

**User name:** L&T Construction

**Project name:** Uttar Pradesh Tube Well project under Jal Jeevan mission

**Location:** Uttar Pradesh, India

**Background:**

- The Uttar Pradesh Tube Well aims to provide safe and adequate drinking water to rural households in India through 1.7 million household connections serving 6.8 million people.
- L&T Construction was tasked with designing and executing over 3,000 overhead tanks in rural villages.

**Challenges:**

- Needed to cover a large area within a limited timeframe while managing workers, materials, logistics, and resources.
- Had to manage 375,000 cubic meters of concrete and 42,000 tons of steel over 375,000 kilometers of pipeline laying and 17,000 house service connections.
- Required an integrated BIM, structural, and hydraulic modeling solution.

**Solution:**

- Utilized 3D BIM technology with STAAD and OpenFlows to design the distribution network.
- Used a precast method of construction for better quality control and risk management, compared to traditional onsite concrete pouring.
- The project sought to set a benchmark for digitization of future rural infrastructure projects.

**Outcomes:**

- Streamlined and standardized design workflows and drawings for 600 design variants.
- Saved 90% in construction time, reduced material waste and energy consumption, and minimized project's environmental footprint.

**Quote:** "With the help of STAAD PRO and BIM 3D, we submitted 2,500 design documents and 10,000 drawings to our client." – *Pavani Saroja, Senior Civil Engineering Manager, L&T Construction*

**Image caption/courtesy 1:** L&T Construction was tasked with designing and executing over 3,000 overhead tanks across scattered rural villages. *Image courtesy of L&T Construction.*

**Image caption/courtesy 2:** Through digital modeling and analysis, the team streamlined and standardized design workflows and drawings for 600 design variants and saved 90% in construction time. *Image courtesy of L&T Construction.*

**Image caption/courtesy 3:** The project sets a benchmark for digitization of future rural infrastructure projects. *Image courtesy of L&T Construction.*

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