



SCS delivers 14x faster layout in a Medical Facility Warehouse with a high-density racking plan

Highlights



\$4320 cost reduction

Saved \$4320, cutting costs by nearly half.



14x times faster

14 times faster than the traditional method using tape measures and chalk lines.



Layout accuracy of 1/8"

Operational improvements included direct CAD-to-site translation and the elimination of interpretation errors. As a result, teams were able to consistently maintain 1/8" accuracy across 700+ linear feet of warehouse layout.

Project Background

Description

Print interior layout for warehouse expansion.

Name

Medical Manufacturing Facility.

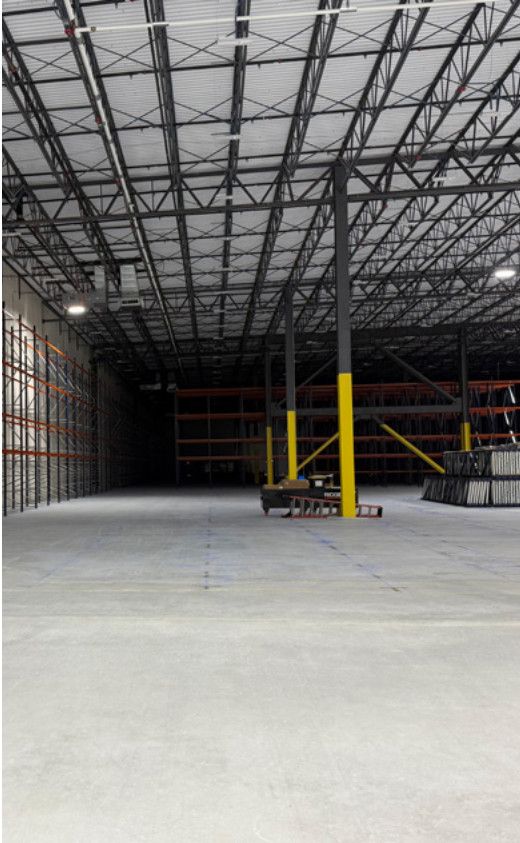
Main Focus

Prepare a 110,000 sq. ft. facility for a high-density racking plan with markings for racking, wire guidance, and life system coordination and tie-ins.

SCS Construction Management is a company that specializes in strategic renovations, fit-outs, and facility improvements for advanced manufacturing and tough-tech facilities, labs, cleanrooms, corporate offices, and healthcare environments. Working across such a wide range of projects requires meticulous precision and custom solutions tailored to clients' needs. The accuracy of each project hinges heavily on interior layouts.

Meeting precise layout demands requires teams to maintain precise 1/8" accuracy across large floor plans. Achieving the required results typically requires a 7-person crew to spend days measuring and marking the layout. When asked to prepare a massive warehouse for expansion with several intricate systems dependent on a precise layout, the SCS team knew they needed a faster and more repeatable way to translate CAD to concrete without tying up a large crew. They turned to HP SitePrint for an innovative and accurate solution.

The Challenge



A leading medical manufacturing company preparing for a major expansion contacted SCS to handle the complex details of transforming a 110,000 square foot warehouse into a high-efficiency storage and distribution hub. The project would require the team to lay out the warehouse racking plan with tight coordination between lighting, life safety systems, and wire guidance infrastructure. This coordinated approach prioritizes a precise layout upfront, allowing for seamless installation with fewer stops for errors and rework. However, it meant that the rack field needed to be laid out to a demanding tolerance of 1/8" across 700+ linear feet of space. Adding to the pressure, the layout had to be completed months before the racks arrived so upstream trades could coordinate around the plan.

SCS Construction's traditional layout approach would have required a 7-person crew to manually measure and mark the entire layout with tape measures and chalk lines. This process would have taken approximately 112 hours to complete. Even with an experienced crew, the manual layout process is prone to cumulative human errors that can slow the process and lead to costly rework during installation.

To meet the demands of this intricate project, SCS needed a faster way to accurately translate CAD drawings to concrete, without tying up a large crew.

The Solution

SCS turned to HP SitePrint to automate layout in a way that would speed up the process and improve accuracy. A robotic layout system that prints the design full-scale on the slab, HP SitePrint reproduces all the details from the CAD design directly to the project floor with precise accuracy. The resulting layout includes racking references, wire guidance marks, and tie-in points, so every trade reads the same plan directly underfoot—reducing miscommunication and errors during installation. Only one crew member is needed to operate the HP SitePrint robot, allowing other team members to focus on other tasks.

By driving layout from the model, HP SitePrint removed interpretation steps and kept accuracy consistent end-to-end. The robot completed the entire scope in 8 man-hours, giving SCS the specified precision and creating long-lead coordination and phased work sequencing. HP SitePrint's accuracy and speed, combined with minimal operational requirements, addressed all of SCS Construction's layout concerns, allowing them to effortlessly meet the demands of the complex project.





