23RD ANNUAL

23RD LCI CONGRESS
OCTOBER 19-22

W2D Lean Learnings from Prefabrication at the Virgin Hotel New Orleans

Greg Lusignan, Broadmoor L.L.C.

James Kinberger, Light Gauge Systems

Wendell Humphres, Pontchartrain Mechanical, LLC

LEARN BY DOING FROM THOSE WHO DO

October 20th, 2021

© LEAN CONSTRUCTION INSTITUTE

Health precautions to keep everyone as safe as possible at Congress:

- Wear masks at all times in indoor events.
- Complete your daily health screening on your phone and bring it with you when you enter the center each day.
- Practice social distancing to the extent possible. Seating at plenary sessions is structured to help with this.
- If you feel ill at any time, please leave the conference and return to your room/consult a physician as necessary.
- Ultimately, our collective health and safety at Congress is up to all of us. Thanks for your support!

© LEAN CONSTRUCTION INSTITUTE

Overview

- **Design-Build Perspective with Broadmoor LLC**
  - Lean tools and technology for success in prefabrication
- **Prefabrication with LGS**
  - Planning, fabrication, delivery and installation of metal stud walls
- **Mechanical Design Build with Pontchartrain Mechanical**
  - Designing to prefabrication with plumbing and HVAC

© LEAN CONSTRUCTION INSTITUTE

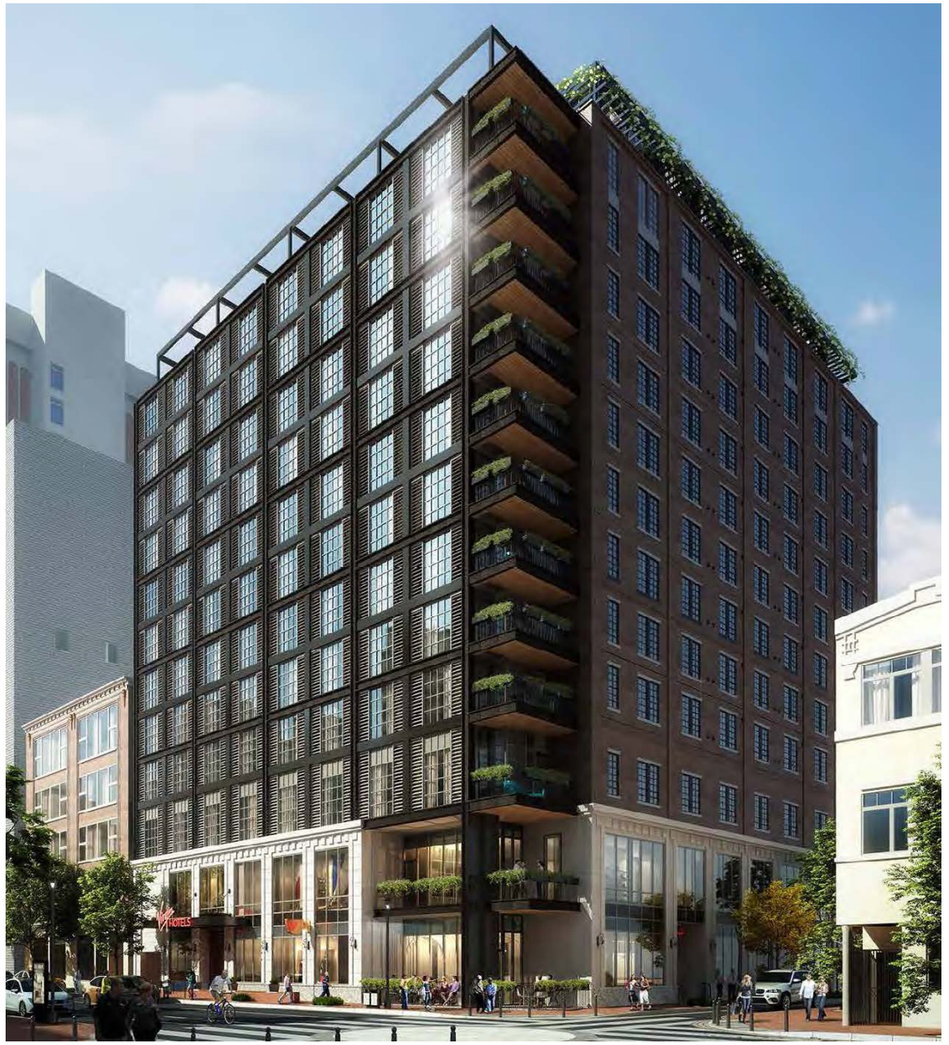
BROADMOOR Success

Project Goals

- **Budget**: $52-$55MM
- **Target Scope**: 225 Keys Minimum
- **Schedule**: 24 Month Construction Duration

Success

- **Budget**: $54MM GMP (Guaranteed Maximum Pricing) Agreement
- **Target Scope:** Project has 238 Keys
- **Schedule**: 7/3/19, NTP – 6/30/21 Substantial Completion



© LEAN CONSTRUCTION INSTITUTE

© LEAN CONSTRUCTION INSTITUTE

Keys to Success in Prefabrication

1. Plan for it as early as possible.
2. Identify all tolerances of building components that are touched.
3. BIM Coordination of all these components early.
    - Cannot allow one of the components to skip or shortcut the BIM process.
4. Constructability reviews with the trade partners involved.
5. Logistical planning for prefabricated building components.

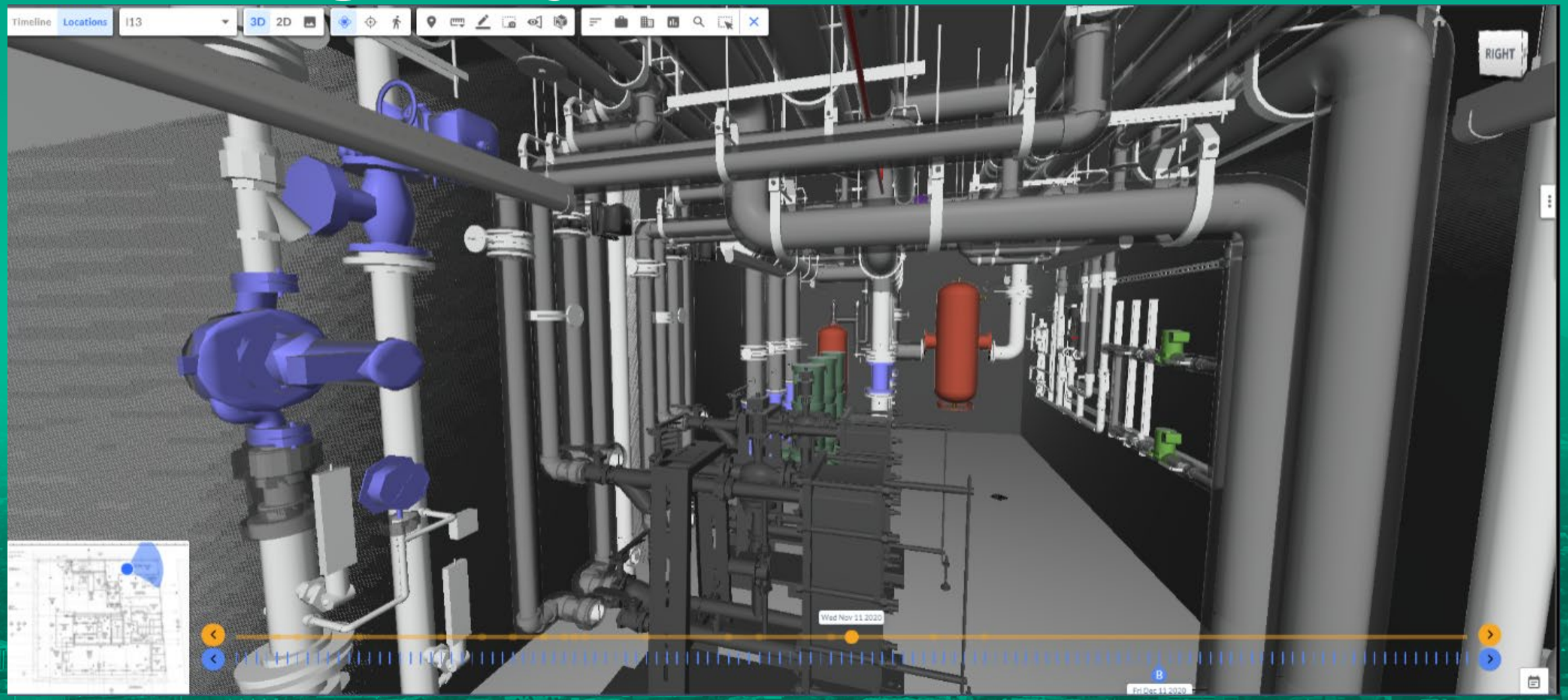
© LEAN CONSTRUCTION INSTITUTE

BIG ROOM PLANNING

© LEAN CONSTRUCTION INSTITUTE

Lean Construction Institute
Transforming Design and Construction

Floor Height Adjustment



© LEAN CONSTRUCTION INSTITUTE

Lean Construction Institute
Transforming Design and Construction

© LEAN CONSTRUCTION INSTITUTE

© LEAN CONSTRUCTION INSTITUTE

Last Planner System

Collaborative planning in a Big Room setting.

