



A STEP-BY-STEP GUIDE TO

Driving Efficiencies with Construction Management Software

vitruvi



Introduction

Efficient project management is essential for the success of any construction project. The journey from as-designed to as-built encompasses three core phases, each phase presenting unique challenges and opportunities for optimization. This guide provides practical strategies to streamline processes and enhance project outcomes, ensuring a seamless transition from initial design to final construction. By implementing these insights, you can minimize project delays and cost overruns, maximizing both efficiency and profitability.

Discover how you can transform your construction management strategies to achieve superior results with our informative e-guide.





The Connection Between As-Designed and As-Built

Defining As-Designed and As-Built

As-designed refers to the initial design plans and specifications created during the design phase of a construction project. These plans serve as a baseline reference for the project scope, and act as the north star for construction, as well as being a critical tool for change management during the construction phase. Overall, the as-design document is essential for maintaining consistency, quality, and adherence to the project's planned design throughout the construction lifecycle.

As-built, on the other hand, represents the actual conditions of the project during construction, the final state after construction is complete. It includes all of the modifications, changes, and updates made during the construction process. As-built documents are vital to ensuring transparency, accountability, and effective long-term management of the project.

The as-designed phase involves meticulous planning and design, which sets the foundation for the construction phase. The as-built phase captures the reality of the completed project, documenting any deviations from the original plans. Maintaining consistency and cohesiveness between the as-designed and as-built documentation and project management is crucial for effective project outcomes.



Minimize discrepancies



Prevent cost overruns



Deliver a final project that is on time and budget

Importance of Managing the Transition

Managing the transition from as-designed to as-built is vital for ensuring that the final project aligns with the initial vision and specifications. This transition involves careful coordination, thorough documentation, and effective stakeholder communication. By managing this transition effectively with Vitruvi Software, project managers can minimize discrepancies, prevent cost overruns, and deliver a final product that is on time and budget.

The transition from as-designed to as-built also involves capturing accurate records of any changes or modifications made during construction. Effective management of this process ensures that the project specifications are comprehensive and accurate. This is essential for the successful delivery of construction infrastructure projects.

