

\$190K–380K

Estimated Total Savings

40–70 Days

Schedule Reduction

3 Structural Optimizations + 1 Sequencing Optimization | Based on publicly available TxDOT plan set

Two bridge replacements • 150' (4-span) + 75' (3-span) slab beams • 24" drilled shafts • AASHTO LRFD 9th Ed. / TxDOT BDM 2023

**Methodology:** Analysis derived from publicly available TxDOT plan set (CSJ 0920-12-049 & 0920-13-039) including bridge layouts, boring logs, estimated quantities, hydraulic data sheets, and traffic control plans. All proposals reference TxDOT BDM (Jan 2023) and AASHTO LRFD 9th Ed. Savings estimates are preliminary and subject to detailed design verification by a licensed Professional Engineer.

OPTIMIZATIONS IDENTIFIED

01 CR 2300 Span Rationalization

Low

\$60K–\$120K

Consolidate 3 spans (25'-30'-20') to 2 equal spans (~37.5' ea.) using 5SB12 beams within TxDOT standard capacity. Eliminates one interior bent and associated drilled shafts.

02 CR 139 Span Rationalization

Moderate

\$50K–\$100K

Reconfigure 4 spans (30'-35'-50'-35') to 3 equal spans (3x50') using 5SB15 beams. Removes one interior bent and leverages the 50' span already designed in Span 3. Subject to thermal movement and foundation reanalysis.

03 Drilled Shaft Optimization

Moderate

\$50K–\$100K

Reduce from 3 to 2 shafts per bent, upsizing 24" to 30" dia. Increases per-shaft side friction (25%) and end bearing area (56%). Requires site-specific capacity verification in the documented sand profile (N=3–14).

04 Parallel Construction Sequencing

Low

\$30K–\$60K

Both bridges have verified independent detour routes per the traffic control plans. Enables simultaneous construction with separate crews, compressing the critical path within the existing 150-day beam fabrication window.

- Analyze public plan sets to find defensible cost and schedule optimizations
- Ground every recommendation in AASHTO/TxDOT standards and project-specific data
- Deliver PE-ready proposals that withstand independent technical review