Norm

Production Laws

1. Understand the Production Laws
2. Always be open to smaller zones
3. Level work
4. Reduce variation
5. Always know your bottlenecks
6. Always know your in-zone cycle time
7. Never add labor, work overtime, rush, push, panic, overstock, or stack or burden as a knee-jerk reaction

Buffers

1. Always plan with buffers
2. Always have 5-20% buffers in a sequence
3. Always have enough phase or project buffers to cover risks
4. Track your remaining buffer ratio throughout
5. Utilize supply chain and material inventory buffers
6. No sandbagging
7. Know constraints and roadblocks
8. Know recovery options

Interconnections

1. Always show key connections between phases.
2. Understand how interdependence ties affect the Path of Critical Flow

Independent Activities

1. Know your independent activities
2. Tie these activities to trains in phases
3. Understand the effect of these in the Path of Critical Flow
4. Consider these for optimization, pre-fab, or designing to the work package

Path of Critical Flow

1. Always know the Path of Critical Flow
2. Know the difference between a PCF and a critical path
3. Understand the ways to strategically optimize and project
4. Always know your Path of Critical Flow for different realized flow potential options

First Planner + Last Planner® Coordination

1. Prepare the production plan to produce the Look-ahead and Weekly Work Plan
2. Use First Planners to get the strategic plan, environment, and resources to the Last Planners® on time

Takt Production System®

ELEVATE CONSTRUCTION LLC

Takt Planning-A TPS® Audit



Project Name: **Date:**

Auditor: **Total Score:**

PROGRAMS AND PROJECTS SECTION SCORE:

System Component	Score 1-5	Comments
Program levels have been identified.		
Functional areas are identified and teams are separated.		
Program Master Schedule is on-line for the core team.		

MILESTONES SECTION SCORE:

Start milestone is set.		
Substantial Completion milestone is set.		
Final Completion milestone is set.		
Financial Completion milestone is set.		

PHASES SECTION SCORE:

Phases are identified by functional area.		
All phases for project identified		

ZONES SECTION SCORE:

Physical Constraints are identified.		
Macro zones are identified.		
Norm and backup zones are identified.		
Work Density done by the Norm stage.		
Identify types of flow: work, logistical, trade.		
Identify Workable Backlog.		
Macro and Norm strategy is clear from calculator.		
Buffers have been gained.		

TAKT TIME		SECTION SCORE:
Start with 5-days for the Macro.		
Go to shorter Takt times; use the calculator.		
Decide on Takt-time based or resourced based Takt planning.		
Do not use the weekends for the Takt time-ever!		
Always have a macro, norm, and backup Takt time; use the calculator to find strategies.		

TRAINS & TRADE FLOW		SECTION SCORE:
Start with reliable production data.		
Decide on single or multi-train packaging.		
Work Package for flow.		
Obey the rules of flow.		
Always pull plan for the Norm!		

PRODUCTION LAWS		SECTION SCORE:
Understand the Production Laws and how they apply.		
Always be open to smaller zones.		
Level the work.		
Always know your bottlenecks.		
Always know your in-zone cycle time		
Never add labor, work overtime, rush, push, panic, overstock, or stack or burden as a knee-jerk reaction.		

BUFFERS		SECTION SCORE:
Always plan with buffers.		
Always have 5-20% buffers in a sequence.		
Always have enough phase or project buffers to cover risks.		
Track your remaining buffer ratio throughout.		

Utilize supply chain and material inventory buffers.		
No sandbagging.		
Know the constraints and roadblocks.		
Understand your recovery options.		

INTERCONNECTIONS		SECTION SCORE:
Always show key connections between phases.		
Understand how interdependence ties affect the Path of Critical Flow		

INDEPENDENT ACTIVITIES		SECTION SCORE:
Know your independent activities.		
Tie these activities to trains in phases.		
Understand the effect of these in the Path of Critical Flow.		
Consider these for optimization, pre-fab, or designing to the work package.		

PATH OF CRITICAL FLOW		SECTION SCORE:
Always know the Path of Critical Flow.		
Know the difference between a PCF and a critical path.		
Understand the ways to strategically optimize and project.		
Always know your Path of Critical Flow for different realized flow potential options.		

FIRST PLANNER + LAST PLANNER® COORDINATION		SECTION SCORE:
Prepare the production plan to produce the Look-ahead and Weekly Work Plan.		
Use First Planners to get the strategic plan, environment, and resources to the Last Planners® on time.		

Takt Steering & Control



Constraints

1. Understand Resource, Zone, WIP, and Behavioral Constraints
2. Post the Constraint Problem Solving poster on the conference wall
3. Remove overburden from people and resources onsite
4. Do not overreact to schedule impacts by adding excess labor
5. Do not overreact to schedule impacts by bringing out too many materials to the place of work
6. Align WIP to the capacity of resources
7. Never rush, push, and panic
8. Always follow Goldratt's Rules of Flow
9. Build the job right from the start and you won't have to worry about a court case

Roadblocks

1. Understand Zone and Supply Roadblocks
2. Post the Roadblock Problem Solving boards on the conference room wall

Meeting System

1. Create your flow of meetings on a cadence
2. Implement a Team Weekly Tactical where you create team coverage and tackle hot items
3. Implement a Strategic Planning and Procurement Meeting where you view the Macro and manage Procurement
4. Always level the work in your procurement log
5. Implement the Trade Partner Weekly Tactical where you do look-ahead planning and create your weekly work plan
6. Implement a daily Afternoon Foremen Huddle to plan work for the next day
7. Host a daily Morning Worker Huddle to create one social group and create a culture of operational excellence
8. Post your Takt Steering & Control boards on your conference room wall with visuals & red roadblocks
9. Encourage Crew Preparation Huddles for crews to see the plan in their zone and make improvements in one progress flow

Zone Control

1. Coordinate zone control handoff walks in the Afternoon
2. Foremen Huddle the day before
3. Use the WWP and Day Play to walk key handoffs for the day. Split them between which ones the project delivery team will monitor vs. trade monitored handoffs
4. Bring all information to that day's Afternoon Foremen Huddle for discussion. Mark roadblocks on Takt Steering and Control boards

Delay Management

1. Bring massive issues from Zone Control walks to the Team Daily Huddle
2. Identify in the Team Daily Huddle and Afternoon Foremen Huddle the root cause of the issue
3. Utilize the Problem Solving boards on the wall to make a plan of action
4. Never sacrifice the flow of the project. Make correction according to production science

Accountability

1. Implement zero tolerance systems onsite for cleanliness, safety, and organization
2. Implement a Daily Correction System
3. Enforce Quality at the Source
4. Start Contractor Grading systems
5. Begin scoring your Team Health Score monthly

*These are a part of the overall IPCS™.

KPIs

1. Begin tracking the percentage of Pre-Con Meetings held and percentage of Critical Crews Installing with a Visual Checklist
2. Track your Remaining Buffer Ratio
3. Track your Perfect Handoff Percentage
4. Track your Percent Planned Complete
5. Track your Roadblock Removal Average

Quality and Continuous Improvement

1. Use the Takt framework for Kaizen at the project and crew level
2. Implement the Trade Partner Preparation (TP3) to get quality and safety right from the start

Takt Steering & Control- A TPS® Audit



Project Name: **Date:**

Auditor: **Total Score:**

CONSTRAINTS SECTION SCORE:

System Component	Score 1-5	Comments
Understand Resource, Zone, WIP, and Behavioral Constraints.		
Post the Constraint Problem Solving poster on the conference wall.		
Remove overburden from people and resources onsite.		
Do not overreact to schedule impacts by adding excess labor.		
Do not overreact to schedule impacts by bringing out too many materials to the place of work.		
Align WIP to the capacity of resources.		
Never rush, push, and panic.		
Always follow Goldratt's Rules of Flow.		
Build the job right from the start and you won't have to worry about a court case		

ROADBLOCKS SECTION SCORE:

Understand Zone and Supply Roadblocks, and the difference between them.		
Post the Roadblock Problem Solving boards on the conference room wall.		

MEETING SYSTEM		SECTION SCORE:
Create your flow of meetings on a cadence.		
Implement a Team Weekly Tactical where you create team coverage and tackle hot items.		
Implement a Strategic Planning and Procurement Meeting where you view the Macro and manage procurement.		
Always level the work in your procurement log.		
Implement the Trade Partner Weekly Tactical where you do look-ahead planning and create your weekly work plan.		
Implement a daily Afternoon Foremen Huddle to plan work for the next day. It must be in the afternoon.		
Host a daily Morning Worker Huddle to create one social group and create a culture of operational excellence.		
Post your Takt Steering & Control boards on your conference room wall with visuals and red roadblocks.		
Encourage Crew Preparation Huddles for crews to see the plan in their zone and make improvements in one progress flow.		

ZONE CONTROL		SECTION SCORE:
Coordinate zone control handoff walks in the afternoon; quality is measured at each handoff.		
Foremen Huddle the day before.		
Use the WWP and Day Play to walk key handoffs for the day. Split them between which ones the project delivery team will monitor vs. trade monitored handoffs.		
Bring all information to that day's Afternoon Foremen Huddle for discussion. Mark roadblocks on Takt Steering and Control boards		

DELAY MANAGEMENT		SECTION SCORE:
Bring large issues from Zone Control walks to the Team Daily Huddle.		
Identify in the Team Daily Huddle and Afternoon Foremen Huddle the root cause of the issue.		
Utilize the Problem Solving boards on the wall to make a plan of action.		
Never sacrifice the flow of the project. Make corrections according to production science.		

ACCOUNTABILITY		SECTION SCORE:
Implement zero tolerance systems onsite for cleanliness, safety, and organization.		
Implement a Daily Correction System.		
Enforce Quality at the Source.		
Start Contractor Grading systems.		
Begin scoring your Team Health Score monthly. *This is part of the overall IPCS™		

KPIS		SECTION SCORE:
Begin tracking the percentage of Pre-Con Meetings held and percentage of Critical Crews installing with a Visual Checklist.		
Track your Remaining Buffer Ratio.		
Track your Perfect Handoff Percentage.		
Track your Percent Planned Complete.		
Track your Roadblock Removal Average.		

QUALITY AND CONTINUOUS IMPROVEMENT		SECTION SCORE:
Use the Takt framework for Kaizen at the project and crew level.		
Implement the Trade Partner Preparation (TP3) to get quality and safety right from the start.		

DAY THREE
EXAMPLE

VALUES

BE TRANSPARENT, CREATE RESPECT, BUILD PEOPLE, DO THE RIGHT THING, GIVE FIRST

STRENGTHS

POSITIVE COMMUNICATION, LEADER OF PEOPLE, DEVELOPING POTENTIAL OR COACHING, CONTEXTUAL LEARNING + TEACHING, CONNECTION

MISSION- 100 YEAR GOAL

To become a general superintendent in my company and develop training programs for all other superintendents in the company. To develop enough personal wealth to start all of my children with businesses so they can continue the family legacy of giving and contribution.

5 - 10 YEAR

To learn the position of senior superintendent and to learn everything I can about project scheduling and project controls within the next 5 years.

NEXT MILESTONE 6-18 MONTHS

Become proficient with project scheduling in the next 10 months.

DEFINING GOALS

1. Take a Takt planning control course and achieve Takt Master Certification/ Master Scheduling.
2. Actively create and update current project schedule and provide the weekly and monthly schedule updates.
3. Get a mentor from another Sr Super and shadow them in their scheduling process.
4. Reflect on the success of the schedule and improve on any mistakes that were made.
5. Learn the Last Planner® System and become proficient at pull planning.

DAY THREE
CLARITY: MISSON + VALUES + ACTIONS

VALUES

STRENGTHS

MISSION- 100 YEAR GOAL

5 - 10 YEAR

NEXT MILESTONE 6-18 MONTHS

DAY THREE
CLARITY: MISSON + VALUES + ACTIONS

DEFINING GOALS

1

2

3

4

5

What is fulfillment?

What is success?

DAY NOTES:

DAY NOTES:

DAY Four

LAST PLANNER® DAY

DAY FOUR

TRAINING OVERVIEW

	TRAINING
	LUNCH
	TRAINING

TOPICS

- NAME TAGS
- SAFETY, LOGISTICS & STRETCH
- MORNING ROUTINE
- DAY PLANNER
- PLUS & DELTA
- PULL PLAN
- REMAINING TAKT TRAINING
- NORM TAKT PLAN UPDATE
- RE-ZONING VISUALIZATION
- RISKS & PRE-CON ALIGN
- MEETINGS (TEAM, SPPM, TPWT, AFH, WH)
- SOLVE THE PROBLEM

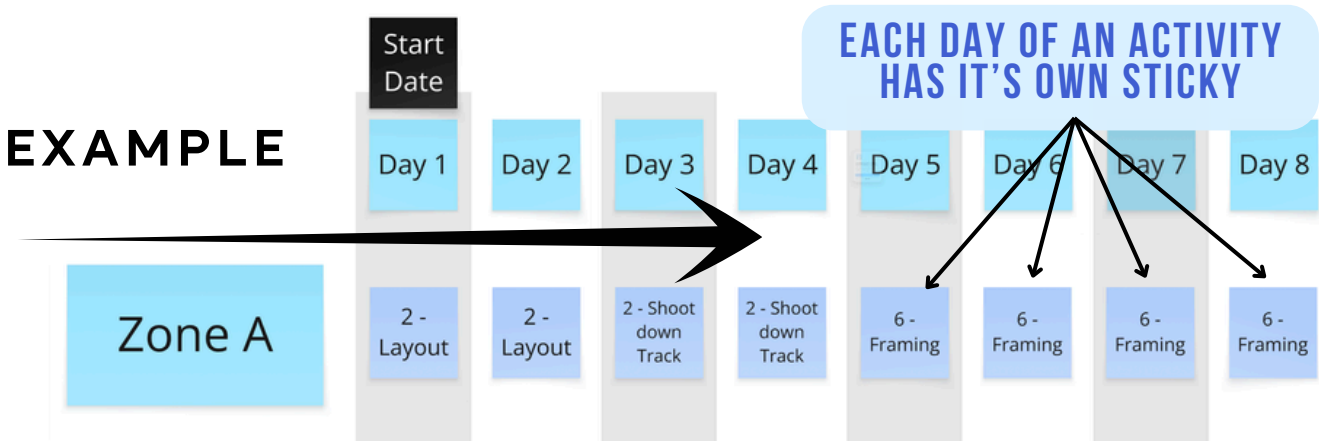
TODAY'S CHECKLIST ☑

- ☐ COMMUNICATE ANY SAFETY NEEDS
- ☐ STRETCH AND FLEX
- ☐ CONFIRM HOMEWORK IS CAUGHT UP
- ☐ ARE YOU HELPING YOUR TEAM GET BACK ON TIME?
- ☐ FILL OUT DAY 4 OF PERSONAL ORGANIZATION PLANNER
- ☐ PARTICIPATE IN THE PULL PLAN
- ☐ PARTICIPATE WITH INTAKT
- ☐ MAKE SURE YOU UNDERSTAND RECOVERY ITEMS
- ☐ MAKE SURE YOU UNDERSTAND THE MEETING SYSTEM
- ☐ ARE YOU TAKING GOOD NOTES?
- ☐ HELP BUILD TEAM WITH LEAN VIDEO
- ☐ KEEP YOUR AREA CLEAN
- ☐ SPEAK UP DURING THE DAY
- ☐ RAISE YOUR HAND AND ANSWER A QUESTION
- ☐ COMPLIMENT A TEAM MEMBER
- ☐ CONSIDER WRITING "NEXT STEP" NOTES
- ☐ VOTE FOR THE ALPHA
- ☐ TIDY UP NOTES IN THE BACK
- ☐ HOMEWORK FOR DAY 4

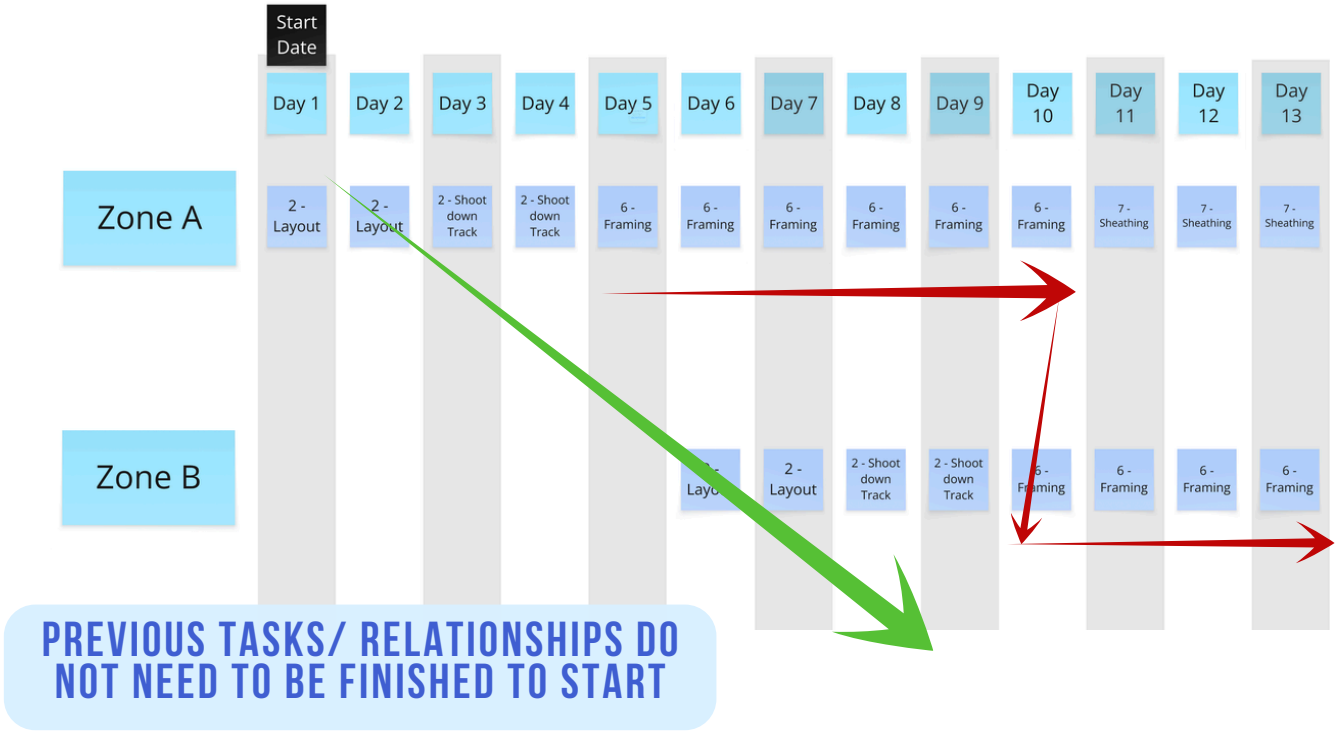
IF ALL ARE CHECKED BY END OF DAY HONESTLY, YOU GET ONE POINT FOR YOUR TEAM.

BEGIN THE FORWARD PASS

Once you have confirmed your zone count, the facilitator invites the company with the first activity in the sequence to place their sticky note on the board. They will announce the activity, the duration, and the worker count if they have it. These activity durations should be given based on historical data when possible. The next trade will announce their activity, with the duration and worker count. This will continue until the milestone is reached.

