

25TH ANNUAL



25TH LCI CONGRESS
OCTOBER 24-27, 2023

How to Accelerate your Project Through the Use of Takt

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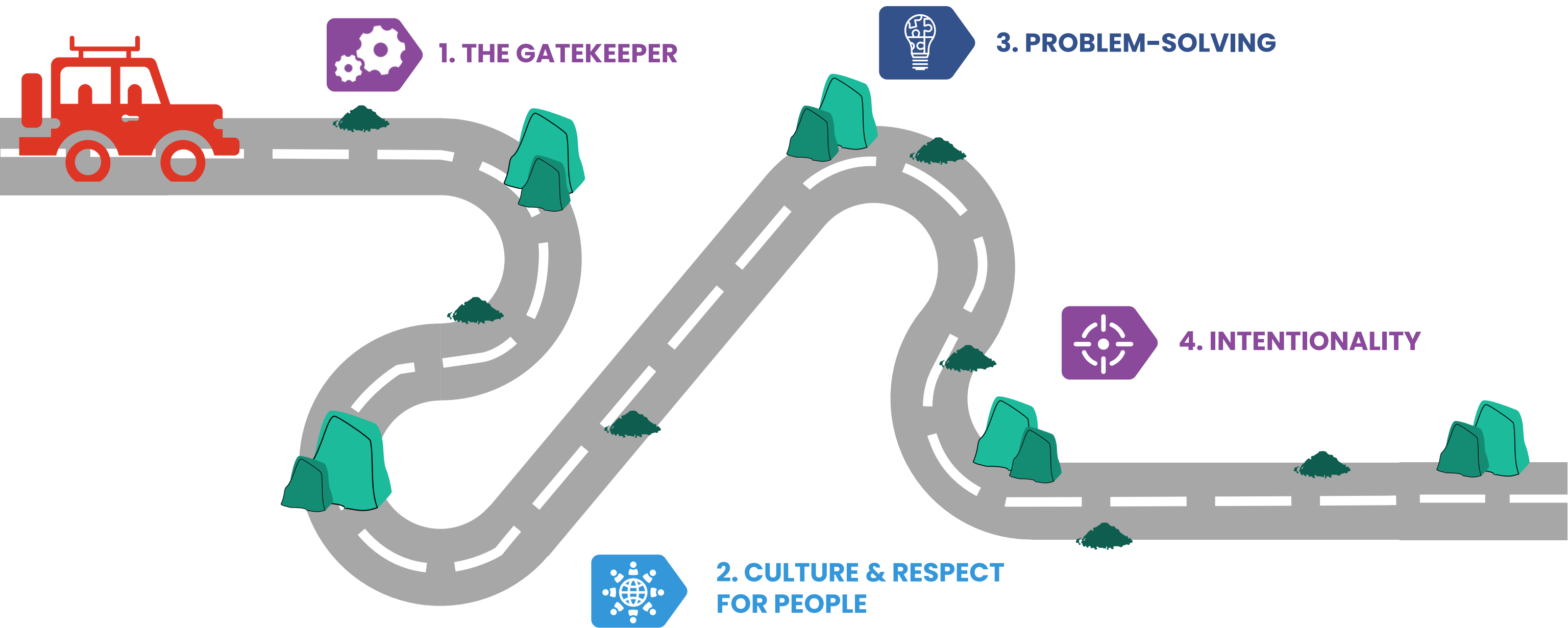
25 YEARS OF LEARNING: SUPERCHARGE YOUR LEAN JOURNEY IN THE MOTOR CITY

October 25, 2023

Anybody Ever Gone Off-Roading?



The Trail



Overview



Project Overview

- **600-foot-tall** shell & core office building
- **1M SF** rental space
- **34 Office** floors
- **Five Amenity** floors
- **14 months** schedule



Problem Statement

- **Takt can be the ultimate enhancement tool**

- **Objective**

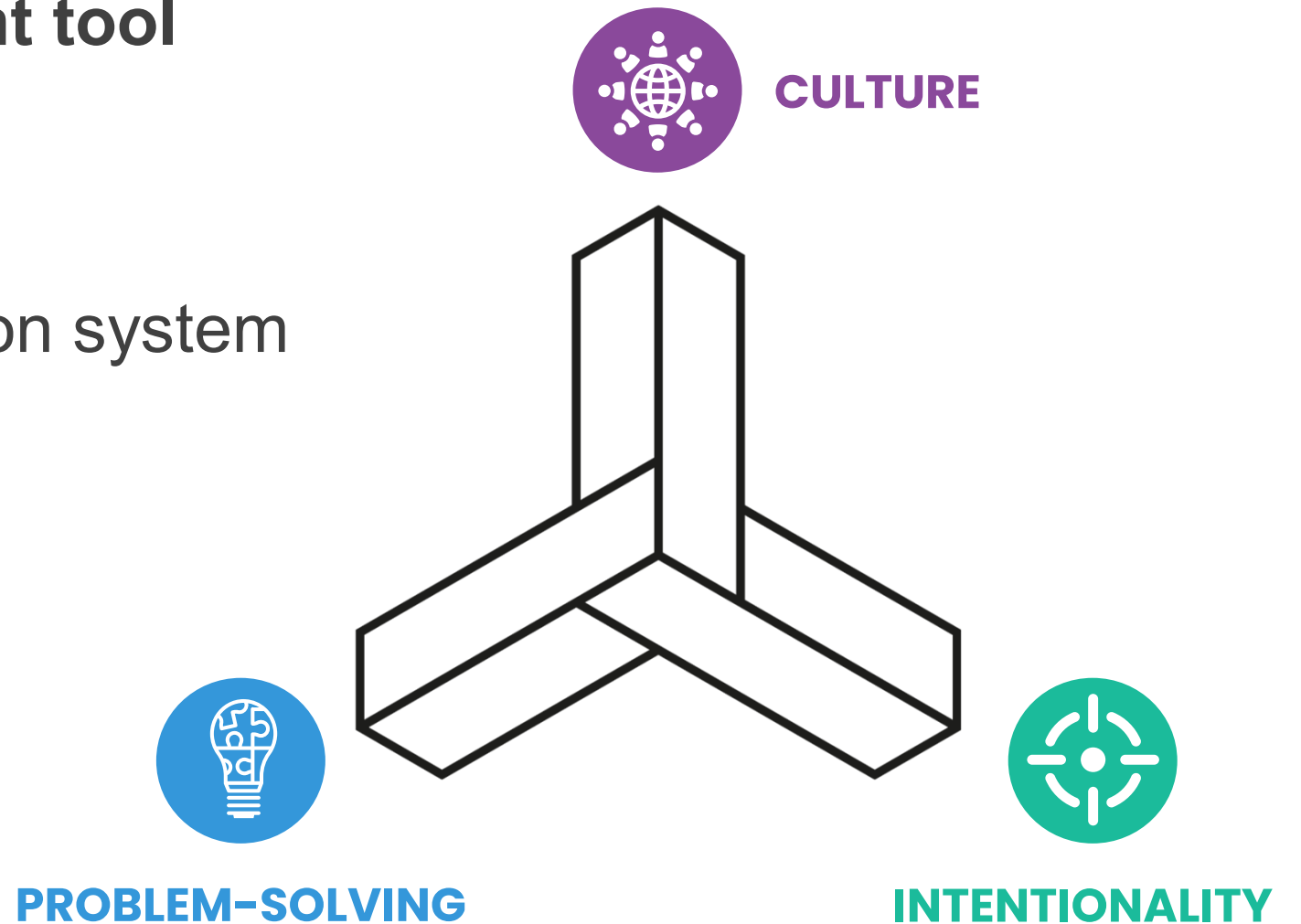
How do we create an effective production system that went beyond just using the tools?

