



APPENDIX N:
CONCEPTUAL COST ESTIMATE

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PRELIMINARY

Rough Order of Magnitude Construction Costs
 Barlow Point Option 1
 10/23/2015



	Item	Quantity	Unit	Low Unit Cost	High Unit Cost	Low Cost (2015\$)	High Cost (2015\$)
1.00	Mobilization/Demobilization (2.5%)	1	LS	\$2,897,500	\$3,536,300	\$2,900,000	\$3,540,000
2.00	General Site Prep					\$370,000	\$860,000
2.01	Clear and Grub/ Prelim Grading	43	AC	\$5,000	\$7,500	\$215,000	\$322,500
2.02	Temporary Erosion & Sediment Control	43	AC	\$3,500	\$12,500	\$150,500	\$537,500
3.00	Pier Construction					\$40,000,000	\$47,000,000
3.01	Potash Pier	1	LS	\$20,000,000	\$25,000,000	\$20,000,000	\$25,000,000
3.02	Wood Pellet Pier	1	LS	\$10,000,000	\$11,000,000	\$10,000,000	\$11,000,000
3.03	Urea Pier	1	LS	\$10,000,000	\$11,000,000	\$10,000,000	\$11,000,000
4.00	Dredging					\$1,620,000	\$2,430,000
4.01	Dredging and Disposal	81,000	CY	\$20	\$30	\$1,620,000	\$2,430,000
5.00	Geotechnical Improvements					\$29,700,000	\$36,300,000
5.01	River Bank Stabilization	330,000	CY	\$90	\$110	\$29,700,000	\$36,300,000
6.00	Roadway Subgrade, Paving and Striping					\$4,370,000	\$4,830,000
6.01	Entry Road	6,200	LF	\$210	\$230	\$1,302,000	\$1,426,000
6.02	Levee Road	12,000	LF	\$145	\$160	\$1,740,000	\$1,920,000
6.03	Maintenance Road	5,400	LF	\$120	\$130	\$648,000	\$702,000
6.04	Access Roadway Bridge Over Ditch 10	3,000	SF	\$220	\$250	\$660,000	\$750,000
6.05	Striping	1	LS	\$20,000	\$25,000	\$20,000	\$25,000
7.00	Fencing					\$1,100,000	\$1,300,000
7.01	Site Fencing (TWIC Security Fence)	20,000	LF	\$55.00	\$65.00	\$1,100,000	\$1,300,000
8.00	Rail Line					\$25,420,000	\$29,210,000
8.01	Track with 136# RE Rail, Ties and OTM	73,000	TF	\$200	\$225	\$14,600,000	\$16,425,000
8.02	Ballast	109,700	CY	\$60	\$70	\$6,582,000	\$7,679,000
8.03	Precast Conc Traffic Crossing	120	TF	\$350	\$425	\$42,000	\$51,000
8.04	Turnout with Hand Switch Machine	1	EA	\$160,000	\$175,000	\$160,000	\$175,000
8.05	Rail Subgrade Preparation	1,204,700	SF	\$0.25	\$0.35	\$301,175	\$421,645
8.06	Geotextile for Rail	1,206,300	SF	\$2.00	\$2.50	\$2,412,600	\$3,015,750
8.07	Bridge Over Ditch 14 (2 parallel)	4,800	SF	\$275	\$300	\$1,320,000	\$1,440,000
9.00	Utilites					\$2,320,000	\$4,340,000
9.01	Sanitary Sewer	4,000	LF	\$35.00	\$45.00	\$140,000	\$180,000
9.02	Sewer Lift Station	3	EA	\$125,000	\$175,000	\$375,000	\$525,000
9.03	Domestic Water, 4 IN DIAM HDPE	13,600	LF	\$45	\$55	\$612,000	\$748,000
9.04	Fire Water, 12 IN DIAM Ductile Iron	13,600	LF	\$65	\$75	\$884,000	\$1,020,000
9.05	Fire Hydrant	30	EA	\$10,000	\$12,000	\$300,000	\$360,000
