

25TH ANNUAL



25TH LCI CONGRESS
OCTOBER 24-27, 2023

Driving Lean Tools to a New Paradigm

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

25-Oct-2023

Problem Statement

- What do you do when the owner's business model is "driving the vehicle" before traditional design and construction methods can get them there?
- How do you find the time in a fast-tracked project to design everything from location to delivery when you discover the owner's fabrication processes are undefined and there are no facilities to build upon?
- How can you leverage the power of Set-Based Design and Lean Thinking to innovate!



The Big Question

Can You Finish
That Last Week?



Was This Your Parents' Car?



<https://www.zeroto60times.com/2016/11/most-quintessential-1960s-cars/>



One of Today's Popular Parents' Car



Motortrend <https://21motoring.com/top-10-best-plug-in-hybrid-cars-to-buy-in-2023/>

What the Client Wants

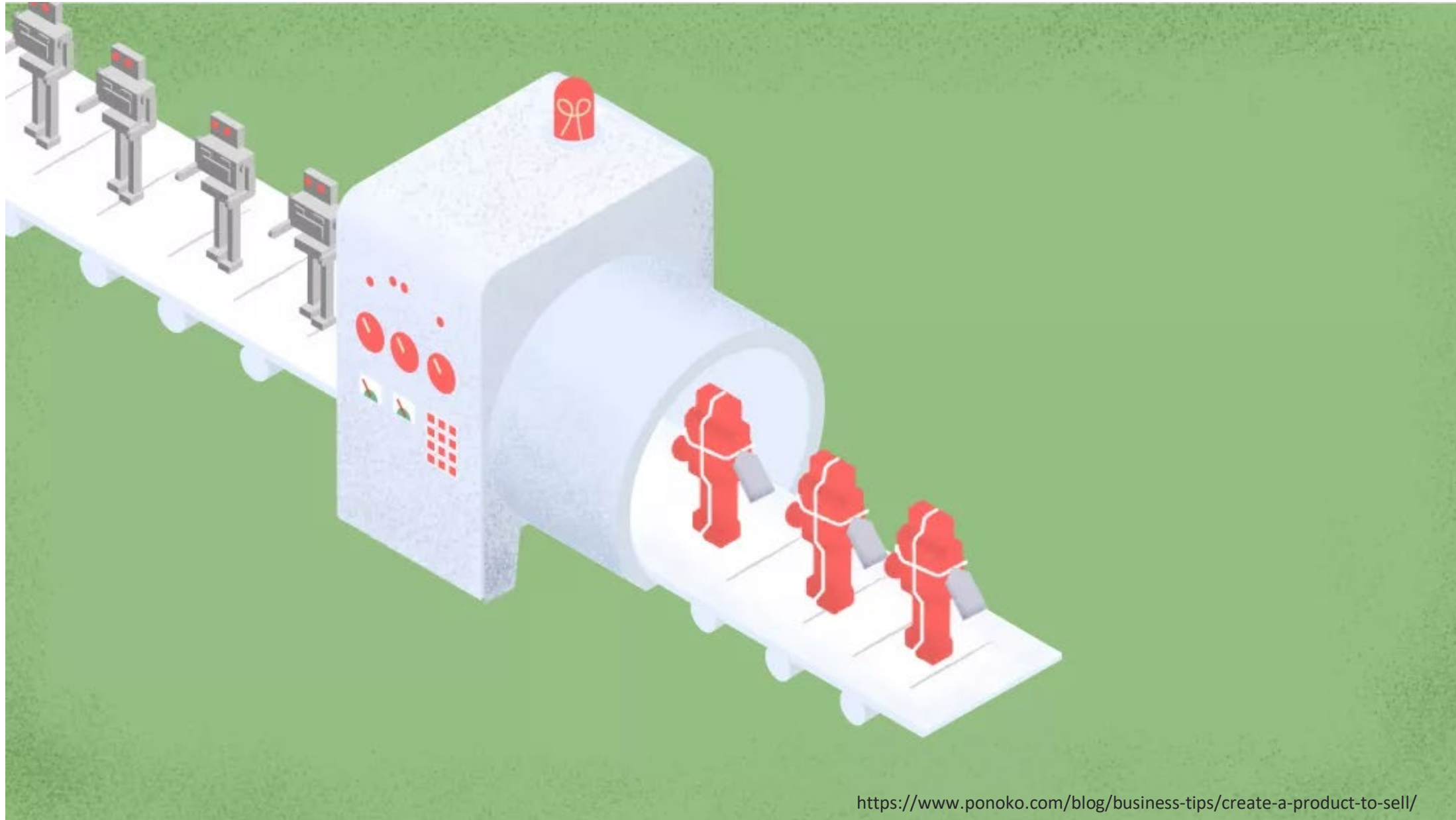


<https://gerribattista.wordpress.com/>

Need More Than a Map



Conditions of Satisfaction



<https://www.ponoko.com/blog/business-tips/create-a-product-to-sell/>

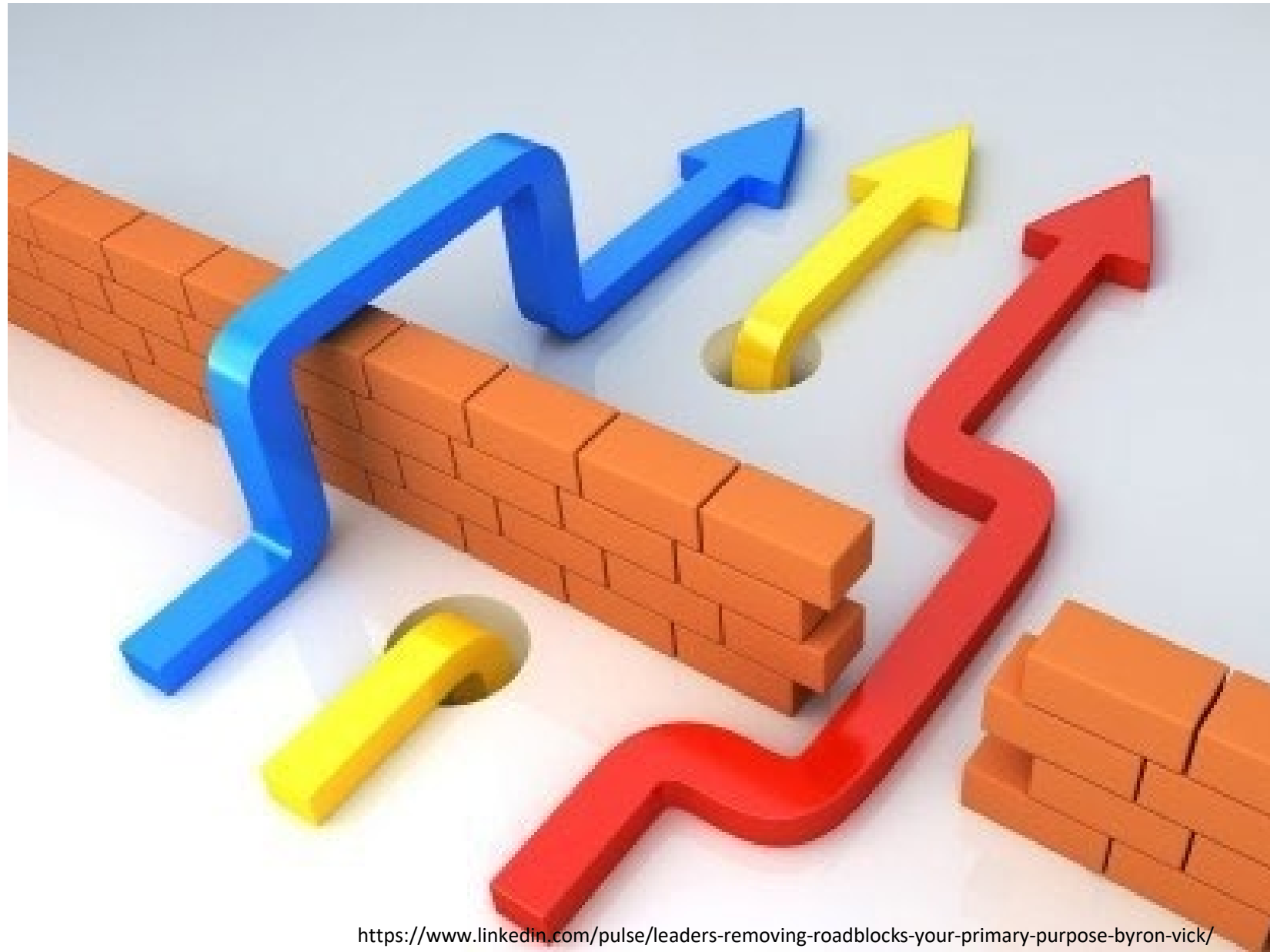
Designer's Dilemma



<https://oldconceptcars.com/1930-2004/ford-fx-atmos-concept-car-1954/>



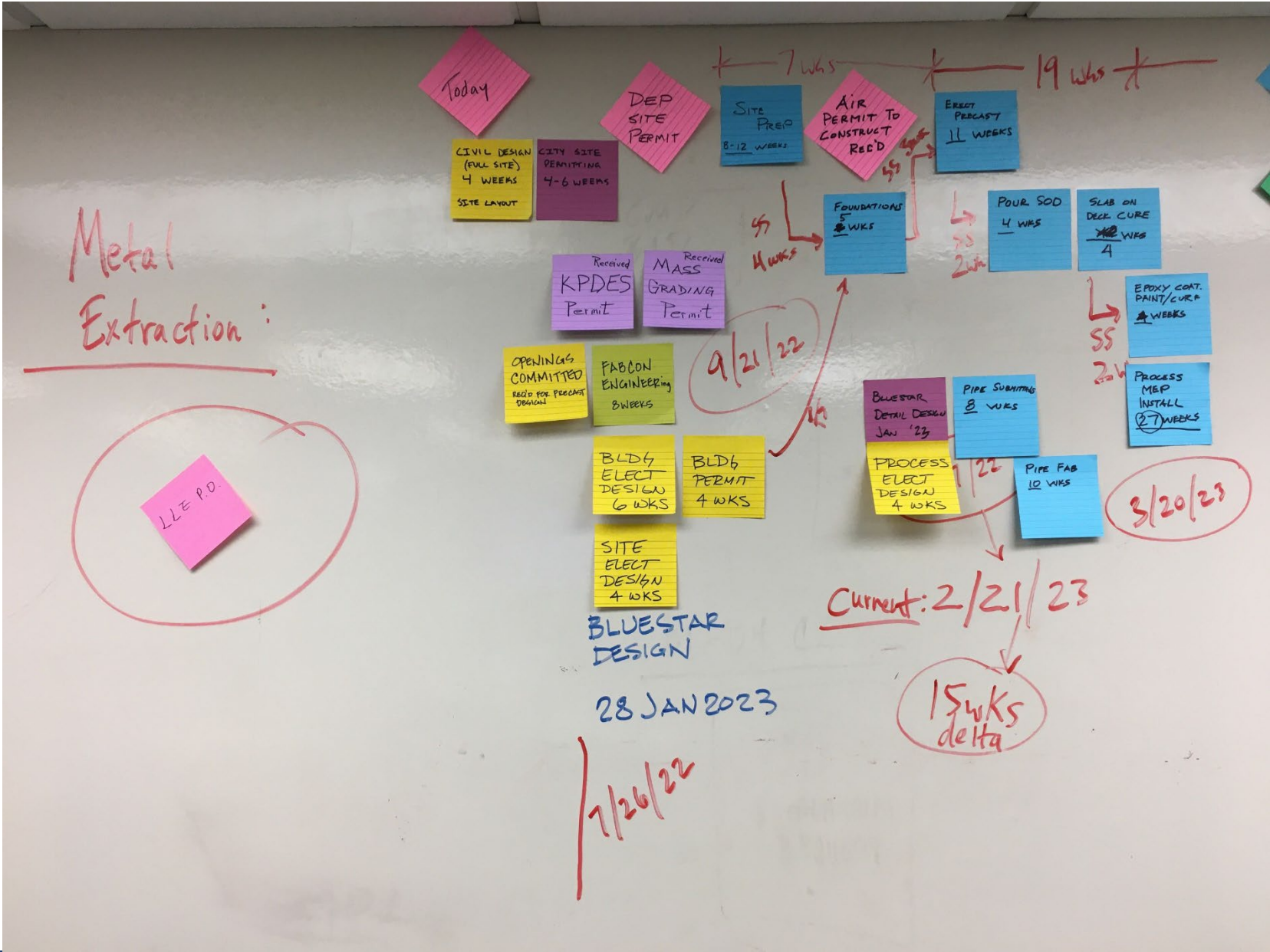
How Do We Get There?