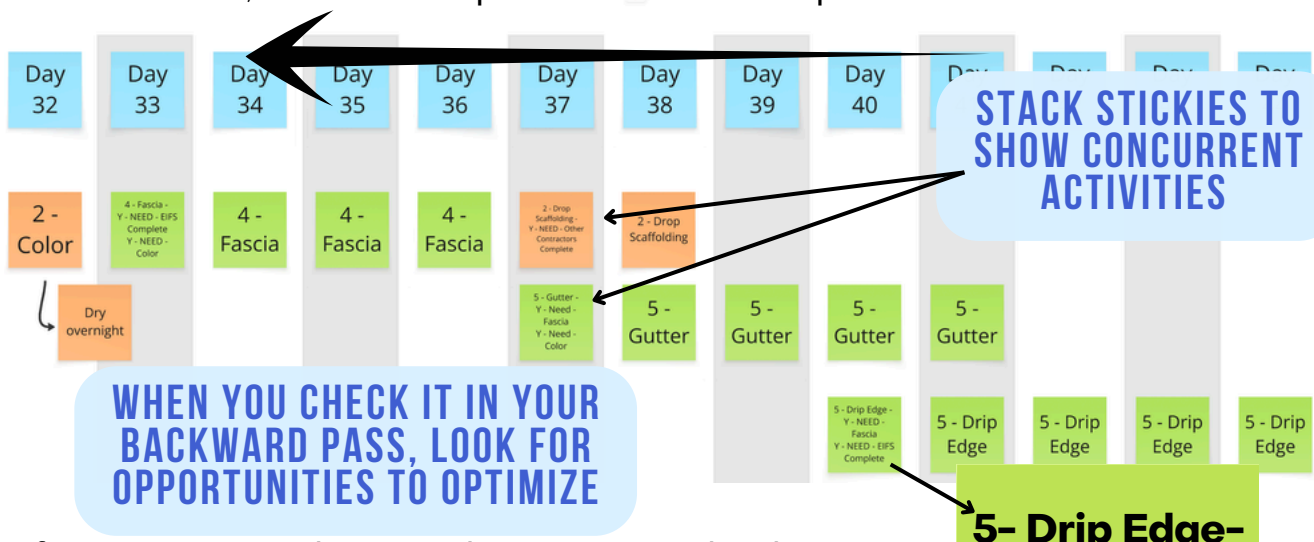


Once the forward pass is done, the facilitator will copy down the sequence to its most obvious Takt time or the one identified in the calculator. Then discuss with each trade how well that works for them in their flow from zone to zone to zone. The **continuity and flow in** the zone is not the focus; what is important to the production plan is to have flow **from zone to zone**.



PERFORM A BACKWARD PASS

Once the Takt time is set and trades have discussed flow gaps and overlaps to their satisfaction, the next step is to work the sequence backwards.



The focus is to explore each activity and ask each trade for needs or predecessors. Once they declare **at least two**, the facilitator confirms that sticky notes exist to the left that will satisfy those needs. If no sticky note exists, ask how the need can be met and who can meet it. If the need is already met, check the box or type a Y on the needs sticky. Before moving to the next activity to the left, **all needs must be met**. In this way, every trade gets what they need and the sequence can be completed.

When the forward and backward passes are completed, copy down the final sequence to all four zones on the Takt time and confirm it hits the milestone. If you are pull planning right, you will always gain time here and be ahead of the milestone. If you missed the milestone, look for opportunities for concurrency, overlap, and resource leveling. We will cover troubleshooting in the next section.



PULL PLANNING– EXCERPTS FROM *TAKT PLANNING*

- **REMOVE RE-SHORES**
- **FINAL PATCH CEILING**
- **SWEEP FLOOR**
- **REFRESH CONTROL LINES**
- **LAYOUT WALLS**
- **INSTALL FIRE SPRINKLER MAIN & BRANCH LINES**
- **INSTALL PRIORITY WALLS INCLUDING ELEC & COMM ROOMS**
- **INSTALL OVERHEAD MECHANICAL DUCT**
- **INSTALL OVERHEAD MECHANICAL EQUIPMENT**
- **INSTALL OVERHEAD MECHANICAL PIPING**
- **INSTALL OVERHEAD MECHANICAL BRANCH LINES**
- **INSTALL OVERHEAD PLUMBING**
- **INSTALL OVERHEAD ELECTRICAL**
- **FRAME ALL WALLS**
- **INSTALL IN-WALL ELECTRICAL**
- **INSTALL IN-WALL PLUMBING**
- **INSTALL IN-WALL PROCESS PIPING**
- **ONE-SIDE DRYWALL**
- **IN-WALL INSPECTIONS**
- **PLACE INSULATION**
- **SECOND SIDE DRYWALL**
- **TAPE, BED, & FINISH WALLS**
- **PRIME, 1ST & 2ND COAT PAINT**
- **INSTALL CEILING GRID**
- **INSTALL LIGHTS & ELECTRICAL FIXTURES**
- **INSTALL MECHANICAL CEILING DROPS**
- **ALL REMAINING CEILING DROPS**
- **INSTALL CASEWORK**
- **INSTALL COUNTERTOPS**
- **MILLWORK PLUMBING FIXTURE INSTALL**
- **FINAL PAINT (POSSIBLE)**
- **INSTALL WALL & CASEWORK FIXTURES**
- **PLACE CEILING TILES**
- **INSTALL FLOORING**
- **FINAL PAINT**
- **FINAL CLEAN FIRST PASS**
- **INCOMPLETE WORK LIST**
- **ARCHITECT PUNCHLIST**
- **CORRECTIONS**
- **FINAL CLEAN**

Once you have your list of activities, it's best practice to find production rates for each activity from historical information, past experience from trade partners, and your builder experience. You may not have this information available. If that is the case, do your best according to this scale —

- **Good** - Use your builder guess.
- **Better** - Use your builder guess with the experience of the trades.
- **Best** - Estimate with trades and use historical data based on quantities.

To find accurate durations for our activities per zone, the LeanTakt team created this duration calculator which divides the overall duration for the floor by the number of zones. This is how we isolate the duration for one zone.

DURATION PER ZONE

Type in your # of zones and it will automatically calculate the columns based on the duration per floor: # of Zones: 11

Activity List:	Duration per Floor:	No. of Zones	Crew Count:	Duration per Zone:	Duration / Zone (Days)
Remove re-shores	5	11	4	0.45	1
Final patch ceiling	10	11	3	0.91	1
Sweep floor	3	11	2	0.27	1
Refresh control lines	3	11	3	0.27	1
Layout walls	5	11	3	0.45	1
Install fire sprinkler main and branch lines	15	11	4	1.36	2
Install priority walls including elec and comm rooms	9	11	6	0.82	1
Install overhead mechanical duct	25	11	8	2.27	3
Install overhead mechanical equipment	10	11	4	0.91	1
Install overhead mechanical piping	10	11	4	0.91	1
Install overhead mechanical branch lines	10	11	4	0.91	1
Install overhead plumbing	9	11	6	0.82	1
Install overhead electrical	15	11	7	1.36	2
Frame all walls	15	11	6	1.36	2
Install in-wall electrical	15	11	6	1.36	2
Install in-wall plumbing	15	11	4	1.36	2
Install in-wall process piping	8	11	2	0.73	1
One-side drywall	12	11	4	1.09	2
In-wall inspections	5	11	2	0.45	1
Place insulation	5	11	2	0.45	1
Second side drywall	12	11	4	1.09	2
Tape, bed, and finish walls	12	11	4	1.09	2
Prime, 1st & 2nd coat paint	15	11	4	1.36	2
Install	15	11	3	1.36	2
Install	20	11	6	1.82	2
Install	5	11	2	0.45	1
All rem	5	11	2	0.45	1
Install	20	11	4	1.82	2
Install	9	11	3	0.82	1
Millwo	6	11	2	0.55	1
Final p	7	11	3	0.64	1
Install wall and casework fixtures	7	11	3	0.64	1
Place ceiling tiles	4	11	1	0.36	1
Install flooring	15	11	4	1.36	2
Final paint	6	11	2	0.55	1
Final clean first pass	5	11	3	0.45	1
Incomplete work list	10	11	2	0.91	1
Architect punchlist	10	11	2	0.91	1
Corrections	10	11	4	0.91	1
Final clean	5	11	3	0.45	1

THIS COMES FROM HISTORICAL INFO BASED ON PROJECT QUANTITIES

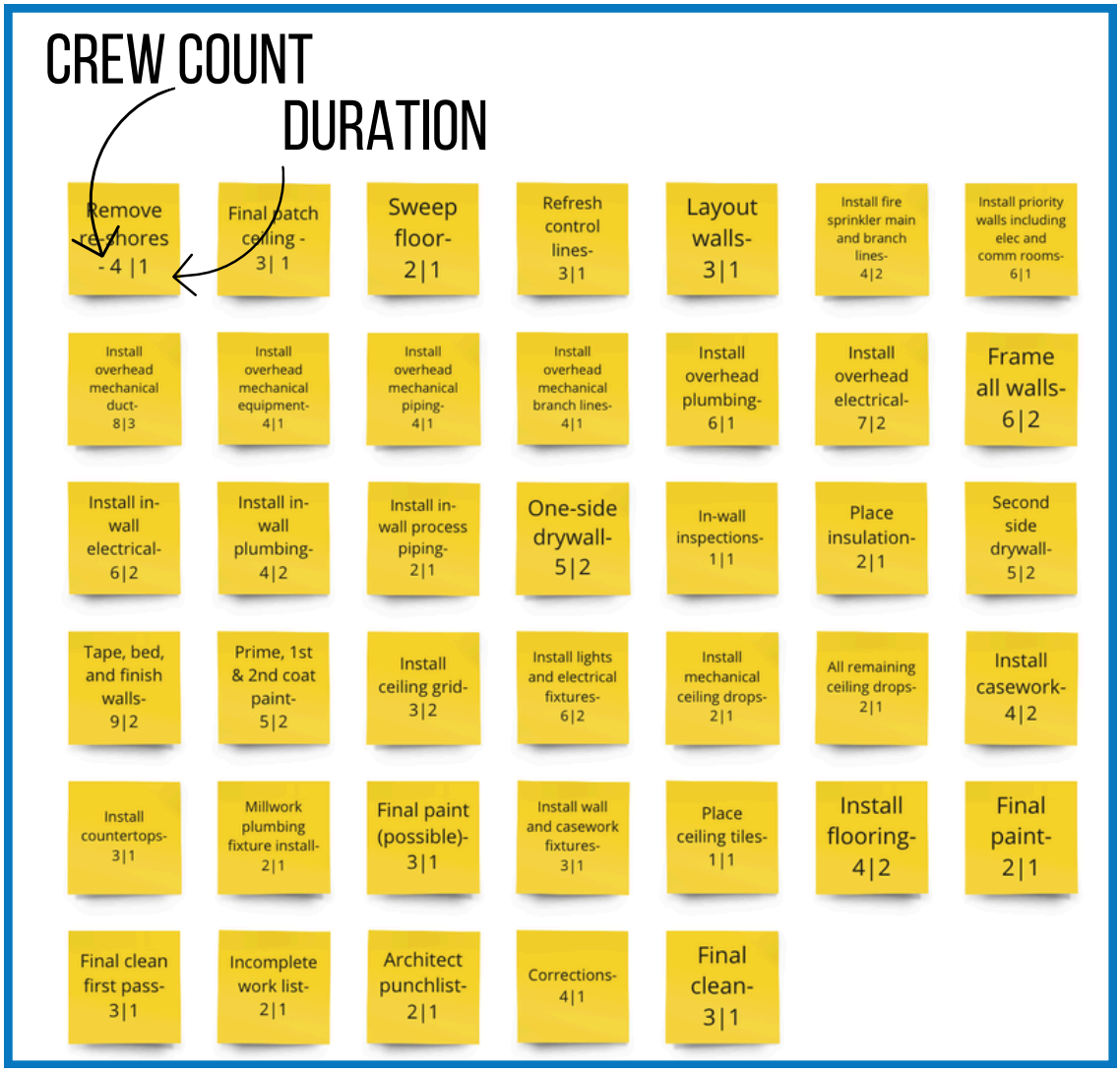
NOW WE HAVE THE ADJUSTED DURATION FOR THE # OF ZONES

It's a best practice to find production rates for the entire floor or phase. You, your trades, and others will do better guessing the overall duration for an activity in larger batches. The durations can be divided later based on your zone count. Whatever approach you take, get the most accurate durations for the zoning strategy you have chosen.

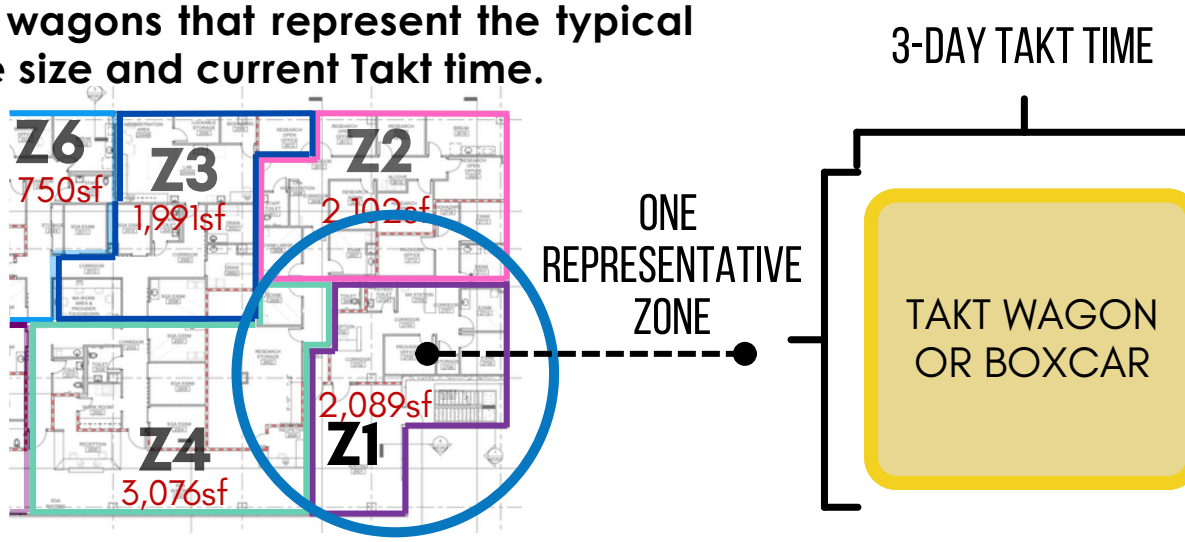


PEOPLE ARE TERRIBLE AT ESTIMATING HOW LONG THINGS TAKE, SO USE HISTORICAL DATA WHEN POSSIBLE.

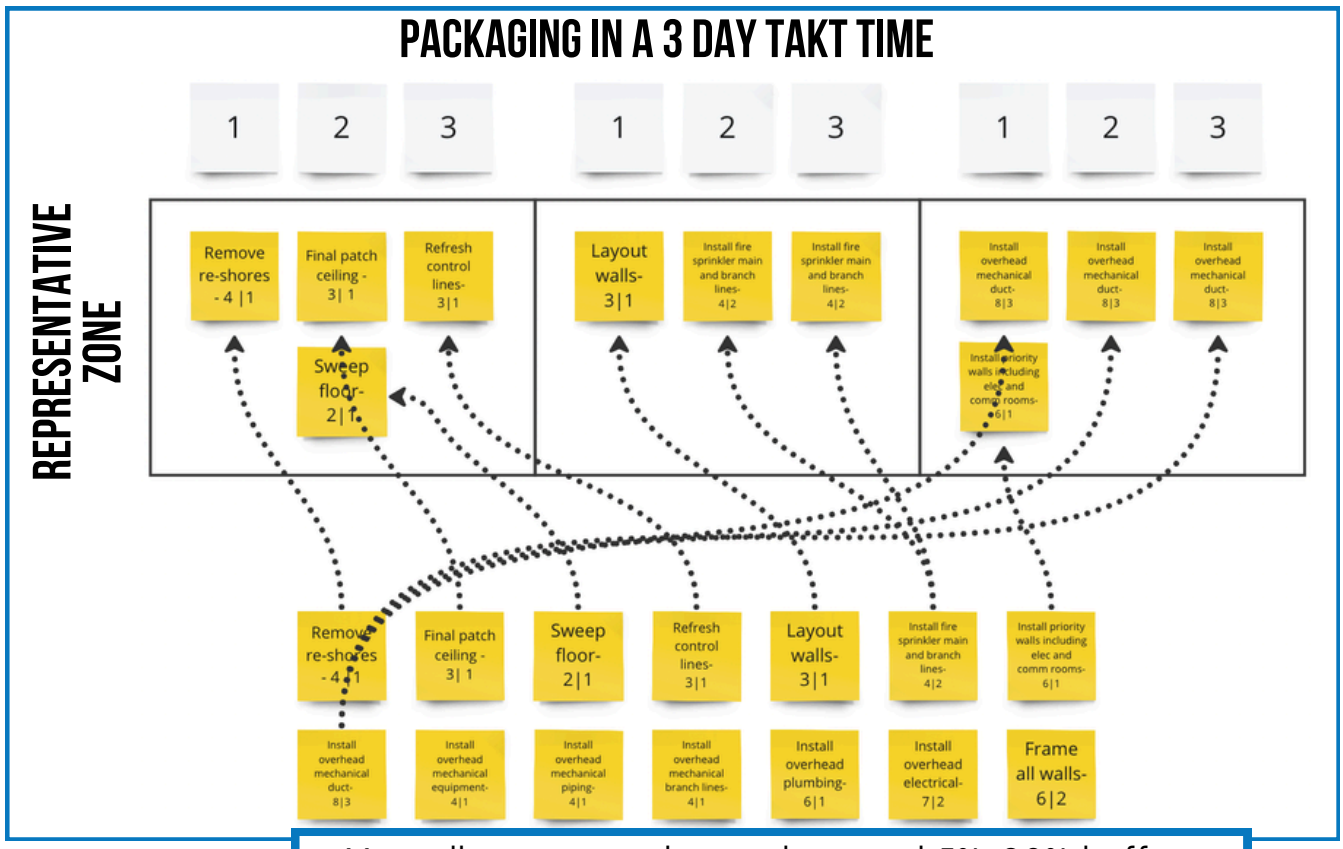
My preferred method for work packaging is to create sticky notes on the wall or in Miro (or similar app) and visually display the packaging strategy. We'll transfer the data from the activity list to stickies at this point.



