

Appendix B

Feasibility Study Engineer's Opinion of Probable Cost

BARR PREPARED BY: BARR ENGINEERING COMPANY FEASIBILITY STUDY ENGINEER'S OPINION OF PROBABLE PROJECT COST PROJECT: BCWMC Jevne Park Stormwater Improvement Feasibility Study LOCATION: City of Medicine Lake PROJECT #: 23/27-0051.44 OPINION OF COST - SUMMARY	SHEET: 1 OF 2
	BY: XF2 DATE: 1/24/2019
	CHECKED BY: JAK2 DATE: 1/25/2019
	APPROVED BY: DATE:
	ISSUED: DATE:
ISSUED: DATE:	
ISSUED: DATE:	
ISSUED: DATE:	

Engineer's Opinion of Probable Project Cost
Jevne Park Stormwater Improvement Feasibility Study
Concept 1: Water quality and flood storage expansion within existing wetland footprint

Cat. No.	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT COST	ITEM COST	NOTES
A	Mobilization/Demobilization (10%)	LS	1	\$21,751.85	\$21,751.85	1,2,3,4,5,6
B	Traffic Control	LS	1	\$5,000.00	\$5,000.00	1,2,3,4,5,6
C	Erosion Control	LS	1	\$5,000.00	\$5,000.00	1,2,3,4,5,6
D	Tree/Stump Removal (> 4" diameter)	Each	8	\$300.00	\$2,400.00	1,2,3,4,5,6
E	Sod Removal	SY	0	\$5.00	\$0.00	1,2,3,4,5,6
F	Sheetpile diversion wall	SF	1,500	\$50.00	\$75,000.00	1,2,3,4,5,6
G	Excavation & Disposal (clean)	CY	1,723	\$20.00	\$34,467.54	1,2,3,4,5,6
H	Tree Planting	Each	4	\$300.00	\$1,200.00	1,2,3,4,5,6
I	Wetland Restoration	AC	0.53	\$10,000.00	\$5,300.00	1,2,3,4,5,6
J	Upland Native Restoration	AC	0.32	\$6,000.00	\$1,920.00	1,2,3,4,5,6
K	Turf Re-Establishment (Restoration)	AC	0.2	\$2,000.00	\$400.00	1,2,3,4,5,6
L	Topsoil	CY	424	\$30.00	\$12,705.00	1,2,3,4,5,6
M	Erosion Control Blanket	SY	5,082	\$4.00	\$20,328.00	1,2,3,4,5,6
N	Dewatering	LS	1	\$15,000.00	\$15,000.00	1,2,3,4,5,6
O	Bituminous Modification on Peninsula Road for Drainage (Removal and Install)	SY	847	\$34.00	\$28,798.00	1,2,3,4,5,6
P	Habitat Features	LS	1	\$10,000.00	\$10,000.00	1,2,3,4,5,6
	CONSTRUCTION SUBTOTAL				\$239,000.00	1,2,3,4,5,6,7,8
	CONSTRUCTION CONTINGENCY (30%)				\$72,000.00	1,5,8
	ESTIMATED CONSTRUCTION COST				\$311,000.00	1,2,3,4,5,6,7,8
	ENGINEERING, DESIGN, PERMITTING, AND CONSTRUCTION OBSERVATION (30%)				\$93,000.00	1,2,3,4,5,8
	ESTIMATED TOTAL PROJECT COST				\$404,000.00	1,2,3,4,5,6,7,8
	ESTIMATED ACCURACY RANGE		-20%		\$324,000.00	5,8
			30%		\$526,000.00	5,8

Notes
¹ Limited Design Work Completed
² Quantities Based on Design Work Completed.
³ Unit Prices Based on Information Available at This Time.
⁴ Minimal Soil and Field Investigations Completed.
⁵ This feasibility-level (Class 4, 10-15% design completion per ASTM E 2516-06) cost estimate is based on feasibility-level designs, alignments, quantities and unit prices. Costs will change with further design. Time value-of-money escalation costs are not included. A construction schedule is not available at this time. Contingency is an allowance for the net sum of costs that will be in the Final Total Project Cost at the time of the completion of design, but are not included at this level of project definition. The estimated accuracy range for the Total Project Cost as the project is defined is -20% to +30%. The accuracy range is based on professional judgement considering the level of design completed, the complexity of the project and the uncertainties in the project as scoped. The contingency and the accuracy range are not intended to include costs for future scope changes that are not part of the project as currently scoped or costs for risk contingency. Operation and Maintenance costs are not included.
⁶ Estimate costs are to design, construct, and permit each alternative. The estimated costs do not include maintenance, monitoring or additional tasks following construction.
⁷ Furnish and Install pipe cost per lineal foot includes all trenching, bedding, backfilling, compaction, and disposal of excess materials
⁸ Estimate costs are reported to nearest thousand dollars.

