

Hensel Phelps

Hensel Phelps seek to optimize their quality control processes and improve efficiency on a fast track design-build project using integrated mobile technology.

Interconnected for Efficiency: Hensel Phelps Puts Mobile Technology to the Quality Test

With a \$190 million, fast-track design-build project in the U.S. Northeast, the Hensel Phelps quality control team sought to optimize their processes with help from integrated mobile technology.

The scope of the two-year project includes three separate structures: a central office, data center and entrance facility constructed on a 62-acre site. The project broke ground in August



2012 with a contractually stipulated completion date of August 2014.

“From project go-ahead, our goal was to find ways to improve the efficiency of quality control, inspections and related activities at the jobsite,” says Chad Lucks, lead quality control engineer for Hensel Phelps. “Today’s mobile technology certainly facilitates a more practical paperless environment.”

Historically, Hensel Phelps quality inspectors have carried backpacks of drawings around the jobsite to support quality checks and the completion of punchlists.

“On the Northeast design-build project, our incentive to shift to digital inspections and punchlists was even greater because of the scale of the site. The last thing we wanted to do was trek back and forth with backpacks of drawings, while trying to meet or beat an already aggressive construction schedule. We needed immediate document access and related reports at our fingertips.”

Soon after, Lucks and his team opted to pilot Prolog Mobile on iPads with the Prolog Converge web-based interface.

Mobile Management

The Prolog Mobile field management solution is a natively-built solution for the iPad or Windows device that gives users the ability to access and capture

“We don’t always have Internet or Wi-Fi capabilities when working out on a site of this scale. With the offline capabilities that Prolog Mobile offers, the flow of work can continue.”

Ayana Coker
Hensel Phelps Field Engineer

critical Prolog project information in the field through the Prolog Converge interface. With it, field staff have the tools, templates and data necessary to manage construction oversight activities with or without an Internet connection, including daily construction reports, punch lists, inspections and tests in the field in a paperless environment. Data collected in real-time from the field is then synchronized with Prolog back in the office, creating a complete system of record for all project data.

Lucks’ team implemented Prolog Mobile

Hensel Phelps

on nine (9) iPad Minis for use by the Hensel Phelps team and four of the project's subcontractors to complete inspections, punchlists and checklists.

Since powering up his first iPad and heading to the jobsite, Lucks has found a number of advantages to the mobile quality management solution. He is particularly happy with the features and functions added in version 9.8 of Prolog Mobile, which includes dynamic support for User Defined Fields (UDFs), field-level security, synchronization enhancements

and support for two new business processes—checklists and plan view.

He adds, "I really like the checklist and plan view features. The checklist feature allows the user to add pictures to any line item and they are very easy to customize. We have checklists created for quality as well as safety."

The plan view feature streamlines the punchlist process by allowing subcontractors to locate the exact position of items of concern. With the tablet, the quality team is able to attach

a picture of the issue for reference by the subcontract, and the subcontractor is able to attach an image of the corrected issue. The plan view feature is also helpful for hotlists and discrepancy items. The ability to use the plan view with all of the features of Prolog allows easy understanding of the item's location. In addition, the team found the user interface between Prolog Converge and Prolog Mobile easy to use.

"I've been able to teach other inspectors, team members and subcontractors, both



young and experienced, how to use the tool in a matter of minutes,” says Lucks. As well, Lucks created a quick series of training videos for users when personal instruction is not possible.

Online/Offline Speed

For Lucks, prompt, easy to find data access is key to a speedy, quality inspection. He says, “First thing in morning, I sync the iPad and then start going through my inspections. With Prolog Mobile, I have all the most current drawings at my fingertips. I can coordinate with the owner and field supervisor throughout the inspection, create checklists for follow-up inspections and identify closed items—all from the mobile solution. No more backpacks of drawings, no more paper checklists.”

Subcontractors agree.

Fred Green, quality control manager with Southland Industries, notes that paper punchlists don’t always accurately reflect where the inspector is located, making it challenging to identify exactly where an issue is located on the jobsite. Prolog Mobile’s Plan View and Pin drop features allow the location to be visually represented on a drawing. The team creates an issue on the device and adds images as necessary to distribute to the foreman in the field. Green says, “I used to use ribbons as tags to the problem area...Prolog Mobile lets us status wherever we are and sync so that the whole construction team stays informed.”

The entire team agrees that the all-in-one, tablet-run workflow is more efficient. It also provides everyone greater clarity about issues with the ability to add images and notes, which speeds issue resolution. Because the system is mobile and connected, everyone is updated in near real-time.

Ayana Coker, Hensel Phelps field engineer, adds, “I can do an entire inspection offline and then upload the data when I get back to the office. Offline capabilities are incredibly important. We don’t always have Internet or Wi-Fi capabilities when working out on a site of this scale. With the offline capabilities that Prolog Mobile offers, the flow of work can continue, making it easier to perform inspections in locations where wireless access is not available.”

Measurable Value

The use of Prolog Mobile on the Northeast project for quality control has noticeably reduced time to resolve punchlist items.

“On other jobs subcontractors use spreadsheets to capture and track punchlist items,” says Lucks, “which is challenging and time consuming. Now, our subcontractors simply pull up the item on the iPad and view the attached picture to quickly and easily locate each item. It’s so much faster. I believe we’ve cut the time it takes to perform inspections by 75%. Another benefit of our digital workflow is the significant reduction in paper used to create and

track punchlist items, which is consistent with our project goals and the spirit of the LEED Gold Certification we are pursuing.”

The Northeast project is several months ahead of the contractual deadline—in part because of Hensel Phelps shift to mobile quality control management.

With the success of using Prolog Mobile and the positive feedback from users, Hensel Phelps plans to use mobile technology on other projects. Lucks reports, “We, in fact, have been using mobile technology on many of our projects. The advantage of Prolog Mobile is that it centralizes our data without the need for cross vendor integration. Information is immediately available to the whole team from a single pane of glass.”

“

It’s so much faster. I believe we’ve cut the time it takes to perform inspections by 75%.

Chad Lucks
Lead Quality Control Engineer”

HENSEL PHELPS Plan. Build. Manage

From planning and design, to construction, and facility management, Hensel Phelps works to solve their clients' challenges from start to finish, and beyond. Hensel Phelps clients, both domestic and international, have entrusted us with a tremendous range of landmark projects, in nearly every market sector.

Plan With Ingenuity

Hensel Phelps Ingenuity comes into play in how they anticipate and solve potential conflicts and issues – before construction begins, and it speaks to how they perform the delicate balance of combining their efforts with those of their clients and partners.

Build With Integrity

Building with Integrity brings to mind not only the structural integrity of a building, but also the moral integrity with which Hensel Phelps conducts ourselves in all their relationships.

Manage With Assurance

Assurance means confidence and peace of mind for Hensel Phelps clients; it's also the confidence Hensel Phelps has in their people and proven processes, to bring the best to every job. Hensel Phelps expert people possess this quality as well, as they are self-assured in their roles as partners and leaders.

Learn more about Trimble's building construction solutions:

www.trimblebuildings.com

NORTH AMERICA
10368 Westmoor Dr.
Westminster, CO 80021
1-916-294-2000



buildings.trimble.com