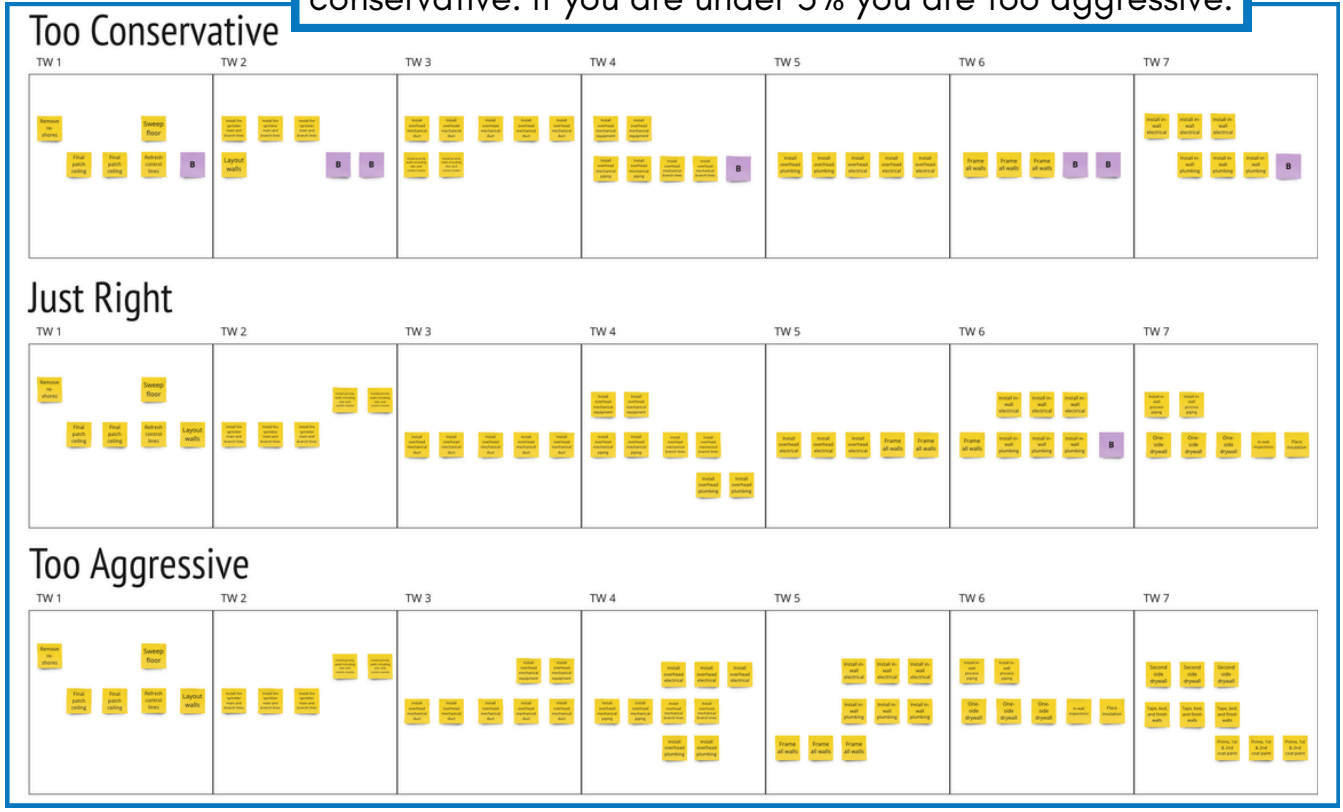
Begin packaging the activities into Takt wagons that represent the typical zone size and current Takt time.



You will package the activities into the Takt wagons visually so they naturally fit within the same Takt time and same zone.



You will want to end up with around 5%-20% buffers within the sequence, like the pictures show below. If you are over 20% buffers in the sequence, you are likely too conservative. If you are under 5% you are too aggressive.



BUILD YOUR LEGO BRICK TEMPLATE

ACTIVITY CODE AND NAME

DURATION BASIS / HISTORICAL REFERENCE SAME OR SIMILAR ACTIVITY FROM A PREVIOUS PROJECT
CREWS: _____, CREW SIZE: _____, UNITS/DAY:_____ CONFIDENCE LEVEL: HIGH / MEDIUM / LOW

CONSIDERATIONS FROM PREVIOUS EXPERIENCES

Describe special considerations here and provide actual data for the information you have added.

CURRENT PROJECT CONDITIONS & CONSTRAINTS

CREWS # DURATION PER ZONE

CREW SIZE #

BUILDING DURATION #

FLOOR DURATION #

FASTEST #

MEDIAN #

SLOWEST #

OVERLAP ALLOWED #

POTENTIAL OPTIONS FOR SAFE ACCELERATION

This is where the Trade Partner explains any options to accelerate that will not hurt people.

ZONE MAP

ELEVATE CONSTRUCTION LLC



DAY FOUR
PULL PLANNING

NEXT STEPS TO IMPLEMENT:

RESOURCES:

Start your journey and see how our easy-to-use features bring your project to life.

inTakt

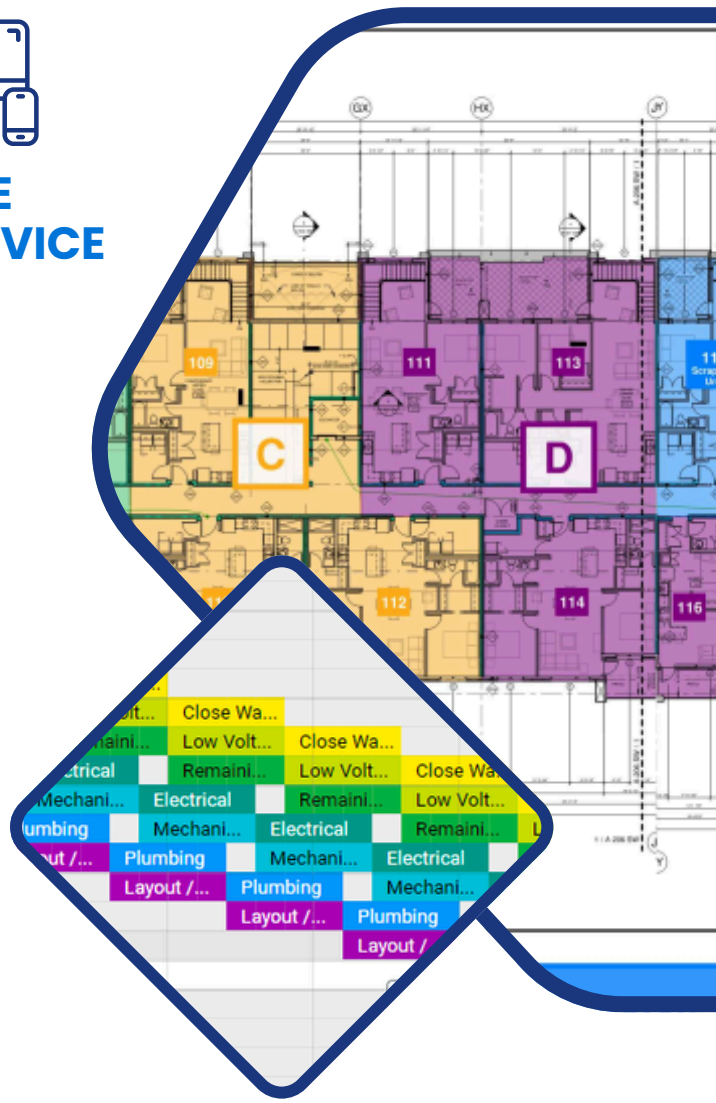
SAVE TIME

EASY TO USE

USE ANY DEVICE

Build with FLOW

Discover how **inTakt** can help your team plan, build, and monitor flow on your project.



Three Easy Steps:

DEFINE TAKT ZONES

- Floor 1
  - Area 1
  - Area 2
- Floor 2
  - Area 1
  - Area 2

IDENTIFY TASKS

- Framing
- Plumbing
- Electrical
- Drywall
- Paint

SET PARAMETERS

Work Week

M T W T F S S

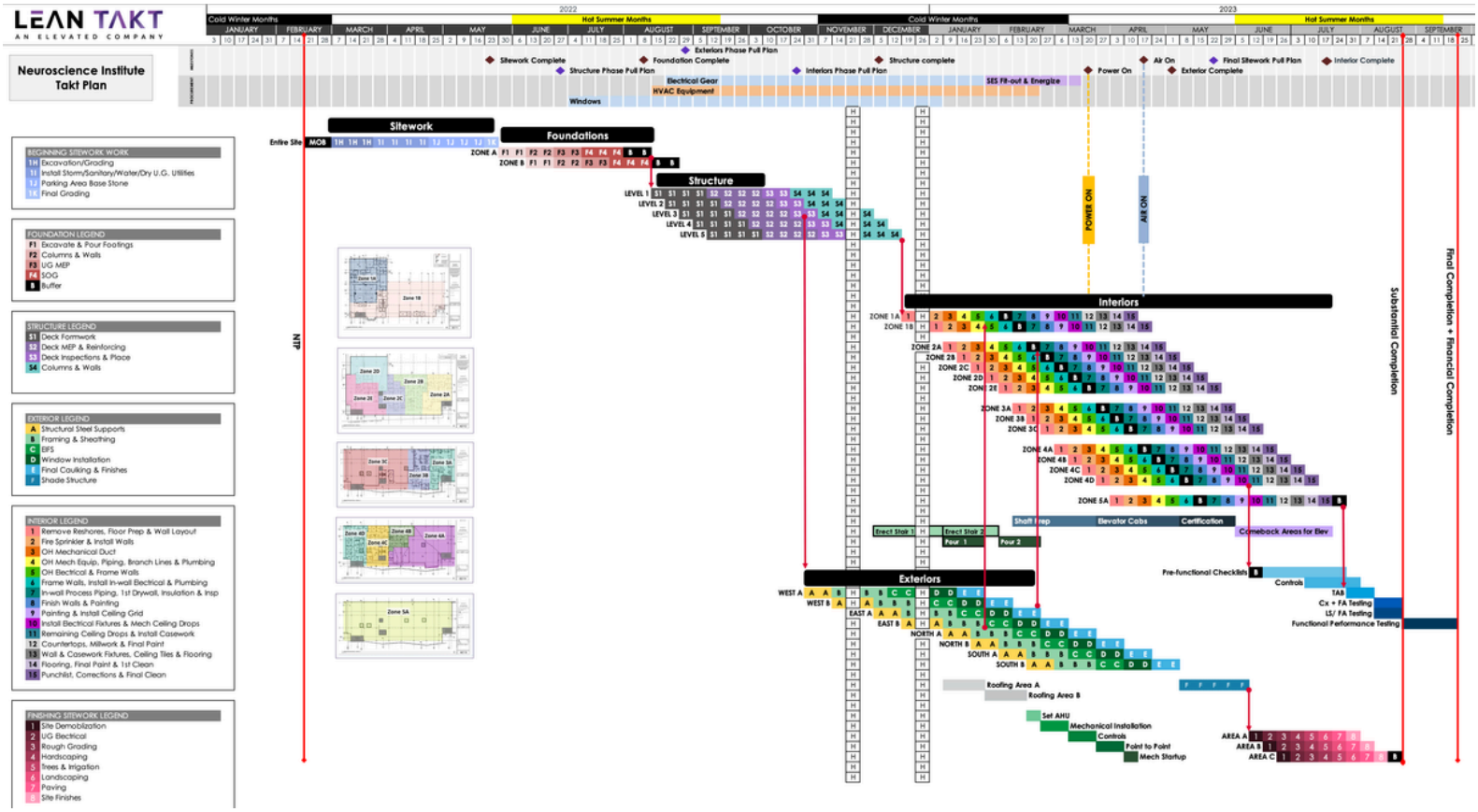
Takt Period

3

Start Day

Sept 4, 2025

DAY FOUR
TAKT PLANNING



First Macro Iteration/ Original Guess

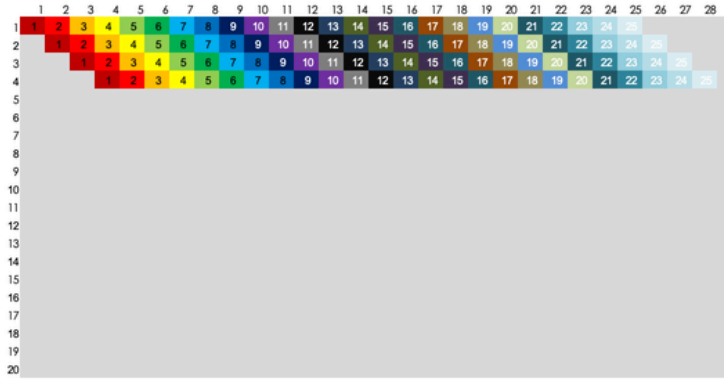
Takt Inputs	
Takt Wagons	25
Takt Zones	4
Takt Time	5
Duration	140

Selected Macro	
New Wagons Count	20
Adjusted Takt Zones	5
Takt Time	5
Duration	120

NAO = Not an Option

Takt Zones	Norm Takt Time	Takt Wagons Adjusted	Takt Level	Macro Duration	Realized Flow Potential	4
2	10	50	NAO	255	17%	
3	7	35	NAO	185	23%	
4	5	25	Macro	140	31%	
5	4	20	Macro	120	38%	x
6	4	20	Macro	125	37%	
7	3	15	Macro	105	47%	
8	3	15	Macro	110	46%	
9	3	15	Macro	115	44%	
10	2	10	NAO	95	65%	
11	2	10	NAO	100	63%	
12	2	10	NAO	105	61%	
13	2	10	NAO	110	59%	
14	2	10	NAO	115	58%	
15	2	10	NAO	120	56%	
16	2	10	NAO	125	55%	
17	2	10	NAO	130	54%	
18	2	10	NAO	135	52%	
19	2	10	NAO	140	51%	
20	1	5	NAO	120	100%	
21	1	5	NAO	125	98%	
22	1	5	NAO	130	96%	
23	1	5	NAO	135	94%	
24	1	5	NAO	140	92%	
25	1	5	NAO	145	90%	
26	1	5	NAO	150	88%	
27	1	5	NAO	155	86%	
28	1	5	NAO	160	85%	
29	1	5	NAO	165	83%	
30	1	5	NAO	170	81%	
31	1	5	NAO	175	80%	
32	1	5	NAO	180	79%	
33	1	5	NAO	185	77%	
34	1	5	NAO	190	76%	
35	1	5	NAO	195	75%	
36	1	5	NAO	200	73%	
37	1	5	NAO	205	72%	

