

**APPENDIX.
ESTIMATED COSTS FOR ALTERNATIVES**

**City of Bainbridge Island
Beach Line Sewer Rehabilitation Study
Conceptual Cost Analysis**

Lowell Pump Station Gravity Lines

Description	Quantity		Unit Price	Total
Alternate A				
1 Open Cut along Beachfront				
a. 10" HDPE; Open Cut Excavation includes trenching, shoring, dewatering, pipe installation and testing	2,230	LF	\$ 250	\$ 557,500
c. Temporary By-Pass Pumping includes using temp pumps and running surface pipe	1	LS	\$ 30,000	\$ 30,000
c. Wetland Mitigation includes surface restoration and plantings to offset disturbed areas	1	LS	\$ 10,000	\$ 10,000
d. Pump Station Tie In includes station shutdown, temporary pumping and tie in of new piping	2	EA	\$ 12,000	\$ 24,000
ESTIMATED COST OF CONSTRUCTION				\$ 621,500
Construction Contingency				30% \$ 186,000
Sales Tax (on Subtotal and Construction Contingency)				8.6% \$ 69,000
Allied Costs				40% \$ 249,000
TOTAL WITH TAX AND CONTINGENCIES				\$ 1,125,500
Alternate B				
2 Pipe Burst along Beachfront				
a. 10" HDPE; Pipe Bursting includes insertion pits for pipe bursting equipment, pipe installation and testing	2,230	LF	\$ 270	\$ 602,100
b. Temporary By-Pass Pumping includes using temp pumps and running surface pipe	1	LS	\$ 30,000	\$ 30,000
c. Pump Station Tie In includes station shutdown, temporary pumping and tie in of new piping	2	EA	\$ 12,000	\$ 24,000
ESTIMATED COST OF CONSTRUCTION				\$ 656,100
Construction Contingency				30% \$ 197,000
Sales Tax (on Subtotal and Construction Contingency)				8.6% \$ 73,000
Allied Costs				40% \$ 262,000
TOTAL WITH TAX AND CONTINGENCIES				\$ 1,188,100
Alternate C				
3 CIPP Liner				
a. CIPP lining in 10" existing pipe includes insertion pits, pulling new liner through existing and testing	2,230	LF	\$ 75	\$ 167,250
b. Force Main Tie in includes station shutdown, temporary pumping and tie of new lining	2	EA	\$ 12,000	\$ 24,000
c. Wetland Mitigation includes surface restoration and plantings to offset disturbed areas	1	LS	\$ 15,000	\$ 15,000
ESTIMATED COST OF CONSTRUCTION				\$ 206,250
Construction Contingency				30% \$ 62,000
Sales Tax (on Subtotal and Construction Contingency)				8.6% \$ 23,000
Allied Costs				40% \$ 83,000
TOTAL WITH TAX AND CONTINGENCIES				\$ 374,250

