

Level 5 Drywall Reduces Layout Time by Eight Days on a Medical Project with HP SitePrint

Level 5 Drywall needed a fast layout solution to maintain project timelines for a cutting-edge medical research facility. The critical factor was speed and costs. HP SitePrint proved the perfect solution, cutting total layout time down to little more than a single shift, fully managed by a single technician.

Highlights

9x faster Productivity

HP SitePrint completed layout 67 hours faster compared to manual.

Cost Reduction

HP SitePrint reduced layout costs by 36% compared to manual.

Project Scope

Project:
Drywall layout and installation for a new medical research laboratory

Location:
1900 North Loop in Alameda, California

Type of project:
Drywall track marking and installation

Layout scope:
2,315 ft of drywall track

Project Size:
31,029 ft² of floor space



The Challenge

Level 5 (L5) Drywall was tasked with quickly coordinating drywall layout and installation for a two-story tilt-up construction. Because the structure was for an advanced medical research facility, the wall layouts were somewhat unconventional, necessitating a keen awareness of how the drywall tracks would integrate with the MEP and HVAC systems.

Based on L5 estimates, conventional drywall layouts can reach a wall track marking rate of 400ft²/hour. As the project required above 31,000 ft², a manual layout strategy would have placed a 75-hour burden on the total project timeline - nearly two weeks of full-time work requiring a two or three man layout crew.



"If a line is in the wrong place, then that wall might have to get torn out. That's costly for companies like us, because four or five errors like that? Your profit margin shrinks."

Gerardo Rivera
VP Operations

The Solution

Requiring nothing more than the site print robot and a robotic total station (RTS), HP SitePrint achieves immense efficiency gains across a wide range of surfaces. The robot's advanced positioning system, backed by ultra-precise cliff and obstacle detection, is built to automatically convert 2D plans to a fully printed site layout.

A single technician monitors progress from a mobile device, and the UI is incredibly easy to learn. Along with a reduction in labor costs, HP SitePrint's pay-by-use rate for all materials and support services also provided L5 with more accurate and uniform cost planning.

Moreover, HP SitePrint had achieved a proven boost in productivity while improving accuracy and consistency. It also expanded the type of layout data that could be printed compared to chalk lines and markers.

The Results

HP SitePrint shaved an entire eight days off the layout process, which exceeded stakeholder expectations, accelerated the project, and improved confidence in the finished layout.

HP SitePrint met the facility's complex design challenges while reducing costs by 36%. SitePrint also achieved a rate of 3,644 ft²/hr and razor-sharp accuracy, thanks to the site print robot's ⅛ in. tolerance window.

As telling as these metrics are, it's important to note that HP SitePrint also provided several qualified benefits. Because the HP SitePrint relays more information from the digital model directly onto the field, L5's layout technician and installation crews were better equipped to make data-informed decisions as the layout process progressed to hands-on installation work.



Using HP SitePrint, L5 was able to achieve :

Cost reductions
36%

Cost reduction
$3,617 compared to manual

Time reduction
9 times faster

Time reduction
67 hours compared to manual

Long-Term Impact

Not only was HP SitePrint an incredibly fast layout solution for the medical research lab's intricate layout, but L5's adoption of fully automated site printing paved the way for scalable value-adding results on future projects.

Even after just one major success with HP SitePrint, construction companies can show undeniable proof that they have a massive competitive advantage. At this rate, it's only a matter of time before the rest of the industry starts trying to catch up.

"We're geared for projects costing less. Now, instead of taking three guys to do a layout, you've only got one and the other two are already laying track. You can move weeks ahead [of] schedule with HP SitePrint."

Gerardo Rivera
VP Operations

Comparative Analysis

The following are just the most quantifiable metrics showing the advantage of HP SitePrint for drywall layouts. In the highly competitive construction industry, only a fully automated site printing robot can advance your and the client's interests at scale.

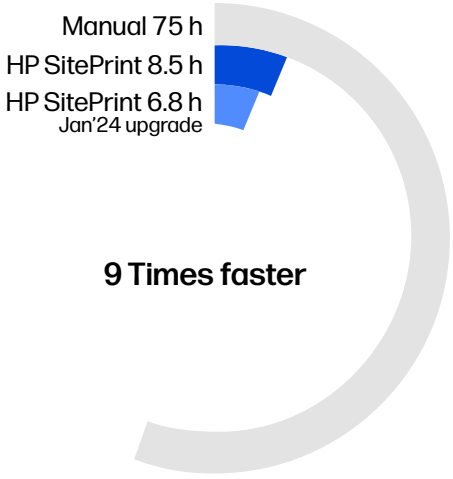




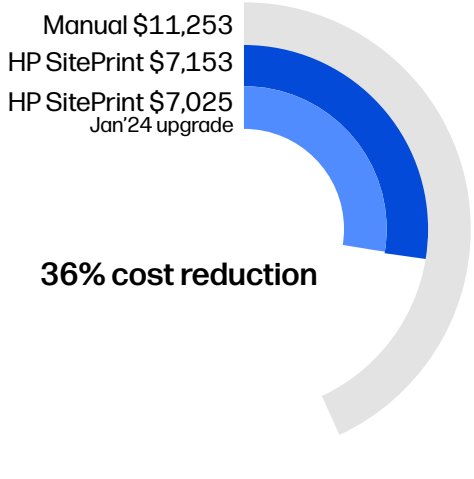
January'24 upgrade

	L5 at 1900 North Loop	Before HP SitePrint[1]	HP SitePrint[2]	HP SitePrint[3]
Job Data	Printed Floor Area (ft²)	31,029 ft²		31,029 ft²
	Drywall track installed (ft)	2,315		2,315
Labor cost rates	Layout Crew Size	2	1	1
	Layout professional cost/hour	$75		$75
	SitePrint Support Usage Fee ($/sqft)	-	$0.2/ft²	$0.2/ft²
Time	Total Time (h)	75 h	8.5 h	6.8h
	Total Productivity (ft²/h)	414 ft²/h	3,644 ft²/h	4,555 ft²/h
Total job cost	Labor Cost	$11,253	$639	$511
	SitePrint Support Usage Fee	-	$6,206	$6,206
	SitePrint D&A[4] (1 week)	-	$308	$308
	Total Cost	**$11,253**	**$7,153**	**$7,025**

In January 2024, HP unveiled a software upgrade designed to elevate productivity by optimizing printing speed and navigation efficiency. Extensive testing revealed that the deployment of the upgrade leads to a substantial average productivity increase of 25% within Interior Walls layouts compared to previous software versions. Using it, would have increased productivity 11x compared to manual layout and a 38% reduction in operational expenses.



9 Times faster



36% cost reduction

[1] Cost and time estimation is conducted utilising industry averages prevalent in the region.

[2] Data in the SitePrint scenario is gathered through robot telemetry.

[3] HP SitePrint 2.0 increased productivity 25% compared to HP SitePrint 1.4.3 for Interior Wall layouts. Testing was performed with sample CAD files, meeting average industry conditions in terms of linear feet density.

[4] The weekly cost associated with depreciation and amortization (D&A) has been computed based on a three-year amortization period.

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c08917871, July 2026