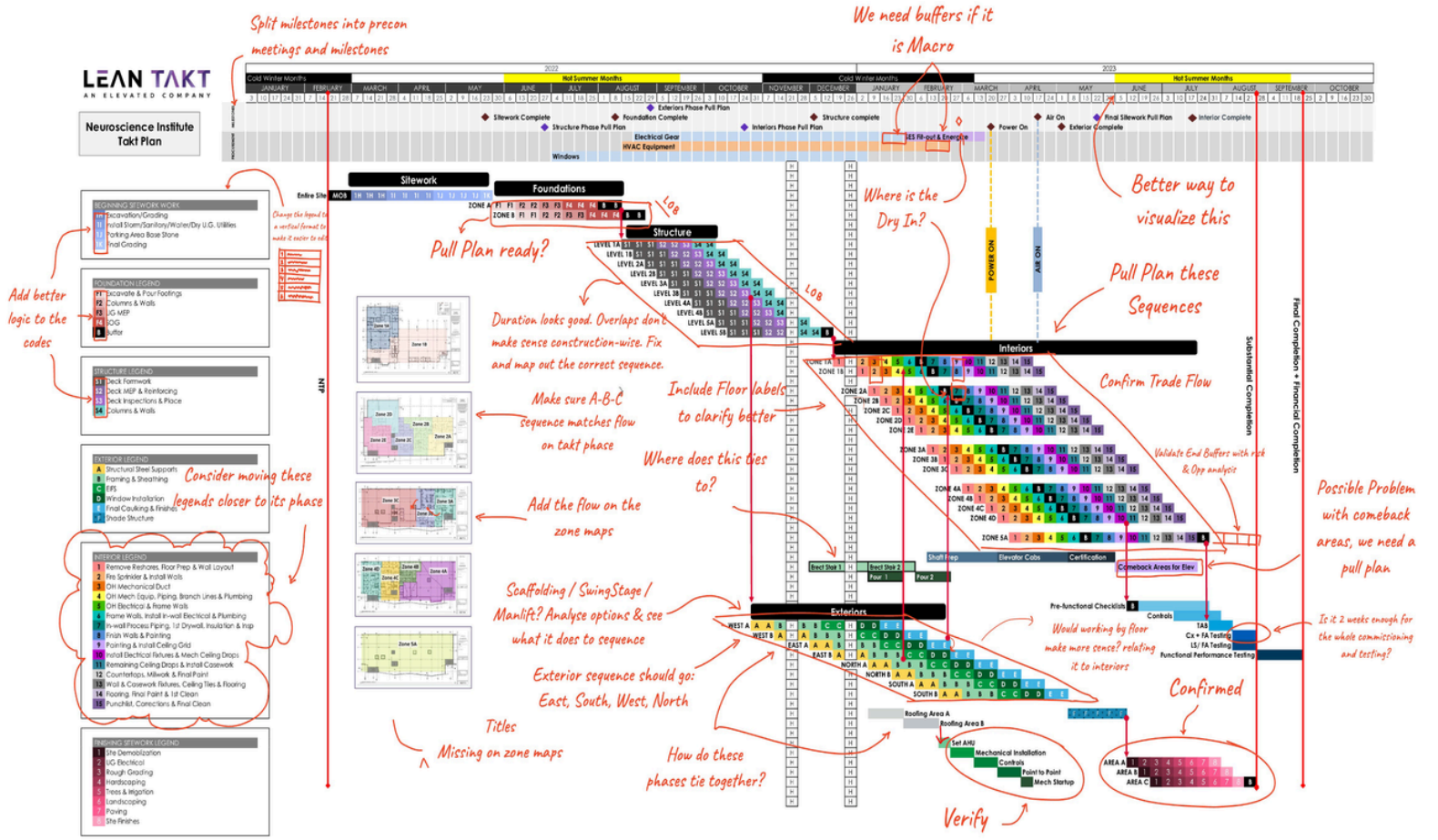
1st Macro Iteration/Original Guess

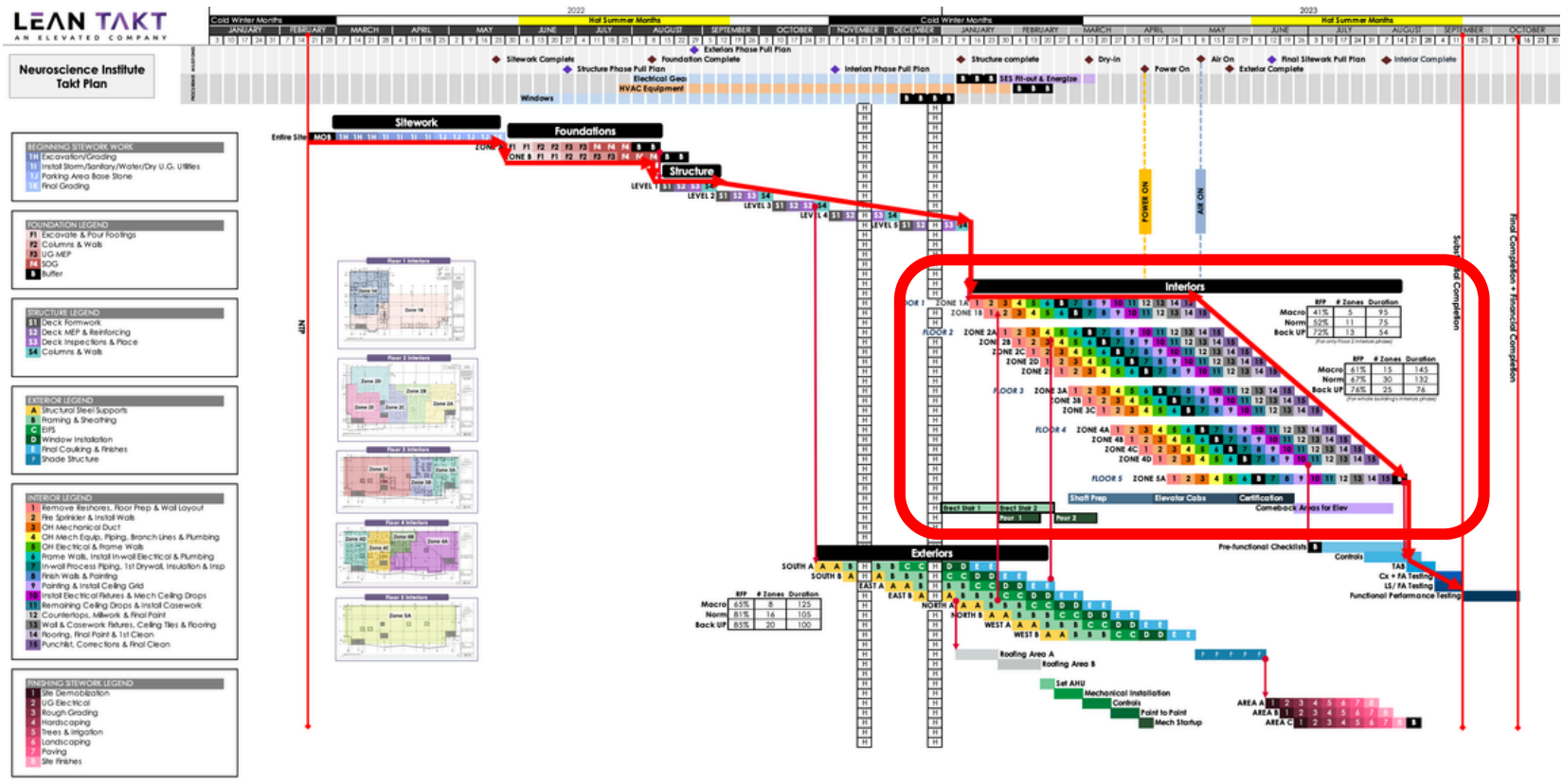


Competitive and Fair Macro Simulation



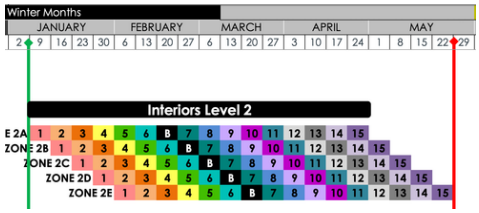
DAY FOUR
TAKT PLANNING





DAY FOUR
TAKT PLANNING

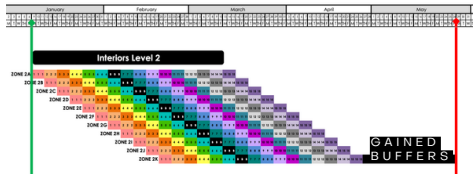
MACRO LEVEL TAKT PLAN



Slowest Speed + Risk Analysis + Reference Class

= **Contractual Promise**

NORM LEVEL TAKT PLAN



Optimized Speed + Risk Mitigation Strategies + Reference Class Mitigation Strategies + Buffers

= **Production Target**

YOU CAN SHORTEN YOUR PHASE DURATION BY ADJUSTING YOUR ZONES.

ONCE YOU KNOW HOW MANY ZONES YOU NEED BY CALCULATING THEM...

Optimize the Takt Phase

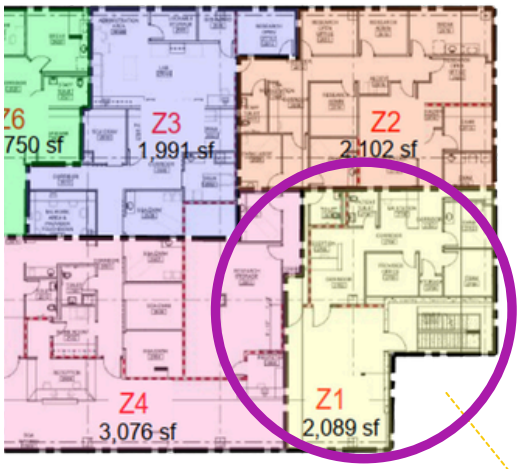
Takt Inputs	
Takt Wagons	15
Takt Zones	5
Takt Time	5
Duration	95

Area Inputs (m^2, sqft)	
Area / Zone	9,885
Min Zone Size	1,000
Max Zone Size	10,000
Total SQFT of Phase	49,425

Shortest Durations

Best # Zones	Takt Time	Duration
25	1	39
13	2	54
9	3	69
7	4	84
5	5	95
5	6	114
4	7	126
4	8	144
3	9	153
3	10	170

Takt Wagons	Takt Zones	Takt Time	Duration	Trade Time Gained	Area per Zone	Takt Level	Realized Flow Potential	Efficiency Parametric	Value Parametric
15	2	13	208	1	24,713	Bad	19%	7.50	15.00
15	3	9	153	2	16,475	Bad	25%	5.00	7.50
15	4	7	126	3	12,356	Macro	31%	3.75	5.00
15	5	5	95	0	9,885	Macro	41%	3.00	3.75
15	7	4	84	3	7,061	Macro	46%	2.14	2.50
15	9	3	69	2	5,492	Norm	57%	1.67	1.88
15	10	3	72	5	4,943	Norm	54%	1.50	1.67
15	11	3	75	8	4,493	Norm	52%	1.36	1.50
15	12	3	78	11	4,119	Norm	50%	1.25	1.36
15	13	2	54	1	3,802	Norm	72%	1.15	1.25
15	14	2	56	3	3,530	Norm	70%	1.07	1.15
15	15	2	58	5	3,295	Norm	67%	1.00	1.07
15	16	2	60	7	3,089	Norm	65%	0.94	1.00
15	17	2	62	9	2,907	Norm	63%	0.88	0.94
15	18	2	64	11	2,746	Norm	61%	0.83	0.88
15	19	2	66	13	2,601	Norm	59%	0.79	0.83
15	20	2	68	15	2,471	Norm	57%	0.75	0.79
15	21	2	70	17	2,354	Norm	56%	0.71	0.75
15	22	2	72	19	2,247	Norm	54%	0.68	0.71
15	23	2	74	21	2,149	Norm	53%	0.65	0.68
15	24	2	76	23	2,059	Norm	51%	0.63	0.65
15	25	1	39	0	1,977	Norm	100%	0.60	0.63
15	26	1	40	1	1,901	Norm	98%	0.58	0.60
15	27	1	41	2	1,831	Norm	95%	0.56	0.58
15	28	1	42	3	1,765	Norm	93%	0.54	0.56
15	29	1	43	4	1,704	Norm	91%	0.52	0.54
15	30	1	44	5	1,648	Norm	89%	0.50	0.52
15	31	1	45	6	1,594	Norm	87%	0.48	0.50
15	32	1	46	7	1,545	Norm	85%	0.47	0.48
15	33	1	47	8	1,498	Norm	83%	0.45	0.47
15	34	1	48	9	1,454	Norm	81%	0.44	0.45
15	35	1	49	10	1,412	Norm	80%	0.43	0.44
15	36	1	50	11	1,373	Norm	78%	0.42	0.43
15	37	1	51	12	1,336	Norm	76%	0.41	0.42



-YOU CAN PULL PLAN ONE REPRESENTATIVE ZONE AND CREATE AN ACCURATE SEQUENCE THAT EASILY HITS THE MILESTONE TARGET.



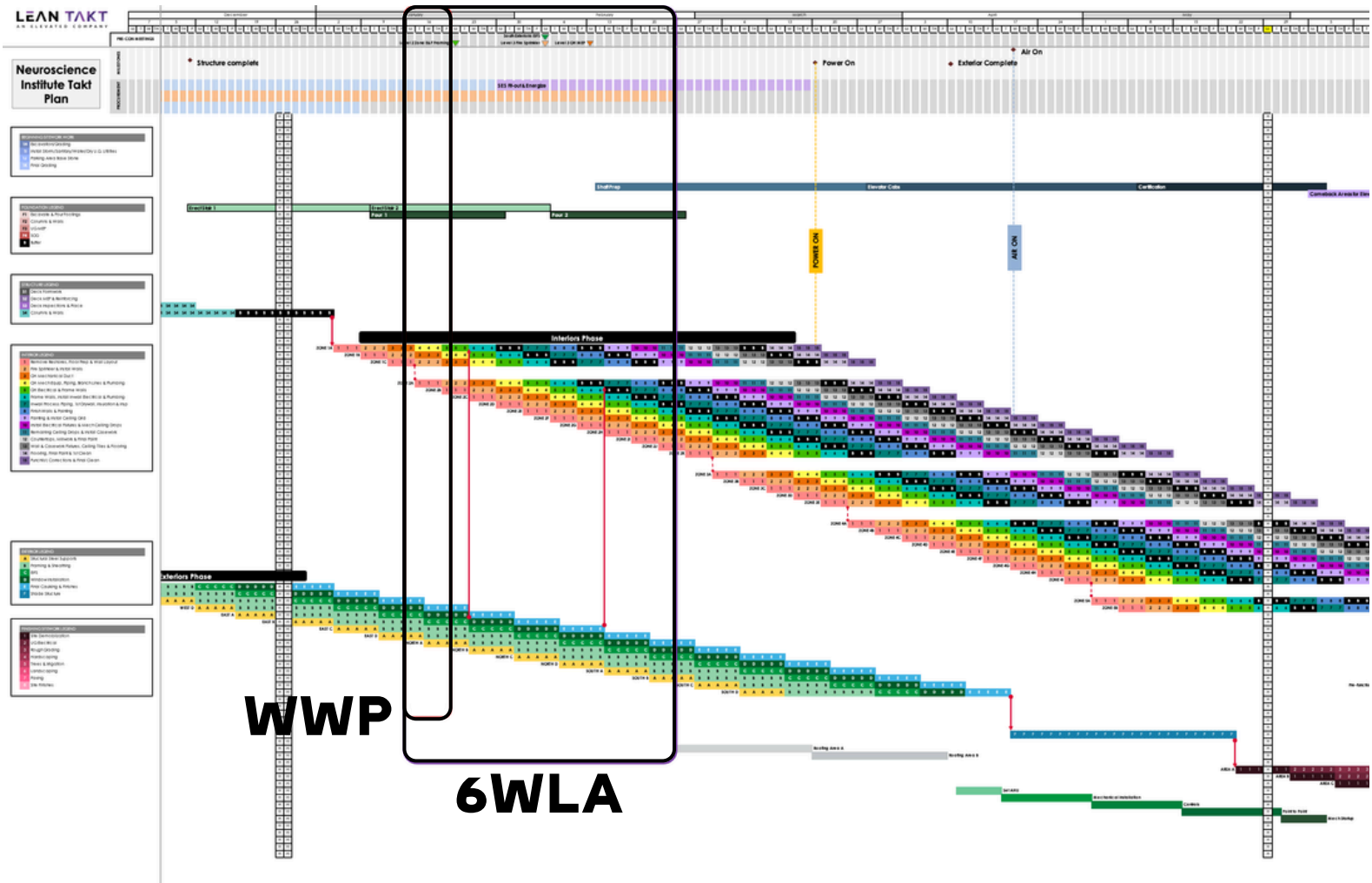
THE PULL PLAN ENABLES YOU TO CREATE YOUR NORM LEVEL TAKT PLAN...



-WHICH BECOMES YOUR PRODUCTION PLAN USED ON THE DAILY WITH THE LAST PLANNERS®.