- **How do we**

Develop it

Manage it

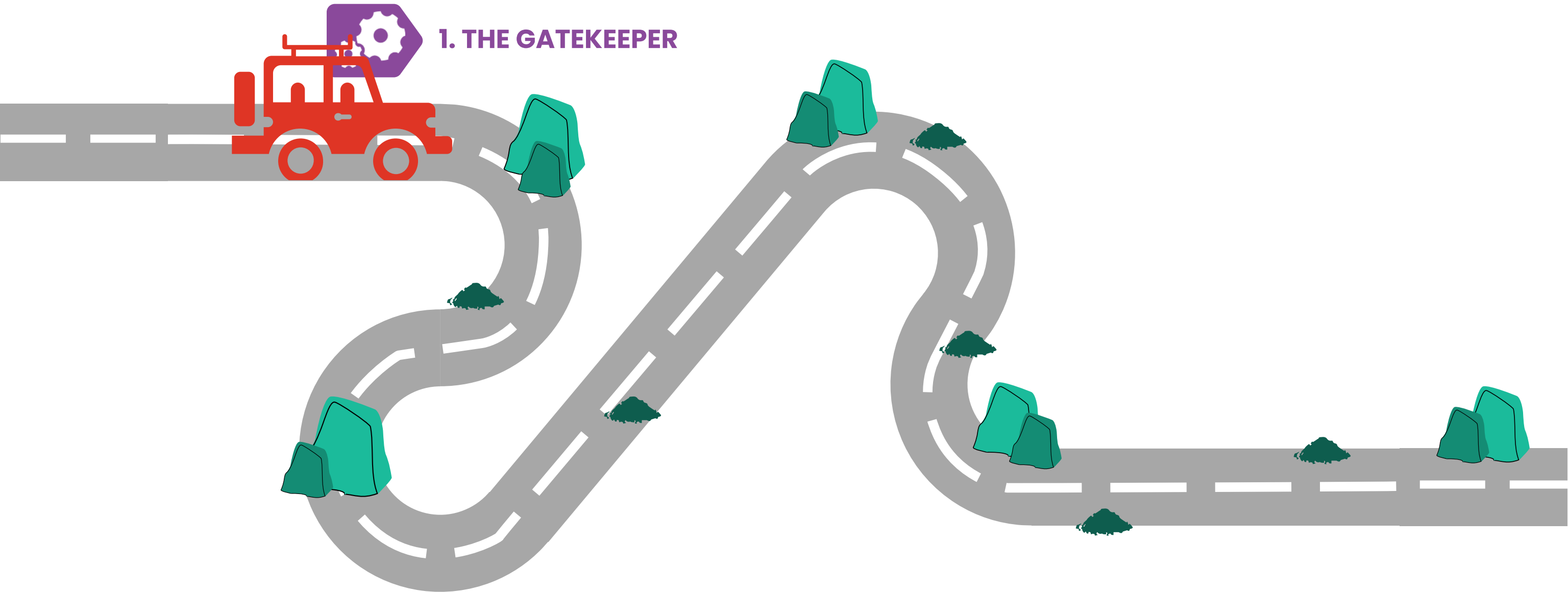
Protect it



The Gatekeeper



The Gatekeeper



The Gatekeeper

- Early obstacle that determines your ability to tackle the trail ahead
- First test for a group ride and vehicle



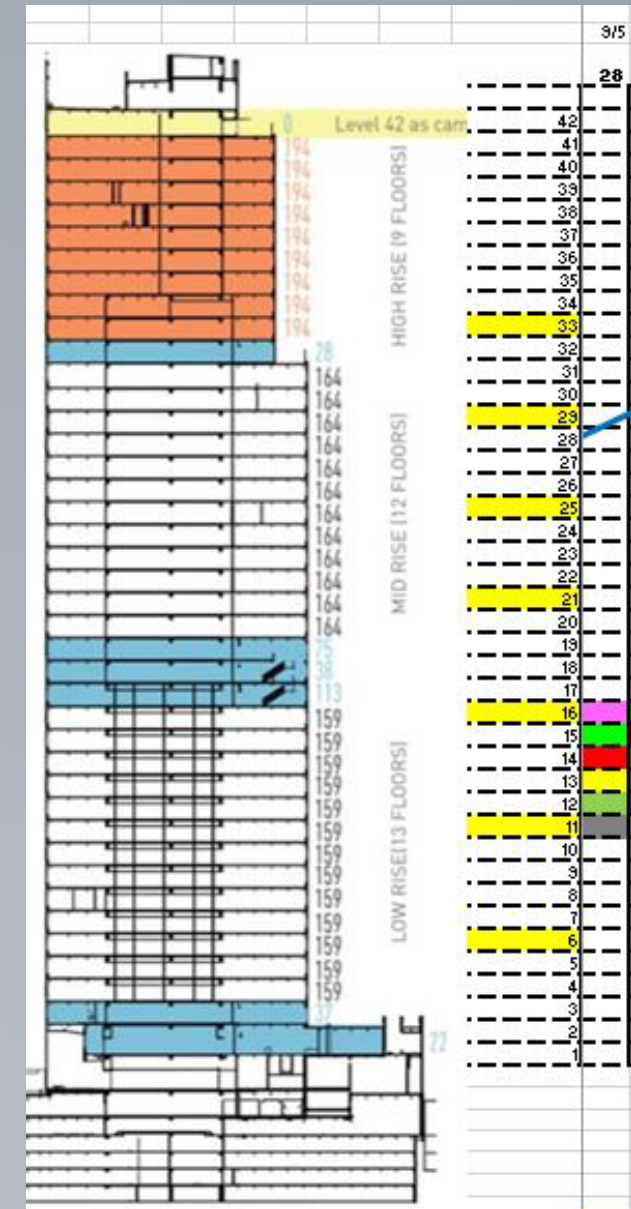
The Project Gatekeeper

- Simultaneous work on 20 floors
- Vertical transportation challenges
- Nighttime deliveries, no crane usage
- Up to 350 workers per day on TI, 400 on Shell & Core
- Predictable workflow for all trades
- Design for post-COVID return to work
- Ongoing design evolution for post-COVID return
- Redesigned headcount floors after DD drawings
- Amenity floors redesigned
- Permit broken out to accommodate design
- Top floors on hold for further redesign

