Comparison of Stream Crossing Structures

Crossing Structure Type	Material	Cost	Life Span (years)	Advantages	Disadvantages
Bridge A	Steel-reinforced concrete abutments (poured in-place) and decking on steel I-beam stringers	$$$	50-75	Natural bottom, durability, snow-plowable	High cost
Bridge B	Precast concrete block abutments with steel I-beam stringers and timber deck (possibly paved or alternate decking)	$	50-75; timber redeck 5-10	Natural bottom, low cost; simplicity	Limited abutment height and deck life; snow plowing may be limited
Bridge C (3-Sided Box Culvert)	Steel-reinforced concrete, galvanized steel or aluminum	$$	50-75	Natural bottom, simplicity	Span/weight of sections can limit installation options; assembly required for metal plate structures
Open Bottom Arch	Galvanized Steel, aluminum, steel-reinforced concrete	$$	50-75	Natural bottom, ease of transport, can be low profile	Care must be taken to install and protect footings, assembly required for metal plate structures
Embedded Box Culvert	Steel-reinforced concrete, galvanized steel, aluminum	$$	50-75	Natural bottom; variety of configurations	Must span stream and be set below stream elevation to avoid outlet perch; limited by bedrock
Embedded Pipe Arch	Galvanized steel, aluminum	$ - $$	20-50	Natural bottom; wide for given volume; low cost of steel	Short life (steel); not for use with ledge; limited sizes
Embedded Round Pipe	Galvanized steel, aluminum, plastic, steel-reinforced concrete	$	20-75	Natural bottom; lowest cost	Limited to smaller sizes; not for use with ledge
Round Pipe (at stream grade) *Not Recommended*	Galvanized steel, aluminum, plastic, steel-reinforced concrete	$	20-75	Lowest cost	Rarely adequate for fish passage (develops outlet perch); limited to smaller sizes