

INTEGRATING MANUFACTURING PRINCIPLES INTO THE CONSTRUCTION INDUSTRY

ABOUT CDCB ORGANIZATION. CDCB - Come Dream, Come Build, is a private, non-profit organization dedicated to community housing development. Founded in 1974, it has been providing safe, sanitary, and affordable housing to residents of South Texas. Today, CDCB stands as one of the largest non-profit producers of single-family housing for homeownership in Texas.

THE CHALLENGE. Over the past decade, CDCB has observed a 75% increase in construction and development costs, while incomes have only risen by 15%, making homeownership unattainable for many families. For this reason, CDCB embarked on a mission to research and develop volumetric modular housing to reduce costs by at least 20%. This endeavor required a transition from a traditional "site-built-stick-built" production model to a stall-built manufacturing approach. Initially, CDCB faced challenges in understanding and implementing this new process. In the summer of 2022, CDCB built its first prototype: a one-bedroom, one-bathroom, 576-square-foot home, costing over \$150,000 or \$260 per square foot, which was \$110 per square foot over budget.

MEP CENTER'S ROLE. TMAC proposed and provided a comprehensive approach to the manufacturing model transition. While CDCB understood the theoretical feasibility of volumetric manufactured housing, they required the practical know-how to implement it. CDCB launched DreamBuild, adopting its first modular manufacturing model. TMAC guided CDCB/DreamBuild by educating the team on manufacturing and production models. These concepts included creating a bill of materials (BOMs), process flow maps for material procurement and management, and implementing staging bay areas for manufacturing efficiency. CDCB and TMAC utilized foundational tools such as Lean Manufacturing, Quality Assurance, and Continuous Improvement concepts, to name a few. As CDCB/DreamBuild embarked on this new journey, TMAC served as CDCB's trusted business advisor by providing guidance and training throughout the project. As the CDCB/DreamBuild team said, they had to "fly this plane while building it." TMAC supported the DreamBuild team by developing a step-by-step process to achieve this mission.

"Working with TMAC was a life saver. As we continue to grow and add expansion sites, we plan to engage TMAC for support and training for new teams."

-N. Mitchell-Bennett, Chief Executive Officer

RESULTS



Decreased the cost to build per square foot by **45%**



Invested over **\$700,000** for its facility



Plans to hire **10** new employees in the short term (next two months)



Will produce **60** new units over the next 18 months

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