The Results with HP SitePrint

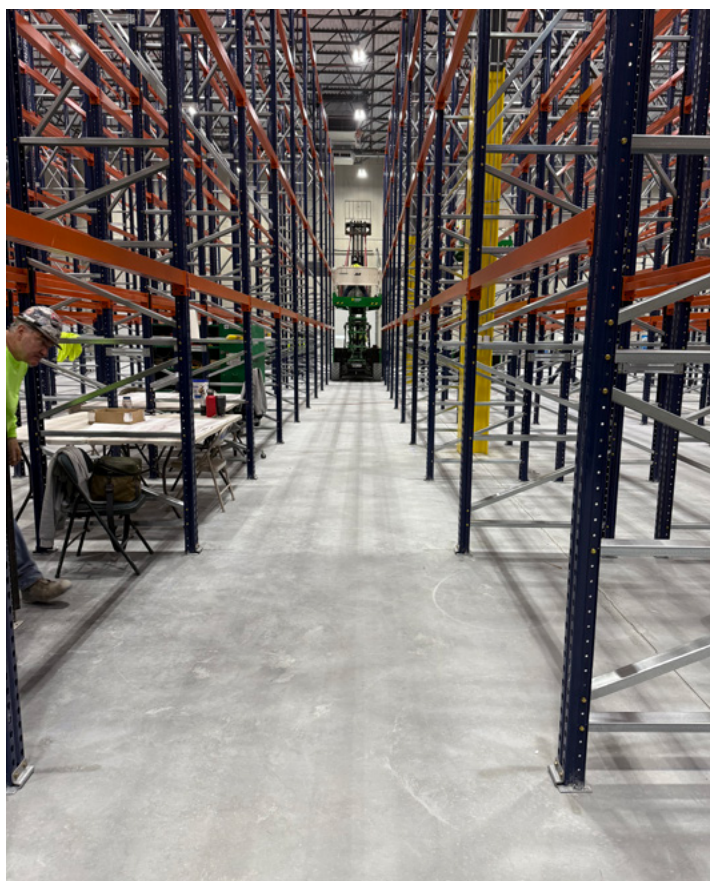
SCS Construction's layout approach with tape measures and chalklines was too labor-intensive and time-consuming for this large and complex project. It also had the potential to introduce errors that would have created installation delays, which was exactly what the client needed to avoid. With HP SitePrint, the team improved accuracy and speed to efficiently meet the customer's specifications.

The robotic layout compressed the schedule and reduced labor dramatically, making the team 14 times more productive than with manual methods and maintaining the 1/8-inch tolerance across the rack field. With the CAD-to-floor translation completed early and accurately, SCS and its trade partners aligned lighting, life safety, and wire guidance work with fewer re-lays and less double-handling, keeping the overall project on track and improving installation quality and safety.

- Total cost reduction: \$4,320 in reduced labor and operational costs
- Total time saved: 104 man-hours, which is 14 times faster than the traditional process

Long-Term Impact

The medical facility warehouse project was a great example of how SCS could maintain its spotless reputation for accuracy and precision while improving speed and efficiency during complex warehouse layout processes. HP SitePrint's ability to accurately complete a multi-trade data center construction layout and include floor deviation marking allowed the team to eliminate accuracy concerns and meet tight tolerance specifications with no room for error. With HP SitePrint, SCS empowered field teams to focus on execution, not logistics--delivering better outcomes for the client and every trade involved. Moving forward, they can utilize HP SitePrint to improve speed and efficiency on a range of complex layout projects.



Comparative Analysis

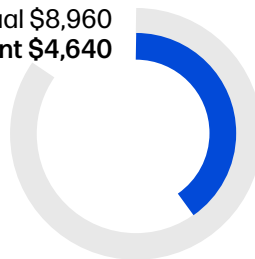


SCS Construction is widely known for its team's ability to meet complex layout demands across multiple industries with tailored solutions. With HP SitePrint, they can further improve accuracy and efficiency while improving safety for crew members. The medical facility warehouse transition layout clearly highlights enormous time and cost savings when using HP SitePrint for the layout and floor level process.



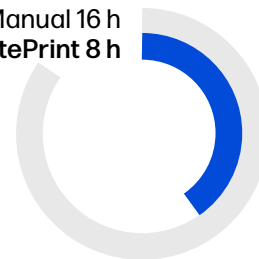
	Traditional	HP SitePrint
Project Size (ft ²)	20,000 ft ²	
Layout Crew Size	7	1
Labour cost (\$/hour)	\$80	
Productivity	1,250 ft ² /h	2,500 ft ² /h
Layout Time (h)	16 h	8 h
Man hours	112 h	8 h
Labor Cost	\$8,960	\$640
SitePrint Usage	-	\$4,000
Total Cost	\$8,960	\$4,640

Manual \$8,960
HP SitePrint \$4,640



50% cost reduction

Manual 16 h
HP SitePrint 8 h



2x more productive

SCS Streamlines Medical Facility Warehouse Layout to Meet Tight Tolerances and Demanding Deadlines

SCS Construction's dedication to meeting complex building layout requirements with custom solutions depends on innovative thinking and a willingness to adopt new tools. When faced with a large, complex layout, they turned to HP SitePrint for a comprehensive solution. The HP SitePrint robot exceeded the company's expectations, dramatically cutting costs and time requirements for complex layouts. As a result, SCS will be able to take on more projects and efficiently meet client demand for construction projects that depend on increasingly intricate layout demands. Wondering how HP SitePrint can help you streamline your construction operational process? Contact us today to learn more about HP SitePrint layout robots.

Contact us

Want to learn more about how HP SitePrint can help your company achieve faster layout processes? Contact us to learn more.

Learn more at www.hp.com/siteprint

Please recycle this flyer. © Copyright 2024 HP Development Company, L.P.
c09218365 October 2025