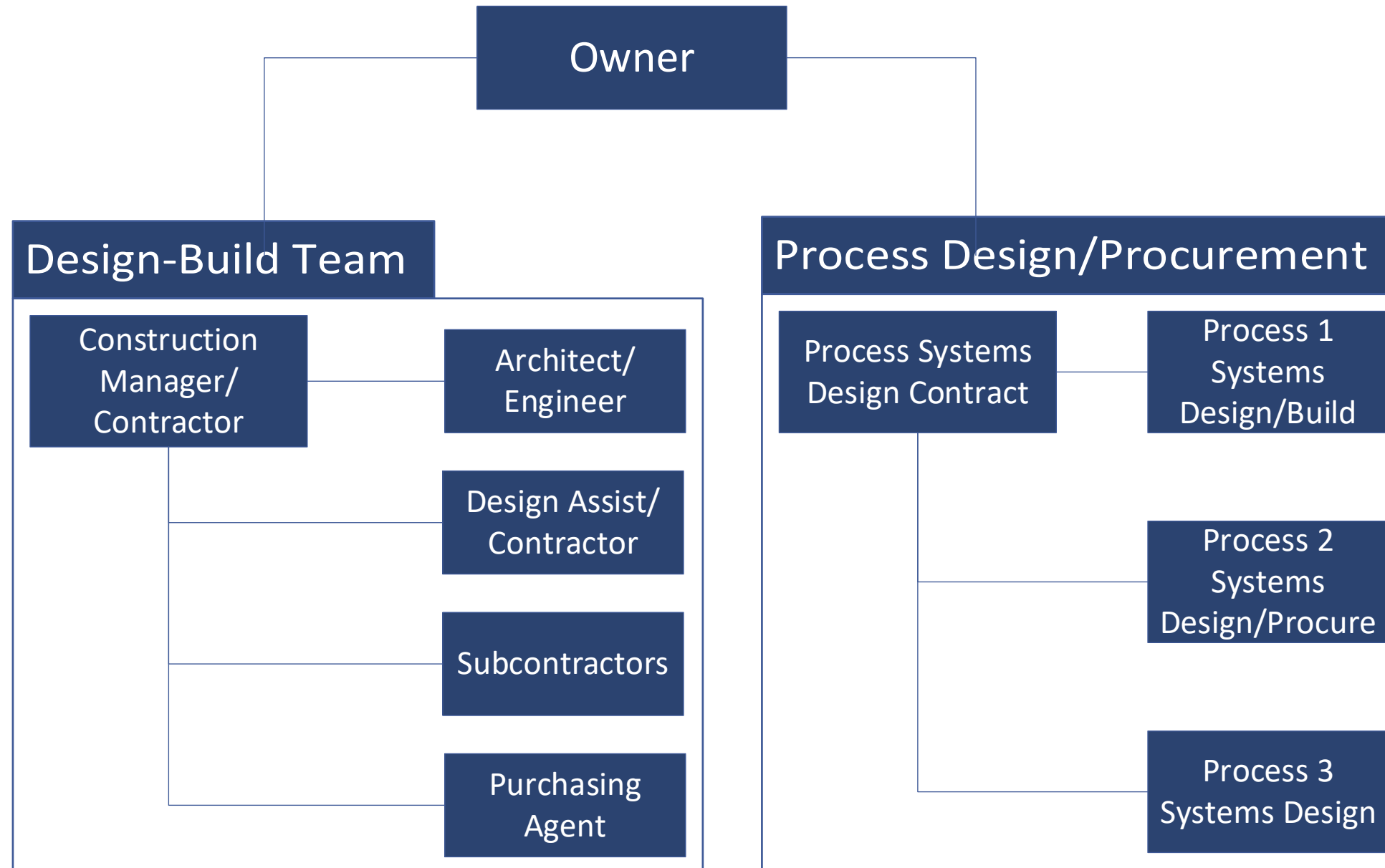
<https://www.linkedin.com/pulse/leaders-removing-roadblocks-your-primary-purpose-byron-vick/>



