



## A Digital Command Center: How Propeller Empowers Decision Making

By Wade Martin



As the construction industry evolves, Batson-Cook's Virtual Design & Construction (VDC) team is committed to regularly evaluating new technology and tools. Their goal is to ensure these innovations integrate smoothly with existing construction workflows and address real-world challenges that can hinder project success. In order to support effective operations, it is essential that team members have immediate access to reliable information and accurate data points. This empowers them to make well-informed decisions throughout the project lifecycle. Among the tools that function as a digital command center on the jobsite, Propeller stands out as a key resource for facilitating these objectives.

Propeller is a web-based drone mapping platform that converts aerial imagery into a comprehensive, high-definition project map with accurate scale. The VDC team can seamlessly integrate this data into our internal systems and overlay key information, including blueprints and utility locations. Additionally, the software archives historical records, enabling a clear visual timeline of construction progress.

Before using this tool, the VDC team had to spend significant time placing numerous spray-painted targets around a busy jobsite. Propeller streamlines this process by employing a unique GPS target called an Aeropoint. By positioning the Aeropoint before a drone flight, the team boosts map accuracy from several feet to less than an inch. Such precision is crucial for quality control in work placement. While it might not seem substantial at first glance, this innovation transformed a complex operation, previously requiring multiple staff members and hours of effort, into a ten-minute task managed by one person with the push of a button. Since construction sites are often hectic and fast-moving, any tool that allows people to concentrate on other vital responsibilities greatly benefits project timelines.

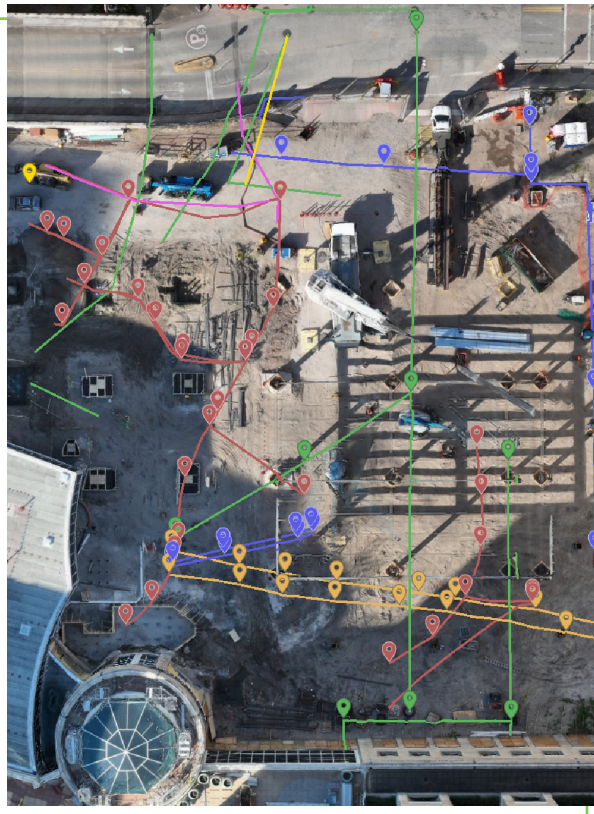
Precise measurement, whether several feet or just an inch, is crucial when working near underground utilities. The risks associated with such operations are significant, making accurate knowledge of utility locations essential. The field team utilizes this platform to mark utilities once they are installed. Propeller can record these as-built locations, securing them in virtual space and allowing the team to view their positions on the computer, thereby eliminating reliance on outdated drawings or repeated use of ground-penetrating radar whenever excavation is required.

Said Weston Bazor, senior health, safety and environment (HSE) manager, "Propeller has improved our ability to avoid utility strikes which can be very expensive to fix. We regularly go back weeks and months to reference the exact locations of those utilities that were captured by Propeller in an effort to avoid damaging the utilities."

Wylee Wheeler, superintendent, recently deployed Propeller on a Florida-based project and found the tool to be

extremely valuable. “We’ve had zero utility strikes, and I believe Propeller has played a major role in this.”

The VDC team generates files through coordinated processes to facilitate the field team’s review of work-in-place models, including formwork, conduit, plumbing, and manholes. Recently, one project team identified an early deviation in earth form, leading the VDC team to conduct a site audit to ensure that future placement of walls and rebar would not be impacted by this alteration. Additionally, the field team is able to import and export points to support layout operations. Using the Robotic Total Station, they can virtually position data points onsite and import them into Propeller, as well as export data points from Propeller to provide our team



and trade partners with references for accuracy in their as-built documentation.

Wheeler continued, “We use Propeller from start to finish, whether it’s a greenfield site or an expansion to an existing building. We can use the data early on for coordination and alignment using state plane coordinates. We also use it to collect the ground penetrating radar systems (GPRS) markings so even if the flag or paint are gone, we can still identify the exact location of the GPRS markings.”

The platform functions as a comprehensive historical record, enabling the team to meticulously track site development over time. By leveraging Propeller to monitor existing elevations, we can determine the precise volumes of earthwork, both cut and fill, required to achieve the finished grade for the building pad.

Moreover, this advanced tool offers valuable benefits to our clients. The digital archive of historical information allows clients to reference key data for future expansion or growth. Clients can easily locate utilities, access historical photographs from installation milestones, and equip themselves with knowledge to make informed decisions well beyond the completion of construction.

The capabilities of the tool extend beyond the digital environment, fostering collaboration between VDC, HSE, and Operations teams. This integration supports efficient progress tracking and milestone management, ensuring alignment across departments and contributing to the overall success of the company.

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