



Race Road Culvert Replacements Construction Costs

Summary

Site West: 14' x 4.67' x 64' Concrete Box Culvert	\$968,183
Site East: 12.5' x 4.67' x 72' Concrete Box Culvert	\$1,026,912

Inflation Mapping Scenarios

Multipliers are based on the following Future Value of Money and a starting value of 1 in the year 2018.

Use FVSchedule, using historical and predicted inflation rates and as calculated by Excel. As an example FVSCHEDULE(1,J17:J27) for year 2028

Year	Inflation Rate Assigned	Total Multiplier	Annual Multiplier Increase to Previous
2018	0%	1.00	
2019	12%	1.12	1.12
2020	18%	1.32	1.20
2021	18%	1.56	1.24
2022	18%	1.84	1.28
2023	14%	2.10	1.26
2024	6%	2.22	1.13
2025	12%	2.49	1.27
2026	12%	2.79	1.30
2027	12%	3.12	1.33
2028	12%	3.50	1.37

Historical Data
Prediction

This calculator is based on the schedule of the annual inflation rates that you develop. To use this chart, first enter your estimate of future inflation rate and if you want to change the historical rate, do that year by year to adjust this schedule. Then enter the line at the year of your original Construction Cost Estimate, to include construction items only, not Administration or overheads etc. The inflation costs of administration and engineering have not changed the same as construction costs. Then use the difference in multiplier between your years of prediction of future cost and multiply the cost of construction times the difference in the Total Multiplier between the years. Therefore if you use the 2018 year cost estimate and want to predict the future value in 2023 you would use the dollar estimate of 2018 and multiply it times 2.10 to arrive at the value of construction Today. These historical values are based on my experiences and my interviews with General Contractors and is the opinion of Chinook Engineering. Chinook Engineering makes no warranty, express or implied that the bids or the negotiated cost of the Work will not vary from the Consultant's opinion of probable construction cost or predicted inflation rate schedule.

Jay Kidder, PE

Chinook Engineering
Opinion of Probable Construction Costs
Race Road Culvert Replacements Construction Costs
Site West: 14' x 4.67' x 64' Concrete Box Culvert



Project Name: Race Road Culvert Replacements Construction Costs
Chinook Project #: 22457
Date: 02/07/24

Estimate By: Jay S. Kidder, PE
Stream: Race Road Culvert Replacements

Annual Construction
Inflation Factor Applied to
Construction Total 8.00%

Description	Unit	Quantity	Cost	Amount	Sub Total
Mobilization / Site Preparation					
Mobilize	L.S.	1	\$65,000.00	\$65,000	
Access and Traffic control	L.S.	1	\$25,000.00	\$25,000	
Stream Bypass	L.S.	1	\$0.00	\$0	
Erosion Control	L.S.	1	\$5,000.00	\$5,000	
Dewater and foundation water contr	EA	2	\$4,000.00	\$8,000	
Fish Removal	L.S.	1	\$0.00	\$0	
Utilities 811, and Pothole & Replace	LS	1	\$15,000.00	\$15,000	
MOBILIZATION / SITE PREP SUB TOTAL					\$118,000
Excavation					
Grubbing and disposal on site	ACRES	0.11	\$10,000.00	\$1,148	
Tree falling stumps to remain	EA	0	\$650.00	\$0	
Excavation, Common, at culvert with end haul	C.Y.	1138	\$85.00	\$96,688	
Cut asphalt	LF	136	\$6.00	\$816	
Cut and demolish asphalt end haul	Ton	31	\$80.00	\$2,481	
EXCAVATION SUB TOTAL					\$101,132
Culvert Installation					
Culvert Base Precast Conc.	CY	63	\$2,300	\$144,474	
Culvert Traffic Slab top, Conc.	CY	36	\$2,300	\$81,778	
Culvert Ends, Conc.	CY	4	\$2,300	\$9,030	
Install, crane or large excav.	L.S.	1	\$18,000	\$18,000	
Culvert disposal	EA	1	\$2,000.00	\$2,000	
Culvert Weld tabs	EA	128	\$30	\$3,840	
Backfill against culvert, CSBC	CY	1340	\$85	\$113,904	
Subgrade & Compaction subgrade	C.Y.	69	\$85	\$5,843	
Geotextile	SY	142	\$9.50	\$1,351	
Quarry Spalls and ditching	Ton	60	\$150	\$9,000	
Fill Road base crushed gravel	C.Y.	141	\$110	\$15,507	
Resurface with HMA Class A	Ton	46	\$120	\$5,529	
BRIDGE INSTALLATION SUB TOTAL					\$410,255
Channel Work HPA Req'd					
Streambed Gravel, Fishmix grade	C.Y.	7	\$110.00	\$815	
Culvert backfill in barrel	C.Y.	117	\$110.00	\$12,833	
Culvert Habitat Boulders	Ton	32	\$110.00	\$3,520	
Revegetation	LS	1	\$4,000.00	\$4,000	
CHANNEL WORK SUBTOTAL					\$21,168
CONSTRUCTION TOTAL					\$702,600
Sales Tax	8.80%				\$61,829
Admin/Planning	8.00%				\$56,208
Engineering Design	15.00%				\$105,390
Engineering Construction Manage.	6.00%				\$42,156
Soils Lab Testing		0	\$2,000.00		\$0
PROJECT TOTAL					\$968,183