© LEAN CONSTRUCTION INSTITUTE

Lean Construction Institute
Transforming Design and Construction

Last Planner System

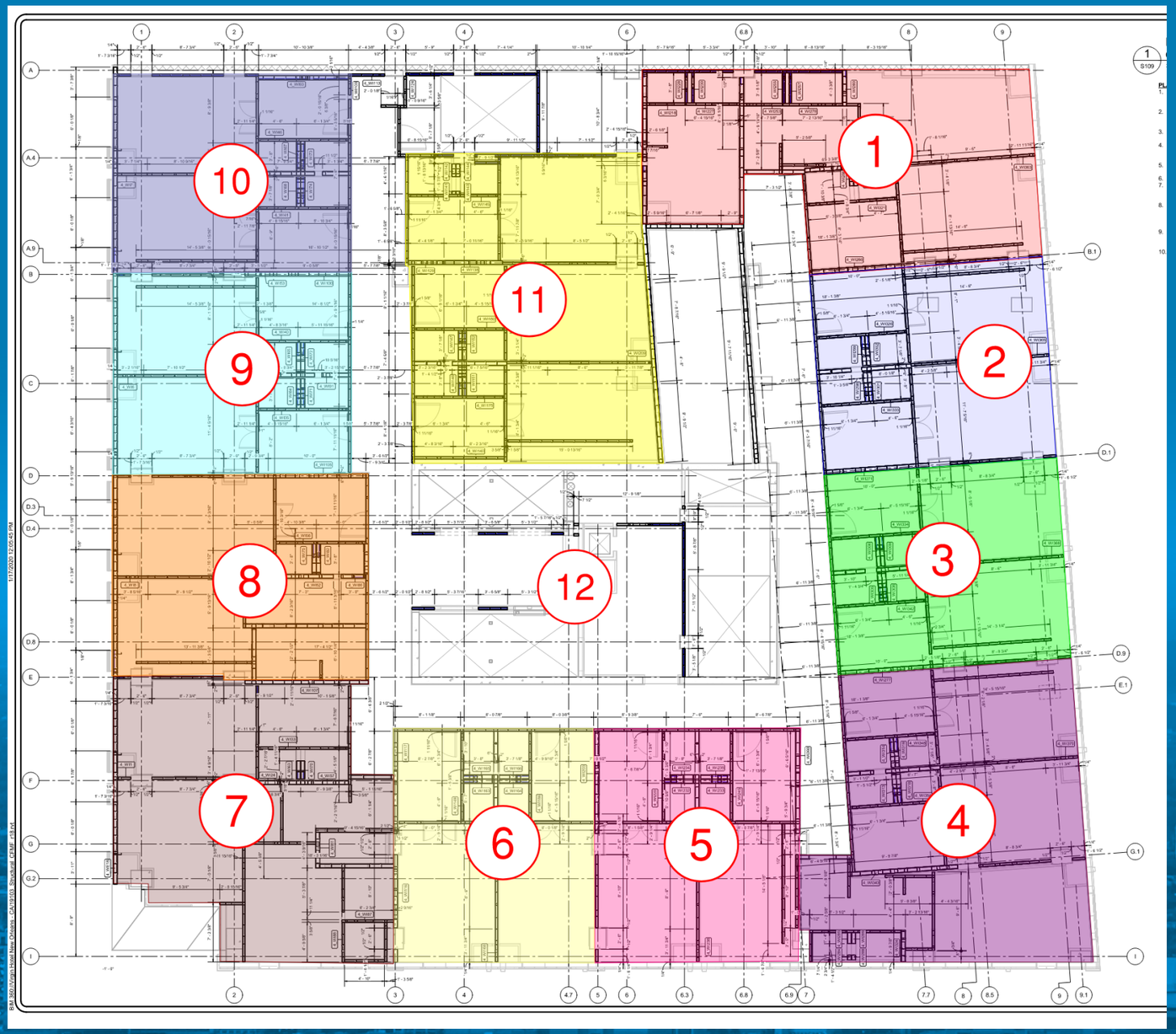
Milestone Schedule

Pull Planning

© LEAN CONSTRUCTION INSTITUTE

Lean Construction Institute
Transforming Design and Construction

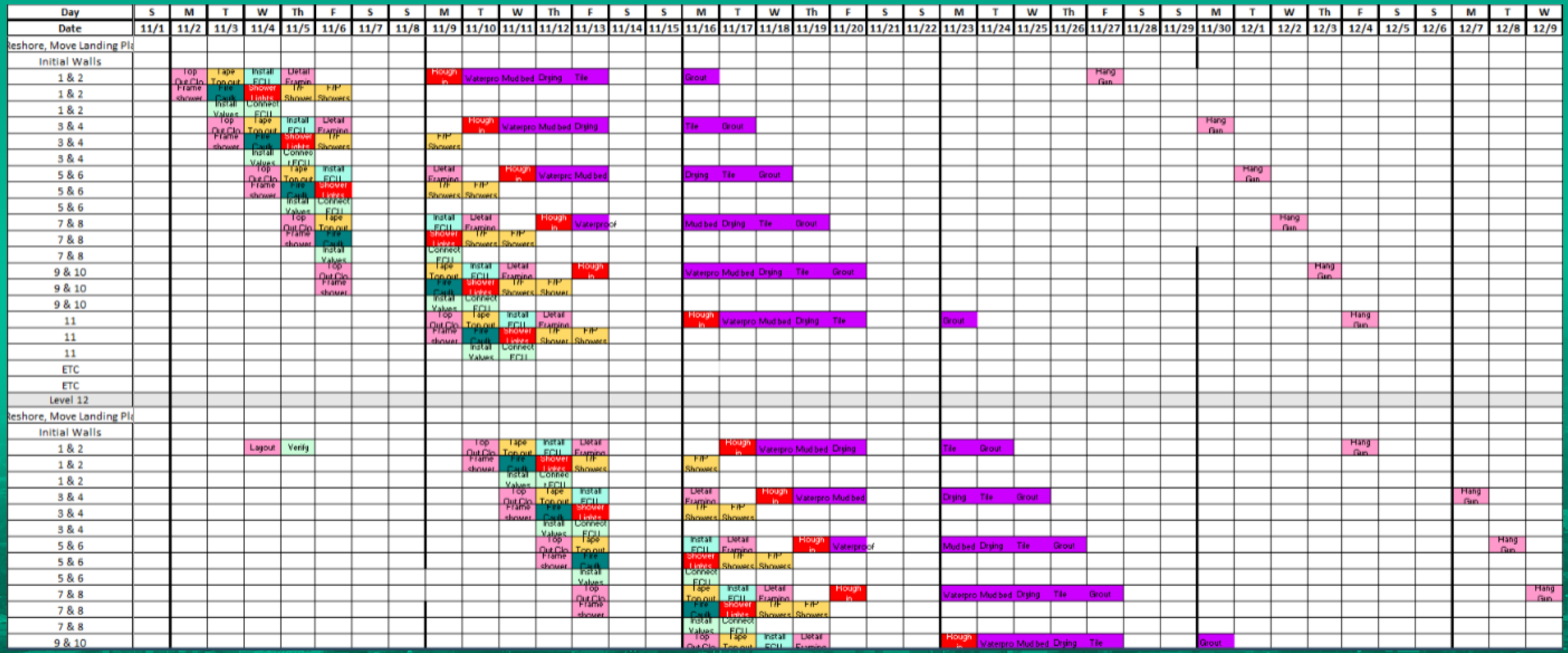
Takt Time Zones



© LEAN CONSTRUCTION INSTITUTE

Lean Construction Institute
Transforming Design and Construction

Takt Time Schedule



© LEAN CONSTRUCTION INSTITUTE

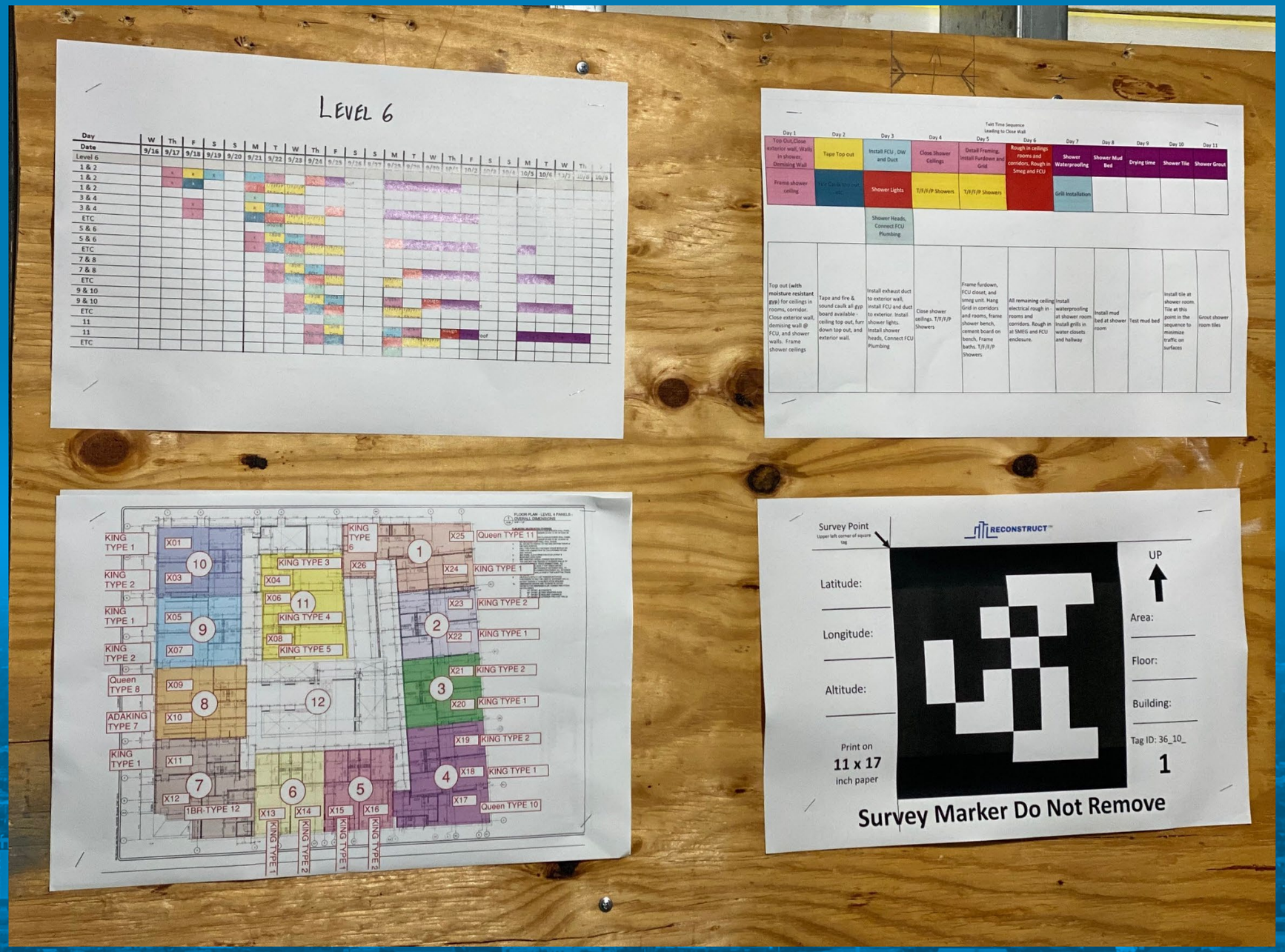
Lean Construction Institute
Transforming Design and Construction

Takt Time Activity Description

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11
Top Out,Close exterior wall, Walls in shower, Demising Wall	Tape Top out	Install FCU , DW and Duct	Detail Framing, Install Furdown and Grid, Close ceilings		Rough in ceilings rooms and corridors, Rough in Smeg and FCU	**Shower Waterproofing**	**Shower Mud Bed**	**Drying time**	**Shower Tile**	**Shower Grout**
Frame shower ceiling	Fire Caulk top out, etc.	Shower Lights	T/F Showers	F/P Showers		Grill Installation				
	Install Valves	Connect FCU Plumbing, Shower Heads								
Top out (**with moisture resistant gyp**) for ceilings in rooms, corridor. Close exterior wall, demising wall @ FCU, and shower walls. Frame shower ceilings	Tape and fire & sound caulk all gyp board available - ceiling top out, furr down top out, and exterior wall. Install valves	Install exhaust duct to exterior wall, install FCU and duct to exterior. Connect FCU Plumbing, Install shower lights. Install shower head	Frame furdown, FCU closet, and smeg unit.Close shower ceilings. Hang Grid in corridors and rooms, frame shower bench, cement board on bench, Frame baths. T/F Showers	F/P Showers.	All remaining ceiling electrical rough in - rooms and corridors. Rough in at SMEG and FCU enclosure.	Install waterproofing at shower room. Install grills in water closets and hallway	Install mud bed at shower room	Test mud bed	Install tile at shower room. Tile at this point in the sequence to minimize traffic on surfaces	Grout shower room tiles