Pull Planning: Finish Before We Start

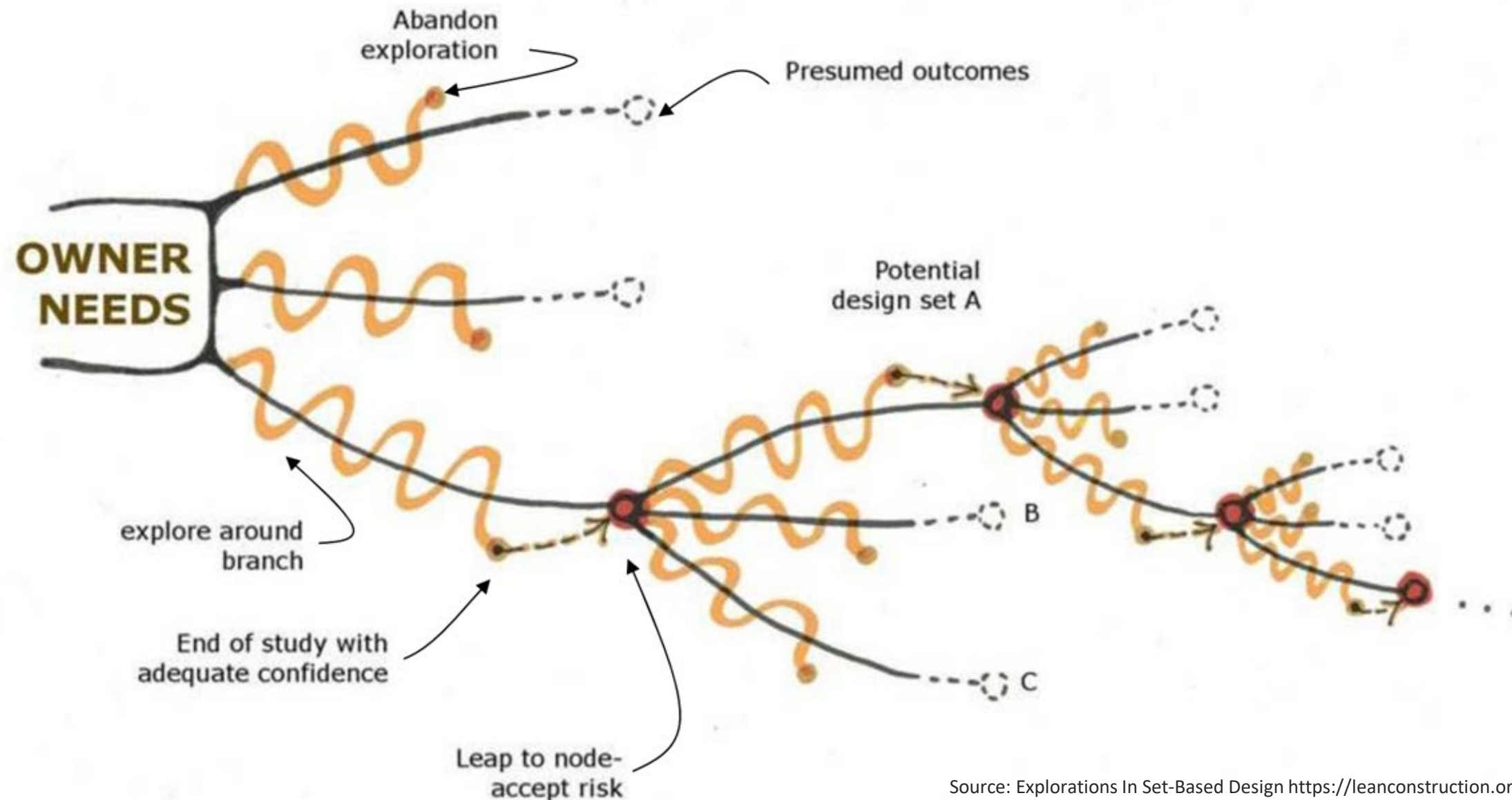


Organization: This Map has Gaps



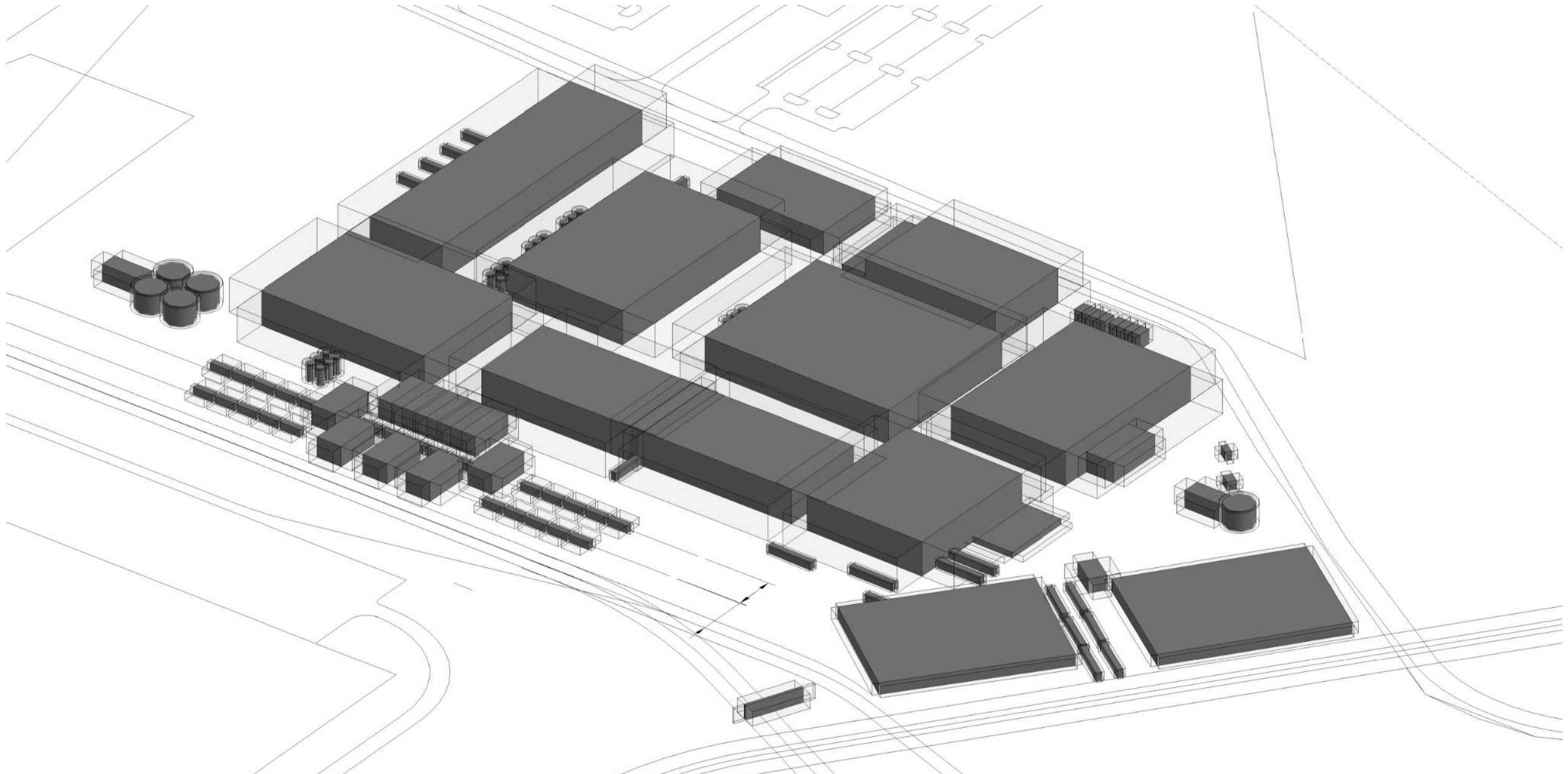


Making It Fit: Set-Based Design

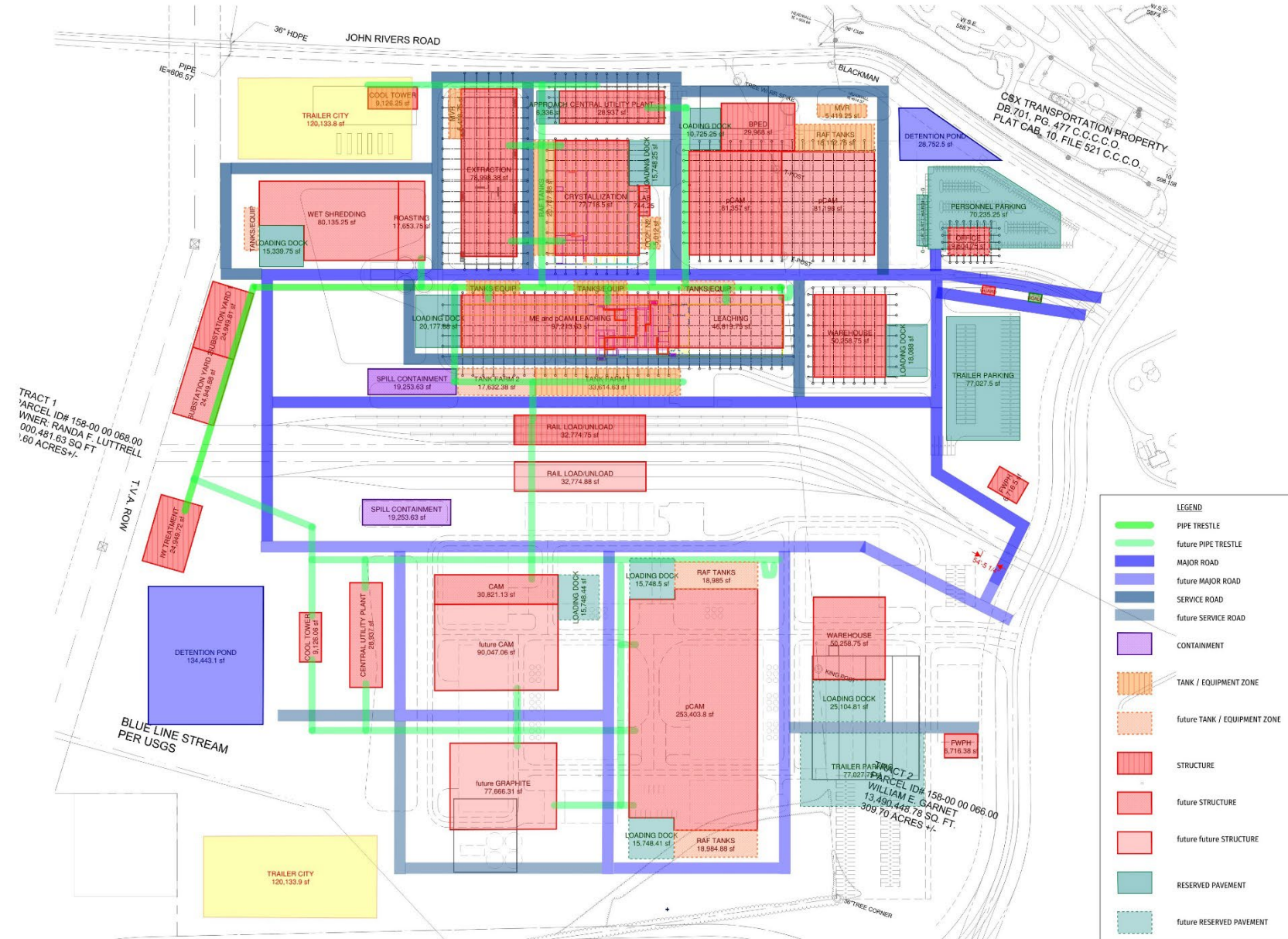


Source: Explorations In Set-Based Design <https://leanconstruction.org>

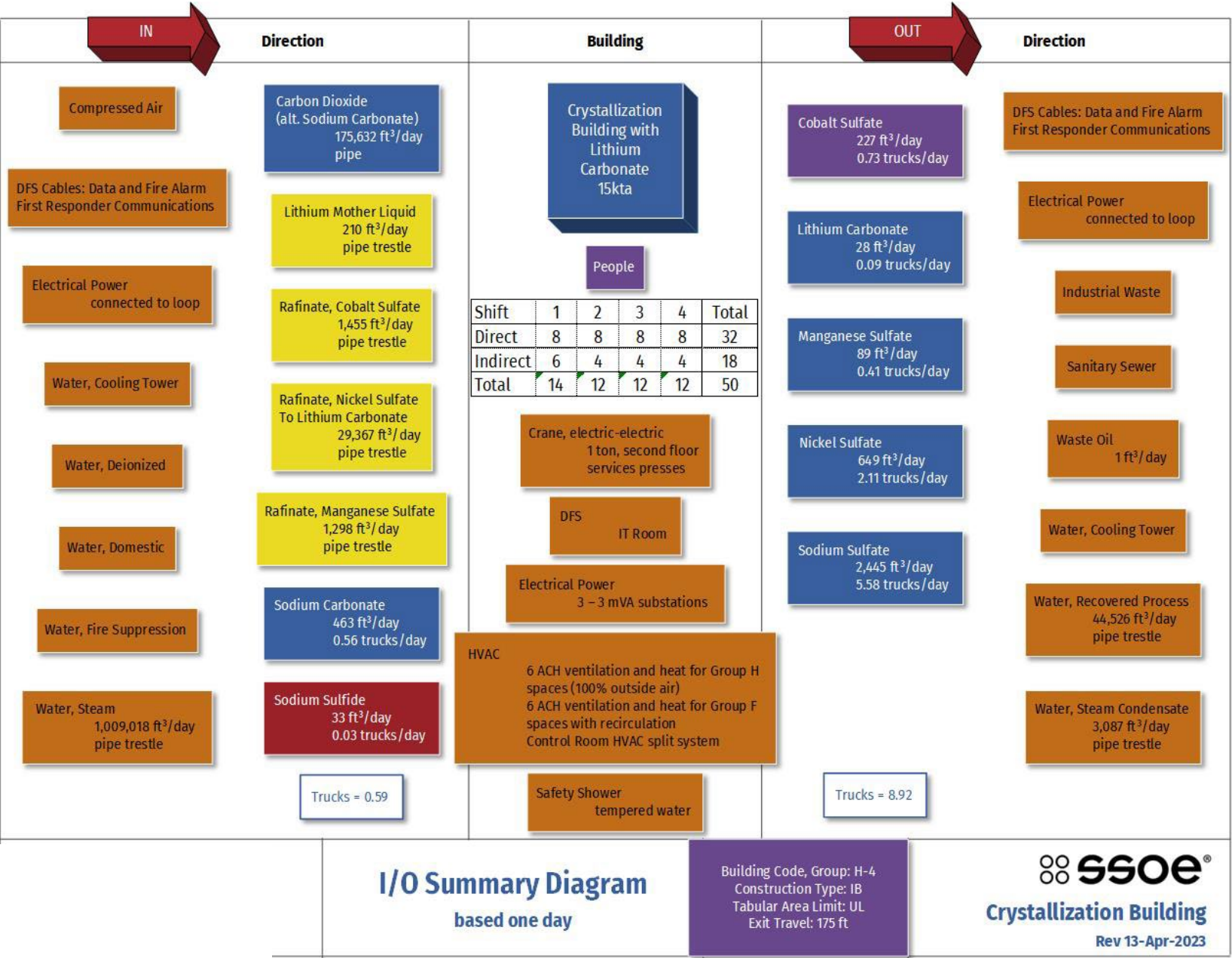
What is the Destination?



Planning the Route



Delivery Assumptions



**DIVISION PLAT OF
THE HOPKINSVILLE INDUSTRIAL FOUNDATION, INC. PROPERTY**
TAX MAP 158-00 00, PARCELS 066.00 & 068.00
CHRISTIAN COUNTY, KENTUCKY
DATE: NOVEMBER 8, 2022
SCALE: 1" = 400'
TOTAL AREA: 538.816 ACRES

VICINITY MAP