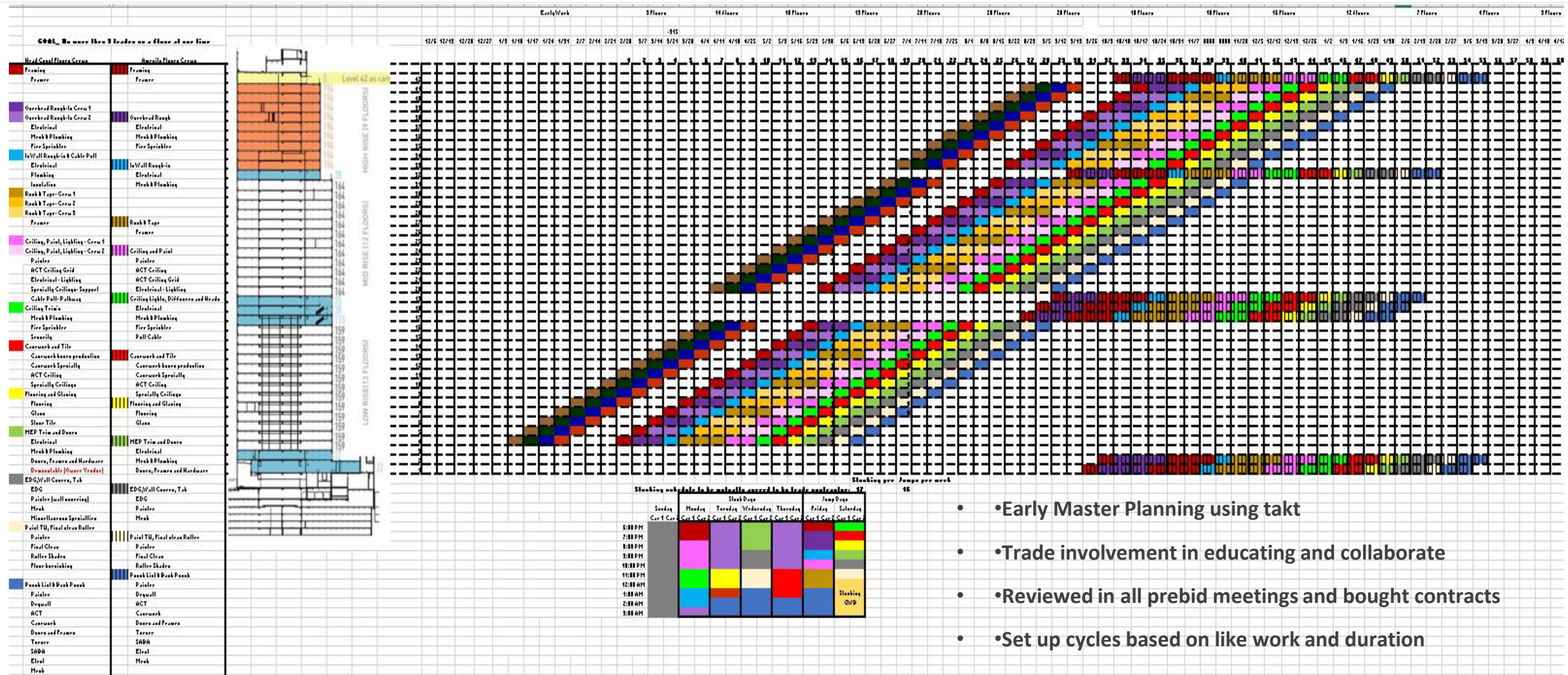


Takt Based Planning for 555 TI

- **What is Takt?**
 - Rate at which something must be produced (supply rate) to match the rate at which it is needed (demand rate)
- **Why Takt on this Project?**
 - Built around repeatable processes moving through similar floors
 - Looked for ways to provide predictability from floor to floor to establish a production system



Takt Based Planning for 555 TI



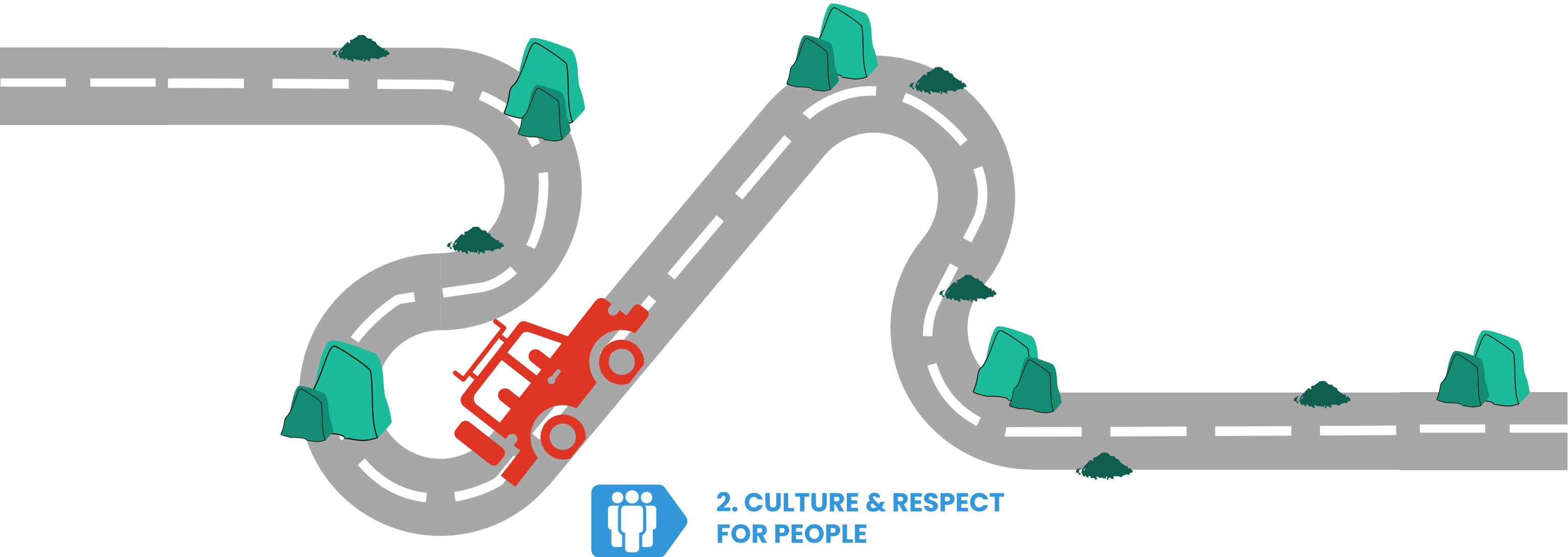
- Early Master Planning using takt
- Trade involvement in educating and collaborate
- Reviewed in all prebid meetings and bought contracts
- Set up cycles based on like work and duration