© LEAN CONSTRUCTION INSTITUTE

Takt Time Boards



© LEAN CONSTRUCTION INSTITUTE

Lean Construction Institute
Transforming Design and Construction

© LEAN CONSTRUCTION INSTITUTE

Exterior Skin Prefabrication & Coordination

© LEAN CONSTRUCTION INSTITUTE

Lean Construction Institute
Transforming Design and Construction

Alley Precast Erected with Tower Crane

© LEAN CONSTRUCTION INSTITUTE

Lean Construction Institute
Transforming Design and Construction

Coordination with Elevated Formwork

© LEAN CONSTRUCTION INSTITUTE

Lean Construction Institute
Transforming Design and Construction

LEAN GEMBA WALKS

GEMBA WALK

OBSERVE
-Walk With a Purpose
-Not a Time to Instruct
-Seek to Understand

ENGAGE
-Leaders Ask Questions
-Create Safe Sharing Environment
-Uncover Chances for Improvement

IMPROVE
-Understand the Process
-Look For Waste
-Allow Solutions to Come From Those Involved

"If You Don't Know How To Ask the Right Questions, You Discover Nothing."
-W. Edwards Deming

RESPECT & CHALLENGE PEOPLE
DOES WORK FLOW?
ARE HANDOFFS RELIABLE & EFFICIENT
RAISE ACCOUNTABILITY

BROADMOOR
To Honorably Serve Our Communities

© LEAN CONSTRUCTION INSTITUTE

Lean Construction Institute
Transforming Design and Construction

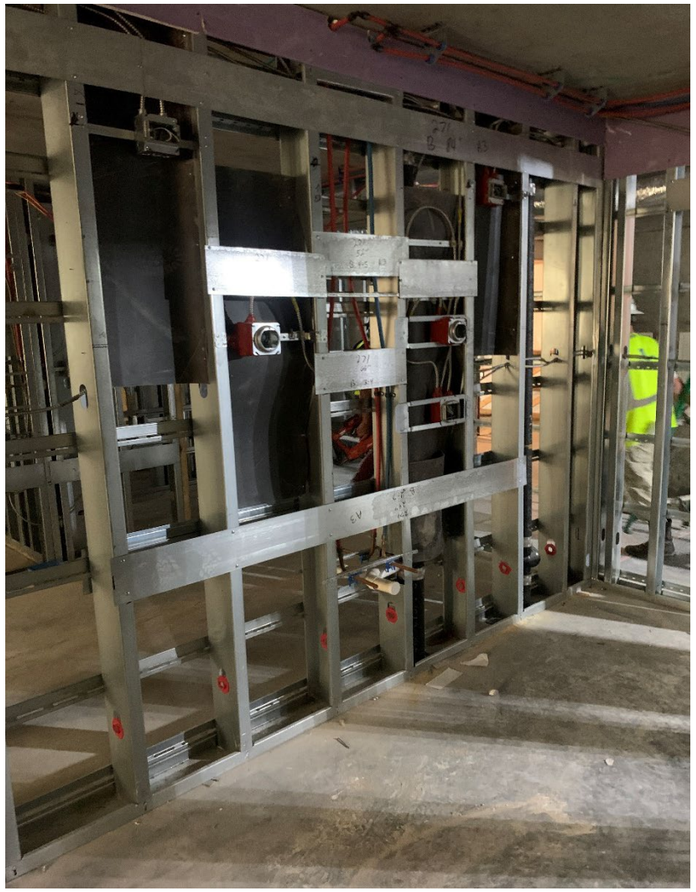
PANELIZATION THROUGH DIGITAL DESIGN

LIGHT GAUGE SYSTEMS

Lean Construction Institute
Transforming Design and Construction

© LEAN CONSTRUCTION INSTITUTE

Thoughtful design + BIM + CNC = *precision coordination*



Our process and technology accommodates the penetrations for plumbing, mechanical, & electrical system components.

