Case Study: Modular Tank Pool Installation

in Dripping Springs, TX

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Project Overview

Diameter: 18 ft
Depth: 4 ft (2 ft recessed, 2 ft above grade)
Location: Dripping Springs, TX (less than 10 miles from Contain Water Systems' headquarters)
Total Cost: $22,345
Timeline: 4 days (1 day excavation + 3 days assembly and integration)
Warranty:
- 10-year vinyl liner (vs. 3–5 years typical)
- 15-year structural steel wall system (vs. no formal warranty for concrete shells)
- 2-year pool equipment

Customer Context

The client required a pool that would blend with a farmhouse-style property under HOA restrictions while staying functional and affordable. A traditional inground concrete or fiberglass pool would have exceeded the six-figure budget and conflicted with design requirements. The solution needed to integrate seamlessly with the existing deck for a clean transition and meet modern expectations for functionality.

Implementation

- Excavation & Prep (Day 1): Minimal 2 ft excavation (~20 cubic yards of soil removed vs. 80–100 for a conventional pool). Site laser-leveled to ensure the finished pool aligned precisely with the existing deck height.
- Wall Assembly & Floor (Day 2): Corrugated galvanized steel panels bolted together; engineered wall penetrations prepared for skimmer, returns, and lighting; reinforced pool floor installed; wall insulation applied.
- Liner & Initial Fill (Day 3): 25-mil reinforced vinyl liner with protective underlayment installed; water fill initiated; equipment pads placed and leveled.
- Plumbing & Integration (Day 4): System plumbed to 19" sand filter, 1 HP pump, heater/chiller unit, and app-controlled LED lighting. Pool filled to operating level and commissioned.
- See Figures 1,2: before excavation and final installation.

Figure 1: Before excavation

Figure 2: Final installation

System Specifications

- 48” Corrugated galvanized steel wall panels with modular bolted assembly
- 25-mil reinforced vinyl liner with underlayment and edge-protection details
- Engineered wall penetrations (skimmer, return, lighting) using gasketed/flanged fittings
- Wall insulation applied for additional efficiency and liner protection
- Foundation: 8" concrete footers selected for soil conditions and recessed depth
- Equipment set: 19” sand filter, 1 HP pump, heater/chiller unit, smart-controlled LED lighting

Comparison: Modular Tank Pool vs. Conventional Pool

Metric	**Modular Tank Pool** (this project)	**Conventional Pool** (typical)
Installation time	4 days	8–12 weeks
Excavation	2 ft cut (~20 yd^3 soil)	4–6 ft cut (~80–100 yd^3)
Cost	$22,345	$80,000–100,000+
Materials	Steel panels, vinyl liner	Heavy reinforced concrete
Durability	15-year wall warranty + replaceable liner	No structural warranty; concrete prone to cracking/spalling
Equipment integration	Heater/chiller + smart lighting standard	Limited or costly upgrades

Outcomes & Benefits

The project delivered a fully code-compliant pool that satisfied HOA design restrictions, integrated seamlessly with the existing deck, and was completed in under a week. The total cost was less than one-third of a conventional inground pool, while avoiding long-term deterioration risks such as concrete spalling ('concrete cancer').

Further Reading

The Productization of Construction: A Case Study in Deconstructing a $9 Billion Market - by *Maksym Kustovskyi*, published on Medium.com [https://medium.com/@maxkustowskiy/the-productization-of-construction-a-case-study-in-deconstructing-a-9-billion-market-266375c0b78b]