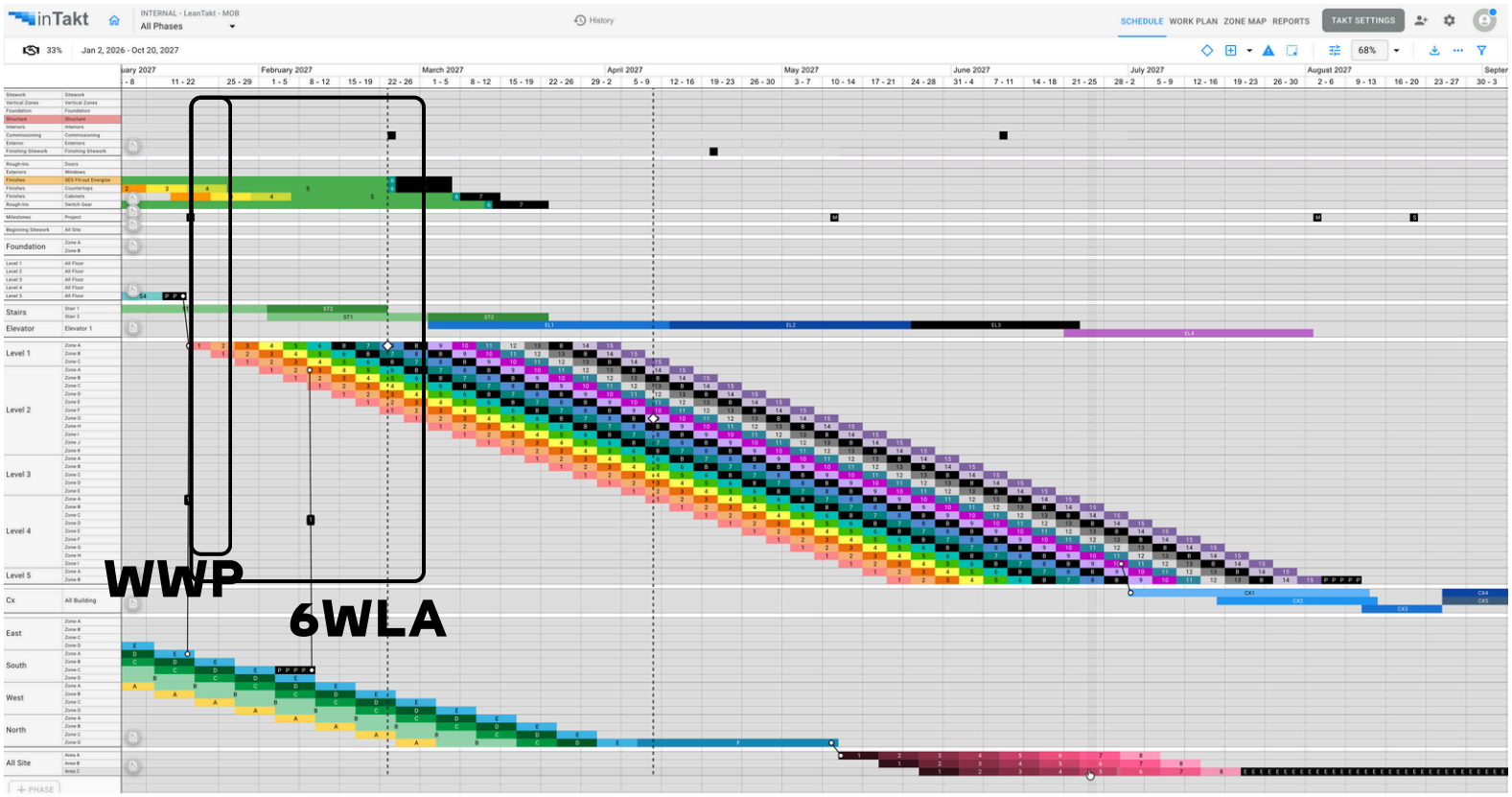


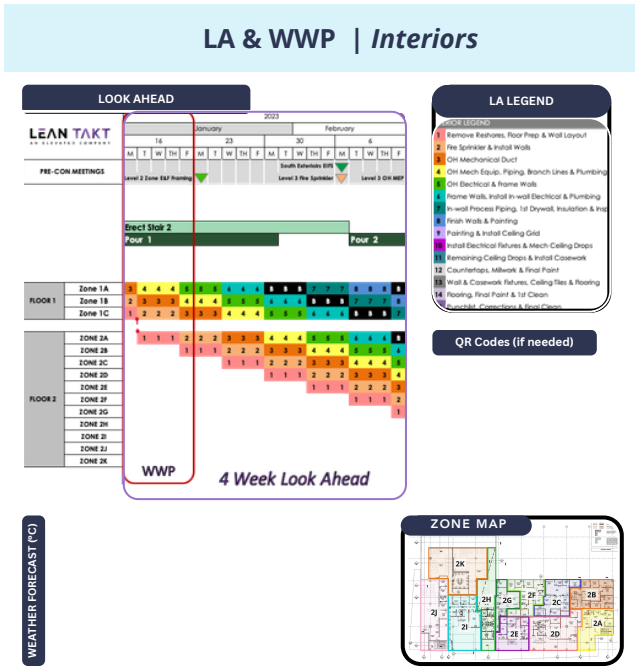
NORM LEVEL TAKT PLAN EXCEL

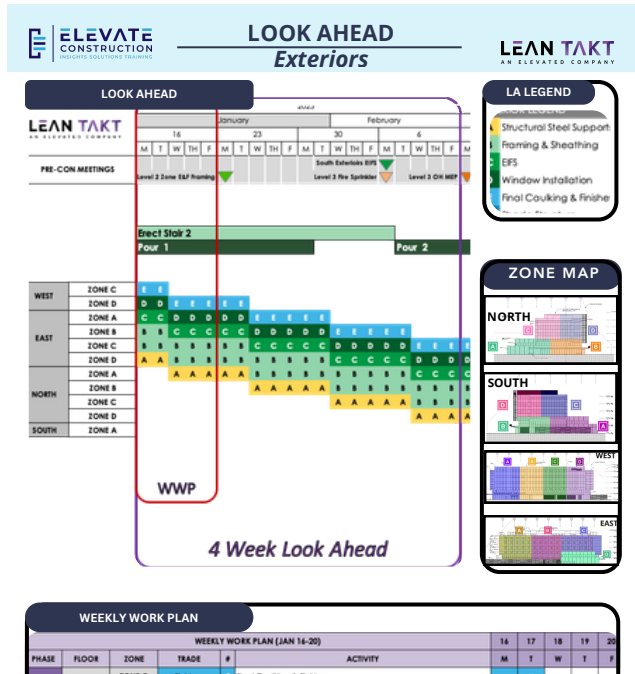


DAY FOUR
TAKT PLANNING

NORM LEVEL TAKT PLAN INTAKT







DAY FOUR
TAKT PLANNING

INTERNAL - LeanTakt - MOB

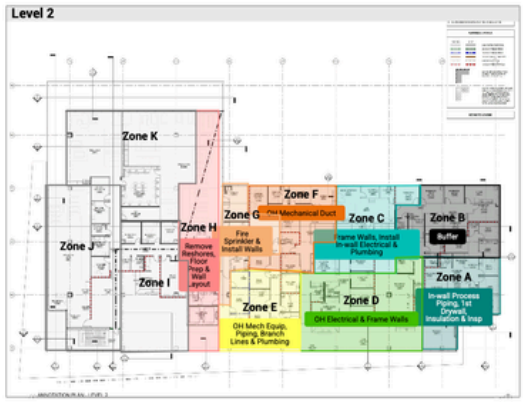
LEAN TAKT AN ELEVATED COMPANY inTakt

Range: **Mar 2 - Mar 22, 2027** Printed: **Apr 15, 2026** 1 of 1

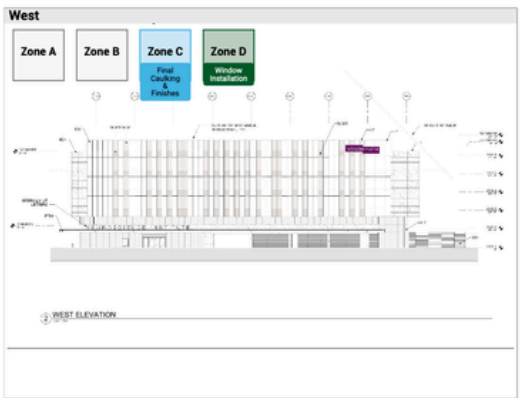
			Mar 2	3	4	5	8	9	10	11	12	15	16	17	18	19	22
			T	W	T	F	M	T	W	T	F	M	T	W	T	F	M
Precons & Pull	Commissioning	Commissioning															
	Finishing Sitework	Finishing Sitework															
Procurement Log	FInishes	SES Fit-out Energize	7	7	7												
	FInishes	Countertops	7	7	7												
	FInishes	Cabinets	5	5	5	6	7	7	7	7	7						
	Rough-Ins	Switch Gear	5	5	5	5	5	5	5	6							
											7	7	7	7	7	7	7
Vertical Zones	Stairs	Stair 2	ST2	ST2	ST2	ST2	ST2	ST2	ST2	ST2	ST2	ST2	ST2	ST2	ST2	ST2	ST2
	Elevator	Elevator 1	EL1	EL1	EL1	EL1	EL1	EL1	EL1	EL1	EL1	EL1	EL1	EL1	EL1	EL1	EL1
Interiors	Level 1	Zone A	9	9	9	10	10	10	11	11	11	12	12	12			
															13	13	13
		Zone B	B	B	B	9	9	9	10	10	10	⚠ 3					
												11	11	11			
															12	12	12
		Zone C	8	8	8	B	B	B	9	9	9	10	10	10			
															11	11	11
	Level 2	Zone A	7	7	7	8	8	8	B	B	B	9	9	9			
															10	10	10
		Zone B	B	B	B	7	7	7	8	8	8	B	B	B			
															9	9	9
		Zone C	6	6	6	B	B	B	7	7	7	8	8	8			
															B	B	B
		Zone D	5	5	5	6	6	6	B	B	B	⚠ 3					
												7	7	7			
															8	8	8
		Zone E	4	4	4	5	5	5	6	6	6	B	B	B	⚠ 3		
															7	7	7
		Zone F	3	3	3	4	4	4	5	5	5	6	6	6			
															B	B	B
		Zone G	2	2	2	3	3	3	4	4	4	5	5	5			
															6	6	6
		Zone H	1	1	1	2	2	2	3	3	3	4	4	4			
															5	5	5
		Zone I				1	1	1	2	2	2	3	3	3			
															4	4	4
		Zone J							1	1	1	2	2	2			
															3	3	3
		Zone K										1	1	1			
															2	2	2
	Level 3	Zone A													1	1	1
Exteriors	West	Zone C	E														
		Zone D	D	E	E	E	E	E									
	North	Zone A	C	D	D	D	D	D	E	E	E	E	E				
		Zone B	B	C	C	C	C	C	D	D	D	D	D				
														E	E	E	E
		Zone C	B	B	B	B	B	B	C	C	C	C	C				
														D	D	D	D
		Zone D	A	B	B	B	B	B	B	B	B	B	B				
														C	C	C	C

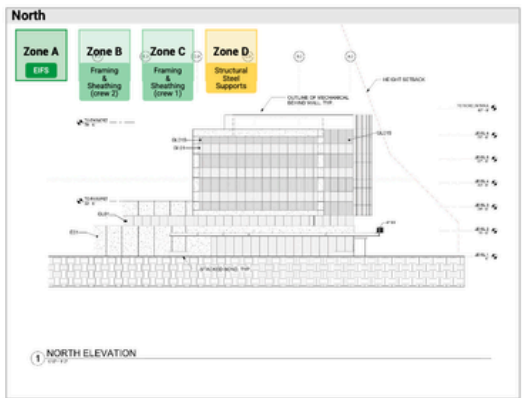
	3 Months
7	Buffer
5	Submittal Over/Under Days
6	Ship Date
9	Painting & Install Ceiling Grid
10	Install Electrical Fixtures & Mech Ceiling Drops
11	Remaining Ceiling Drops & Install Casework
12	Countertops, Millwork & Final Paint
13	Wall & Casework Fixtures, Ceiling Tiles & Flooring
B	Buffer
8	Finish Walls & Painting
7	In-wall Process Piping, 1st Drywall, Insulation & Insp
6	Frame Walls, Install In-wall Electrical & Plumbing
5	OH Electrical & Frame Walls
4	OH Mech Equip, Piping, Branch Lines & Plumbing
3	OH Mechanical Duct
2	Fire Sprinkler & Install Walls
1	Remove Reshores, Floor Prep & Wall Layout
E	Final Caulking & Finishes
D	Window Installation
C	EIFS
B	Framing & Sheathing
A	Structural Steel Supports
ST2	Pour
EL1	Shaft Prep











DAY FOUR
TAKT PLANNING

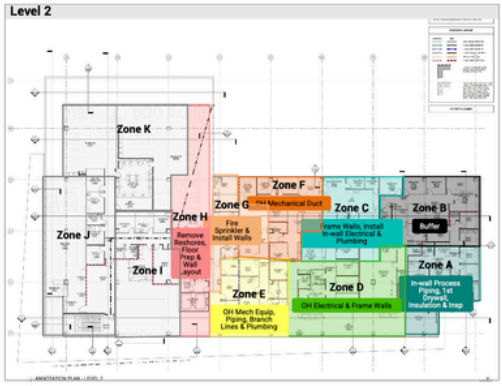
INTERNAL - LeanTakt - MOB

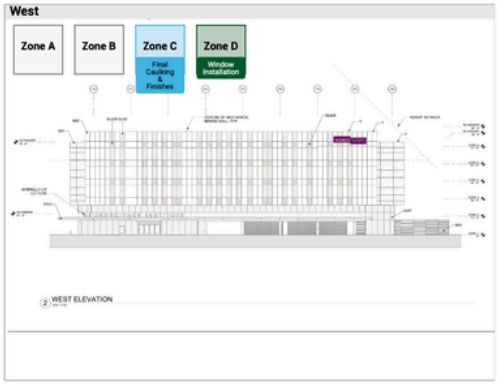
LEAN TAKT AN ELEVATED COMPANY inTakt

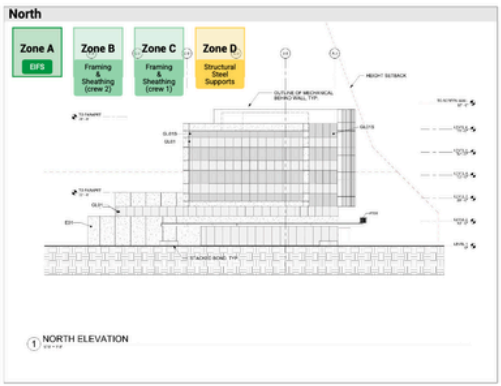
Range: **Mar 2 - Mar 8, 2027** Printed: **Apr 15, 2026** 1 of 1

	Area	Zone	Company	Task Code	Task	2 T	3 W	4 T	5 F	8 M	Notes
Precons & Pull Plans	Commissioning	Commissioning			3 Months						
	Finishing Sitework	Finishing Sitework			3 Months						
Procurement Log	FInishes	SES Fit-out Energize	GC	7	Buffer						
			GC	7	Buffer						
			GC	5	Submittal Over/Under Days						
			Vendor	6	Ship Date						
			GC	7	Buffer						
	Rough-Ins		GC	5	Submittal Over/Under Days						
Vertical Zones	Stairs	Stair 2		ST2	Pour						
	Elevator	Elevator 1		EL1	Shaft Prep						
Interiors	Level 1	Zone A	Painting	9	Painting & Install Ceiling Grid						
			Electrical	10	Install Electrical Fixtures & Mech Ceiling Drops						
		Zone B	Buffer	B	Buffer						
			Painting	9	Painting & Install Ceiling Grid						
		Zone C	Painting	8	Finish Walls & Painting						
			Buffer	B	Buffer						
	Level 2	Zone A	Drywall	7	In-wall Process Piping, 1st Drywall, Insulation & Insp						
			Painting	8	Finish Walls & Painting						
		Zone B	Buffer	B	Buffer						
			Drywall	7	In-wall Process Piping, 1st Drywall, Insulation & Insp						
		Zone C	Framing	6	Frame Walls, Install In-wall Electrical & Plumbing						
			Buffer	B	Buffer						
		Zone D	Electrical	5	OH Electrical & Frame Walls						
			Framing	6	Frame Walls, Install In-wall Electrical & Plumbing						
		Zone E	Plumbing	4	OH Mech Equip, Piping, Branch Lines & Plumbing						
			Electrical	5	OH Electrical & Frame Walls						
		Zone F	Mechanical	3	OH Mechanical Duct						
			Plumbing	4	OH Mech Equip, Piping, Branch Lines & Plumbing						
		Zone G	Sprinkler	2	Fire Sprinkler & Install Walls						
			Sprinkler		Fire Sprinkler						
			Sprinkler		Install Walls						
			Sprinkler		Install Walls						
			Mechanical	3	OH Mechanical Duct						
		Zone H	Framing	1	Remove Reshores, Floor Prep & Wall Layout						
			Sprinkler	2	Fire Sprinkler & Install Walls						
			Sprinkler		Fire Sprinkler						
			Sprinkler		Install Walls						
			Sprinkler		Install Walls						
		Zone I	Framing	1	Remove Reshores, Floor Prep & Wall Layout						
Exteriors	West	Zone C	Finishes	E	Final Caulking & Finishes						
		Zone D	Windows	D	Window Installation						
			Finishes	E	Final Caulking & Finishes						
	North	Zone A	EIFS	C	EIFS						
			Windows	D	Window Installation						
		Zone B	Framing	B	Framing & Sheathing						
			EIFS	C	EIFS						
		Zone C	Framing	B	Framing & Sheathing						
		Zone D	Steel	A	Structural Steel Supports						
			Framing	B	Framing & Sheathing						





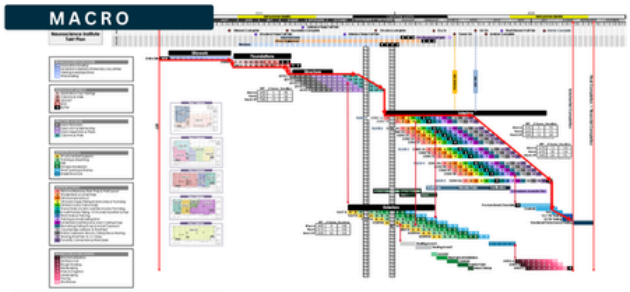




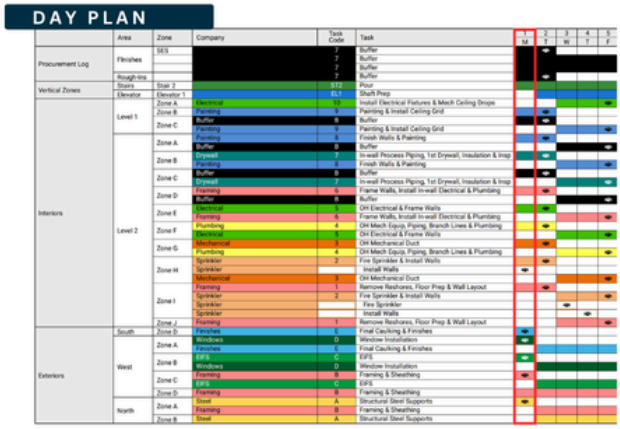
DAY PLAN

LEAN TAKT AN ELEVATED COMPANY **NEUROSCIENCE INSTITUTE** — DAY PLAN

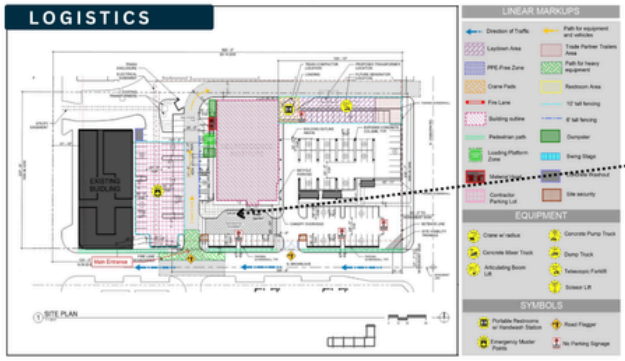
MACRO



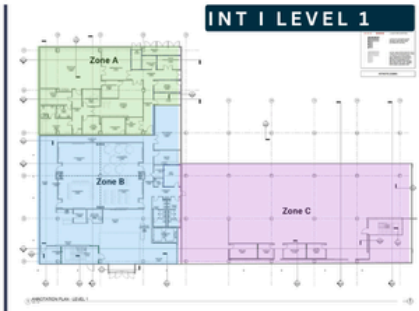
DAY PLAN



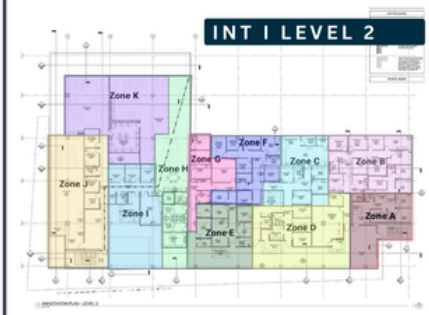
LOGISTICS



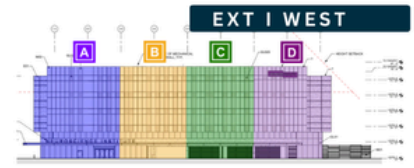
INT I LEVEL 1



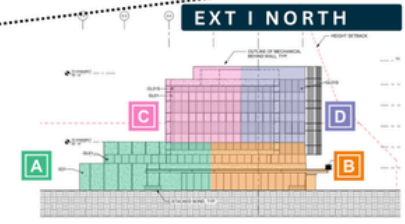
INT I LEVEL 2

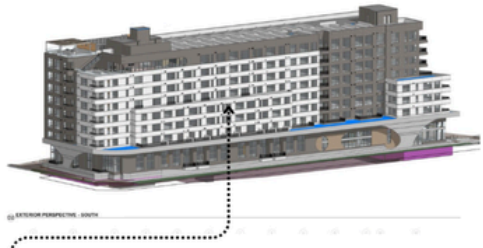


EXT I WEST



EXT I NORTH





SHOUT-OUTS

- Re shores worked very safe yesterday
- Architectural Walls are top qual

FEEDBACK

- Bathrooms Could be better. Let's keep them clean.
- Need Steps on Level 3 North stair

SAFETY FOCUS

- Tower Crane @ south all day
- Temporary Ladder North Side - 3 points of contact

PERMITS

- Welding 2nd Floor- Hot Work Permit
- Digging at Area 2 West. Sign before working.

DELIVERIES & STRATEGY

- Windows for area 1, Lvl 3
- Steel for Deck #5

DAY PLAN

- Re shores
- Architectural Walls
- Feature Walls
- Pour Concrete Deck #4

WEATHER

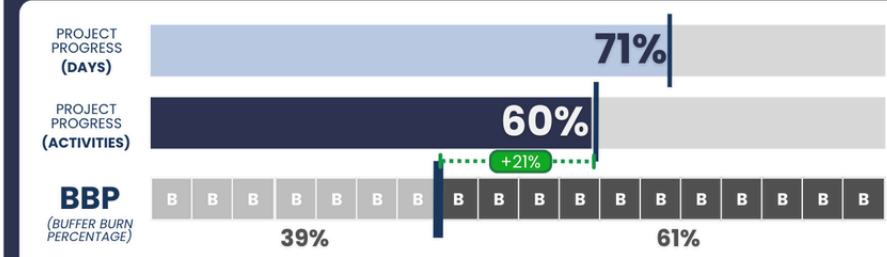
- 20% Chance of rain

KPI DASHBOARD

PROJECT NAME LEAN TAKT AN ELEVATED COMPANY

DAYS REMAINING	END DATE	BUFFER REMAINING		HEALTH	
		IN-PHASE	END BUFFERS		
109	26 DEC 2025	1 days	10 days	PPC	82
				PHP	85
				PCM	44
				FOW	71

PROJECT STATUS – BLDGS WEST & EAST



MEETING CADENCE

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
5:00AM					
6:00AM					
7:00AM					
8:00AM					
9:00AM					
10:00AM					
11:00AM					
12:00PM					
1:00PM					
2:00PM					
3:00PM					
4:00PM					
5:00PM					
6:00PM					

RECOMMENDED WEEKLY MEETINGS, SCAN THE QR CODE FOR PURPOSE, AGENDAS AND VISUALS NEEDED

Strategic Planning & Procurement | Trade Partner Weekly Tactical | Foreman Daily Huddle | Worker Daily Huddle | Crew Preparation Huddle | Team Daily Huddle

ACCOUNTABILITY CHART

DRAW ORGANIZATIONAL ACCOUNTABILITY MAP BELOW; WE RECOMMEND TO ADD THE RESPONSIBILITIES OF EACH PERSON

OWNER
Name:_____
Contact:_____

PROJECT MANAGER
Name:_____
Contact:_____

SUPERINTENDENT
Name:_____
Contact:_____

ASSISTANT SUPER
Name:_____
Contact:_____

FIELD ENGINEER
Name:_____
Contact:_____

PROJECT ENGINEER
Name:_____
Contact:_____

SURVEYOR
Name:_____
Contact:_____

CONDITIONS OF SATISFACTION

WHERE ARE THEY?

UNDERSTAND WHAT THEY WANT	WHAT WORK HAVE THEY DONE THUS FAR?	WHAT METHODS DO THEY USE THAT WE SHOULD TIE INTO?

WHERE DO THEY WANT TO GO?

WHAT WOULD BE A REMARKABLE EXPERIENCE FOR THE TEAM?	WHAT HAS WORKED IN THE PAST THAT CAN BE DONE AGAIN?	HOW CAN WE HELP THEM TO GET THERE?	HOW CAN WE ADD VALUE?