9.06	Process Water	1	LS	\$0	\$1,500,000	\$0	\$1,500,000
9.07	Gas	0	LF	\$0	\$0	\$0	\$0
9.08	Process Gas	0	LF	\$0	\$0	\$0	\$0
10.00	Electrical/Lighting					\$5,970,000	\$8,300,000
10.01	Electrical Power Service Connection	1	LS	\$1,330,000	\$1,370,000	\$1,330,000	\$1,370,000
10.02	Electrical Power Site Substation	1	LS	\$1,500,000	\$2,400,000	\$1,500,000	\$2,400,000
10.03	Electrical Power Site Distribution (underground)	12,000	LF	\$105	\$155	\$1,260,000	\$1,860,000
10.04	Port of Longview Service, Distribution, and Connections	1	LS	\$1,000,000	\$1,250,000	\$1,000,000	\$1,250,000
10.05	Lighting (Roadway)	7,000	LF	\$40	\$65	\$280,000	\$455,000
10.06	Telecommunications Distribution System	12,000	LF	\$50	\$80	\$600,000	\$960,000
11.00	Storm Drainage System					\$3,390,000	\$4,520,000
11.01	Catch Basin	80	EA	\$3,500	\$5,000	\$280,000	\$400,000
11.02	Storm Piping	8,000	LF	\$70	\$90	\$560,000	\$720,000
11.03	Stormwater Treatment	1	LS	\$250,000	\$500,000	\$250,000	\$500,000
11.04	Detention	1	LS	\$1,100,000	\$500,000	\$1,100,000	\$500,000
11.05	Regional Detention Pond	1	LS	\$0	\$592,800	\$0	\$592,800
11.06	Lift Station, Piping, and Outfall to Columbia River	3	EA	\$400,000	\$600,000	\$1,200,000	\$1,800,000
12.00	Public Access					\$240,000	\$670,000
12.01	Waterfront Access	1	LS	\$100,000	\$500,000	\$100,000	\$500,000
12.02	Parking Lot	20	CAR	\$1,300	\$1,400	\$26,000	\$28,000
12.03	Bathroom Facilities	1	LS	\$20,000	\$25,000	\$20,000	\$25,000
12.04	Bike Path	7,000	LF	\$12	\$15	\$84,000	\$105,000
12.05	Landscaping	0.50	AC	\$10,000	\$15,000	\$5,000	\$7,500
13.00	SR-432 Roadway Improvements					\$760,000	\$940,000
13.01	Asphalt Demolition and Removal	4,000	SY	\$10	\$12	\$40,000	\$48,000
13.02	Roadway Excavation Incl. Haul	2,000	CY	\$8	\$11	\$16,000	\$22,000
13.03	Select Fill	1,110	TN	\$10	\$12	\$11,100	\$13,320
13.04	Crushed Surfacing Base Course	1,750	TN	\$20	\$30	\$35,000	\$52,500
13.05	Ashphalt Cl. B	4,000	TN	\$110	\$135	\$440,000	\$540,000
13.06	Relocate Water Line	1,000	LF	\$80	\$90	\$80,000	\$90,000
13.07	Relocate Power Poles	1	LS	\$15,000	\$20,000	\$15,000	\$20,000
13.08	Striping	5,000	LF	\$3	\$5	\$15,000	\$25,000
13.09	Traffic Control (15% of above items)	1	LS	\$98,000	\$122,000	\$98,000	\$122,000
14.00	Off-site Sewer Connection					\$640,000	\$750,000
14.01	Sanitary Sewer Pipe, 6 IN DIAM HDPE	7,500	LF	\$85	\$100	\$637,500	\$750,000
15.00	Subtotal					\$ 118,800,000	\$ 144,990,000
15.01	Contingency (30%)					\$ 35,640,000	\$ 43,500,000
15.02	Sales Tax (8.0%)					\$ 12,360,000	\$ 15,080,000
16.00	Total ROM Estimate Option 1					\$ 166,800,000	\$ 203,570,000