Pillar 1

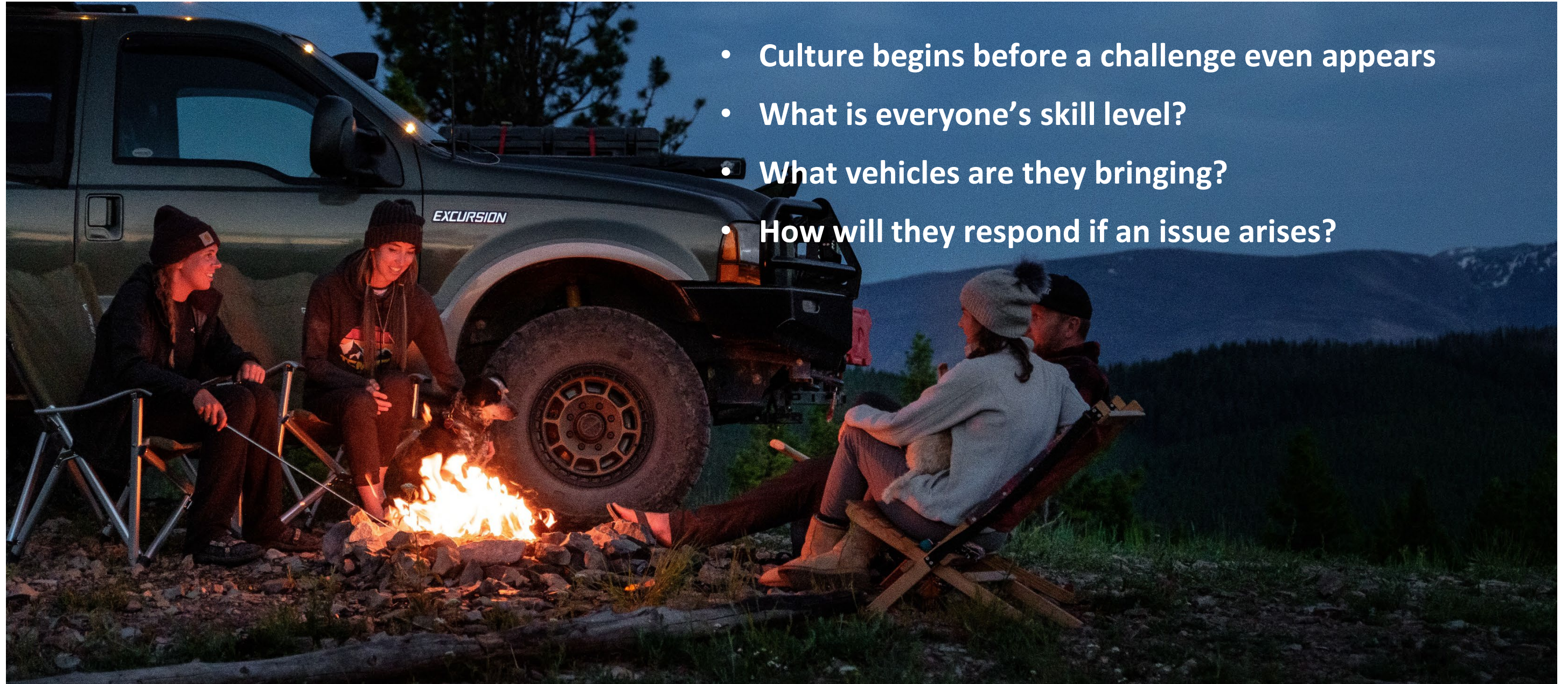
Culture and Respect for People



Culture and Respect for People



Culture and Respect for People



- Culture begins before a challenge even appears
- What is everyone's skill level?
- What vehicles are they bringing?
- How will they respond if an issue arises?

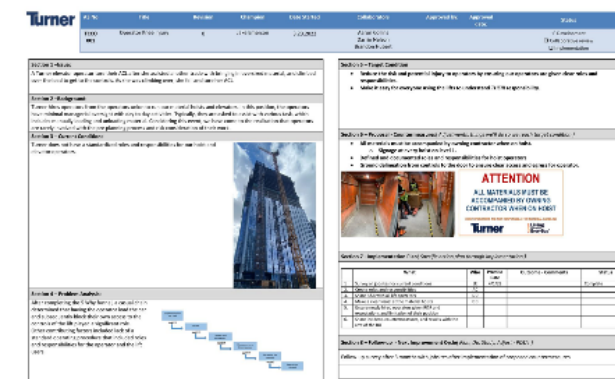
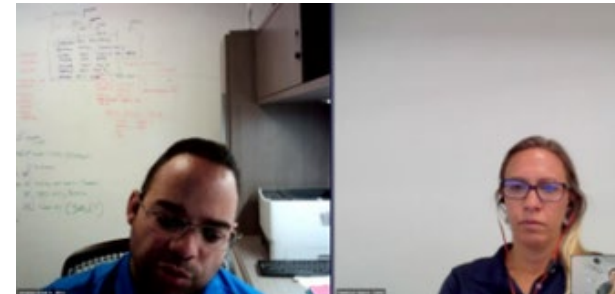
Pillar 1 (Culture and Respect for People)

Creating environments on all projects where everyone feels physically and mentally safe. People are heard, engaged, and empowered to do their best work.



Create a Learning Environment

- Lunch & Learns
- Go & See Project Trips
- Ongoing Lean Education
- Weekly Client Project Calls
- Meaningful Work
- Utilizing Injured Team Members