**City of Bainbridge Island
Beach Line Sewer Rehabilitation Study
Conceptual Cost Analysis**

Highway 305 Pump Station Force Main / Beach Route

Description	Quantity		Unit Price	Total
Alternate A				
1 Open Cut along existing alignment				
a. 12" HDPE; Open Cut Excavation	2,900	LF	\$ 260	\$ 754,000
includes trenching, shoring, dewatering, pipe installation and testing				
b. 12" HDPE; Jack and Bore Ferry Terminal Crossing	300	LF	\$ 400	\$ 120,000
includes insertion pits for pipe boring equipment, pipe installation and testing				
c. Force Main Tie in	2	EA	\$ 12,000	\$ 24,000
includes station shutdown, temporary pumping and tie in of new piping				
d. Wetland Mitigation	1	LS	\$ 8,000	\$ 8,000
includes surface restoration and plantings to offset disturbed areas				
ESTIMATED COST OF CONSTRUCTION				\$ 906,000
Construction Contingency 30%				\$ 272,000
Sales Tax (on Subtotal and Construction Contingency) 8.6%				\$ 101,000
Allied Costs 40%				\$ 362,000
TOTAL WITH TAX AND CONTINGENCIES				\$ 1,641,000
Alternate B				
2 Pipe Bursting along existing alignment				
a. 12" HDPE; Pipe Bursting	3,200	LF	\$ 290	\$ 928,000
includes insertion pits for pipe bursting equipment, pipe installation and testing				
b. Temporary By-Pass Pumping	1	LS	\$ 30,000	\$ 30,000
includes using existing pumps and running surface pipe				
c. Force Main Tie in	2	EA	\$ 12,000	\$ 24,000
includes station shutdown, temporary pumping and tie in of new piping				
ESTIMATED COST OF CONSTRUCTION				\$ 982,000
Construction Contingency 30%				\$ 295,000
Sales Tax (on Subtotal and Construction Contingency) 8.6%				\$ 110,000
Allied Costs 40%				\$ 393,000
TOTAL WITH TAX AND CONTINGENCIES				\$ 1,780,000
Alternate C				
3 Pipe Sliplining in existing 12" Force Main				
a. 10" slip lining in 12" existing pipe	3,200	LF	\$ 100	\$ 320,000
includes insertion pits, pulling new liner through existing and testing				
b. Force Main Tie in	2	EA	\$ 12,000	\$ 24,000
includes station shutdown, temporary pumping and tie of new piping				
c. Wetland Mitigation	1	LS	\$ 15,000	\$ 15,000
includes surface restoration and plantings to offset disturbed areas				
d. Temporary By-pass Pumping	1	LS	\$ 30,000	\$ 30,000
includes using temp pumps and running surface pipe				
ESTIMATED COST OF CONSTRUCTION				\$ 389,000
Construction Contingency 30%				\$ 117,000
Sales Tax (on Subtotal and Construction Contingency) 8.6%				\$ 44,000
Allied Costs 40%				\$ 156,000
TOTAL WITH TAX AND CONTINGENCIES				\$ 706,000

**City of Bainbridge Island
Beach Line Sewer Rehabilitation Study
Conceptual Cost Analysis**

Highway 305 Pump Station Force Main / Upland Route

Description	Quantity		Unit Price	Total
Alternate D				
1 Open Cut / Winslow Way E, Eagle Place NE and Donald Place NE				
a. 12" HDPE; Open Cut Excavation	3,300	LF	\$ 260	\$ 858,000
includes trenching, shoring, dewatering, pipe installation and testing				
b. 12" HDPE; Jack and Bore Ferry Terminal Crossing	300	LF	\$ 400	\$ 120,000
includes insertion pits for pipe boring equipment, pipe installation and testing				
c. Force Main Tie in	2	EA	\$ 12,000	\$ 24,000
includes station shutdown, temporary pumping and tie in of new piping				
ESTIMATED COST OF CONSTRUCTION				\$ 1,002,000
Construction Contingency 30%				\$ 301,000
Sales Tax (on Subtotal and Construction Contingency) 8.6%				\$ 112,000
Allied Costs 40%				\$ 401,000
TOTAL WITH TAX AND CONTINGENCIES				\$ 1,816,000
Alternate E				
2 Directional Drill / Winslow Way E, Eagle Place NE and Donald Place NE				
a. 12" HDPE; Horizontal Directional Drill	3,600	LF	\$ 400	\$ 1,440,000
includes insertion pits, horizontal directional drilling and testing				
b. Force Main Tie in	2	EA	\$ 12,000	\$ 24,000
includes station shutdown, temporary pumping and tie in of new piping				
ESTIMATED COST OF CONSTRUCTION				\$ 1,464,000
Construction Contingency 30%				\$ 439,000
Sales Tax (on Subtotal and Construction Contingency) 8.6%				\$ 164,000
Allied Costs 40%				\$ 586,000
TOTAL WITH TAX AND CONTINGENCIES				\$ 2,653,000

**City of Bainbridge Island
Beach Line Sewer Rehabilitation Study
Conceptual Cost Analysis**

Highway 305 Pump Station Force Main / Beach & Upland Route

Description	Quantity		Unit Price	Total
Alternate F				
1 Open Cut along existing beach alignment				
a. 12" HDPE; Open Cut Excavation	1,500	LF	\$ 260	\$ 390,000
includes trenching, shoring, dewatering, pipe installation and testing				
b. 12" HDPE; Jack and Bore Ferry Terminal Crossing	300	LF	\$ 400	\$ 120,000
includes insertion pits for pipe boring equipment, pipe installation and testing				
c. Force Main Tie in	2	EA	\$ 12,000	\$ 24,000
includes station shutdown, temporary pumping and tie in of new piping				
d. Wetland Mitigation	1	LS	\$ 8,000	\$ 8,000
includes surface restoration and plantings to offset disturbed areas				
2 Open Cut / Upland / Eagle Place NE and Donald Place NE				
a. 12" HDPE; Open Cut Excavation	1,100	LF	\$ 250	\$ 275,000
includes trenching, shoring, dewatering, pipe installation and testing				
ESTIMATED COST OF CONSTRUCTION				\$ 817,000
Construction Contingency 30%				\$ 245,000
Sales Tax (on Subtotal and Construction Contingency) 8.6%				\$ 91,000
Allied Costs 40%				\$ 327,000
TOTAL WITH TAX AND CONTINGENCIES				\$ 1,480,000