System elements are engineered to maintain alignment from panel to panel for ease of installation in the field or in our manufacturing facility.

systems integration

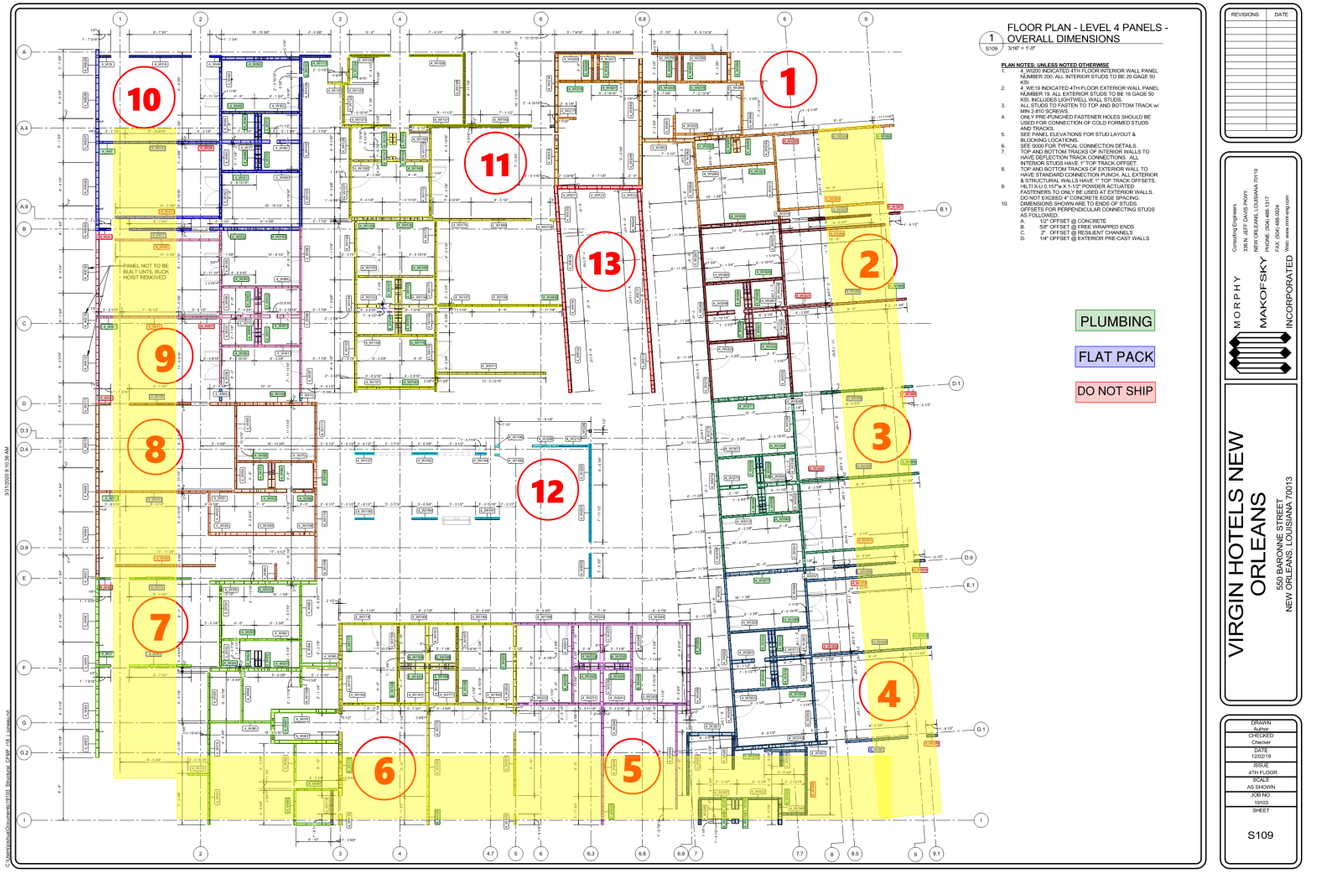
© LEAN CONSTRUCTION INSTITUTE

The controlled environment affords better quality assemblies built faster and with fewer touches.

controlled environment

© LEAN CONSTRUCTION INSTITUTE

coordinated deliveries & installation



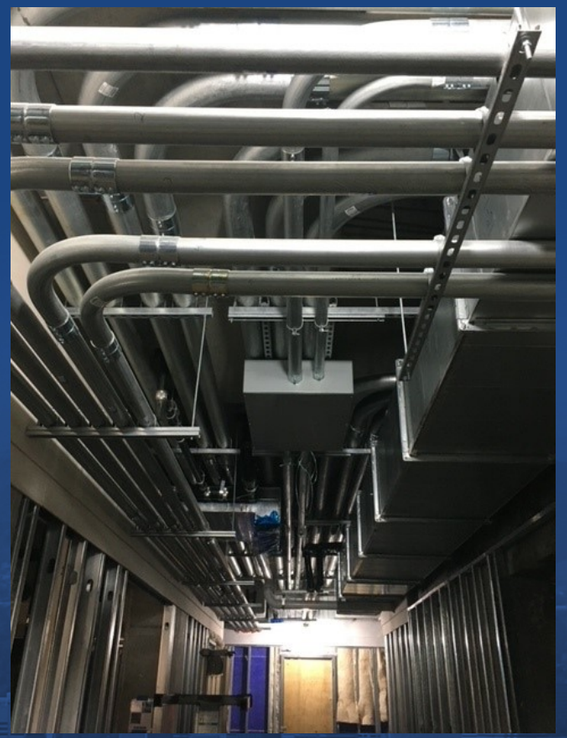
© LEAN CONSTRUCTION INSTITUTE

Safety & Sustainability

- Our material is 100% recyclable
- Our process reduces waste to 2% or less.

© LEAN CONSTRUCTION INSTITUTE

Prefabrication & Planning

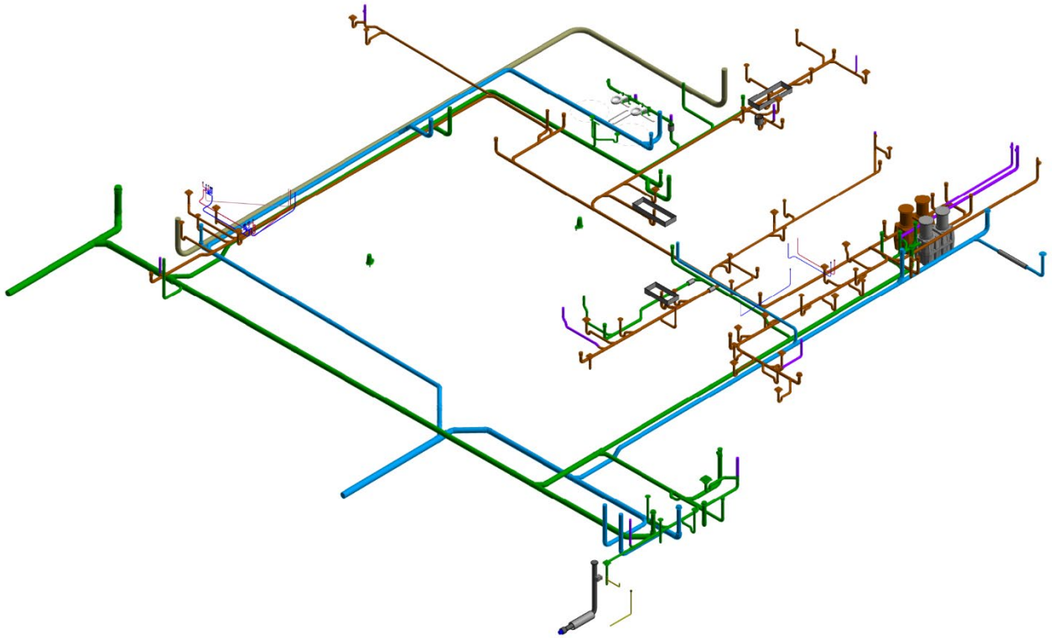


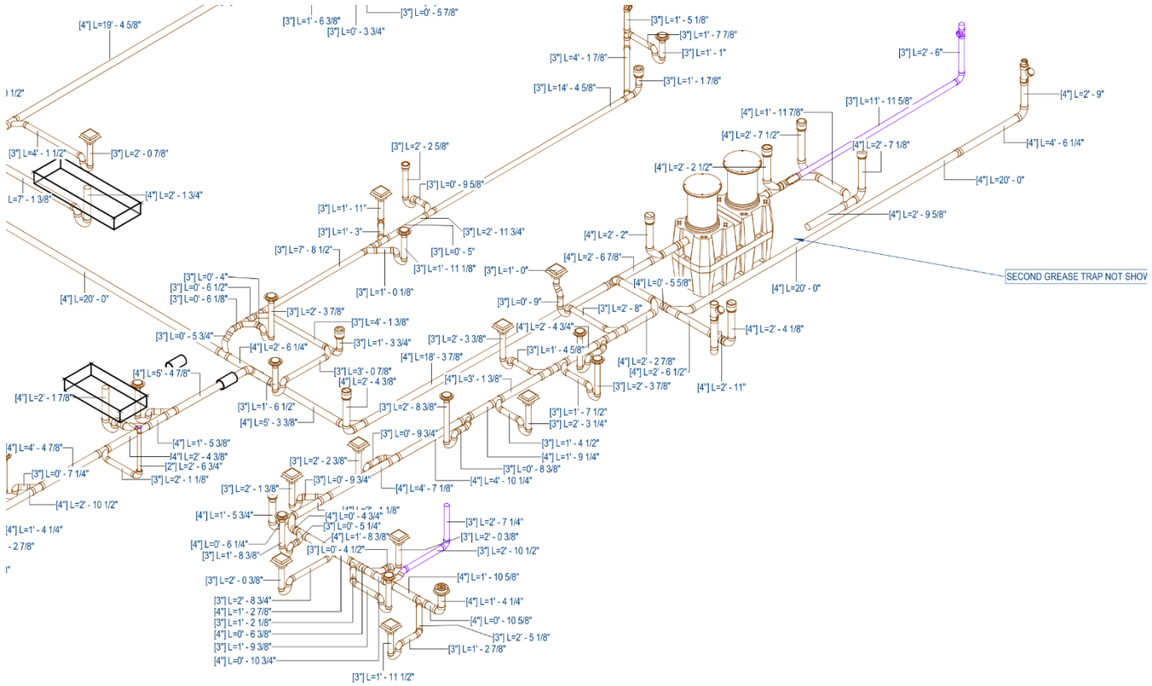
PONTCHARTRAIN MECHANICAL

© LEAN CONSTRUCTION INSTITUTE

Lean Construction Institute
Transforming Design and Construction

Underground Prefabrication





- Last Planner coupled with BIM Coordination helped us see the whole picture.
- Coordinating with other trades forced redesign of the system to simplify staging of installation.
- Breaking down the piping into systems & areas allowed us to “kit” the piping for the delivery to site based on need.