Notes

- 4.01 Dredging quantity is based on the pier head line located as close to the Federal navigation channel line as possible.
- 5.01 River bank stabilization assumes deep soil mixing.
- 9.06 Low range is based on the process water supplied by the tenant. High range is based on new service pipe from the Mint Farm.
- 9.07 Heat is assumed to be provided by electrical.
- 9.08 Process gas is assumed to be provided by tenant.
- 11.04 High/Low range for detention and the regional detention pond need to be considered together.
- 11.05 Regional detention pond has 260,000 cubic feet of available storage for sale at \$2.28 per cubic foot.
- 12.01 Waterfront access range assumes a landside overlook or pier structure.
- 15.00. Subtotals are rounded up to the nearest ten thousand.
- 16.00 Rough order of magnitude construction costs do not include permitting and engineering.

PRELIMINARY

Rough Order of Magnitude Construction Costs
 Barlow Point Option 2
 10/23/2015



	Item	Quantity	Unit	Low Unit Cost	High Unit Cost	Low Cost (2015\$)	High Cost (2015\$)
1.00	Mobilization/Demobilization (2.5%)	1	LS	\$3,936,500	\$4,758,500	\$3,940,000	\$4,760,000
2.00	General Site Prep					\$410,000	\$960,000
2.01	Clear and Grub/ Prelim Grading	48	AC	\$5,000	\$7,500	\$240,000	\$360,000
2.02	Temporary Erosion & Sediment Control	48	AC	\$3,500	\$12,500	\$168,000	\$600,000
3.00	Pier Construction					\$70,000,000	\$82,500,000
3.01	Crude Oil Pier	1	LS	\$25,000,000	\$30,000,000	\$25,000,000	\$30,000,000
3.02	Bio-Diesel Pier	1	LS	\$20,000,000	\$22,500,000	\$20,000,000	\$22,500,000
3.03	Methanol Pier	1	LS	\$25,000,000	\$30,000,000	\$25,000,000	\$30,000,000
4.00	Dredging					\$1,620,000	\$2,430,000
4.01	Dredging and Disposal	81,000	CY	\$20	\$30	\$1,620,000	\$2,430,000
5.00	Geotechnical Improvements					\$29,700,000	\$36,300,000
5.01	River Bank Stabilization	330,000	CY	\$90	\$110	\$29,700,000	\$36,300,000
6.00	Roadway Subgrade, Paving and Striping					\$4,370,000	\$4,830,000
6.01	Entry Road	6,200	LF	\$210	\$230	\$1,302,000	\$1,426,000
6.02	Levee Road	12,000	LF	\$145	\$160	\$1,740,000	\$1,920,000
6.03	Maintenance Road	5,400	LF	\$120	\$130	\$648,000	\$702,000
6.04	Access Roadway Bridge Over Ditch 10	3,000	SF	\$220	\$250	\$660,000	\$750,000
6.05	Striping	1	LS	\$20,000	\$25,000	\$20,000	\$25,000
7.00	Fencing					\$1,100,000	\$1,300,000
7.01	Site Fencing (TWIC Security Fence)	20,000	LF	\$55.00	\$65.00	\$1,100,000	\$1,300,000
8.00	Rail Line					\$36,870,000	\$42,410,000
8.01	Track with 136# RE Rail, Ties and OTM	108,000	TF	\$200	\$225	\$21,600,000	\$24,300,000
8.02	Ballast	162,200	CY	\$60	\$70	\$9,732,000	\$11,354,000
8.03	Precast Conc Traffic Crossing	120	TF	\$350	\$425	\$42,000	\$51,000
8.04	Turnout with Hand Switch Machine	1	EA	\$160,000	\$175,000	\$160,000	\$175,000
8.05	Rail Subgrade Preparation	1,782,200	SF	\$0.25	\$0.35	\$445,550	\$623,770
8.06	Geotextile for Rail	1,783,800	SF	\$2.00	\$2.50	\$3,567,600	\$4,459,500
8.07	Bridge Over Ditch 14 (2 parallel)	4,800	SF	\$275	\$300	\$1,320,000	\$1,440,000
9.00	Utilities					\$2,390,000	\$4,430,000
9.01	Sanitary Sewer	6,000	LF	\$35.00	\$45.00	\$210,000	\$270,000
9.02	Sewer Lift Station	3	EA	\$125,000	\$175,000	\$375,000	\$525,000