PART 1 - COVERAGE

SITE COVERAGE SCHEDULE

HOUR	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
5:00 AM						
6:00 AM						
7:00 AM						
8:00 AM						
9:00 AM						
10:00 AM						
11:00 AM						
12:00 PM						
1:00 PM						
2:00 PM						
3:00 PM						
4:00 PM						
5:00 PM						
6:00 PM						
7:00 PM						
8:00 PM						
9:00 PM						

PTO CALENDAR

JANUARY

Sun	Mon	Tue	Wed	Thu	Fri	Sat

FEBRUARY

Sun	Mon	Tue	Wed	Thu	Fri	Sat

MARCH

Sun	Mon	Tue	Wed	Thu	Fri	Sat

APRIL

Sun	Mon	Tue	Wed	Thu	Fri	Sat

MAY

Sun	Mon	Tue	Wed	Thu	Fri	Sat

JUNE

Sun	Mon	Tue	Wed	Thu	Fri	Sat

JULY

Sun	Mon	Tue	Wed	Thu	Fri	Sat

AUGUST

Sun	Mon	Tue	Wed	Thu	Fri	Sat

SEPTEMBER

Sun	Mon	Tue	Wed	Thu	Fri	Sat

OCTOBER

Sun	Mon	Tue	Wed	Thu	Fri	Sat

NOVEMBER

Sun	Mon	Tue	Wed	Thu	Fri	Sat

DECEMBER

Sun	Mon	Tue	Wed	Thu	Fri	Sat

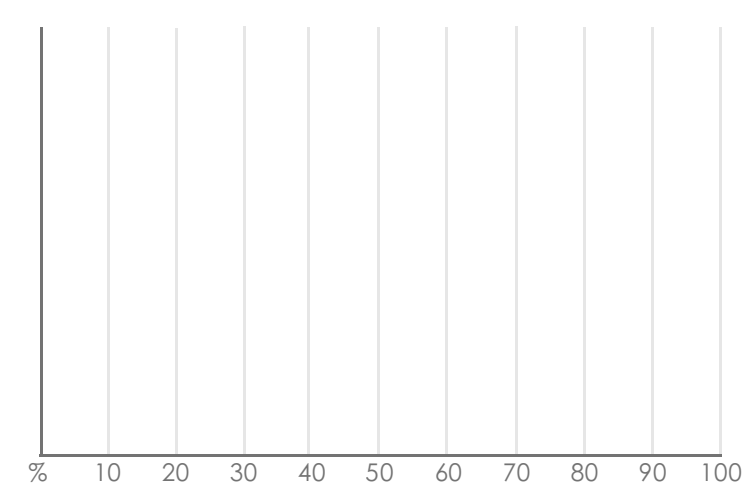
PART 1 - FOCUS

FOCUS & HOT ITEMS LIST

#	DESCRIPTION	POINT PERSON	CRITICAL DATE	DATE RESOLVED

KPI'S

PROGRESS DASHBOARDS



TRADE: PHP PERFECT HANDOFF PERCENTAGE %

WEEK:PPC - PERCENTAGE PLAN COMPLETE %

TIME REMAINING BUFFER RATIO -10

RBR

LEAN TAKT
AN ELEVATED COMPANY

PART 2 - DATA

UPDATE PROCESS

AVERAGE CYCLE TIME			PRODUCTION RATE	ACTUAL PRODUCTION	LABOR COUNT	ACTUAL LABOR
#	DESCRIPTION	BOTTLENECK				
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

UPDATE PROCESS

UPDATE YOUR SCHEDULE:

- INPUT YOUR LABOR COUNTS FOR THE DAY
- INPUT YOUR PRODUCTION RATES FOR THE DAY
- INPUT YOUR AVERAGE CYCLE TIME
- UPDATE THE STATUS AND LOCATION OF YOUR CREWS
- CHECK THE ROOMS OR AREAS AHEAD THAT YOU HAVE PREPARED
- CHECK THE ROOM OR AREAS THAT YOU HAVE COMPLETED
- WRITE ANY DELIVERIES AND THE PROPOSES STAGING LOCATION
- LIST ANY ROADBLOCKS RIGHT ON THE MAPS

TOOL BOX



ZONE MAPS - INTERIOR

FRAME SIZE: 30"X15"

FRAME SIZE: 30"X15"

PART 2 - LOGISTICS

LOGISTICS PLAN

FRAME SIZE: 30"X15"

DELIVERIES

CURRENT WEEK	AREA/ZONE	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	CRANE	FORKLIFT	HOIST
		DESCRIPTION	DESCRIPTION	DESCRIPTION	DESCRIPTION	DESCRIPTION	DESCRIPTION			
7:00 AM										
8:00 AM										
9:00 AM										
10:00 AM										
11:00 AM										
12:00 PM										
1:00 PM										
2:00 PM										
3:00 PM										
4:00 PM										
5:00 PM										
6:00 PM										
7:00 PM										

NOTES:

PART 3 - DISCUSS

MEETING AGENDA

ASK QUESTIONS & HAVE A DISCUSSION:

- ASK WHERE IS THE BOTTLENECK ZONE
- ASK WHAT IS THE SLOWEST TRADE/TRADES
- DISCUSS ANY OWNER CHANGES WITH THE TRADES
- REMIND THE TEAM OF ANY KEY PROJECT PLANNING ITEMS
- DISCUSS KEY HANDOFFS FOR THE NEXT TWO DAYS
- DISCUSS ANY NEW ACTIVITIES STARTING
- DISCUSS ANY QUALITY MEETINGS NEEDED FOR NEW WORK
- DISCUSS DELIVERIES AND ASK WHERE THEY GO

NORM LEVEL TAKT PLAN

FRAME SIZE:
30"X15"

ONE OFF ACTIVITIES

ACTIVITY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY

PART 3 - DISCUSS

TRADE PARTNER WEEKLY TACTICAL

MAKE THE WEEKLY WORK PLAN: 1 WEEK
- REVIEW LAST WEEK
- REVIEW CURRENT WEEK
- REVIEW CURRENT PROGRESS

ONE OFF ACTIVITIES:
- FILL OUT ANY ONE-OFF ACTIVITIES

AFTERNOON FOREMAN HUDDLE

MAKE THE DAY PLAN: 1 DAY
- REVIEW TODAY
- DISCUSS TOMORROW
- FILL OUT THE DAY PLAN ACCORDING TO THE AGENDA

ONE OFF ACTIVITIES:
- FILL OUT ANY ONE-OFF ACTIVITIES

DAY PLAN

SHOUT-OUTS:	
FEEDBACK:	
SAFETY FOCUS:	
PERMITS:	
WEATHER:	
DELIVERIES:	
DAY PLAN:	

PART 4 - SOLVE

MEETING AGENDA

SOLVE PROBLEMS:

- **BY NOW YOU WILL HAVE RED MARKINGS EVERYWHERE ON YOUR BOARDS AND ON CANVA. ANY OF THESE THAT ARE ISSUES THAT NEED TO BE SOLVED NOW GO ON THE ISSUES BOARD.**
- **ONCE ALL ISSUES ARE LISTED YOU CAN IDS EACH OF THEM AND MAKE ASSIGNMENTS BELOW. IT IS CRUCIAL THAT ALL ASSIGNMENTS ARE SIZED IN A WAY THAT THEY CAN BE DONE THE NEXT DAY IN THAT DAY. IF THEY ARE BIGGER THAN THAT THEY GO ON THE TEAM SCRUM BOARD.**

ISSUES

#	DESCRIPTION	POINT PERSON

ACTIONS

#	DESCRIPTION	POINT PERSON

PART 4 - SOLVE

MEETING AGENDA

TEAM SCRUM BOARD:

- ANY ISSUES NEEDING TO SCALE TO THE TEAM WILL BE PUT INTO THE BACKLOG COLUMN
- WHAT DID YOU DO YESTERDAY?
- WHAT WILL YOU DO TODAY?
- WHAT IS STANDING IN YOUR WAY?
- HOW CAN WE HELP YOU?
- HOW CAN WE MAKE THIS FUN?

TEAM SCRUM BOARD

BACKLOG	SPRINT BACKLOG	IN PROGRESS	COMPLETE

WORKER HUDDLE BOARD

LOOK AHEAD

Attach Look Ahead (11x17)

WEEKLY WORK PLAN

Attach WWP (11x17)

DAY PLAN

SHOUT-OUTS

FEEDBACK

SAFETY FOCUS

PERMITS

DELIVERIES & STRATEGY

WEATHER

ZONE MAPS

Attach Zone Maps (11 X 8.5)

LOGISTIC MAP

Attach Logistics Map (11 X 8.5)

DAY PLAN

AREA BOARD:

ZONE MAPS

Attach Zone Maps (11 X 8.5)

WEEKLY WORK PLAN

Attach WWP (11x17)

LOGISTICS MAP

Attach Logistics Map (11 X 8.5)

DELIVERIES

WHAT	WHERE	WHEN	POINT PERSON

NOTICES

HOT ITEMS

DESCRIPTION:	DATE ADDED	CRITICAL DATE

AREA RESPONSIBLE PERSON

COMPANY	INDIVIDUAL	NUMBER

CREW BOARD

CREW PREPARATION - DAY PLAN

ZONE	ACTIVITY	CREW

EVERY CREW NEEDS:

1. Conditions of Satisfaction
2. Support team
3. Primary planning
4. Contingency planning
5. Materials
6. Equipment
7. Tools
8. Tool kit
9. Information
10. Permissions
11. Layout
12. Preceding task
13. Safety planning
14. Quality planning
15. Standard work
16. Required training
17. Space

ROADBLOCKS

ROADBLOCK	WHO	CRITICAL DATE

CHECK FOR...

- RFI not answered
- Layout not ready or incorrect
- Work area not made ready
- Missing material or equipment
- Crew not ready ahead
- Improper planning
- Over-Committed
- Miscommunicated
- Change in work plan
- Safety concern
- Improper sequence
- Resources unavailable
- Work not authorized
- Change in work plan by owner

LOOK AHEAD

Attach Look Ahead (11x17)

LOGISTIC MAP

Attach Logistic Map (11x8.5)

WEEKLY WORK PLAN

Attach WWP (8.5x11)

ZONE MAP

Attach Logistic Map (11x8.5)

PREPARATION

QC ITEMS- FINISH NOW	HANDOFFS- WORKING TOWARD	DELIVERIES & WHERE THEY GO

WORK PACKAGE PREPARATION

IWP

Attach (8.5 x 11)

IWP

Attach (8.5 x 11)

CREW PREP HUDDLE AGENDA

Positive shout-outs (1 minute)
Safety training topic (2)
Plan the work (5)

- Review Look-ahead
- Review WWP
- Review Day Plan
- Organize Crews
- Coordinate

Share 2 Second Lean improvements from the day before (5)
Walk area of work and plan for safety (5)
Fill out PTPs, orient, and sign (10)
5S work area while foremen are filling out PTPs (10)
Setup work area for success by eliminating the Nine Wastes particularly: (10)

- Excess material inventory
- Wasted transport
- Wasted motion
- Treasure hunts- gather all tools and needed equipment to prevent treasure hunts

Safe off work areas
Go to work and execute according to standard work steps.

#

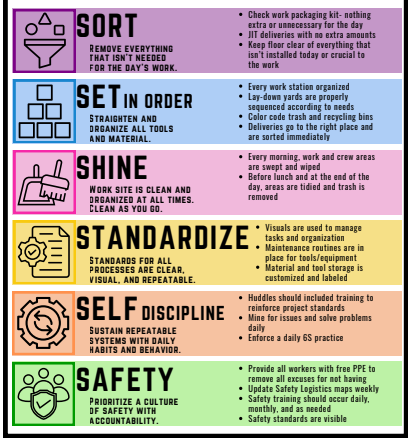
Attach (8.5 x 11)

#

Attach (8.5 x 11)

6 S

EVALUATE ENVIRONMENT DAILY AND:



#

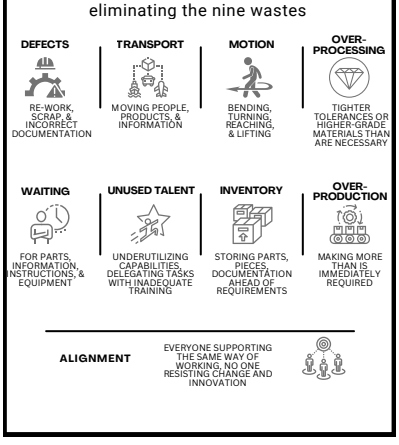
Attach (8.5 x 11)

#

Attach (8.5 x 11)

9 WASTES IN CONSTRUCTION

Setup work area for success by eliminating the nine wastes



TEAM WEEKLY TACTICAL

ATTENDEES: SUPERS,PM'S, PE'S, FE'S **LEAD:**

MUSIC TO GATHER AT TEAM BOARDS	-5 MIN
--MEETING START--	
SHOUT OUTS	1 MIN
LIGHTNING ROUND	5 MIN
REVIEW COVERAGE AND PTOS	2 MIN
SAFETY MANAGEMENT- PLAN HIGH RISK AREAS	4 MIN
CUSTOMER EXPERIENCE REVIEW-WIN THE NEXT JOB WITH CURRENT SUCCESS	5 MIN
TP3 REVIEW: FIND OUT WHERE TRADES ARE AND MAKE NEEDED ASSIGNMENTS	8 MIN
SCHEDULE MANAGEMENT	8 MIN
COSTS AND BUDGET	8 MIN
RISK AND OPPORTUNITY REGISTER • REVIEW THE LOG, MAKE ASSIGNMENTS • STATUS ITEMS AS RED, YELLOW, OR GREEN	8 MIN
TEAM MOMENTS: • PATRICK LENCIONI TOOLS • SAY POSITIVE THINGS • USE THIS IS ME DOCUMENT • COMMUNICATE A TEAM MESSAGE	8 MIN
PLUS/DELTA	2 MIN
TOTAL SUGGESTED TIME	60 MIN

ELEVATE CONSTRUCTION LLC

STRATEGIC PLANNING AND PROCUREMENT

ATTENDEES: SUPERS,PM'S, PE'S

LEAD:

MUSIC TO GATHER AT TEAM BOARDS	-5 MIN

--MEETING START--

SHOUT OUTS	1 MIN
LIGHTNING ROUND	7 MIN
SAFETY TOPIC	2 MIN

REVIEW THE TAKT PLAN — 15 MIN+

- MAKE SURE IT IS ACCURATE
- REVIEW THE MACRO
- MAKE STRATEGIC DECISIONS
- REVIEW THE REMAINING BUFFER RATIO
- CONFIRM THE PROJECT IS BROKEN DOWN PROPERLY

REVIEW THE PROCUREMENT LOG — 15 MIN+

- CONFIRM LOG IS ACCURATE
- SOLVE ANY PROBLEM THAT WILL CAUSE A DELAY
- LEVEL THE WORK OF THE PROCUREMENT LOG

REPORT OUT; SCALE INFORMATION TO THE ENTIRE TEAM THROUGH THE MEETING SYSTEM	5 MIN
PLUS DELTA	1 MIN

ELEVATE CONSTRUCTION LLC

TOTAL SUGGESTED TIME	45 -90 MIN

TRADE PARTNER TACTICAL

ATTENDEES: SUPERS, PE'S, PE'S, FOREMEN LEAD:

MUSIC TO GATHER AT TRAILER	-5 MIN

--MEETING START--

SHOUT OUTS	1 MIN
SAFETY TOPIC	1 MIN

REVIEW TAKT PLAN:
• REVIEW THE MACRO FOR ACCURACY
• REVIEW THE NORM FOR ACCURACY
  ◦ REVIEW PRODUCTION TRENDS
  ◦ IDENTIFY MAKE-UP/COME BACK WORK
  ◦ IDENTIFY PCF AND CHECK ON BUFFERS
	8 MIN

REVIEW LAST WEEK: • VERIFY CHECK MARKS • ANY ITEMS THAT NEED TO COME FORWARD? • GENERAL CONSENSUS ABOUT KPIS	6 MIN
REVIEW CURRENT PROGRESS: • HOW ARE WE TRENDING THIS WEEK? • SHOW HOW THE CADENCE GOES • CORRECTIONS FOR THE REST OF THE WEEK	5 MIN
CREATE WEEKLY WORK PLAN: • BRING IN THE FORMAT FOR NEXT WEEK • TALK ABOUT HANDOFFS + READINESS • ADD ROADBLOCKS AS YOU GO • FINALIZE AND PUBLISH	15 MIN
6 WEEK LOOK AHEAD (FOCUS ON WK 2-6) • HAVE COPIES READY • ASK EVERYONE TO FIND A PROBLEM • USE THE CHECKLIST ON THE WALL • ADD ROADBLOCKS TO THE TEAM BOARDS	15 MIN
REVIEW AND REMOVE ROADBLOCKS • GO THROUGH EACH ONE • ASSIGN AN OPUR • STATUS EACH ONE; HELP EACH OTHER AS A TEAM	8 MIN
PLUS/DELTA	1 MIN

TOTAL SUGGESTED TIME **60 MIN**

ELEVATE CONSTRUCTION LLC

FOREMEN HUDDLE-AFTERNOON

ATTENDEES: SUPERS,FE'S, FE'S, FOREMEN LEAD:

MUSIC TO GATHER AT PROJECT BOARDS-5 MIN	
--MEETING START--	
TURN IN DAILY REPORTS	1 MIN
SHOUT OUTS	1 MIN
REVIEW DAY'S PROGRESS	5 MIN
REVIEW ROADBLOCKS	5 MIN
REVIEW HANDOFFS	5 MIN
PLAN DETAILS FOR TOMORROW'S PLAN:	15 MIN

- SAFETY
- QUALITY
- LOGISTICS
- DELIVERIES
- INSPECTIONS

FINALIZE PLAN	8 MIN
PREPARE PERMITS	5 MIN

TOTAL SUGGESTED TIME **45 MIN**

ELEVATE CONSTRUCTION LLC

MORNING WORKER HUDDLE

ATTENDEES: SUPERS,FE'S, FOREMEN, CREWS LEAD:

MUSIC TO GATHER AT DAY BOARD	-5 MIN

--MEETING START--

STRETCH + FLEX	5 MIN
SHOUT OUTS	1 MIN
REQUEST FEEDBACK FROM WORKERS	2 MIN
REVIEW THE PLAN FOR THE DAY: • SAFETY FOCUS • PERMITS • DELIVERIES • IMPORTANT POINTS • WEATHER REPORT	7 MIN
ADDRESS OWNER ITEMS	1 MIN
TRAINING MOMENT	1 MIN
ENCOURAGE CREW PREP HUDDLES	1 MIN
REINFORCE THE NEED FOR PTPS	1 MIN
LEAVE WITH RALLY CRY	1 MIN

TOTAL SUGGESTED TIME 20 MIN

ELEVATE CONSTRUCTION LLC

TEAM DAILY HUDDLE

ATTENDEES: SUPERS, PM'S, PE'S, FE'S LEAD:

MUSIC TO GATHER AT SCRUM BOARD	-5 MIN

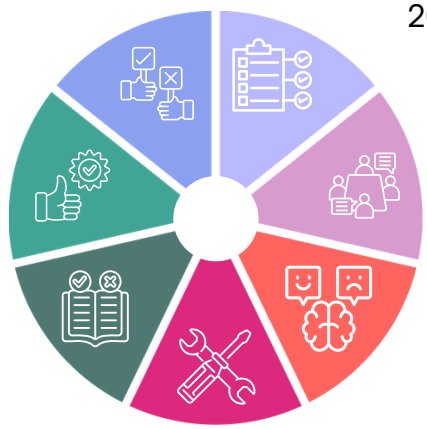
--MEETING START--

SHOUT OUTS	1 MIN
GO AROUND THE ROOM AND DISCUSS: • WHAT WAS ACCOMPLISHED YESTERDAY? • WHAT ARE YOU WORKING ON TODAY? • WHAT DO YOU NEED HELP WITH? • WHAT IS IN YOUR WAY?	15 MIN
CONFIRM TASKS ARE PRIORITIZED	5 MIN
DISCUSS MAJOR ISSUES, MAKE ASSIGNMENTS AS NEEDED	7 MIN
UPDATE SCRUM AS NEEDED	1 MIN
PLUS/DELTA	1 MIN
TOTAL SUGGESTED TIME	30 MIN

ELEVATE CONSTRUCTION LLC

A BUILDER'S TAKE ON THE

Last Planner® System



Deliverables

1. Macro Strategic Takt Plan sets accurate milestones
2. Pull Plan sets the right sequence
3. Norm Level Production Plan drives production and gains buffers
4. Make-ready Look-ahead Plans find roadblocks and help make work ready
5. Weekly Work Plan supports Last Planners® in making hand-off commitments
6. Day Plan communicates the plan to all workers
7. Percent Planned Complete allows the team to RCA problems

Meetings

1. Strategic Planning and Procurement Meeting for strategic planning and supply chain tracking
2. Trade Partner Weekly Tactical to perform Look-Ahead and Weekly Work Planning
3. Daily Afternoon Foremen Huddle to plan the next day
4. Morning Worker Huddle where plan is communicated to workers
5. Zone Control Walks where handoffs are managed
6. Team Daily Huddle for removing roadblocks for trades

Behaviors

1. Respect is strong for workers and Foremen
2. Collaboration is happening with all field leaders
3. Commitments are made by Last Planners®
4. Visual Systems enable the team

Tools

1. First-run Studies are used to prepare work
2. Workable Backlog means areas are carved out for swing capacity
3. Sidebars used when a topic is not needed in front of the group
4. Connection & Communication 1:1 where Foremen work directly together

Rules

1. Never pair CPM with Last Planner®, always pair with Takt
2. Pull plans must be done by zone and zones must be the right optimized size
3. Pull plans become Norm-level Takt plans with gained buffers
4. Look-ahead plans are to be filtered from the production plan and reflect the Trade flow
5. Weekly Work Plans are filtered from the production plan and adjusted by Trades as needed
6. Foreman Huddles happen the day beforehand and enable the work to start first thing the next morning
7. Worker huddles must be in place to get the information all the way to installation

Best Practices

1. Shielding & Screening
2. Advanced Root-cause Analysis
3. Continuous Improvement

Dos and Don'ts

1. Do not pair LPS® with CPM
2. Foremen must commit willingly
3. Don't Confuse Constraints with Roadblocks
4. Work structuring should be Zone based
5. Don't run huddles in the morning for Foremen
6. Don't reinvent WWPs from scratch
7. Don't batch work
8. Don't stop meetings if you are not done
9. Don't use PPC alone

ELEVATE CONSTRUCTION LLC

This poster is not affiliated with the Lean Construction Institute

Last Planner® System Audit

This audit is not affiliated with the Lean Construction Institute

Project Name: **Date:**

Auditor: **Total Score:**

DELIVERABLES SECTION SCORE:

System Component	Score 1-5	Comments
Macro Strategic Takt Plan sets accurate milestones.		
Pull Plan sets the right sequence		
Program Master Schedule is on-line for the core team.		
Norm Level Production Plan drives production and gains buffers.		
Make-ready Look-ahead Plans find roadblocks and help make work ready.		
Weekly Work Plan supports Last Planners® in making hand-off commitments.		
Day Plan communicates the plan to all workers.		
Percent Planned Complete allows the team to RCA problems.		

MEETINGS SECTION SCORE:

The Strategic Planning and Procurement Meeting for strategic planning and supply chain tracking is happening every week.		
The Trade Partner Weekly Tactical is used every week to perform Look-Ahead and Weekly Work Planning.		
Daily Afternoon Foremen Huddle are taking place each afternoon to plan the next day.		
Morning Worker Huddles take place every morning, where the plan is communicated to all workers.		
Daily Zone Control Walks help manage quality and handoffs.		

Team Daily Huddles are used for removing roadblocks for trades.		

BEHAVIORS		SECTION SCORE:
Respect is strong for workers and Foremen.		
Collaboration is happening with all field leaders.		
Commitments are made by Last Planners®.		
Visual Systems enable the team.		

TOOLS		SECTION SCORE:
First-run Studies are used to prepare work		
Workable Backlog means areas are carved out for swing capacity.		
Sidebars are used when a topic is not needed in front of the entire group.		
Connection & Communication 1:1, where Foremen work directly together.		

RULES		SECTION SCORE:
Never pair CPM with Last Planner®; always pair with production planning and Takt.		
Pull plans must be done by zone and zones must be the right optimized size.		
Pull plans become Norm-level Takt plans with gained buffers.		
Look-ahead plans are to be filtered from the production plan and reflect the Trade flow.		
Weekly Work Plans are filtered from the production plan and adjusted by Trades as needed.		
Foreman Huddles happen the day beforehand and enable the work to start first thing the next morning.		
Worker huddles must be in place to get the information all the way to installation.		

ELEVATE CONSTRUCTION LLC

BEST PRACTICES		SECTION SCORE:
Shielding & Screening		
Advanced Root-cause Analysis		
Continuous Improvement		

DOS AND DON'TS		SECTION SCORE:
Do not pair LPS® with CPM.		
Foremen must commit willingly.		
Don't Confuse Constraints with Roadblocks		
Work structuring should be Zone based.		
Don't run huddles in the morning for Foremen.		
Don't reinvent WWPs from scratch		
Don't batch work.		
Don't stop meetings if you are not done.		
Don't use PPC alone.		

DAY FOUR
TAKT PLANNING

NEXT STEPS TO IMPLEMENT:

RESOURCES:

DAY FOUR
EXAMPLE

VALUES

BE TRANSPARENT, CREATE RESPECT, BUILD PEOPLE, DO THE RIGHT THING, GIVE FIRST

STRENGTHS

POSITIVE COMMUNICATION, LEADER OF PEOPLE, DEVELOPING POTENTIAL OR COACHING, CONTEXTUAL LEARNING + TEACHING, CONNECTION

MISSION- 100 YEAR GOAL

To become a general superintendent in my company and develop training programs for all other superintendents in the company. To develop enough personal wealth to start all of my children with businesses so they can continue the family legacy of giving and contribution.

5 - 10 YEAR

To learn the position of senior superintendent and to learn everything I can about project scheduling and project controls within the next 5 years.

NEXT MILESTONE 6-18 MONTHS

Become proficient with project scheduling in the next 10 months.

DEFINING GOALS

1. Take a Takt planning control course and achieve Takt Master Certification/ Master Scheduling.
2. Actively create and update current project schedule and provide the weekly and monthly schedule updates.
3. Get a mentor from another Sr Super and shadow them in their scheduling process.
4. Reflect on the success of the schedule and improve on any mistakes that were made.
5. Learn the Last Planner® System and become proficient at pull planning.

DAY FOUR
CLARITY: MISSON + VALUES + ACTIONS

VALUES

STRENGTHS

MISSION- 100 YEAR GOAL

5 - 10 YEAR

NEXT MILESTONE 6-18 MONTHS

DAY FOUR
CLARITY: MISSON + VALUES + ACTIONS

DEFINING GOALS

1

2

3

4

5

What is fulfillment?

What is success?

LEADER STANDARD WORK WEEK

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
5: 30AM					
6: 00AM					
6: 30AM					
7: 00AM					
7: 30AM					
8: 00AM					
8: 30AM					
9: 00AM					
9: 30AM					
10: 00AM					
10: 30AM					
11: 00AM					
11: 30AM					
12: 00PM					
12: 30PM					
1: 00PM					
1: 30PM					
2: 00PM					
2: 30PM					
3: 00PM					
3: 30PM					
4: 00PM					
4: 30PM					
5: 00PM					
5: 30PM					
6: 00PM					
6: 30PM					

6 MONTH PLAN

Month 1	Month 2	Month 3	Month 4	Month 5	Month 6

DAY NOTES:

DAY NOTES:

DAY *Five*

COMMITTMENT DAY

DAY FIVE

TRAINING OVERVIEW

	TRAINING
	LUNCH
	TRAINING

TOPICS

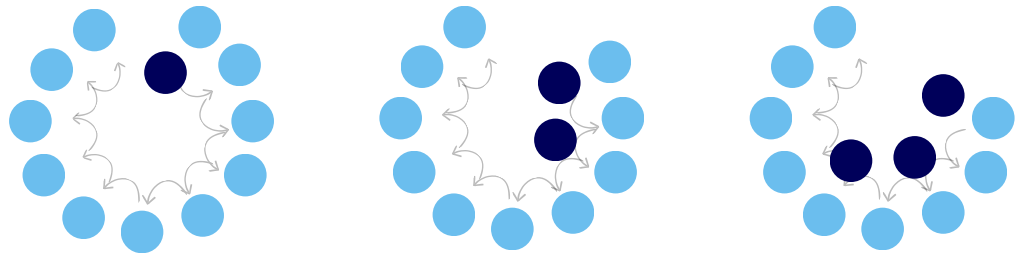
- NAME TAGS
- SAFETY, LOGISTICS & STRETCH
- MORNING ROUTINE
- DAY PLANNER
- PLUS & DELTA
- HUDDLE I.D.S
- DAY PLAN
- WORKER HUDDLE
- NORM UPDATE
- TEAM HUDDLE TEMPLATE
- LEAN OVERVIEW
- SYSTEM RECAP
- FEEDBACK EXERCISE
- FINAL
- CLEANUP AND LEAVE

TODAY'S CHECKLIST ☑

- ☐ COMMUNICATE ANY SAFETY NEEDS
- ☐ STRETCH AND FLEX
- ☐ CONFIRM HOMEWORK IS CAUGHT UP
- ☐ ARE YOU HELPING YOUR TEAM GET BACK ON TIME?
- ☐ FILL OUT DAY 5 OF PERSONAL ORGANIZATION PLANNER
- ☐ WRITE DOWN YOUR FEEDBACK THAT IS HELPFUL
- ☐ FINALIZE YOUR CLARITY DOCUMENT
- ☐ PARTICIPATE FULLY IN THE FINAL
- ☐ COMPLIMENT A TEAM MEMBER
- ☐ CONSIDER WRITING "NEXT STEP" NOTES
- ☐ VOTE FOR THE ALPHA
- ☐ TAKE ANY CLOSING PICTURES WITH BACKGROUNDS
- ☐ HELP CLEANUP IF YOU WANT

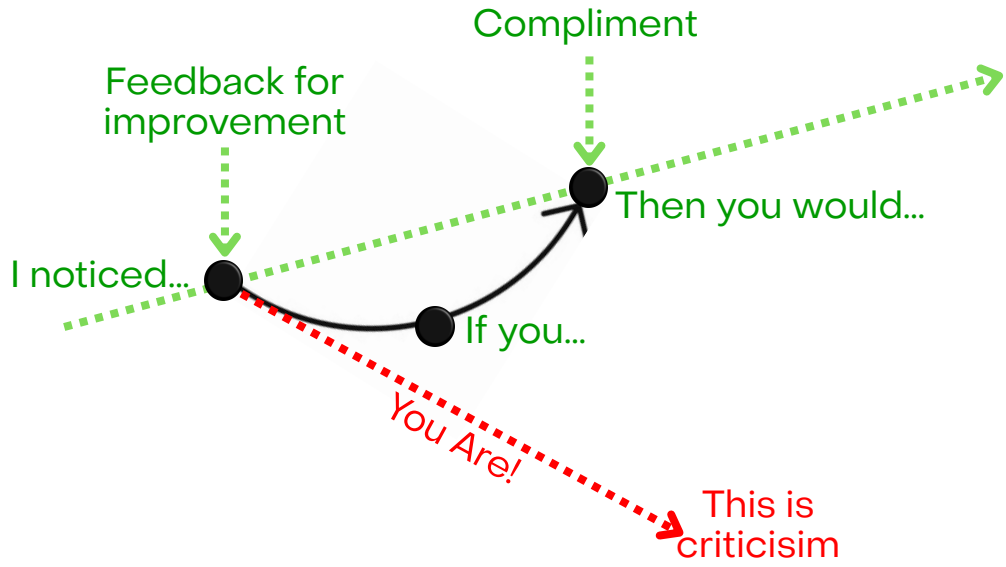
IF ALL ARE CHECKED BY END OF DAY HONESTLY, YOU GET ONE POINT FOR YOUR TEAM.

GET INTO YOUR BUILD TEAMS
SELECT WHO GOES FIRST
BEGIN THE CIRCLE



RALLY AROUND THE MODEL: WHAT?, HOW?, WHY?
IS THIS COMPLIMENT A PART OF THE FEEDBACK?

DIG DEEP, USE THIS MOMENT TO HONE THE SKILL



What feedback was helpful for you?

WHO ARE YOU?

What is your war cry?

NEXT STEPS TO IMPLEMENT:

RESOURCES:

DAY NOTES:

DAY NOTES:

GLOSSARY

Superintendent/PMBootcamp Guidebook

The terms below are used throughout this guidebook and on your projects.Return to this glossary any time a term needs a refresher—in the classroom or in the field.

#

2 Second Lean — A continuous improvement approach popularized by Paul Akers in which everyone makes small daily improvements—saving even two seconds of waste—and shares them with the team, often through short before-and-after videos.

6S — A system for keeping work areas clean, safe, and organized: Sort (remove what isn't needed), Set in Order (straighten and organize what remains), Shine/Sweep (keep the area clean), Standardize (create consistent, visual, repeatable systems), Self-Discipline/Sustain (maintain the daily habits), and Safety (perform safety checks and training daily).

A

Afternoon Foremen Huddle — A daily meeting held each afternoon with Supers, Field Engineers, and Foremen to completely plan the next day—100%. The team reviews the day's progress, roadblocks, and handoffs, plans safety, quality, logistics, deliveries, and inspections, finalizes the Day Plan, and prepares permits. Never run this huddle in the morning; planning the day before enables work to start first thing the next morning.

Area Board — A visual information board placed near stairs, entryways, hoists, and elevators where crews in a work area can access general information—zone maps, the logistics plan, the current Weekly Work Plan, key handoffs, deliveries, contacts, and notices. It is not referenced in any meeting; it exists so accurate information is visible to all.

B

Backward Pass — The second step of pull planning, in which the team works the sequence backwards from the milestone, asking each trade partner to declare their needs and predecessors. All needs must be met before moving to the next activity, ensuring every trade gets what they need and the sequence is complete.

Bottleneck — The zone, trade, or process that limits the throughput of the entire system. Always know your bottlenecks—both trade process bottlenecks and zone bottlenecks—and manage the system around them.

Boxcar — See Takt Wagon.

Buffer — Time, capacity, or inventory intentionally built into the plan to absorb variation and protect flow. Always plan with buffers: keep 5%–20% buffers within a sequence, hold enough phase or project buffers to cover risks, use supply chain and material inventory buffers, and track your Remaining Buffer Ratio throughout the project. Buffers are a project's best indicator of health and stability.

Buyout Meeting — The first meeting in the Trade Partner Preparation Process, held between the trade representative and the GC Project Manager to verify contractor scope and ensure the contractor is legally obligated to perform. The agenda covers the Owner's Top 10, the work package checklist, commitments to project-specific plans and schedule, the procurement log, mock-ups, permitting, and testing and inspections.

C

CAZ (Controlled Access Zone) — A designated, labeled area with restricted entry, created ahead of upcoming work so the next zone is safe and ready before crews arrive.

Conditions of Satisfaction (CoS) — The clearly defined expectations that must be met for a handoff or deliverable to be acceptable to the next trade or the customer. Every crew needs to know the Conditions of Satisfaction before starting work, and every trade should understand the Conditions of Satisfaction of the trade that follows them.

Constraint — An item that is part of the design of the train of trades and can be adjusted and optimized—such as Takt zones, Takt time, work packaging, sequence, labor counts, crew composition, trade processes, and zone configuration. Constraints are optimized, not cleared. Do not confuse constraints with roadblocks.

Contractor Grading — An accountability system in which trade partner performance is scored and tracked, reinforcing standards for quality, cleanliness, safety, and reliability across the project.

CPM (Critical Path Method) — A traditional scheduling method based on activity networks and a single critical path. In this system, CPM is never paired with the Last Planner® System; production is planned and driven with Takt.

Crew Board — A board where trade crews plan their work as a crew in one-piece flow during the Crew Preparation Huddle. It holds the look-ahead, Weekly Work Plan, zone maps, logistics map, roadblock checks, work package preparation, and quality and handoff items.

Crew Preparation Huddle — A daily huddle where the Foreman and crew plan their work, prepare, and fill out PTPs as a group. The crew reviews the plan, shares 2 Second Lean improvements, walks the area of work to plan for safety, 6Ses the work area, eliminates wastes—especially excess material inventory, wasted transport, and wasted motion—gathers all tools to prevent treasure hunts, and goes to work according to standard work steps. The Foremen and workers are the expert boots on the ground.

D

Daily Correction System — An accountability system for correcting deviations in cleanliness, safety, organization, and quality every day, before small problems become project problems.

Day Plan — The visual plan for a single day of work, created together in the Afternoon Foremen Huddle and communicated to all workers in the Morning Worker Huddle. It covers shout-outs, feedback, the safety focus, permits, weather, deliveries and staging strategy, and the plan of work.

Doer/Seller — A builder who both delivers the work and helps win it—contributing planning content such as Macro Takt Plans, zone maps, logistics plans, and models to proposals and interviews.

F

First In Place Inspection — An inspection held once the first process or wagon of a trade's work is complete, attended by the GC Superintendent and Field Engineer with the trade's Super, Foreman, and crew. Its purpose is to get the crews off on the right foot: review the quality checklist and visual, confirm crew knowledge, verify the substrate was accepted, and educate, educate, educate.

First Planner System® (FPS®) — The complete operating framework for a project, spanning external factors, pre-construction planning, the team, the plan, the supply chain, the culture, training, and the Trade Partner Preparation Process. It combines Lean and operational frameworks into one system covering the bare minimum of what it means to have a complete project system.

First Planner® — The builder-planner—typically the Superintendent, Project Manager, and project delivery team—who prepares the strategic plan, environment, and resources so the Last Planners® can succeed. First Planners plan the project from the proposal onward; Last Planners® commit to and execute the work.

First-Run Study — A structured review of the first execution of an activity, used to prepare and refine the work—establishing methods, production rates, and quality expectations before the activity repeats across zones.

Flow — The uninterrupted movement of work, trades, materials, and information through the project— zone to zone, handoff to handoff—without stops, restarts, or waiting. Everything in the meeting system, visuals, and plans is designed to enable flow.

Foremen Huddle — See Afternoon Foremen Huddle.