**City of Bainbridge Island
Beach Line Sewer Rehabilitation Study
Conceptual Cost Analysis**

Wing Point Pump Station Force Main / Beach Route

Description	Quantity		Unit Price	Total
Alternate A				
1 Open Cut along existing alignment				
a. 6" HDPE; Open Cut Excavation includes trenching, shoring, dewatering, pipe installation and testing	3,700	LF	\$ 230	\$ 851,000
b. Force Main Tie In includes station shutdown, temporary pumping and tie in of new piping	2	EA	\$ 8,000	\$ 16,000
c. Wetland Mitigation includes surface restoration and plantings to offset disturbed areas	1	LS	\$ 8,000	\$ 8,000
			ESTIMATED COST OF CONSTRUCTION	\$ 875,000
			Construction Contingency 30%	\$ 263,000
			Sales Tax (on Subtotal and Construction Contingency) 8.6%	\$ 98,000
			Allied Costs 40%	\$ 350,000
			TOTAL WITH TAX AND CONTINGENCIES	\$ 1,586,000
Alternate B				
2 Pipe Bursting along existing alignment				
a. 6" HDPE; Pipe Bursting includes insertion pits for pipe bursting equipment, pipe installation and testing	3,700	LF	\$ 250	\$ 925,000
b. Install By-Pass Vault includes shut down and installation of permanent by-pass vault	1	LS	\$ 25,000	\$ 25,000
c. Temporary By-Pass Pumping includes using existing pumps and running surface pipe	1	LS	\$ 25,000	\$ 25,000
d. Force Main Tie In includes station shutdown, temporary pumping and tie in of new piping	2	EA	\$ 8,000	\$ 16,000
			ESTIMATED COST OF CONSTRUCTION	\$ 991,000
			Construction Contingency 30%	\$ 297,000
			Sales Tax (on Subtotal and Construction Contingency) 8.6%	\$ 111,000
			Allied Costs 40%	\$ 396,000
			TOTAL WITH TAX AND CONTINGENCIES	\$ 1,795,000
Alternate C				
3 Pipe Insertion in existing WWTP Effluent Line				
a. 6" HDPE; Install in 16" Abandoned Pipe includes insertion pits, pulling new 6" line through existing 16" and testing	3,700	LF	\$ 85	\$ 315,000
b. Force Main Tie In includes station shutdown, temporary pumping, trenching for tie in of new piping	2	EA	\$ 13,000	\$ 26,000
			ESTIMATED COST OF CONSTRUCTION	\$ 341,000
			Construction Contingency 30%	\$ 102,000
			Sales Tax (on Subtotal and Construction Contingency) 8.6%	\$ 38,000
			Allied Costs 40%	\$ 136,000
			TOTAL WITH TAX AND CONTINGENCIES	\$ 617,000