The Three Core Phases From **As-Designed to As-Built**

01

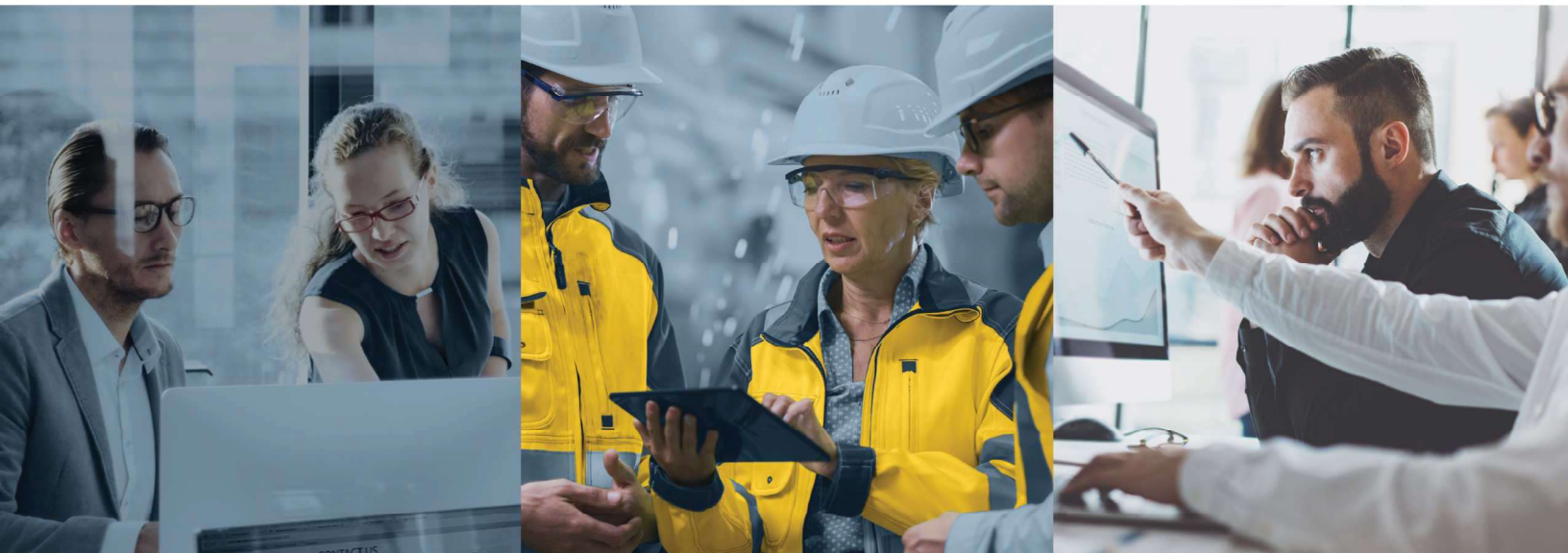
Network Design
and Project
Planning

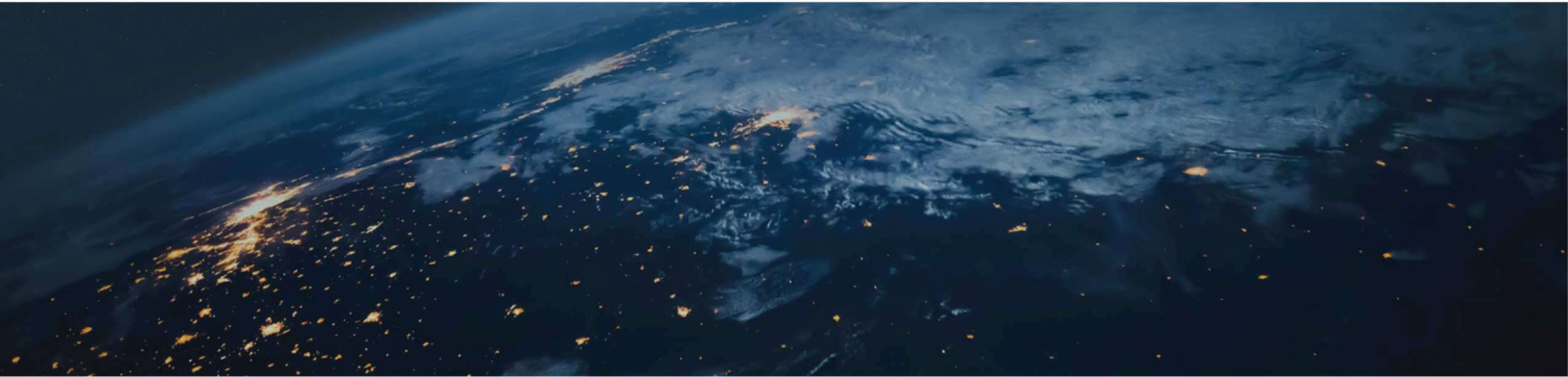
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Construction
Management