© LEAN CONSTRUCTION INSTITUTE

Underground Prefabrication

- “Kits” consist of cutting pipe to length with as many joints installed in the fab shop as possible.
- Existing conditions changed the plan, but we were still able to meet initial milestone.

© LEAN CONSTRUCTION INSTITUTE

Underground Prefabrication

KEYS TO SUCCESS

- Use BIM modeling to coordinate with structure & Electrical/IT trades. *CORRECT CONTENT IS KEY!*
- Use Last Planner to create workflows for all teams with proper sequence.
- Adjust Design based on field crew's input to allow for partial testing & inspection.
- Use Robotic Layout tools to minimize reliance on string lines.
- HAVE A BEST-IN-CLASS FIELD CREW!

LESSONS LEARNED

- Make an adaptable plan.
- Pray to rain gods.
- Precut & glue as much piping as possible.
- Avoid gluing 6" and larger piping since it makes assembly harder in field.

© LEAN CONSTRUCTION INSTITUTE

Panelized Walls & Guestroom Sequence Kits

Spool BOM Pipe Fitting

TAG	QTY	SIZE	DESCRIPTION	SYSTEM
1-F	2	1/2"-1/2"	EP 1230 Everloc 90 Elbow PEX	Domestic Cold Water
2-F	2	1/2"-1/2"	EP 1230 Everloc 90 Elbow PEX	Domestic Hot Water
4-F	2	1 1/2"-1 1/2"	PN_300 Fourth Bend HubxHub	Waste(Charlotte)
6-F	2	1 1/2"-1 1/2"	PN_109 Male Adapter MptxHub	Waste(Charlotte)
7-F	1	4"	Brass Cleanout Plug MPT	Waste(Charlotte)
8-F	2	4"-4"	Anaco No-Hub Coupling	Waste(Charlotte)
9-F	1	4"-4"-4"	Test Tee Less Plug	Waste(Charlotte)
10-F	1	4"-4"	No-Hub Coupling	Waste(Charlotte)
11-F	1	3"	Brass Cleanout Plug MPT	Waste(Charlotte)
12-F	2	3"-3"	No-Hub Coupling	Waste(Charlotte)
13-F	1	3"-3"-3"	Test Tee Less Plug	Waste(Charlotte)

Spool BOM Rehau Pipe - Total Length

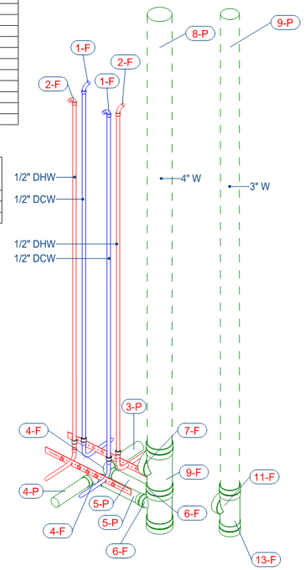
SIZE	DESCRIPTION	TOTAL LENGTH	SYSTEM
1/2"	PE Raupex Blue UV Shield Pipe PE	12' - 6 5/8"	Domestic Cold Water
1/2"	PE Raupex Red UV Shield Pipe PE	12' - 5 1/2"	Domestic Hot Water

Spool BOM Pipe

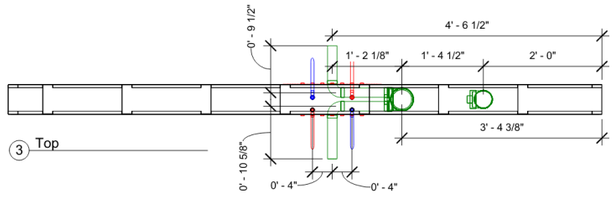
TAG	SIZE	DESCRIPTION	LENGTH	SYSTEM
3-P	1 1/2"	PVC Sch 40 DWV Pipe (20ft)	0' - 7 3/4"	Waste(Charlotte)
4-P	1 1/2"	PVC Sch 40 DWV Pipe (20ft)	0' - 8 7/8"	Waste(Charlotte)
5-P	1 1/2"	PVC Sch 40 DWV Pipe (20ft)	0' - 9 3/8"	Waste(Charlotte)
5-P	1 1/2"	PVC Sch 40 DWV Pipe (20ft)	0' - 9 3/8"	Waste(Charlotte)
8-P	4"	No-Hub Pipe	7' - 9 3/4"	Waste(Charlotte)
9-P	3"	No-Hub Pipe	8' - 7"	Waste(Charlotte)

Spool BOM Other

QTY	SIZE	DESCRIPTION
1	4"-4"-1 1/2"-1 1/2"	Charlotte CI NH 57 Horizontal Twin Tapped Tee Size 4 NH x NH x NH: Charlotte CI
4	1/2"	Rehau EP 1302 Closed-End Stub Out Ells: Copper Tube