**City of Bainbridge Island
Beach Line Sewer Rehabilitation Study
Conceptual Cost Analysis**

Wing Point Pump Station Force Main / Upland Route

Description	Quantity		Unit Price	Total
Alternate D				
1 Open Cut / Directional Drill				
a. 6" HDPE; Wing Point Rd / Wing Point Dr NE Includes trenching, shoring, dewatering, pipe installation and testing	1,300	LF	\$ 230	\$ 299,000
b. Force Main Tie In includes station shutdown, temporary pumping and tie in of new piping	2	EA	\$ 8,000	\$ 16,000
c. 6" HDPE; Trenchless / Golf Course & Wetland includes insertion pits, horizontal directional drilling and testing	2,800	LF	\$ 250	\$ 700,000
d. Connect 25 homes with grinder pumps includes grinder pump and re-routing side sewer to upland force main	15	EA	\$ 5,000	\$ 75,000
e. Grinder Pump force main assumes 200 LF for each grinder pump	3,000	LF	\$ 40	\$ 120,000
ESTIMATED COST OF CONSTRUCTION				\$ 1,210,000
Construction Contingency 30%				\$ 363,000
Sales Tax (on Subtotal and Construction Contingency) 8.6%				\$ 135,000
Allied Costs 40%				\$ 484,000
TOTAL WITH TAX AND CONTINGENCIES				\$ 2,192,000
Alternate E				
2 Directional Drill				
a. 6" HDPE; Trenchless Installation includes insertion pits, horizontal directional drilling and testing	4,100	LF	\$ 250	\$ 1,025,000
b. Force Main Tie In includes station shutdown, temporary pumping and tie in of new piping	2	EA	\$ 8,000	\$ 16,000
c. Connect 25 homes with grinder pumps includes grinder pump and re-routing side sewer to upland force main	15	EA	\$ 5,000	\$ 75,000
d. Grinder Pump force main assumes 200 LF for each grinder pump	3,000	LF	\$ 40	\$ 120,000
ESTIMATED COST OF CONSTRUCTION				\$ 1,236,000
Construction Contingency 30%				\$ 371,000
Sales Tax (on Subtotal and Construction Contingency) 8.6%				\$ 138,000
Allied Costs 40%				\$ 494,000
TOTAL WITH TAX AND CONTINGENCIES				\$ 2,239,000

**City of Bainbridge Island
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Treatment Plant Effluent Force Main

Description	Quantity		Unit Price	Total
Alternate A				
1 Open Cut on beach alignment				
a. 20" HDPE; Open Cut Excavation Includes trenching, shoring, dewatering, pipe installation and testing	4,900	LF	\$ 280	\$ 1,372,000
b. Outfall Junction Structure includes excavation, installation and backfill for new structure	1	LS	\$ 10,000	\$ 10,000
c. Force Main Tie In includes station shutdown, temporary pumping and tie in of new piping	1	EA	\$ 15,000	\$ 15,000
d. Wetland Mitigation includes surface restoration and plantings to offset disturbed areas	1	LS	\$ 5,000	\$ 5,000
			ESTIMATED COST OF CONSTRUCTION	\$ 1,402,000
			Construction Contingency 30%	\$ 421,000
			Sales Tax (on Subtotal and Construction Contingency) 8.6%	\$ 157,000
			Allied Costs 40%	\$ 561,000
			TOTAL WITH TAX AND CONTINGENCIES	\$ 2,541,000
Alternate B				
2 Open Cut / Directional Drill on Upland alignment				
a. 20" HDPE; Trenchless Installation / Wetlands & Golf Course Includes insertion pits, horizontal directional drilling and testing	2,800	LF	\$ 460	\$ 1,288,000
b. 20" HDPE; Open Cut Excavation / Wing Point Rd, Wing Point Dr NE Includes trenching, shoring, dewatering, pipe installation and testing	1,700	LF	\$ 280	\$ 476,000
c. Outfall Junction Structure includes excavation, installation and backfill for new structure	1	LS	\$ 10,000	\$ 10,000
d. Force Main Tie In includes station shutdown, temporary pumping and tie in of new piping	1	EA	\$ 15,000	\$ 15,000
			ESTIMATED COST OF CONSTRUCTION	\$ 1,789,000
			Construction Contingency 30%	\$ 537,000
			Sales Tax (on Subtotal and Construction Contingency) 8.6%	\$ 200,000
			Allied Costs 40%	\$ 716,000
			TOTAL WITH TAX AND CONTINGENCIES	\$ 3,242,000

**City of Bainbridge Island
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New Outfall Extension

Description	Quantity	Unit Price	Total
Alternate A			
1 Outfall Extension			
a. 20" HDPE Outfall Pipe and concrete anchors Includes materials, pipe fusion and anchor attachment	1,500 LF	\$ 200	\$ 300,000
b. Marine installation & Divers Includes floating and sinking pipe, underwater work w/ divers	1 LS	\$ 250,000	\$ 250,000
c. Underwater construction Includes divers mob, connection, pre and post inspection	1 LS	\$ 100,000	\$ 100,000
		ESTIMATED COST OF CONSTRUCTION	\$ 650,000
		Construction Contingency 30%	\$ 195,000
		Sales Tax (on Subtotal and Construction Contingency) 8.6%	\$ 73,000
		Allied Costs 40%	\$ 260,000
		TOTAL WITH TAX AND CONTINGENCIES	\$ 1,178,000