03

Project Closeout
and Billing





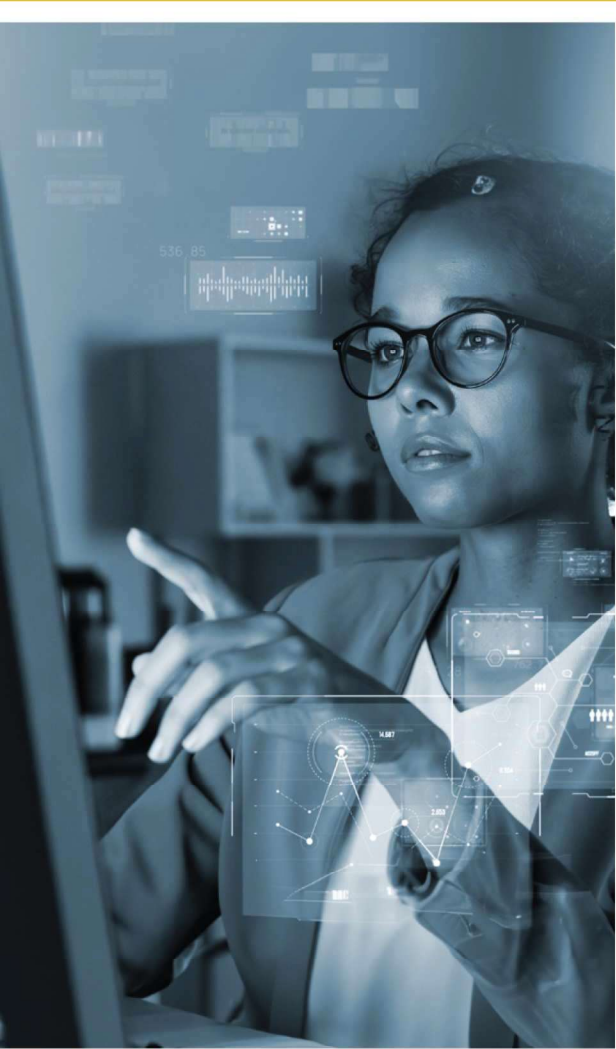
Network Design and Project Planning

Network design and project planning are the foundational steps in any construction project. Engineers create detailed designs and plans during this phase to guide the construction process. This involves using GIS systems or PDFs to develop a comprehensive network design that includes all necessary specifications and requirements for the project. This phase provides the initial plans and specifications that create the as-designed record.

Efficiencies Made Using Construction Management Software

Without construction management software, this phase can be highly manual, time-consuming, and inflexible to changes.

Construction management software, like Vitruvi, significantly enhances the efficiency of the project planning phase. These tools streamline the planning process by integrating design and GIS data into a single platform. Here are some key efficiencies achieved:



Automated Translation of Design to Work Breakdown:

Construction management software can automatically convert detailed network designs into a structured work breakdown. This automation reduces the need for manual intervention, saving time and reducing the potential for errors. The work breakdown structure (WBS) outlines the project's scope and tasks, ensuring a clear path from design to execution.

GIS/PDF Interoperability:

The ability to seamlessly integrate GIS solutions and PDFs with construction management software speeds up and improves the design process. This interoperability allows for the easy transfer of design data, eliminating the need for redundant data entry and ensuring consistency across platforms.

Real-Time Change Management:

Addressing design changes in real time is crucial for maintaining project timelines and avoiding costly delays. Construction management software enables real-time updates and change management without manual redesign or construction downtime. This ensures that all stakeholders are immediately aware of any changes, facilitating quick adjustments and minimizing disruptions.

By leveraging these efficiencies, engineering managers can ensure a more streamlined and effective project planning phase. Integrating advanced construction management tools helps create a robust foundation for the subsequent phases of construction and project closeout, ultimately leading to better project outcomes and higher productivity.



Network Construction

The construction phase is where the detailed plans and designs from the project planning phase are implemented. During this stage, field teams work on the physical construction of the build, following the specifications laid out in the project plans. Effective management of this phase is crucial for ensuring that the project stays on schedule, within budget, and meets the required quality standards. This phase involves coordinating various teams, managing resources, and ensuring all tasks are completed efficiently.

Efficiencies Made Using Construction Management Software

Construction management software, like Vitruvi, plays a pivotal role in enhancing the efficiency and effectiveness of the construction phase. Here are the key efficiencies achieved:

Mobile Data Collection for Field Teams:

Field teams can use mobile devices to collect data on-site, reducing the need for paper-based data collection. This speeds up the data collection process, minimizes errors, and ensures that data is immediately available for review and integration into the project plan.

Centralized Project Documentation:

All project documentation, including designs, plans, and updates, is stored in a centralized location accessible to all authorized team members. This ensures everyone has access to the most current information, reducing the risk of miscommunication and errors.

Real-Time Reconciliation Enables Adaptive Work Plans:

Construction management software allows for real-time data reconciliation, enabling project managers to adjust work plans dynamically based on the latest information. This adaptability helps address any issues promptly, keeping the project on track.