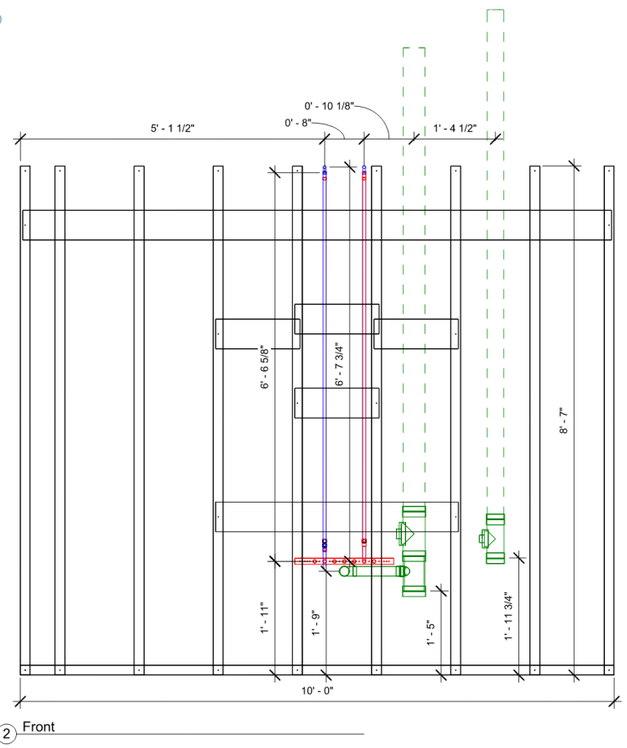


1 P_4_WI277



3 Top

NOTE: PIPE WITH DASHED LINES = FIELD CUT



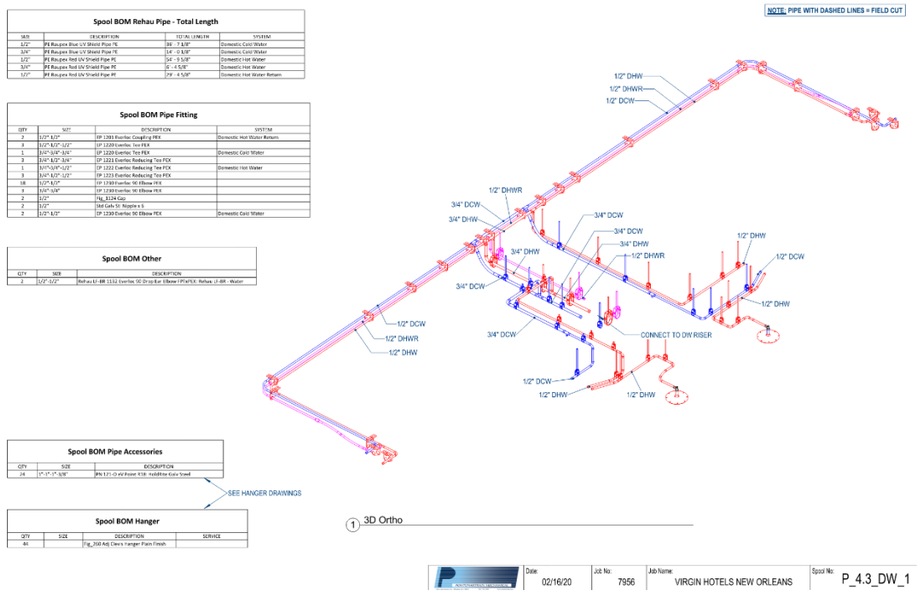
2 Front

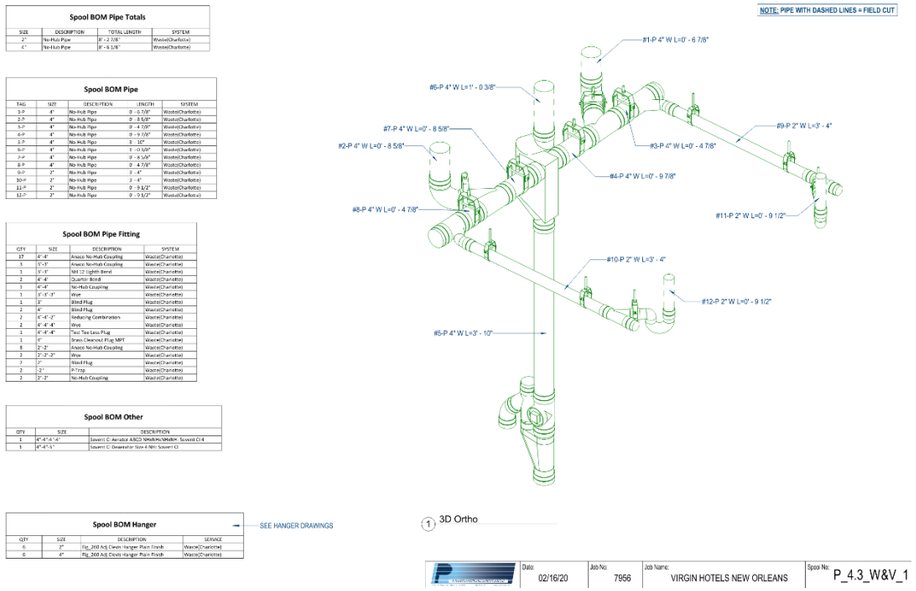
	Date:	Job No:	Job Name:	Spool No:
	02/26/20	7956	VIRGIN HOTELS NEW ORLEANS	P_4.3_WI277

- Wall panelization with BIM Coordination allowed us to install in wall plumbing components off-site.

© LEAN CONSTRUCTION INSTITUTE

Panelized Walls & Guestroom Sequence Kits

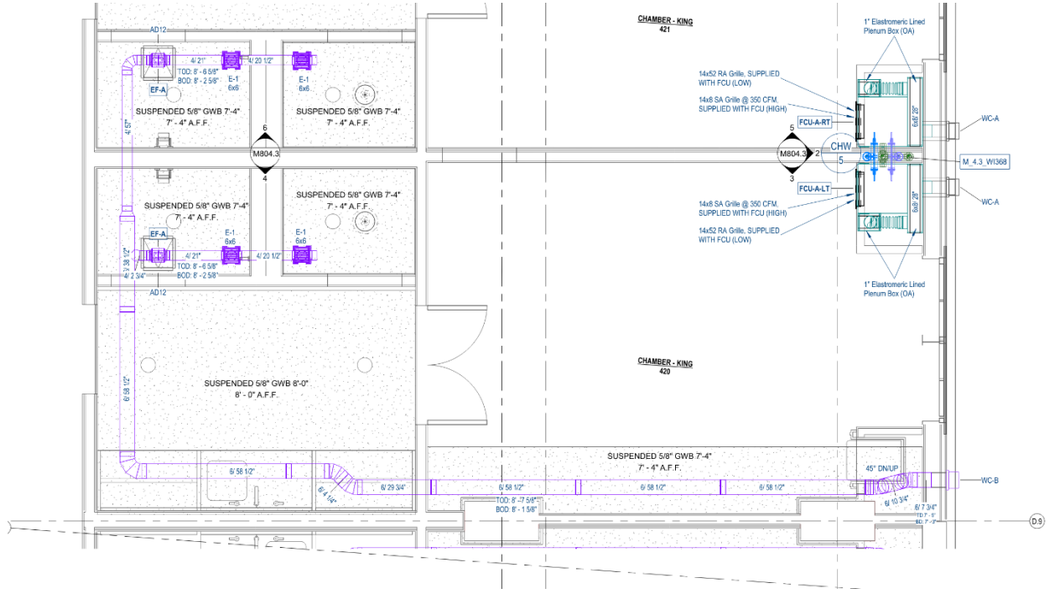




- Kitting & packaging of overhead work into carts with wheels allowed us to work from our shop instead of jobsite during the early stages of the COVID outbreak.

© LEAN CONSTRUCTION INSTITUTE

Panelized Walls & Guestroom Sequence Kits



- Exhaust duct prefabrication for guestrooms.

© LEAN CONSTRUCTION INSTITUTE

Panelized Walls & Guestroom Sequence Kits

KEYS TO SUCCESS

- All components need to be defined & modeled for wall panelization to add value. The small details make or break the plan.
- Use Last Planner to create workflows for all teams with proper sequence.
- Use Robotic Layout tools & shared control points to make sure all trades are laying out the same way.
- HAVE A BEST-IN-CLASS FIELD CREW!

LESSONS LEARNED

- Minor details are major details when panelizing walls.
- Rework with panelized walls is more difficult than conventional framing.
- Field tolerances need to be accounted for in the planning effort.
- Delivery & Lifting of wall panels/prefab kits requires some logistics & planning.
- Pre-rock needs to be defined in early stages of planning.
- Rolling carts & kit delivery were very valuable.

© LEAN CONSTRUCTION INSTITUTE

Overhead Pipe Kits

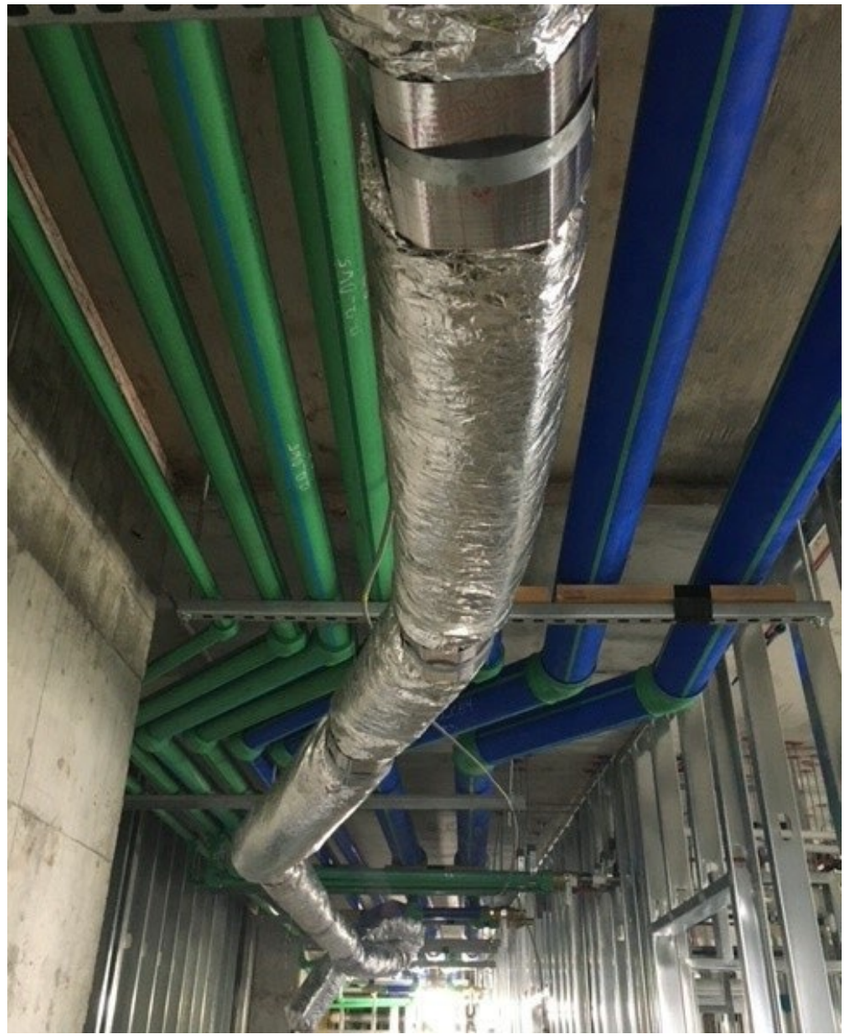
- Making as many joints as possible offsite helps reduce time for installation onsite.