BARR	PREPARED BY: BARR ENGINEERING COMPANY			SHEET: 2	OF	2
	FEASIBILITY STUDY			BY: XF2	DATE:	1/24/2019
ENGINEER'S OPINION OF PROBABLE PROJECT COST			CHECKED BY: JAK2	DATE:	1/25/2019	
PROJECT: BCWMC Jevne Park Stormwater Improvement Feasibility Study			APPROVED BY:	DATE:		
LOCATION: City of Medicine Lake			ISSUED:	DATE:		
PROJECT #: 23/27-0051.44			ISSUED:	DATE:		
OPINION OF COST - SUMMARY			ISSUED:	DATE:		

Engineer's Opinion of Probable Project Cost
Jevne Park Stormwater Improvement Feasibility Study
Concept 2: Water quality and flood storage expansion within expanded footprint

Cat. No.	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT COST	ITEM COST	NOTES
A	Mobilization/Demobilization (10%)	LS	1	\$30,187.26	\$30,187.26	1,2,3,4,5,6
B	Traffic Control	LS	1	\$10,000.00	\$10,000.00	1,2,3,4,5,6
C	Erosion Control	LS	1	\$30,000.00	\$30,000.00	1,2,3,4,5,6
D	Tree/Stump Removal (> 3" diameter)	Each	24	\$300.00	\$7,200.00	1,2,3,4,5,6
E	Sod Removal	SY	345	\$5.00	\$1,725.46	1,2,3,4,5,6
F	Sheetpile diversion wall	SF	1,500	\$50.00	\$75,000.00	1,2,3,4,5,6
G	Excavation & Disposal (clean)	CY	4,069	\$20.00	\$81,375.86	1,2,3,4,5,6
H	Tree Planting	Each	12	\$300.00	\$3,600.00	1,2,3,4,5,6
I	Wetland Restoration	AC	0.4	\$10,000.00	\$4,400.00	1,2,3,4,5,6
J	Upland Native Restoration	AC	0.4	\$6,000.00	\$2,280.00	1,2,3,4,5,6
K	Turf Re-Establishment (Restoration)	AC	0.2	\$2,000.00	\$400.00	1,2,3,4,5,6
L	Topsoil	CY	411	\$30.00	\$12,342.00	1,2,3,4,5,6
M	Erosion Control Blanket	SY	4,938	\$4.00	\$19,751.28	1,2,3,4,5,6
N	Dewatering	LS	1	\$15,000.00	\$15,000.00	1,2,3,4,5,6
O	Bituminous Modification on Peninsula Road for Drainage (Removal and Install)	SY	847	\$34.00	\$28,798.00	1,2,3,4,5,6
P	Habitat Features	LS	1	\$10,000.00	\$10,000.00	1,2,3,4,5,6
	CONSTRUCTION SUBTOTAL				\$332,000.00	1,2,3,4,5,6,7,8
	CONSTRUCTION CONTINGENCY (30%)				\$100,000.00	1,5,8
	ESTIMATED CONSTRUCTION COST				\$432,000.00	1,2,3,4,5,6,7,8
	ENGINEERING, DESIGN, PERMITTING, AND CONSTRUCTION OBSERVATION (30%)				\$130,000.00	1,2,3,4,5,8
	ESTIMATED TOTAL PROJECT COST				\$562,000.00	1,2,3,4,5,6,7,8
	ESTIMATED ACCURACY RANGE		-20%		\$450,000.00	5,8
			30%		\$731,000.00	5,8

Notes	
1	Limited Design Work Completed
2	Quantities Based on Design Work Completed.
3	Unit Prices Based on Information Available at This Time.
4	Minimal Soil and Field Investigations Completed.
5	This feasibility-level (Class 4, 10-15% design completion per ASTM E 2516-06) cost estimate is based on feasibility-level designs, alignments, quantities and unit prices. Costs will change with further design. Time value-of-money escalation costs are not included. A construction schedule is not available at this time. Contingency is an allowance for the net sum of costs that will be in the Final Total Project Cost at the time of the completion of design, but are not included at this level of project definition. The estimated accuracy range for the Total Project Cost as the project is defined is -20% to +30%. The accuracy range is based on professional judgement considering the level of design completed, the complexity of the project and the uncertainties in the project as scoped. The contingency and the accuracy range are not intended to include costs for future scope changes that are not part of the project as currently scoped or costs for risk contingency. Operation and Maintenance costs are not included.
6	Estimate costs are to design, construct, and permit each alternative. The estimated costs do not include maintenance, monitoring or additional tasks following construction.
7	Furnish and Install pipe cost per lineal foot includes all trenching, bedding, backfilling, compaction, and disposal of excess materials
8	Estimate costs are reported to nearest thousand dollars.