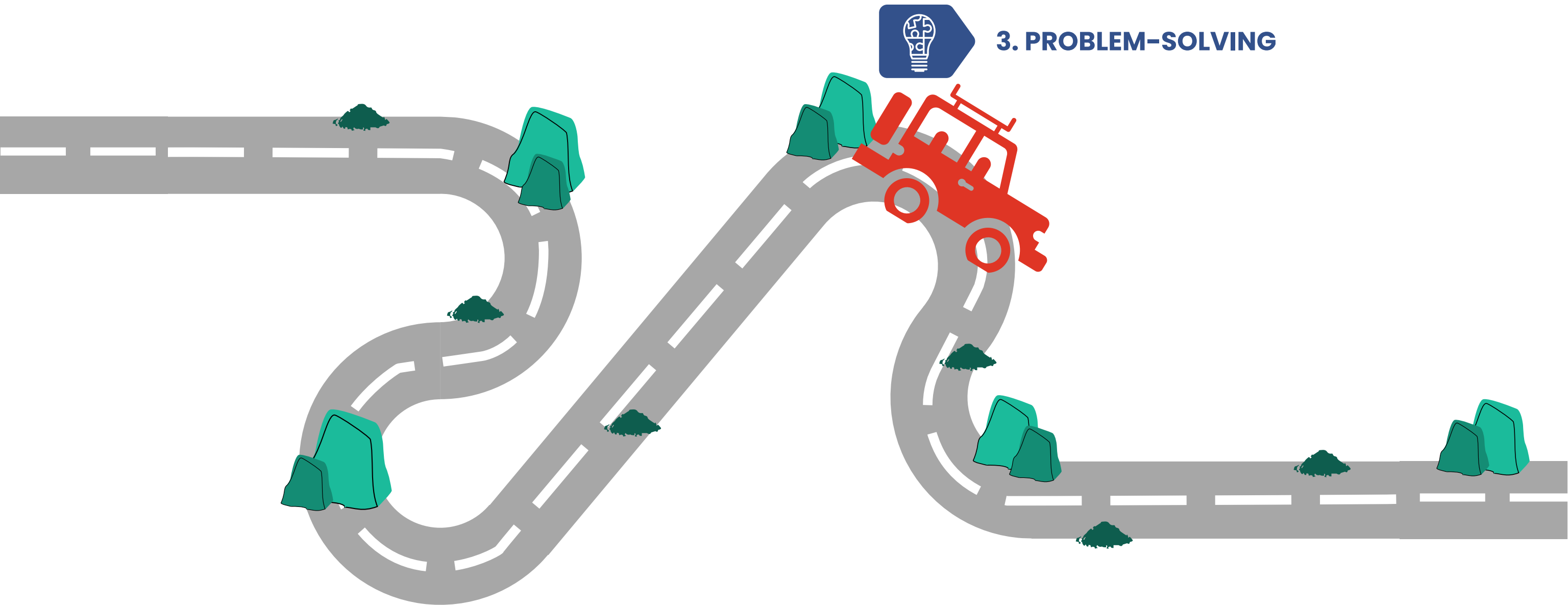


Pillar 2

Problem Solving



PROBLEM SOLVING



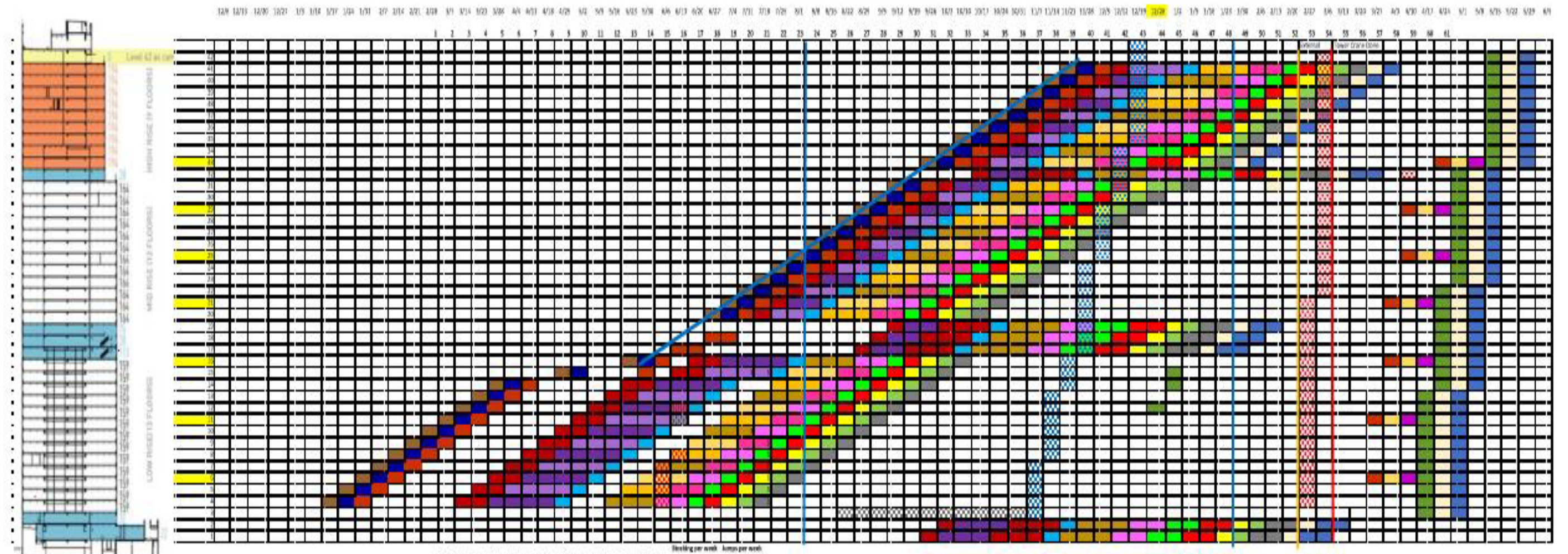
Problem Solving

- The group falls back on its gear, and its training
- Full group effort to get back on track



Obstacle 2 (Problem Solving)

- Identify problems early and act with urgency to develop robust solutions
- Takt planning delivered repeatable, predictable cycles. This required us to solve issues quickly when they came up.



Fully Utilizing The Last Planner System®

Team needed to supercharge on LPS

- Missing personnel and lift counts in pull plans
- Constraints caused cascading effects
- Insufficient detail in WWP affecting scope completion
- Daily huddle for production understanding

Changes Made

- Improved cycle pull with more detail
- Enhancing material tracking
- Eliminated constraints for upcoming trades (6 wk outlook)
- Develop more detailed PDCA cycles in WWP sessions
- Dedicated staff assigned to daily huddles