Forward Pass — The first step of pull planning, in which trades place their activities in sequence from the start—announcing activity, duration, and worker count, based on historical data when possible—until the milestone is reached.

Fresh Eyes Meeting — A risk management meeting in which people not embedded in the project review the plan to identify as many possible risks as possible, anchoring to past projects and a reference class, so the plan can be adjusted before problems occur.

Full Kit — Having everything needed to complete a task—materials, information, equipment, tools, permissions, and space—before starting. We do not start a task until we are ready to finish; always begin with full kit.

Functional Area — A distinct portion of a large project—such as a building, wing, or system—with its own team and its own Trade Partner Weekly Tactical, Afternoon Foremen Huddle, Morning Worker Huddle, Crew Prep Huddles, and Zone Control Walks. Separating meetings by functional area keeps them short, relevant, and effective.

G

Goldratt's Rules of Flow — Principles from Dr. Eliyahu Goldratt's Theory of Constraints for managing production flow—controlling work in progress, avoiding multitasking and overload, and subordinating everything to the constraint. Always follow them when steering the project.

H

Handoff — The transition of a zone from one trade to the next. Perfect handoffs—on time, complete, clean, and with quality verified—are the heartbeat of Takt production and are managed daily in Zone Control Walks.

I

IDS (Identify, Discuss, Solve) — A problem-solving pattern used in team huddles: identify the issue, discuss it with the team, and solve it with clear assignments.

inTakt — Software built for the Takt Production System® that allows teams to define Takt zones, identify tasks, set parameters, and plan, build, and monitor flow on their projects electronically.

Integrated Production Control System (IPCS™) — The overall production control system that integrates the Takt Production System®, the Last Planner® System, Scrum, and the meeting and huddle system into one connected way of planning, steering, and controlling the project—including zero tolerance systems, the Daily Correction System, Quality at the Source, Contractor Grading, and the Team Health Score.

IWP (Installation Work Package) — A defined, ready-to-install package of work prepared for a crew — scoped, kitted, and constraint-optimized so installation can proceed without interruption.

J

JIT (Just-In-Time) — Bringing materials to the site and to the place of work only when needed, according to inventory buffers of time and quantity, through level and perfectly organized staging yards. All deliveries are scheduled—no rogue deliveries.

K

Kaizen — Continuous improvement in small, ongoing steps. The Takt framework is used for Kaizen at both the project and crew level.

Kanban — A visual replenishment signal used to trigger restocking of materials and supplies—such as replenishment kanbans in connex box organization—so inventory is maintained without excess.

KPI (Key Performance Indicator) — A measurement used to steer the project. Core KPIs include the percentage of Pre-Con Meetings held, the percentage of critical crews installing with a visual checklist, the Remaining Buffer Ratio, the Perfect Handoff Percentage, Percent Planned Complete, and the Roadblock Removal Average.

L

Last Planner® — The person who directly commits to and directs the work—typically the Foreman. Last Planners® make hand-off commitments willingly, adjust Weekly Work Plans, and are supported by the First Planners with the plan, environment, and resources they need. Last Planner® is a registered trademark of the Lean Construction Institute.

Last Planner® System (LPS®) — A collaborative planning system in which those who execute the work plan the work—through pull planning, make-ready look-ahead planning, weekly work planning, day planning, and learning from Percent Planned Complete. In this system it is always paired with Takt as the production plan, never with CPM.

Leader Standard Work (LSW) — A leader's repeatable weekly schedule of routines—huddles, walks, planning time, and personal disciplines—time-blocked and followed consistently so the leader's week drives the system rather than reacting to it.

Lean — A way of building based on respect for people and the relentless removal of waste, so value flows to the customer. Everything we do is based in respect for people, and we do not waste resources.

Logistics Map — A visual site plan showing safety and emergency provisions, site organization, temporary infrastructure, common areas, access ways, staging, deliveries, and traffic and pedestrian patterns. Your logistics plans are just as important as your schedule: if you can get workers and materials to the place of work, you can build it.

Look-Ahead Plan — A rolling six-week plan filtered from the production plan and reflecting the trade flow, used to make work ready—finding roadblocks and removing them before they impact the work. Also called the Make-Ready Look-Ahead Plan or 6WLA.

M

Macro Level Takt Plan — The strategic, high-level Takt plan for the whole project, built from the slowest reliable speed plus risk analysis and a reference class to form the contractual promise. It is used for strategic decisions, procurement alignment, and proposals, and is reviewed weekly in the Strategic Planning and Procurement Meeting.

Make-Ready — The process of preparing work so it can be executed without interruption—removing roadblocks, confirming materials, information, access, and predecessors—typically six weeks out
through the look-ahead process.

Master Subcontract Agreement (MSA) — The master contract with a trade partner. Lean inclusions are written into the MSA and individual contracts to guide behaviors on the project and ensure trades have the right scope to support Lean systems.

Milestones — The anchor dates of the production plan: the Start milestone, Substantial Completion, Final Completion, and Financial Completion.

Mock-Up — A physical sample of an assembly built before production work begins, used to set quality expectations and resolve details with the trade partner.

Morning Worker Huddle — A daily gathering of Supers, Field Engineers, Foremen, and all crews where everyone is brought together into one big social group and the day's plan is communicated. It includes stretch and flex, shout-outs, worker feedback, the plan for the day, owner items, a training moment, encouragement of crew prep huddles and PTPs, and a rally cry. Workers leave feeling aligned and respected.

Muda — Waste—anything that is not adding value. One of the three Ms of Lean, addressed by removing waste.

Multiplier Leader — A leader who builds the team and makes everyone around them more capable — having difficult conversations when needed, coaching and mentoring without micromanagement, ensuring remarkable meetings, and scaling clarity about the vision and direction of the project.

Mura — Unevenness—when there is no flow to the work, with stops and starts caused by defective work, delayed work, unleveled zones, unleveled crews, and bottlenecks. Addressed by reducing unevenness.

Muri — Overburden—not having the capacity to do the work, caused by pushing workers, excessive speed, overtime, too many work areas, and harsh conditions. Addressed by readjusting the load on the team through look-ahead planning, a consistent huddle system, and reflection after the work.

N

Nine Wastes — The wastes to eliminate in construction: defects, transportation, motion, over-processing, waiting, unused talent, inventory, over-production, and the ninth waste of unhealthy conflict—created by criticizing, complaining, comparing, competing, and contending.

Norm Level Takt Plan — The optimized production-level Takt plan—optimized speed plus risk mitigation strategies and buffers—that becomes the production target and drives daily work with the Last Planners®. Pull plans become Norm-level Takt plans with gained buffers.

O

OAC Meeting — The weekly Owner-Architect-Contractor meeting where the project delivery team aligns with the owner and design team.

One-Piece Flow — Working one unit, one zone, or one task at a time to completion before moving on, rather than batching—reducing work in progress, defects, and waiting.

OPUR (One Person Ultimately Responsible) — The single named person accountable for an effort, assignment, or roadblock. Every roadblock and every proposal or interview effort gets an OPUR—otherwise it will be a nightmare.

Owner's Top 10 — The owner's ten most important priorities for the project, reviewed at the start of every Trade Partner Preparation meeting so the whole chain of work stays aligned to what the customer values most.

P

Path of Critical Flow (PCF) — The sequence of flow through the project that governs the finish date in a Takt plan—distinct from a CPM critical path. Always know your Path of Critical Flow, understand how interconnections and independent activities affect it, and know it for different realized flow potential options.

Percent Planned Complete (PPC) — The percentage of planned commitments completed as promised— tracked weekly with a target above 80%. PPC allows the team to root-cause problems, but it should never be used alone.

Perfect Handoff Percentage (PHP) — The percentage of zone handoffs completed perfectly—on time, complete, clean, and with quality verified. A core KPI of Takt steering and control.

Phase — A major stage of the project, identified by functional area. Every phase is pull planned, buffered, and connected—always show key connections between phases and understand how interdependence ties affect the Path of Critical Flow.

Plus/Delta — A quick close-out reflection at the end of every meeting: what went well (plus) and what should change (delta). It builds continuous improvement into the meeting system itself.

PPC — See Percent Planned Complete.

Pre-Construction Meeting (Pre-Con) — A meeting held about three weeks before a trade's first wagon, with the trade PM, Super, and Foremen plus the onsite team. Its purpose is to collect and explain deliverables, enable the Foreman and Superintendent, and develop the quality checklist or visual the crew will use to install in the field.

Pre-Fabrication — Assembling work off-site or in dedicated fabrication areas—wall panels, duct banks, and other assemblies—shipped to the project Just-In-Time. Pre-fab enables flow, reduces install bottlenecks, and should go from an afterthought to a major consideration in construction.

Pre-Kit — The outputs of one meeting prepared as the inputs of the next. Each meeting in the system yields the pre-kitting needs of the meeting that follows, so information flows through the entire team and project.

Pre-Mobilization Meeting — A meeting held about two weeks after contract between the trade PM and GC PM to explain deliverable needs and commit the contractor to deliver by the pre-construction meeting—covering the Feature of Work breakout, submittals, permitting follow-up, and special or source inspections.

Pre-Task Plan (PTP) — A daily plan filled out by the crew as a group—covering both safety and quality— before work begins. PTPs are completed, oriented to, and signed in the Crew Preparation Huddle and reinforced in the Morning Worker Huddle.

Procurement Log — The living log used to proactively manage the supply chain—tracking materials, submittals, and deliveries against the production plan. Reviewed and leveled weekly in the Strategic Planning and Procurement Meeting.

Production Laws — The laws of production science—governing the relationships between work in progress, capacity, variation, cycle time, and throughput. Understand them, be open to smaller zones, level work, reduce variation, know your bottlenecks and in-zone cycle time, and never add labor, work overtime, rush, push, panic, overstock, stack, or burden as a knee-jerk reaction.

Production Plan — The visual plan of the production system—Macro-level strategic Takt plan, pull plans, Norm-level production plan, look-ahead plans, Weekly Work Plan, and Day Plan—used to run work collaboratively in the field. It aligns all processes, systems, and supply chains to a rhythm the team can see, follow, adjust, and win with.

Pull Planning — Collaborative planning in which trades build the sequence together on a wall or digital board—a forward pass to set the sequence and a backward pass to confirm every trade's needs are met—for one representative zone. Pull plans must be done by zone, zones must be the right optimized size, and pull plans become Norm-level Takt plans with gained buffers.

Q

Quality at the Source — Building quality into the work where and when it is performed—inspecting, punching, and fixing issues immediately with the crew rather than at the end. We punch and finish as we go.

R

Remaining Buffer Ratio (RBR) — The ratio of buffer remaining to risk remaining on the project—the key indicator of schedule health. Track it throughout the project and review it weekly in the Strategic Planning and Procurement Meeting.

Risk and Opportunity Register — The living log of project risks and opportunities, reviewed weekly with assignments made and items statused red, yellow, or green—so risks are prevented, not just recorded.

Roadblock — An item that must be removed ahead of the train of trades so work can flow—an unanswered RFI, layout not ready, work area not made ready, missing material or equipment, a crew not ready ahead, improper planning or sequence, unavailable resources, or unauthorized work. Roadblocks are found in look-aheads, huddles, and walks, written down as you go, assigned to an OPUR, and removed before they impact the work. Don't fight fires—find and remove roadblocks before they impact your work.

Roadblock Removal Average (RRA) — A KPI tracking how quickly and reliably the team removes roadblocks once identified.

Rolling Completion List — A continuously maintained list of remaining work items kept as trades finish—so completion happens progressively rather than piling up at the end. Part of finishing as you go.

S

Scrum — A framework used by the office team to accomplish tasks in a fun and fast way. In the Team Daily Huddle, the team gathers at the Scrum board and answers: What was accomplished yesterday? What are you working on today? What do you need help with? What is in your way? Larger issues go to the team Scrum board's backlog, sprint backlog, in progress, and complete columns.

Shielding and Screening — Protecting crews from unready work: screening assignments so only sound, ready work enters the Weekly Work Plan, and shielding crews from disruptions so they can execute their commitments.

Shout-Outs — Specific, public recognition of crews and individuals for work going well—given at the start of every meeting and huddle in the system. Get at least two, and give them if needed.

Sidebar — A follow-up conversation taken outside the meeting when a topic is not needed in front of the entire group—keeping meetings short and relevant.

Staging Yard / Laydown Yard — Organized areas where materials are received, inspected, kitted, and staged before moving to zones Just-In-Time. The best staging yards are named, labeled, roped off, grid- marked, on a stabilized base, with trade staging assigned and marked with signage.

Standard Work — The current best-known, documented way to perform a task—reviewed in crew huddles and executed in the field, forming the baseline for training and continuous improvement.

Stop, Call, and Wait — The rule for responding to variation or problems: stop production, call the right people, and wait—never push through, never rush. Solve the problem at the source.

Strategic Planning and Procurement Meeting — The weekly meeting of Supers, PMs, and PEs where long-term planning takes place—the Macro Takt Plan is reviewed and updated, strategic decisions are made, the Remaining Buffer Ratio is reviewed, and the Procurement Log is confirmed, solved, and leveled.

Swing Capacity — Reserve capacity—crews and workable backlog areas—that can absorb delays or swarm problems without disrupting the flow of the Takt plan.

T

Takt — A German word meaning rhythm or beat. In construction, Takt is the steady rhythm of production—trades flowing through equally-timed zones in sequence—that creates flow, exposes problems, and makes the plan visible to everyone.

Takt Control Boards — The wall boards where planning with Last Planners® happens—organized into Team boards (prepare and balance the team), Identify boards (find constraints and roadblocks), Discuss boards (review the plan), and Solve boards (make decisions and assignments). It all flows.

Takt Plan — A production plan organized as trades (wagons) flowing through zones on a set Takt time, shown visually as trains moving across a grid of zones and time. Built at Macro, Norm, and backup levels, with buffers, and used daily to steer the project.

Takt Production System® (TPS®) — The complete Takt-based production system—covering programs and projects, milestones, phases, zones, Takt time, trains and trade flow, production laws, buffers, interconnections, independent activities, the Path of Critical Flow, and First Planner + Last Planner® coordination—along with the steering and control practices to run it.

Takt Steering and Control — The active, daily management of the Takt plan in the field—optimizing constraints, removing roadblocks, running the meeting system, performing zone control, managing delays according to production science, enforcing accountability, and tracking KPIs.

Takt Time — The set duration of each beat of the plan—the time each trade has in each zone before handing off. Start with a 5-day Takt time at the Macro level, move to shorter Takt times as you optimize, never use weekends in the Takt time, and always have a Macro, Norm, and backup Takt time.

Takt Train — A sequence of Takt wagons (trades) flowing through zones in order, like train cars moving down a track. The train makes trade flow visible: with the Takt Production System® and Last Planner® we can see the train and the work ahead.

Takt Wagon — One trade's package of work sized to fit one zone within one Takt time—one car of the Takt train. Also called a boxcar. Activities are packaged into wagons so they naturally fit within the same Takt time and same zone.

Team Daily Huddle — The daily huddle of PMs, Supers, PEs, and FEs where the office team supports flow for the field. Using the Scrum framework, the team identifies, discusses, and solves issues; confirms priorities; and makes assignments. All roadblocks from all meetings, huddles, and walks are covered as a team.

Team Health Score — A monthly score of how the project team is functioning—trust, healthy conflict, accountability, alignment, and morale—because the team is the apparatus through which every other system is delivered.

Team Weekly Tactical — The weekly team meeting of Supers, PMs, PEs, and FEs to review workload, coverage for the week, and open items—covering safety management, customer experience, TP3 review, schedule, cost and budgeting, the risk and opportunity register, and teaming moments. It organizes the project management team so they can support the field.

TP3 (Trade Partner Preparation Process) — The structured sequence for preparing every trade partner to succeed: Buyout Meeting, Pre-Mobilization Meeting, Pre-Construction Meeting, First In Place Inspection, Follow-Up Inspections in Zone Control Walks, and Final Inspection before demobilization. It gets quality and safety right from the start.

Trade Partner — A specialty contractor treated as a partner in the production system—onboarded through TP3, included in pull planning and weekly work planning, and respected as the expert in their work. We use the term trade partner, not subcontractor.

Trade Stacking — Placing multiple trades in the same zone at the same time, causing congestion, overburden, and defects. When delaying an individual train, be careful not to trade stack.

Treasure Hunt — The waste of workers searching for tools, materials, or information. Crews gather all tools and needed equipment during the Crew Preparation Huddle to prevent treasure hunts.

V

VDC (Virtual Design and Construction) — The use of 3D and 4D models to plan, visualize, and communicate the build—zone maps, logistics maps, and 4D schedules. Send your vision to the VDC team right away; don't assume modeling is quick and easy.

Visual Management — Making the plan, status, and standards visible to everyone—control boards, zone maps, day plans, area boards, signage, and color coding—so the team can see as a group, know as a group, and act as a group.

W

Water Spider — A dedicated material handler who shakes out materials and delivers them to workers in zones, keeping installers installing instead of transporting.

Weekly Work Plan (WWP) — The complete plan for the coming week, created collaboratively in the Trade Partner Weekly Tactical—filtered from the production plan, adjusted by trades, with handoffs and readiness confirmed and commitments made from trade to trade. Don't reinvent WWPs from scratch.

Work Density — The amount of work contained in a zone relative to the crew and time available. Work density analysis is done at the Norm level to right-size zones; zone work density that is too high causes overburden.

Work in Progress (WIP) — Work that has been started but not finished. Align WIP to the capacity of resources and control and level it to maintain flow—never overburden people or the system.

Work Packaging — Organizing scopes of work into packages—wagons—sized for flow through zones on the Takt time. Work package for flow, decide on single or multi-train packaging, and obey the rules of flow.

Workable Backlog — Areas of sound, ready work intentionally carved out and held in reserve so crews can swing to them when a Takt phase must pause—providing swing capacity without breaking flow.

Z

Zero Tolerance System — A firm, consistently enforced standard—for cleanliness, safety, and organization—with immediate correction of every deviation. Operational stability enables all other success.

Zone — A physical area of the project sized so trades can flow through it on the Takt time. Zones are identified at Macro, Norm, and backup levels based on physical constraints and work density, and all supervisors must be able to see zone boundaries.

Zone Control — How Supers and Foremen run the field to gain time and productivity: plan it first, build it right, and finish as you go—working by zones, punching and finishing as you go, preparing work out ahead, recovering when behind, and never going faster unless the work is 100% finished, inspected, and the neighboring trades agree.

Zone Control Walks — Daily walks of every zone by Supers, Assistant Supers, Leads, FEs, and Foremen using the Weekly Work Plan and zone maps—punching as you go, preparing as you go, taking action to create flow, and reporting in the huddle. They include the First Zone Walk (walked at 50%–75% complete to establish expectations) and the Hand-Off Walk (before a Foreman moves to the next zone).

Zone Map — A visual map showing zone boundaries, labels, and status—carried on walks, posted on boards, and used in every planning meeting so everyone can see where work flows.

Last Planner® and Last Planner® System are registered trademarks of the Lean Construction Institute. Takt Production System®, First Planner®, First Planner System®, and IPCS™ are marks of their respective owners.