Opinions of Probable Construction Cost

In providing opinions of probable construction cost, the Client understands that the Consultant (Chinook Engineering) has no control over the cost or availability of labor, equipment or materials, or over market condition or the Contractor's method of pricing, and the consultant's opinions of probable construction costs are made on the basis of the Consultant's professional judgment and experience. The Consultant makes no warranty, express or implied that the bids or the negotiated cost of the Work will not vary from the Consultant's opinion of probable construction cost.

Chinook Engineering
Opinion of Probable Construction Costs
Race Road Culvert Replacements Construction Costs
Site East: 12.5' x 4.67' x 72' Concrete Box Culvert



Project Name: Race Road Culvert Replacements Construction Costs
Chinook Project #: 22457
Date: 02/07/24
Estimate By: Jay S. Kidder, PE
Stream: Race Road Culvert Replacements

Inflation Factor Applied to 8.00%

Description	Unit	Quantity	Cost	Amount	Sub Total
Mobilization / Site Preparation					
Mobilize	L.S.	1	\$65,000.00	\$65,000	
Access and Traffic control	L.S.	1	\$25,000.00	\$25,000	
Stream Bypass	L.S.	1	\$0.00	\$0	
Erosion Control	L.S.	1	\$5,000.00	\$5,000	
Dewater and foundation water contrc	EA	2	\$4,000.00	\$8,000	
Fish Removal	L.S.	1	\$0.00	\$0	
Utilities 811, and Pothole & Replace	LS	1	\$15,000.00	\$15,000	
MOBILIZATION / SITE PREP SUB TOTAL					\$118,000
Excavation					
Grubbing and disposal on site	ACRES	0.11	\$10,000.00	\$1,148	
Tree falling stumps to remain	EA	0	\$650.00	\$0	
Excavation, Common, at culvert					
with end haul	C.Y.	1264	\$85.00	\$107,431	
Cut asphalt	LF	136	\$6.00	\$816	
Cut and demolish asphalt end haul	Ton	31	\$80.00	\$2,481	
EXCAVATION SUB TOTAL					\$111,876
Culvert Installation					
Culvert Base Precast Conc.	CY	71	\$2,300	\$162,533	
Culvert Traffic Slab top, Conc.	CY	40	\$2,300	\$92,000	
Culvert Ends, Conc.	CY	4	\$2,300	\$9,030	
Install, crane or large excav.	L.S.	1	\$18,000	\$18,000	
Culvert disposal	EA	1	\$2,000.00	\$2,000	
Culvert Weld tabs	EA	144	\$30	\$4,320	
Backfill against culvert, CSBC	CY	1485	\$85	\$126,194	
Subgrade & Compaction subgrade	C.Y.	69	\$85	\$5,843	
Geotextile	SY	142	\$9.50	\$1,351	
Quarry Spalls and ditching	Ton	60	\$150	\$9,000	
Fill Road base crushed gravel	C.Y.	150	\$110	\$16,541	
Resurface with HMA Class A	Ton	46	\$120	\$5,529	
BRIDGE INSTALLATION SUB TOTAL					\$452,341
Channel Work HPA Req'd					
Cut Roots and clean up	C.Y.	5	\$65.00	\$325	
Fish mix stream sed. and cobble	CY	15	\$110.00	\$1,650	
Excavation, Channel change	C.Y.	9	\$80.00	\$693	
Streambed Gravel, Fishmix grade	C.Y.	7	\$110.00	\$815	
Culvert backfill in barrel	C.Y.	124	\$110.00	\$13,689	
Culvert Habitat Boulders	Ton	32	\$110.00	\$3,520	
Revegetation	LS	1	\$4,000.00	\$4,000	
CHANNEL WORK SUBTOTAL					\$22,717
CONSTRUCTION TOTAL					\$761,329
Sales Tax	8.80%				\$61,829
Admin/Planning	8.00%				\$56,208
Engineering Design	15.00%				\$105,390
Engineering Construction Manage.	6.00%				\$42,156
Soils Lab Testing		0	\$2,000.00		\$0
PROJECT TOTAL					\$1,026,912

Opinions of Probable Construction Cost

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