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SUCCESS STORY

Monitoring and Quality Control Improve Construction Standards in Herat

Herat construction staff practice using the digital concrete hammer

Photo: RAMP UP West

Eng. Nadir using the digital hammer to test the quality of concrete used on a municipal construction project

"It's difficult to prove the weaknesses without standard equipment," says Mohammad Nadir.

In Herat, the quality and durability of municipal construction have been rated very low in the last decade. Mohammad Anwar, a construction materials wholesaler with a shop on Farqa Street, remembers the construction of the road median in 2003, saying, "water and mud started leaking through the median plates during construction and, just six months later, the median was ruined."

Mohammad Nadir, an Engineer in the Herat Construction Department, accepts that the municipality deserves some of the blame commenting, "We didn't include basic information in the contracts, which lacked technical drawings and bills of quantity." Construction staff also failed to regularly monitor ongoing construction. When they did, they did not have the tools and knowledge needed to assess the quality of work. They simply "relied on their eyes," said Eng. Nadir.

Since 2011, the United States Agency for International Development (USAID), through its Regional Afghan Municipalities Program for Urban Populations West (RU-W) project, has helped the Herat Construction Department modernize their approach to controlling the quality of municipal building projects. RU-W engineering staff frequently accompany their municipal counterparts to provide support in monitoring construction projects. RU-W also helped staff develop monitoring and quality control plans and provided them with the right tools for the job, including a digital concrete hammer and GPS equipment. RU-W provided training on Total Station, Auto CAD, Google Earth, and ArcGIS to ensure that future construction contracts include all necessary specifications.

As a result of this support, the construction department now helps the procurement department include specifications and standards in its contracts and ensures that contractors accept them. Engineer Mohammad Nadir, a 15-year veteran of the construction department says, "We participated in the RU-W bidding process and learned how to enforce our terms on the contractors and then, during construction, to check if they are working in compliance with the contract."

Mohammad Nadir believes that regular monitoring will avoid poor quality and guarantee longer lasting infrastructure. Recently, construction staff found that a section of concrete work of a drainage canal on Jada-e-Shomali Street did not comply with the drawings in the contract. The municipal engineers stopped the work and the contractor demolished the section and reconstructed it in compliance with the drawings.

He also indicated the value of monitoring equipment: "Even as a non-engineer, it's sometimes easy to evaluate the quality of construction work; however, it's difficult to prove the weaknesses without standard equipment." Herat engineers monitored a sewage treatment project in sub-district #10. They used the digital concrete hammer to check the strength of the concrete and found it lower than the minimum indicated in the contract. Mohammad Nadir rejected the work and met the contractor to discuss the ratio of cement and sand in the contract. The contractor demolished that section and re-did the work, and they changed the cement-sand ratio for all work thereafter.

Monitoring has found its place in municipal construction projects now that construction staff possess the knowledge and tools to monitor effectively.

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