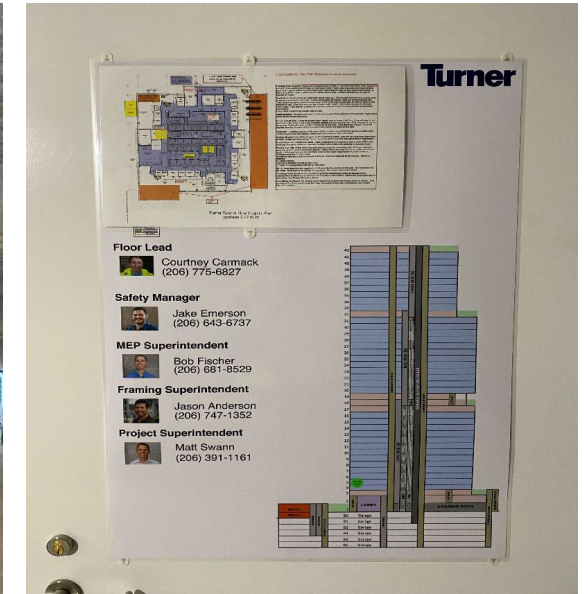
Floor 8									
Fireproof Patching Cleanup	PCU	Luke B							
TRAC BASSWOODS DATA BOARD	ALLIANCE	Tim Sharp							
IDF Panel Install	Tim Sharp	Colin Jost							
Wall Trim	SECURITY	Matt Wynn							
Floor 9									
Fireproof Patching, Masking & cleanup	PCU	Luke B							
TRAC BASSWOODS DATA BOARD	ALLIANCE	Tim Sharp							
IDF Panel Install	Tim Sharp	Colin Jost							
FITU START UP	SECURITY	Steve Carlson							
Install carpet	GRU	Walter P							
Wall Trim	SECURITY	Matt Wynn							
ceiling and wall protection	Turner Fireproof	Steve Latheway							
Floor 10									
Fireproof Patching	PCU	Luke B							
Ruler shades	PERKINS ATTOR	Steve Linn							
TRAC BASSWOODS DATA BOARD	ALLIANCE	Tim Sharp							
IDF Panel Install	Tim Sharp	Colin Jost							
ACT IR	SECURITY	Matt Wynn							
Wall Trim	SECURITY	Matt Wynn							
OTS Lighting	SECURITY	Matt Wynn							



5S, Logistics Planning, Visual Management

Upgrades to 5S and logistic plans

- Moved from trade areas to short-term staging
- Procore red tag system
- Robust signage on floors
- Material tagging on floors



5S and Logistics Plans

- Organized Spaces
- Field and Office Environments
- Prefab & Kitting
 - Staging materials for Sequoyah

BEN A West
5S Plan: [Trade Partner]

Purpose: address your plan to help make the job clean and orderly, improve flow, and reduce frustration.


Please address these four things:

Explain your plan to have everything on wheels.

What will you do to ensure nothing hits the ground (that is, trash in a worker's hand has place to go, other than the floor). How will you broom your area.

How do you ensure that no more than two weeks material and equipment is onsite.

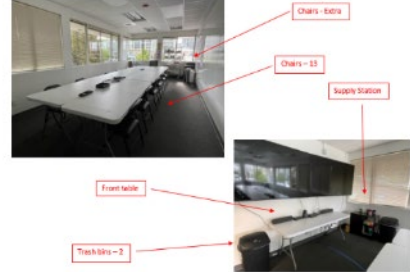
Besides your foreman or superintendent, is there someone we should work with regarding housekeeping. Please provide contact information (including foreman).

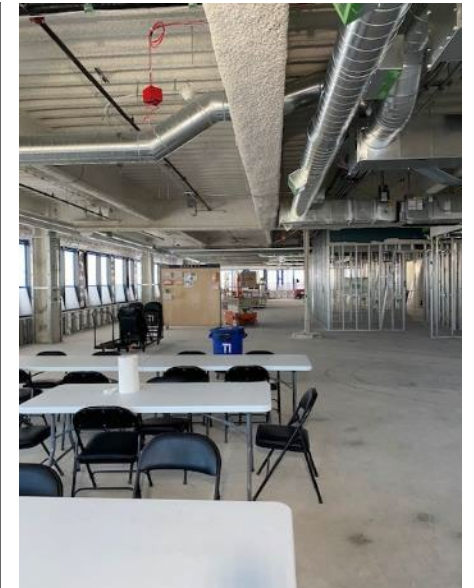
Turner 

Walk-In Cooler
Conference Room

Welcome to the 555 R conference room! Feel free to use this space when hosting project meetings, we only have one ask. Leave this room better than you found it, please read and follow these instructions when utilizing this space.

1. Arrange furniture per image below.
2. Wipe down all surfaces with Clorox Wipes located in the supply station.
3. Clean marker wall before you leave.
4. Return all supplies to the supply station (markers, sticky notes, cleaning supplies).
5. Turn monitors off.
6. Return display adaptors and remote controls to their trays.
7. Throw away trash/food.
8. Leave no trace!





5S and Logistics Plans - Prefab



5S and Logistics Plans - Kitting

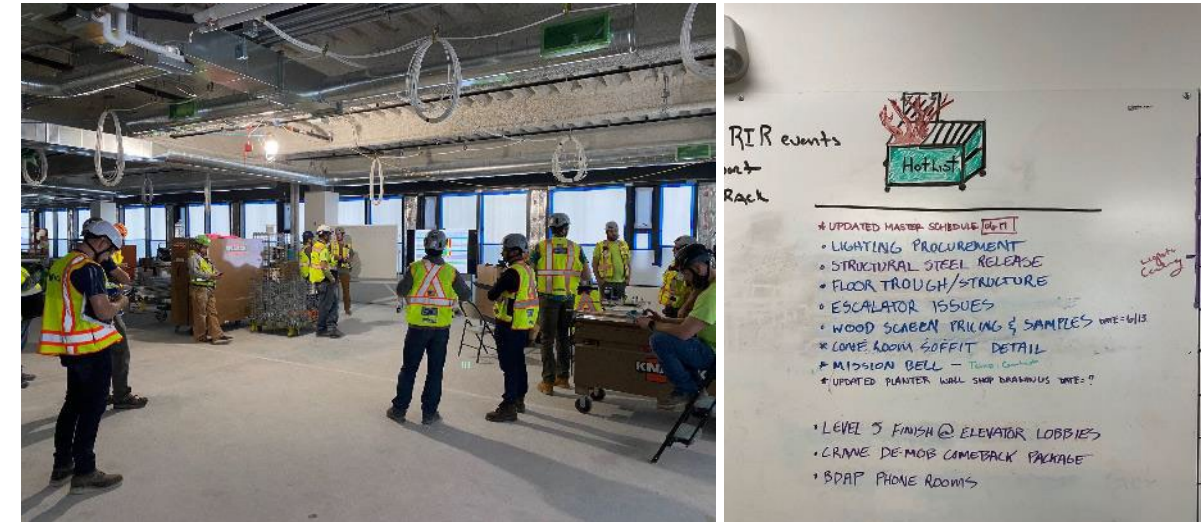
- Delivery & Site Logistics
- Fabrication & Kitting
- Refined Material Process
 - Procurement/Tracking
 - Kitting
 - Fab & Follow



Daily Management System

One of the most overlooked but critical techniques

- Small focused huddle to recognize problem early
- Everyone was in the loop with the "hot" items
- Staff was on the "same page" every day



1:30 pm

General Superintendent, PE, PM and SrPM meet to talk about updates from WWP plan and bring forward problems that could not be solved. Team to put action plans together resolve constraints. It's not solved in DMS are added to constraint log. Items currently being resolved are added to Kanban Boards