9.03	Domestic Water, 4 IN DIAM HDPE	13,600	LF	\$45	\$55	\$612,000	\$748,000
9.04	Fire Water, 12 IN DIAM Ductile Iron	13,600	LF	\$65	\$75	\$884,000	\$1,020,000
9.05	Fire Hydrant	30	EA	\$10,000	\$12,000	\$300,000	\$360,000
9.06	Process Water	1	LS	\$0	\$1,500,000	\$0	\$1,500,000
9.07	Gas	0	LF	\$0	\$0	\$0	\$0
9.08	Process Gas	0	LF	\$0	\$0	\$0	\$0
10.00	Electrical/Lighting					\$5,970,000	\$8,300,000
10.01	Electrical Power Service Connection	1	LS	\$1,330,000	\$1,370,000	\$1,330,000	\$1,370,000
10.02	Electrical Power Site Substation	1	LS	\$1,500,000	\$2,400,000	\$1,500,000	\$2,400,000
10.03	Electrical Power Site Distribution (underground)	12,000	LF	\$105	\$155	\$1,260,000	\$1,860,000
10.04	Port of Longview Service, Distribution, and Connections	1	LS	\$1,000,000	\$1,250,000	\$1,000,000	\$1,250,000
10.05	Lighting (Roadway)	7,000	LF	\$40	\$65	\$280,000	\$455,000
10.06	Telecommunications Distribution System	12,000	LF	\$50	\$80	\$600,000	\$960,000
11.00	Storm Drainage System					\$3,390,000	\$4,520,000
11.01	Catch Basin	80	EA	\$3,500	\$5,000	\$280,000	\$400,000
11.02	Storm Piping	8,000	LF	\$70	\$90	\$560,000	\$720,000
11.03	Stormwater Treatment	1	LS	\$250,000	\$500,000	\$250,000	\$500,000
11.04	Detention	1	LS	\$1,100,000	\$500,000	\$1,100,000	\$500,000
11.05	Regional Detention Pond	1	LS	\$0	\$592,800	\$0	\$592,800
11.06	Lift Station, Piping, and Outfall to Columbia River	3	EA	\$400,000	\$600,000	\$1,200,000	\$1,800,000
12.00	Public Access					\$240,000	\$670,000
12.01	Waterfront Access	1	LS	\$100,000	\$500,000	\$100,000	\$500,000
12.02	Parking Lot	20	CAR	\$1,300	\$1,400	\$26,000	\$28,000
12.03	Bathroom Facilities	1	LS	\$20,000	\$25,000	\$20,000	\$25,000
12.04	Bike Path	7000	LF	\$12	\$15	\$84,000	\$105,000
12.05	Landscaping	0.5	AC	\$10,000	\$15,000	\$5,000	\$7,500
13.00	SR-432 Roadway Improvements					\$760,000	\$940,000
13.01	Asphalt Demolition and Removal	4,000	SY	\$10	\$12	\$40,000	\$48,000
13.02	Roadway Excavation Incl. Haul	2,000	CY	\$8	\$11	\$16,000	\$22,000
13.03	Select Fill	1,110	TN	\$10	\$12	\$11,100	\$13,320
13.04	Crushed Surfacing Base Course	1,750	TN	\$20	\$30	\$35,000	\$52,500
13.05	Ashphalt Cl. B	4,000	TN	\$110	\$135	\$440,000	\$540,000
13.06	Relocate Water Line	1,000	LF	\$80	\$90	\$80,000	\$90,000
13.07	Relocate Power Poles	1	LS	\$15,000	\$20,000	\$15,000	\$20,000
13.08	Striping	5,000	LF	\$3	\$5	\$15,000	\$25,000
13.09	Traffic Control (15% of above items)	1	LS	\$98,000	\$122,000	\$98,000	\$122,000
14.00	Off-site Sewer Connection					\$640,000	\$750,000
14.01	Sanitary Sewer Pipe, 6 IN DIAM HDPE	7,500	LF	\$85	\$100	\$637,500	\$750,000
15.00	Subtotal					\$ 161,400,000	\$ 195,100,000
15.01	Contingency (30%)					\$ 48,420,000	\$ 58,530,000
15.02	Sales Tax (8.0%)					\$ 16,790,000	\$ 20,300,000
16.00	Total ROM Estimate Option 2					\$ 226,610,000	\$ 273,930,000

Notes

- 4.01 Dredging quantity is based on the pier head line located as close to the Federal navigation channel line as possible.
- 5.01 River bank stabilization assumes deep soil mixing.
- 9.06 Low range is based on the process water supplied by the tenant. High range is based on new service pipe from the Mint Farm.
- 9.07 Heat is assumed to be provided by electrical.
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