Comparison of 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	$$$	50-75	Natural bottom, durability, snow-plowable	High cost
Bridge B	Waste-block concrete abutments with steel I-beam stringers and timber deck (possibly paved or alternate decking)	$	50-75; timber redeck 5-10	Natural bottom, low cost; simplicity	Limited abutment height; snow plowing limited
Bridge C (3-Sided Box Culvert)	Steel-reinforced concrete, galvanized steel or aluminum	$$	50-75	Natural bottom, simplicity	Weight of concrete structures can limit installation options
Open Bottom Arch	Galvanized Steel, aluminum, steel-reinforced concrete	$$	50-75	Natural bottom, ease of transport, can be low profile	Care must be taken to install and protect footings, assembly required for metal plate structures
Embedded Box Culvert	Steel-reinforced concrete	$$	50-75	Natural bottom if spans stream; variety of configurations	Must span stream and be set below stream elevation to avoid outlet perch
Embedded Pipe Arch	Galvanized steel, steel-reinforced concrete	$ - $$	20-75	Natural bottom if spans stream; wide for given volume; low cost of steel	Steel short life span; not for use with ledge
Embedded Round Pipe	Galvanized steel, plastic, steel-reinforced concrete	$	20-75	Natural bottom if spans stream; lowest cost	Limited to smaller sizes; not for use with ledge
Round Pipe (at stream grade)	Galvanized steel, plastic, steel-reinforced concrete	$	20-75	May allow fish passage over time if spans stream; lowest cost	Rarely adequate for fish passage at less than stream width (develops outlet perch); limited to smaller sizes