© LEAN CONSTRUCTION INSTITUTE

Overhead Pipe Kits

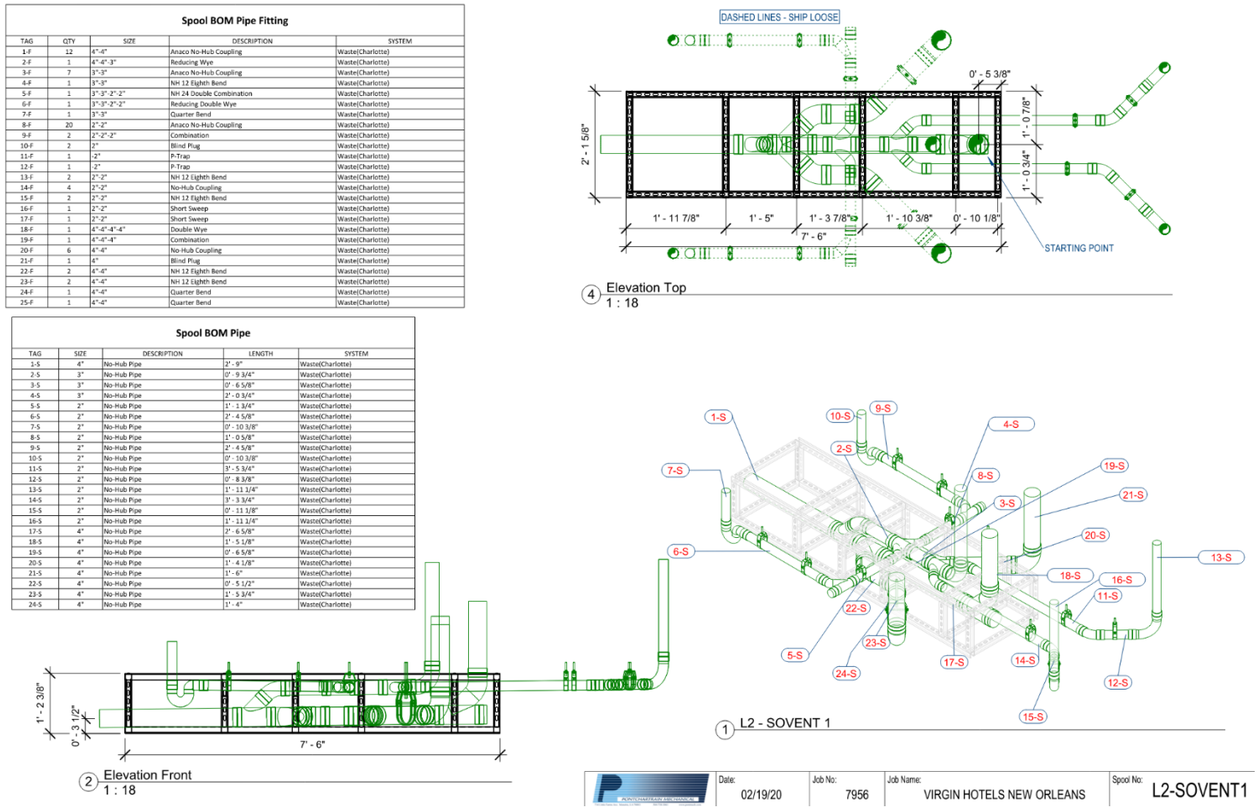
© LEAN CONSTRUCTION INSTITUTE

Overhead Pipe Kits



© LEAN CONSTRUCTION INSTITUTE

Component Prefabrication



Spool BOM Pipe Fitting

TAG	QTY	SIZE	DESCRIPTION	SYSTEM
1-F	12	4"-4"	Anaco No-Hub Coupling	Waste(Charlotte)
2-F	1	4"-4"-3"	Reducing Wye	Waste(Charlotte)
3-F	7	3"-3"	Anaco No-Hub Coupling	Waste(Charlotte)
4-F	1	3"-3"	NH 12 Eighth Bend	Waste(Charlotte)
5-F	1	3"-3"-2"-2"	NH 24 Double Combination	Waste(Charlotte)
6-F	1	3"-3"-2"-2"	Reducing Double Wye	Waste(Charlotte)
7-F	1	3"-3"	Quarter Bend	Waste(Charlotte)
8-F	20	2"-2"	Anaco No-Hub Coupling	Waste(Charlotte)
9-F	2	2"-2"-2"	Combination	Waste(Charlotte)
10-F	2	2"	Blind Plug	Waste(Charlotte)
11-F	1	2"	P-Trap	Waste(Charlotte)
12-F	1	2"	P-Trap	Waste(Charlotte)
13-F	2	2"-2"	NH 12 Eighth Bend	Waste(Charlotte)
14-F	4	2"-2"	No-Hub Coupling	Waste(Charlotte)
15-F	2	2"-2"	NH 12 Eighth Bend	Waste(Charlotte)
16-F	1	2"-2"	Short Sweep	Waste(Charlotte)
17-F	1	2"-2"	Short Sweep	Waste(Charlotte)
18-F	1	4"-4"-4"-4"	Double Wye	Waste(Charlotte)
19-F	1	4"-4"-4"	Combination	Waste(Charlotte)
20-F	6	4"-4"	No-Hub Coupling	Waste(Charlotte)
21-F	1	4"	Blind Plug	Waste(Charlotte)
22-F	2	4"-4"	NH 12 Eighth Bend	Waste(Charlotte)
23-F	2	4"-4"	NH 12 Eighth Bend	Waste(Charlotte)
24-F	1	4"-4"	Quarter Bend	Waste(Charlotte)
25-F	1	4"-4"	Quarter Bend	Waste(Charlotte)

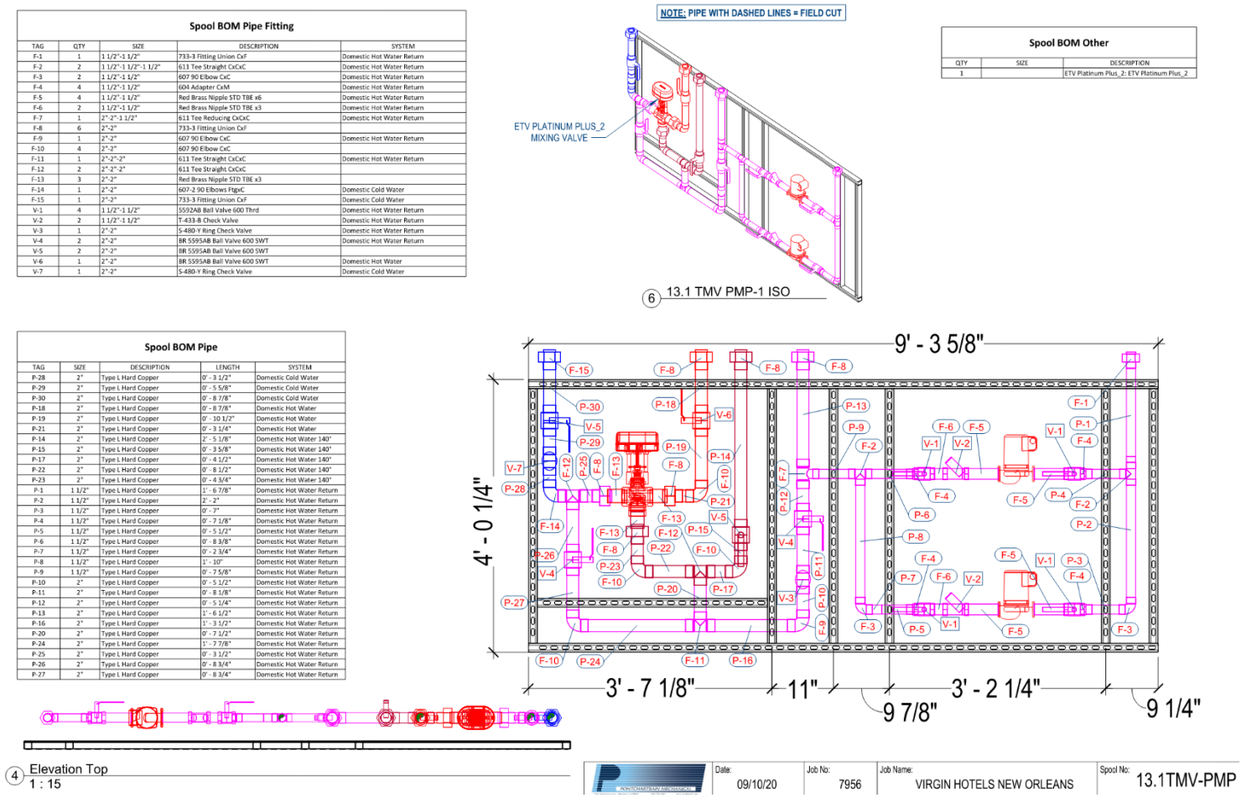
Spool BOM Pipe

TAG	SIZE	DESCRIPTION	LENGTH	SYSTEM
1-S	4"	No-Hub Pipe	2' - 9"	Waste(Charlotte)
2-S	3"	No-Hub Pipe	0' - 9 3/4"	Waste(Charlotte)
3-S	3"	No-Hub Pipe	0' - 6 5/8"	Waste(Charlotte)
4-S	3"	No-Hub Pipe	2' - 0 3/4"	Waste(Charlotte)
5-S	2"	No-Hub Pipe	1' - 1 3/4"	Waste(Charlotte)
6-S	2"	No-Hub Pipe	2' - 4 5/8"	Waste(Charlotte)
7-S	2"	No-Hub Pipe	0' - 10 3/8"	Waste(Charlotte)
8-S	2"	No-Hub Pipe	1' - 0 3/8"	Waste(Charlotte)
9-S	2"	No-Hub Pipe	2' - 4 5/8"	Waste(Charlotte)
10-S	2"	No-Hub Pipe	0' - 10 3/8"	Waste(Charlotte)
11-S	2"	No-Hub Pipe	3' - 5 3/4"	Waste(Charlotte)
12-S	2"	No-Hub Pipe	0' - 8 3/8"	Waste(Charlotte)
13-S	2"	No-Hub Pipe	1' - 11 1/4"	Waste(Charlotte)
14-S	2"	No-Hub Pipe	3' - 3 3/4"	Waste(Charlotte)
15-S	2"	No-Hub Pipe	0' - 11 1/8"	Waste(Charlotte)
16-S	2"	No-Hub Pipe	1' - 11 1/4"	Waste(Charlotte)
17-S	4"	No-Hub Pipe	2' - 6 5/8"	Waste(Charlotte)
18-S	4"	No-Hub Pipe	1' - 5 1/8"	Waste(Charlotte)
19-S	4"	No-Hub Pipe	0' - 6 5/8"	Waste(Charlotte)
20-S	4"	No-Hub Pipe	1' - 4 1/8"	Waste(Charlotte)
21-S	4"	No-Hub Pipe	1' - 6"	Waste(Charlotte)
22-S	4"	No-Hub Pipe	0' - 5 1/2"	Waste(Charlotte)
23-S	4"	No-Hub Pipe	1' - 5 3/4"	Waste(Charlotte)
24-S	4"	No-Hub Pipe	1' - 4"	Waste(Charlotte)

- Sovent racks for the base of the system made installation of the most critical component very consistent between risers.