CURVE DATA

CURVE	RADIUS	ARC LENGTH	CHORD BEARING	CHORD LENGTH	DELTA ANGLE
C1	949.55	321.63	S 64°44'21" E	350.09	19°24'25"
C2	292.34	231.86	S 7°46'01" E	226.92	45°37'45"
C3	253.00	222.19	N 76°59'10" E	222.12	5°01'50"
C4	553.11	329.78	N 72°31'19" E	329.73	3°24'54"
C5	217.02	147.14	S 89°48'26" E	144.34	38°50'30"
C6	4986.21	643.73	S 74°01'54" E	643.28	7°23'49"
C7	350.03	42.86	S 81°14'16" E	42.83	7°00'56"
C8	350.03	377.60	N 64°23'57" E	359.04	61°42'40"
C9	543.69	1206.23	S 34°51'54" W	373.63	12°07'01"
C10	803.69	1235.92	N 39°45'55" E	1031.14	11°18'19"
C11	603.69	281.17	S 85°04'31" W	278.63	26°41'08"
C12	543.69	253.22	N 85°04'31" E	250.94	26°41'08"
C13	640.00	395.03	S 01°21'50" E	388.78	35°21'52"
C14	540.00	258.74	S 05°19'09" E	256.28	27°21'13"
C15	640.00	304.90	S 05°13'52" E	302.04	27°12'52"
C16	550.00	417.28	S 02°51'18" W	407.34	43°28'11"
C17	850.00	605.07	N 89°10'32" W	592.38	40°47'10"
C18	850.00	416.60	S 56°23'25" W	412.45	28°04'55"
C19	530.00	265.80	N 58°50'51" E	268.26	21°10'10"
C20	730.00	512.58	S 89°27'11" E	502.11	40°13'52"
C21	730.00	82.03	S 66°07'08" E	81.99	6°26'19"
C22	870.00	508.32	N 05°31'18" E	496.22	43°28'11"
C23	520.00	247.75	N 05°13'52" W	245.41	27°17'52"
C24	660.00	316.26	N 05°19'08" W	313.25	27°27'19"
C25	520.00	320.86	N 01°21'50" W	315.89	35°21'52"