Dashboards for Real-Time View of Construction Progress:

Real-time dashboards provide a comprehensive view of the construction progress, allowing project managers to monitor the status of various tasks and milestones. This visibility helps identify potential delays or issues early, facilitating proactive management.

Easy to Schedule and Assign Work:

The software simplifies the scheduling and assignment of work to different teams and individuals. Project managers can easily allocate tasks based on availability and expertise, ensuring that work is distributed efficiently and resource utilization is optimized.

Real-Time Asset, Financial, and Schedule Status:

With real-time updates on asset management, financial status, and project schedule, construction management software provides a holistic view of the project's status. This comprehensive overview helps stakeholders make informed decisions, manage budgets effectively, and ensure the project adheres to its timeline.

By leveraging these efficiencies, the construction phase becomes more streamlined, reducing the likelihood of delays and cost overruns. Integrating advanced construction management tools ensures that all team members are aligned and that the project progresses smoothly from start to finish.





Project Closeout and Billing

The project closeout and billing phase marks the final stage of a construction project. During this phase, the project is finalized, all documentation is completed, and the project is officially closed out. This includes reconciling as-built data with the original designs, preparing close-out packages, and invoicing the client. Efficient management of this phase is crucial for ensuring the project is completed on time and that all financial and contractual obligations are met.

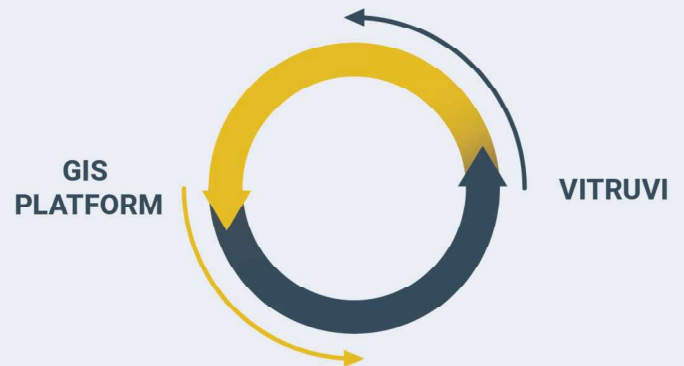
Efficiencies Made Using Construction Management Software

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Automatically Transforms As-Builts from Reports Back to the GIS System of Record:

When you integrate Vitruvi with your GIS system of record, Vitruvi automatically converts as-built data from field reports back into your GIS platform. This automation eliminates manual data entry, ensuring that the as-built records are accurate and up-to-date. It also saves time and reduces the risk of errors.



Real-Time Design to As-Built Reconciliation Reduces Time to Close:

Construction management software enables real-time reconciliation of design data with as-built information. This immediate comparison allows for quick identification and resolution of discrepancies, significantly reducing the time required to close out the project.

Automated Close-Out Packages and Invoicing:

The software automates the creation of close-out packages, compiling all necessary documentation and reports into a comprehensive package for the client. Additionally, it streamlines the invoicing process by automatically generating invoices based on the completed work and project milestones. This automation ensures that all financial transactions are accurate and timely, facilitating prompt payment and project closure.

Leveraging these efficiencies makes the project close and the billing phase more streamlined and efficient. Integrating advanced construction management tools ensures that all final documentation is accurate, as-built records are reconciled with original designs, and invoicing is handled promptly. This leads to a smoother project closeout and enhances overall client satisfaction.



Conclusion

By leveraging advanced construction management software like Vitruvi, engineering, operations, and construction managers can streamline the entire lifecycle of construction projects, from the as-designed phase through to the as-built stage. Vitruvi enhances efficiency at every step: automating design translations, facilitating real-time change management, enabling mobile data collection, centralizing project documentation, and automating close-out packages and invoicing. These capabilities ensure precise planning, efficient execution, and meticulous project closeout, leading to improved collaboration, reduced errors, timely project completion, and higher client satisfaction. Embracing Vitruvi ultimately results in better project outcomes and increased productivity.