© LEAN CONSTRUCTION INSTITUTE

Component Prefabrication



Spool BOM Pipe Fitting

TAG	QTY	SIZE	DESCRIPTION	SYSTEM
F-1	1	1 1/2"-1 1/2"	733-3 Fitting Union CxF	Domestic Hot Water Return
F-2	2	1 1/2"-1 1/2"-1 1/2"	611 Tee Straight CxCxC	Domestic Hot Water Return
F-3	2	1 1/2"-1 1/2"	607 90 Elbow CxC	Domestic Hot Water Return
F-4	4	1 1/2"-1 1/2"	604 Adapter CxM	Domestic Hot Water Return
F-5	4	1 1/2"-1 1/2"	Red Brass Nipple STD TBE x6	Domestic Hot Water Return
F-6	2	1 1/2"-1 1/2"	Red Brass Nipple STD TBE x3	Domestic Hot Water Return
F-7	1	2"-2"-1 1/2"	611 Tee Reducing CxCxC	Domestic Hot Water Return
F-8	6	2"-2"	733-3 Fitting Union CxF	
F-9	1	2"-2"	607 90 Elbow CxC	Domestic Hot Water Return
F-10	4	2"-2"	607 90 Elbow CxC	
F-11	1	2"-2"-2"	611 Tee Straight CxCxC	Domestic Hot Water Return
F-12	2	2"-2"-2"	611 Tee Straight CxCxC	
F-13	3	2"-2"	Red Brass Nipple STD TBE x3	
F-14	1	2"-2"	607-2 90 Elbows PbgxC	Domestic Cold Water
F-15	1	2"-2"	733-3 Fitting Union CxF	Domestic Cold Water
V-1	4	1 1/2"-1 1/2"	5592AB Ball Valve 600 Thrd	Domestic Hot Water Return
V-2	2	1 1/2"-1 1/2"	T-433-B Check Valve	Domestic Hot Water Return
V-3	1	2"-2"	S-480-Y Ring Check Valve	Domestic Hot Water Return
V-4	2	2"-2"	BR 5595AB Ball Valve 600 SWT	Domestic Hot Water Return
V-5	2	2"-2"	BR 5595AB Ball Valve 600 SWT	
V-6	1	2"-2"	BR 5595AB Ball Valve 600 SWT	Domestic Hot Water
V-7	1	2"-2"	S-480-Y Ring Check Valve	Domestic Cold Water

NOTE: PIPE WITH DASHED LINES = FIELD CUT

ETV PLATINUM PLUS_2 MIXING VALVE

6 13.1 TMV PMP-1 ISO

Spool BOM Other

QTY	SIZE	DESCRIPTION
1		ETV Platinum Plus_2: ETV Platinum Plus_2

Spool BOM Pipe

TAG	SIZE	DESCRIPTION	LENGTH	SYSTEM
P-28	2"	Type L Hard Copper	0' - 3 1/2"	Domestic Cold Water
P-29	2"	Type L Hard Copper	0' - 5 5/8"	Domestic Cold Water
P-30	2"	Type L Hard Copper	0' - 8 7/8"	Domestic Cold Water
P-18	2"	Type L Hard Copper	0' - 8 7/8"	Domestic Hot Water
P-19	2"	Type L Hard Copper	0' - 10 1/2"	Domestic Hot Water
P-21	2"	Type L Hard Copper	0' - 3 1/4"	Domestic Hot Water
P-14	2"	Type L Hard Copper	2' - 5 1/8"	Domestic Hot Water 140°
P-15	2"	Type L Hard Copper	0' - 3 5/8"	Domestic Hot Water 140°
P-17	2"	Type L Hard Copper	0' - 4 1/2"	Domestic Hot Water 140°
P-22	2"	Type L Hard Copper	0' - 8 1/2"	Domestic Hot Water 140°
P-23	2"	Type L Hard Copper	0' - 4 3/4"	Domestic Hot Water 140°
P-1	1 1/2"	Type L Hard Copper	1' - 6 7/8"	Domestic Hot Water Return
P-2	1 1/2"	Type L Hard Copper	2' - 2"	Domestic Hot Water Return
P-3	1 1/2"	Type L Hard Copper	0' - 7"	Domestic Hot Water Return
P-4	1 1/2"	Type L Hard Copper	0' - 7 1/8"	Domestic Hot Water Return
P-5	1 1/2"	Type L Hard Copper	0' - 5 1/2"	Domestic Hot Water Return
P-6	1 1/2"	Type L Hard Copper	0' - 8 3/8"	Domestic Hot Water Return
P-7	1 1/2"	Type L Hard Copper	0' - 2 3/4"	Domestic Hot Water Return
P-8	1 1/2"	Type L Hard Copper	1' - 10"	Domestic Hot Water Return
P-9	1 1/2"	Type L Hard Copper	0' - 7 5/8"	Domestic Hot Water Return
P-10	2"	Type L Hard Copper	0' - 5 1/2"	Domestic Hot Water Return
P-11	2"	Type L Hard Copper	0' - 8 1/8"	Domestic Hot Water Return
P-12	2"	Type L Hard Copper	0' - 5 1/4"	Domestic Hot Water Return
P-13	2"	Type L Hard Copper	1' - 6 1/2"	Domestic Hot Water Return
P-16	2"	Type L Hard Copper	1' - 3 1/2"	Domestic Hot Water Return
P-20	2"	Type L Hard Copper	0' - 7 1/2"	Domestic Hot Water Return
P-24	2"	Type L Hard Copper	1' - 7 7/8"	Domestic Hot Water Return
P-25	2"	Type L Hard Copper	0' - 3 1/2"	Domestic Hot Water Return
P-26	2"	Type L Hard Copper	0' - 8 3/4"	Domestic Hot Water Return
P-27	2"	Type L Hard Copper	0' - 8 3/4"	Domestic Hot Water Return

9' - 3 5/8"
4' - 0 1/4"
3' - 7 1/8"
11"
9 7/8"
3' - 2 1/4"
9 1/4"

4 Elevation Top
1 : 15

Date:	Job No:	Job Name:	Spool No:
09/10/20	7956	VIRGIN HOTELS NEW ORLEANS	13.1TMV-PMP

- Wall mount racks for the domestic water mixing valves & recirculation pumps help reduce number of components to keep up with on-site.

© LEAN CONSTRUCTION INSTITUTE

Pipe Kits & Component Prefabrication

KEYS TO SUCCESS

- BIM Coordination & modeling make it work.
- Organization & naming of work packages is important to make sure all teammates “speak the same language”
- HAVE A BEST-IN-CLASS FIELD CREW!

LESSONS LEARNED

- Garbage in = Garbage out
- How we sort, label, & deliver piping bundles to the jobsite makes a big difference.
- Smaller component prefab helps remove risk of errors in the field.

© LEAN CONSTRUCTION INSTITUTE

Project Photos

© LEAN CONSTRUCTION INSTITUTE

Lean Construction Institute
Transforming Design and Construction

Project Photos

© LEAN CONSTRUCTION INSTITUTE

Lean Construction Institute
Transforming Design and Construction

Virgin Hotel Grand Opening

© LEAN CONSTRUCTION INSTITUTE

Lean Construction Institute
Transforming Design and Construction

23RD LCI CONGRESS
OCTOBER 19-22

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.

© LEAN CONSTRUCTION INSTITUTE

Contact Us

Greg Lusignan
Broadmoor L.L.C.
glusignan@broadmoorllc.com

James Kinberger
Light Gauge Systems
James.Kinberger@LightGaugeSystems.com

Wendell Humphres
Pontchartrain Mechanical, LLC
whumphres@pontmech.com

© LEAN CONSTRUCTION INSTITUTE

23RD LCI CONGRESS
OCTOBER 19-22

Thank you for attending this presentation. Enjoy the rest of the 23rd Annual LCI Congress!

© LEAN CONSTRUCTION INSTITUTE