11:30 am

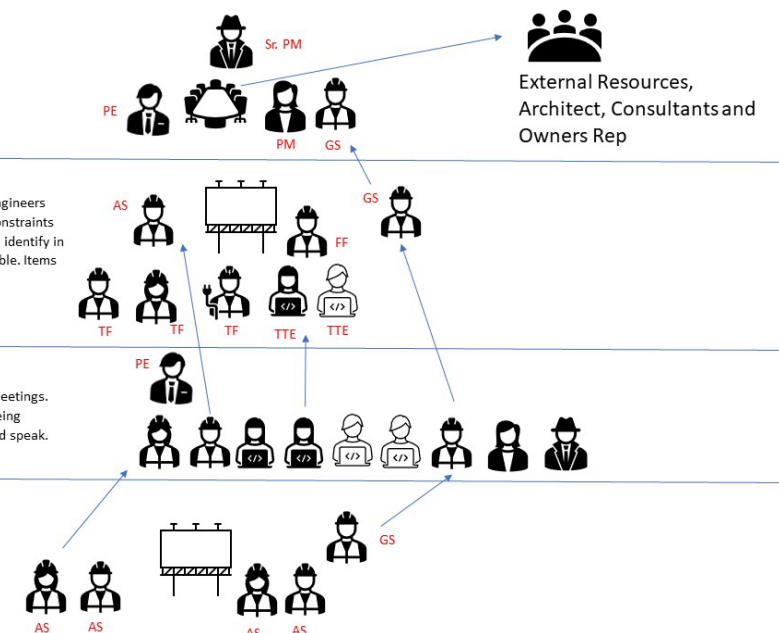
Trade forepersons meet with Area Superintendent, Turner Engineers and Floor Foreperson to talk about WWP and Constraints. Constraints that can't be solved in this meeting are elevated. Problems identify in meetings should be resolved in sidebars after huddle if possible. Items currently being resolved are added to Kanban Boards

9:00 am

Stand-up Huddle. Coordination and problems identified in meetings. Constraints are followed up on and making sure items are being resolved before the LPS huddle. All staff members attend and speak.

5:30 am

Area Superintendent, General Superintendent meet to talk about updates from yesterday's WWP plan and new problems that could not be solved. Problems identified in meetings should be resolved in sidebars after huddle if possible or passed up

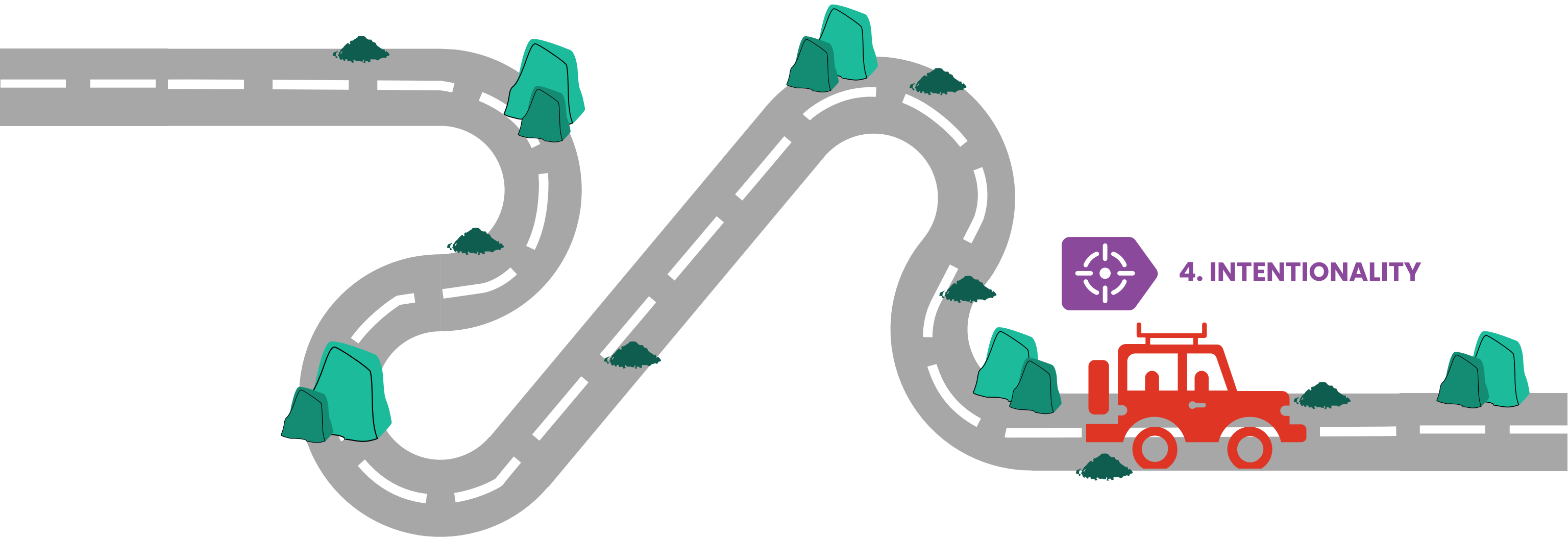


Pillar 3

Intentionality



INTENTIONALITY



Pillar 3 Off Road (Intentionality)

- Sticking to a schedule
- Spotters to help less experienced members
- Buddy checks
- Checkpoints



Obstacle 3 (Intentionality)