LINE DATA

LINE	BEARING	DISTANCE
L1	S 55°08'41" E	622.95
L2	S 55°08'41" F	114.90
L3	S 55°08'41" E	941.09
L4	N 34°51'19" E	50.00
L5	S 15°56'19" E	19.28
L6	S 69°42'53" W	422.43
L7	S 63°48'07" W	192.13
L8	S 02°44'30" E	139.19
L9	S 60°15'00" W	367.29
L10	S 69°33'21" W	45.86
L11	N 07°22'26" W	579.47
L12	N 62°39'53" W	152.99
L13	N 82°39'53" W	107.81
L14	N 82°39'53" W	455.18
L15	S 80°31'16" E	280.81
L16	S 74°11'26" E	85.73
L17	S 50°02'10" E	108.03
L18	N 74°28'13" E	286.29
L19	N 74°28'13" E	287.21
L20	N 74°13'46" E	584.83
L21	N 70°48'52" E	653.38
L22	N 70°48'07" E	47.17
L23	S 77°43'48" E	207.32
L24	S 77°43'48" E	77.21
L25	S 16°19'06" W	244.11
L26	S 16°19'06" W	90.00
L27	S 08°25'04" W	60.00
L28	S 08°25'04" W	34.37
L29	S 18°52'48" E	350.19
L30	S 24°30'23" W	2