- Weekly "Jump" Inspections
 - Floor Details
 - Production
 - Lean
 - QC
 - GR's

Section 4 - Turner Engineer - QC - Flooring		Response Types	Preview
#4.1	Flooring - Turner Engineer	Text	<input type="text" value="Add Response"/> <input type="button" value="N/A"/>
#4.2	Open Office Carpet Installed	Default	<input type="button" value="Pass"/> <input type="button" value="Fail"/> <input type="button" value="N/A"/>
Details:	Correct carpet installed, proper installation method used, transition strips used where applicable, layout orientation inspected, inspected for install damage including tears in the carpet, carpet lays flat with no lumps or bumps, minimal gaping at areas where carpet meets walls or other vertical objects, work space clean and free from debris.		
#4.3	Huddle Room Carpet Installed		<input type="button" value="Pass"/> <input type="button" value="Fail"/> <input type="button" value="N/A"/>
Details:	Correct carpet installed, proper installation method used, transition strips used where applicable, layout orientation inspected, inspected for install damage including tears in the carpet, carpet lays flat with no lumps or bumps, minimal gaping at areas where carpet meets walls or other vertical objects, work space clean and free from debris.		
#4.4	Phone Room Carpet Installed		<input type="button" value="Pass"/> <input type="button" value="Fail"/> <input type="button" value="N/A"/>
Details:	Correct carpet installed, proper installation method used, transition strips used where applicable, layout orientation inspected, inspected for install damage including tears in the carpet, carpet lays flat with no lumps or bumps, minimal gaping at areas where carpet meets walls or other vertical objects, work space clean and free from debris.		
#4.5	Conference Toom Carpet Installed		<input type="button" value="Pass"/> <input type="button" value="Fail"/> <input type="button" value="N/A"/>
Details:	Correct carpet installed, proper installation method used, transition strips used where applicable, layout orientation inspected, inspected for install damage including tears in the carpet, carpet lays flat with no lumps or bumps, minimal gaping at areas where carpet meets walls or other vertical objects, work space clean and free from debris.		
#4.6	Office Room Carpet Installed		<input type="button" value="Pass"/> <input type="button" value="Fail"/> <input type="button" value="N/A"/>
Details:	Correct carpet installed, proper installation method used, transition strips used where applicable, layout orientation inspected, inspected for install damage including tears in the carpet, carpet lays flat with no lumps or bumps, minimal gaping at areas where carpet meets walls or other vertical objects, work space clean and free from debris.		
#4.7	Kitchenette Hallway (CPT-10) Installed	Default	<input type="button" value="Pass"/> <input type="button" value="Fail"/> <input type="button" value="N/A"/>
Details:	Correct carpet installed, proper installation method used, transition strips used where applicable, layout orientation inspected, inspected for install damage including tears in the carpet, carpet lays flat with no lumps or bumps, minimal gaping at areas where carpet meets walls or other vertical objects, work space clean and free from debris.		
#4.8	Base Installed		<input type="button" value="Pass"/> <input type="button" value="Fail"/> <input type="button" value="N/A"/>
Details:	Correct material used, proper application, inspected for installation damage, correct installation method used, material is flush with minimal lumps or bumps, work area is clean and free from debris.	Default	
#4.9	SDT Installed		<input type="button" value="Pass"/> <input type="button" value="Fail"/> <input type="button" value="N/A"/>
Details:	Correct material installed, proper installation method used, transition strips used where applicable, layout orientation inspected, inspected for install damage, material lays flat with no lumps or bumps, minimal gaping at areas where flooring meets walls or other vertical objects, work space clean and free from debris.		

Intentional Mentorships

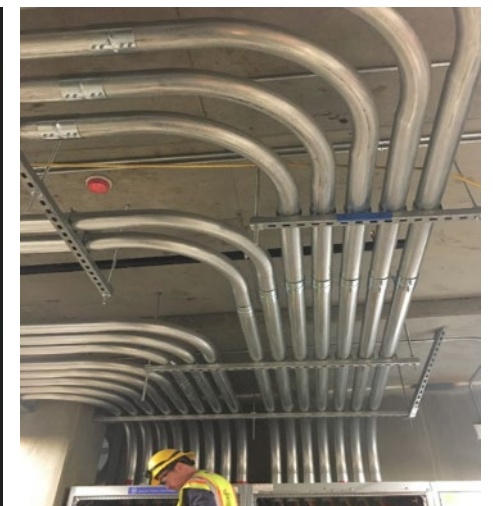
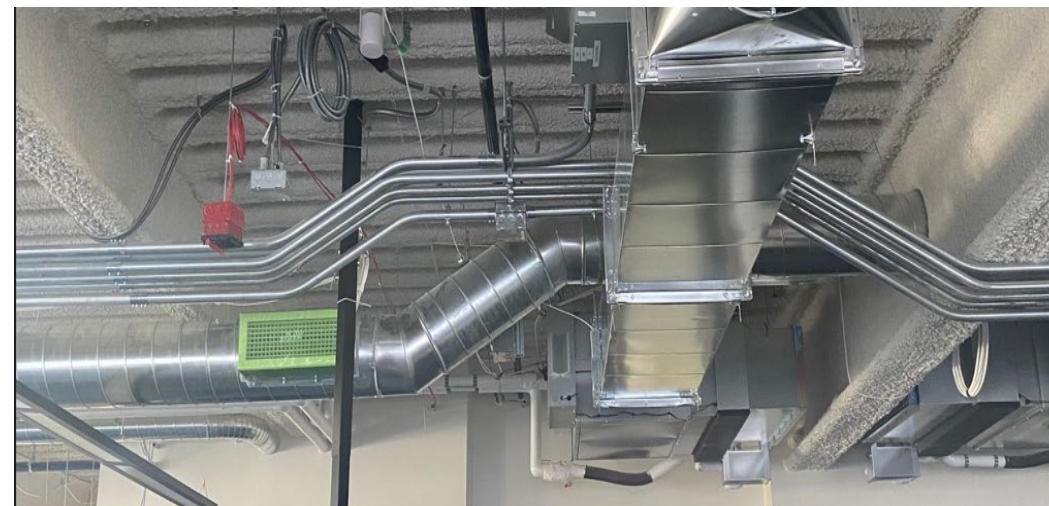
- Thoughtful staffing
- Train, coach and mentor all staff and trade partners
- Draw from collective experiences
- Safe to ask questions and not know the answer



Meaningfully Reducing Waste

- Gemba Based Improvements (Overhead Conduit System)
 - Listen First
 - Full Gemba
 - Eliminate Hard Work
 - Refine the Process
 - Additional Conduit Trees
 - Visual management/Identification
 - Kitting & Overbuilding
 - Continuous Improvement

GO SEE (field sheet)														
1st Conduit installation from box Keith						3 C's								
Observe / Record - THE STEPS Current State						Content			Charac	Time (ss)	Categories			Ch
						V	I	W	H		C	P	A	U
1	lifting conduit from right side of lift over his head while turning his body							X	X	10			X	X
2	slipping conduit into connector 2 didn't tighten the connection					X				4	X			X
3	lifting conduit from right side of lift over his head while turning his body							X	X	12			X	X
4	slipping conduit into connector 3 didn't tighten the connection					X				3	X			X
5	lifting conduit from right side of lift over his head while turning his body							X	X	12			X	X
6	slipping conduit into connector 4 didn't tighten the connection					X				5	X			X
7	lowers lift while to oking up						X			8		X		
Subtotals						3	1	3	3	Total	3	1	3	3
Totals						7	7	7	3		7	7	7	
Percentages						43%	14%	43%	100%	00:54	43%	14%	43%	100%
								W	H		Hard			U



Conclusion



Top of the Trail



How can you apply this tomorrow?

- *Focus on a culture where people feel supported in every aspect to perform their best work*
 - Set Expectations Early
 - Understand the Conditions of Satisfaction for your Team
 - Create Buy-In with your Trade Partners by Consistency
 - Build a strong team based upon culture and individual empowerment to make decisions
 - Be intentional about every task as it relates to everyone else
- Make sure the right work is getting done each week!



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In the spirit of continuous improvement, we would like to remind you to complete this session's survey! We look forward to receiving your feedback.

Contact Us



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Thank you for attending this presentation. Enjoy the rest of the 25th Annual LCI Congress!