Proof of Concept



SSOE Group

Loading Dock Warehouse Summary

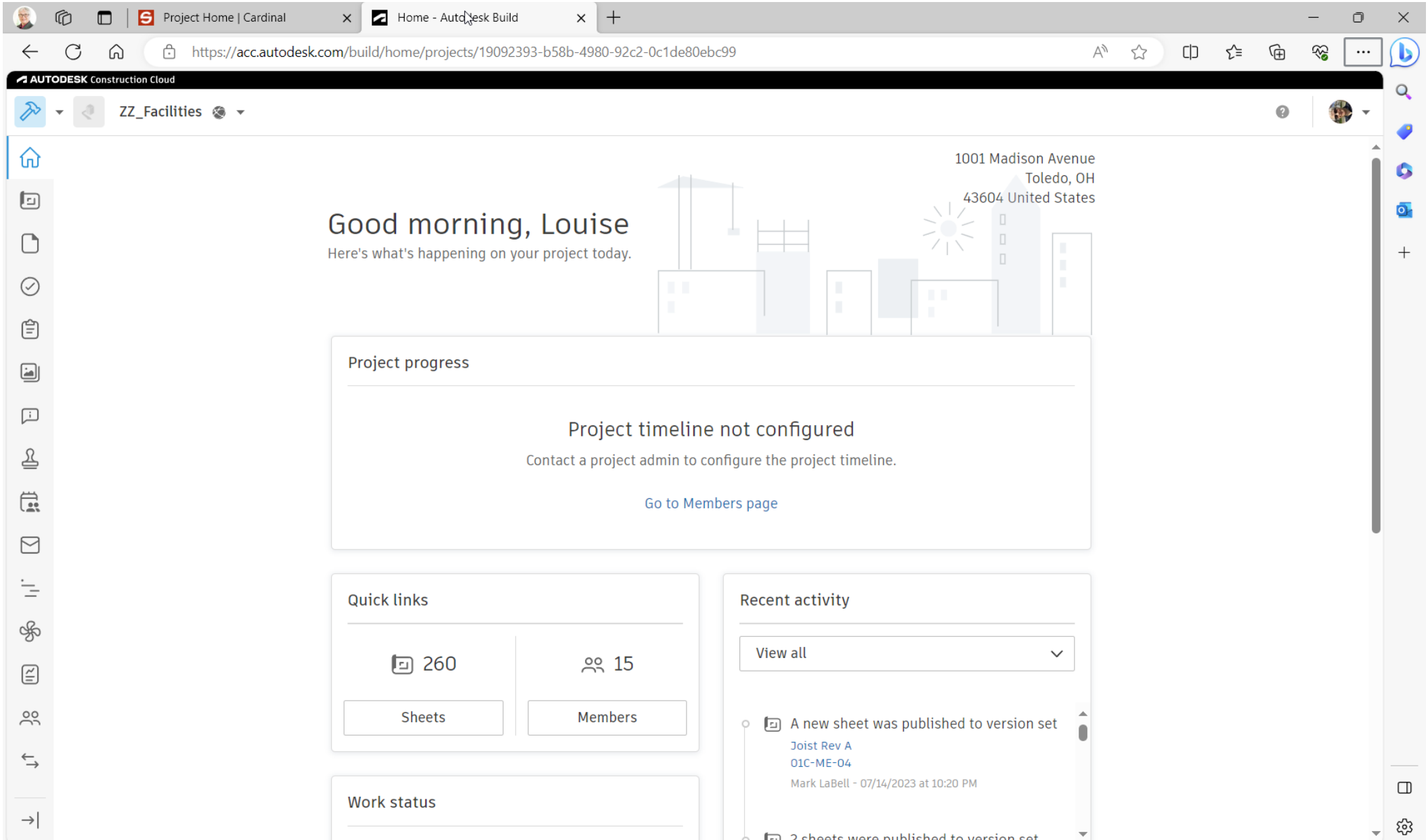
4/13/2023

Building	Loading Docks (each)	City Truck Dock (each)	Ramp (each)	Total Dock Positions (each)	Rack Area (ft²)	Shipping Area (ft²)	Support Area (ft²)	Total Area (ft²)	NIC Control Room	Truck Movements/D ay
Totals	50	7	7	64	173,515	103,471	21,278	298,265		54
CAM	3	1	1	5	10,696	7,358	2,246	20,300	*	3
Crystallization	8	1	1	10	22,193	17,207	2,246	41,647	*	10
ME Leaching	5	1	1	7	6,322	7,632	2,246	16,200	*	6
pCAM Leaching	5	1	1	7	7,177	8,499	1,560	17,236	*	6
pCAM Synthesis	6	1	1	8	31,457	13,463	3,806	48,726	*	7
Wet Shredding	5	1	1	7	26,883	11,428	4,243	42,554	*	6
Shipping Warehouse	18	1	1	20	68,787	37,884	4,930	111,601		16

Does NOT include piped materials.



Folding It Together



Path of CoS



<https://lifegivingwaterdevo.org/2015/10/16/crooked-paths/>

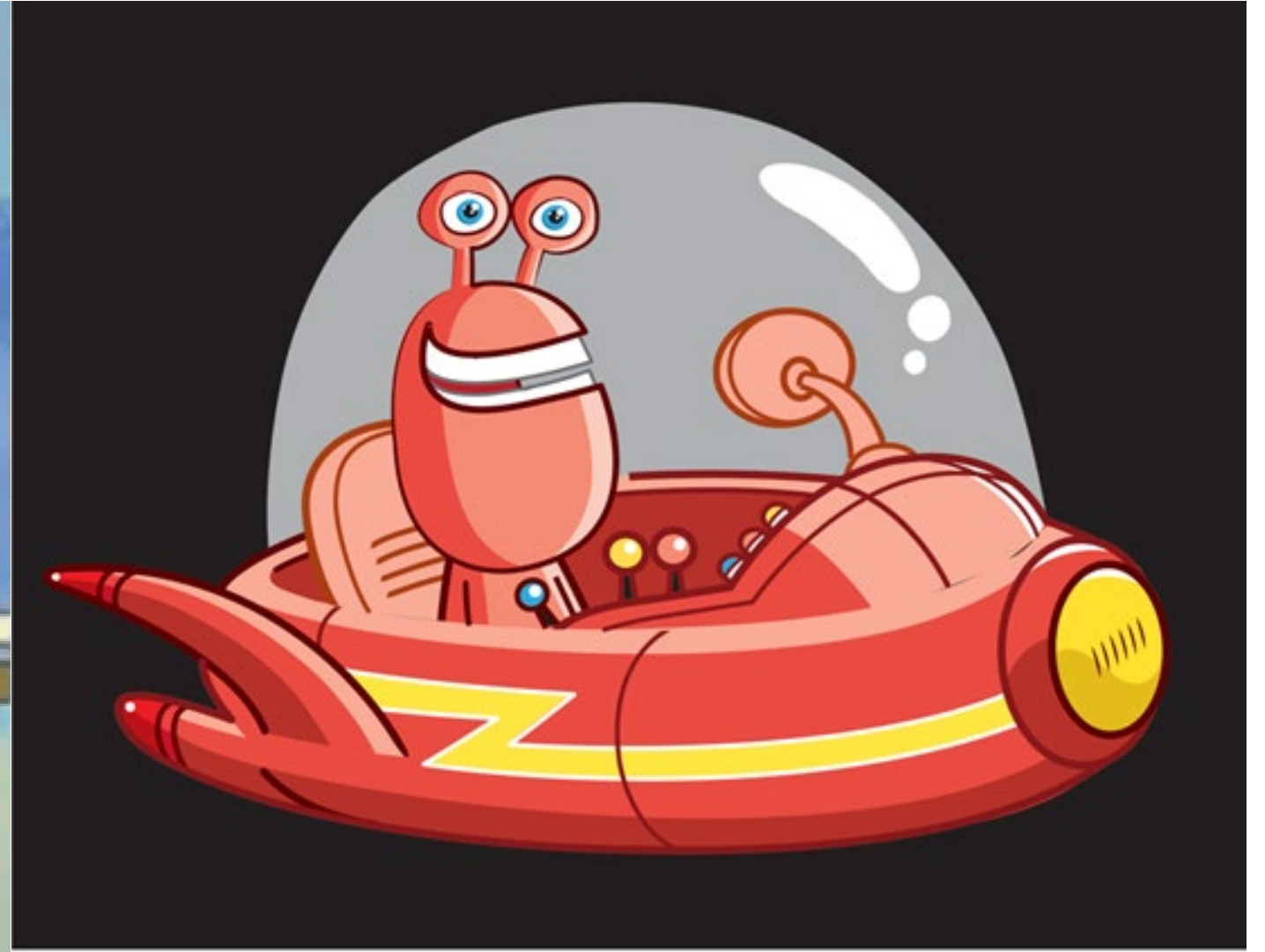


SIX TENETS OF LEAN CONSTRUCTION

- 1 Respect for People
- 2 Optimize the Whole
- 3 Generate Value
- 4 Eliminate Waste
- 5 Focus on Flow
- 6 Continuous Improvement



The Client





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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.



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