

OPINION OF PROBABLE CONSTRUCTION COSTS - 100% DESIGN**Project Area 14**

Tucannon River Restoration

Item No.	Work Item	Unit	Quantity	Unit Cost	Line Cost	Notes
1.00	General Requirements					
1.01	Mobilization, including demobilization (8%)	LS	1	\$ 51,100	\$ 51,100	1
2.00	Water/TESC/SPCC/Traffic Control Plans				\$ 3,500	2
2.01	Care of Water Plan	LS	1	\$ 1,500	\$ 1,500	
2.02	Temporary Erosion and Sediment Control (TESC) Plan	LS	1	\$ 1,000	\$ 1,000	
2.03	Spill Prevention Control and Countermeasure (SPCC) Plan	LS	1	\$ 1,000	\$ 1,000	
3.00	Site Preparation and TESC Measures				\$ 12,000	3
3.01	Construction Entrances	EA	8	\$ 1,500	\$ 12,000	
3.02	Fence, Silt, install, maintain, remove	LF	-	\$ 8.00	\$ -	
4.00	Single (S) LWD, incl. LWD attached to ex. LWD	EA	67	\$ 656	\$ 43,939	
4.01	Rootwad log, 1.25' dia. 40' L Log, 3.75' dia. 2.5' L RW	EA	67	\$ 500	\$ 33,500	4
4.02	Manila rope, 3 strand, 1/2" dia.	LF	2,345	\$ 0.28	\$ 657	
4.03	Galvanized steel staples, 3/8" x 4" length	EA	268	\$ 1.50	\$ 402	
	<i>optional</i>					
4.04	Earthwork, excavation, backfill & compaction	CY	469	\$ -	\$ -	
4.05	Installation (labor & equipment)	EA	67	\$ 140	\$ 9,380	
5.00	Toe Habitat (TH) LWD	EA	20	\$ 1,383	\$ 27,660	
5.01	Rootwad log, 1.25' dia. 40' L Log, 3.75' dia. 2.5' L RW	EA	40	\$ 500	\$ 20,000	4
5.02	Manila rope, 3 strand, 1/2" dia.	LF	1000	\$ 0.28	\$ 280	
5.03	Galvanized steel staples, 3/8" x 4" length	EA	120	\$ 1.50	\$ 180	
	<i>optional</i>					
5.04	Earthwork, excavation, backfill & compaction	CY	160	\$ -	\$ -	
5.05	Installation (labor & equipment)	EA	20	\$ 360	\$ 7,200	
6.00	Toe Habitat (THb) LWD	EA	3	\$ 2,555	\$ 7,665	
6.01	Rootwad log, 1.25' dia. 40' L Log, 3.75' dia. 2.5' L RW	EA	6	\$ 500	\$ 3,000	4
6.02	Manila rope, 3 strand, 1/2" dia.	LF	150	\$ 0.28	\$ 42	
6.03	Galvanized steel staples, 3/8" x 4" length	EA	18	\$ 1.50	\$ 27	
6.04	Concrete anchor, four-way expansion type, 3/4"-10 thread	EA	6	\$ 6.00	\$ 36	
6.05	Steel eye bolt, for lifting, galvanized, 3/4"-10 thread, 3" L	EA	6	\$ 25.0	\$ 150	
6.06	Boulder, 3.8' intermediate dia.	EA	6	\$ 190	\$ 1,140	
6.07	Installation (labor & equipment)	EA	3	\$ 1,090	\$ 3,270	
7.00	Sediment Retention (SRp) LWD	EA	3	\$ 3,788	\$ 11,364	
7.01	Rootwad log, 1.25' dia. 40' L Log, 3.75' dia. 2.5' L RW	EA	9	\$ 500	\$ 4,500	4
7.02	Log pole pile, Douglas Fir or Larch, 1' dia. 40' L	EA	6	\$ 400	\$ 2,400	4
7.03	Manila rope, 3 strand, 1/2" dia.	LF	300	\$ 0.28	\$ 84	
7.04	Galvanized steel staples, 3/8" x 4" length	EA	60	\$ 1.50	\$ 90	
7.05	Earthwork, excavation, backfill & compaction	CY	90	\$ -	\$ -	
7.06	Installation (labor & equipment)	EA	3	\$ 1,430	\$ 4,290	

continued on next page

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8.00	Sediment Retention (SRb) LWD	EA	5	\$ 5,182	\$ 25,908	
8.01	Rootwad log, 1.25' dia. 40' L Log, 3.75' dia. 2.5' L RW	EA	15	\$ 500	\$ 7,500	4
8.02	Manila rope, 3 strand, 1/2" dia.	LF	600	\$ 0.28	\$ 168	
8.03	Galvanized steel staples, 3/8" x 4" length	EA	100	\$ 1.50	\$ 150	
8.04	Boulder, 3.0' intermediate dia.	EA	40	\$ 150	\$ 6,000	
8.05	Concrete anchor, four-way expansion type, 3/4"-10 thread	EA	40	\$ 6.00	\$ 240	
8.06	Steel eye bolt, for lifting, galvanized, 3/4"-10 thread, 3" L	EA	40	\$ 25.0	\$ 1,000	
					\$ -	
8.07	Installation (labor & equipment)	EA	5	\$ 2,170	\$ 10,850	
9.00	Bank Barb Pile (BBp)	EA	2	\$ 4,012	\$ 8,024	
9.01	Earthwork, excavation, backfill & compaction	CY	60	\$ -	\$ -	
9.02	Rootwad log, 1.5' dia. 40' L Log, 4.5' dia. 3' L RW	EA	2	\$ 750	\$ 1,500	4
9.03	Rootwad log, 1.25' dia. 40' L Log, 3.75' dia. 2.5' L RW	EA	4	\$ 500	\$ 2,000	4
9.04	Log Pole, 1' dia., 40' L	EA	4	\$ 400	\$ 1,600	4
9.05	Manila rope, 3 strand, 1/2" dia.	LF	100	\$ 0.28	\$ 28	
9.06	Galvanized steel staples, 3/8" x 4" length	EA	24	\$ 1.50	\$ 36	
9.07	Installation (labor & equipment)	EA	2	\$ 1,430	\$ 2,860	
10.00	Channel Spanning (CS) ELJ	EA	4	\$ 24,489	\$ 97,956	
10.01	Rootwad log, 3' dia. 50' L Log, 9' dia. 6' L RW	EA	12	\$ 1,800	\$ 21,600	4
10.02	Rootwad log, 2' dia. 40' L Log, 6' dia. 4' L RW	EA	16	\$ 950	\$ 15,200	4
10.03	Log pole, 1.5' dia., 40' L	EA	52	\$ 400	\$ 20,800	4
10.04	Slash and small woody debris	CY	60	\$ 30.0	\$ 1,800	
10.05	Boulder, 5.6' intermediate dia.	EA	44	\$ 300	\$ 13,200	
10.06	Boulder, 4' intermediate dia.	EA	28	\$ 200	\$ 5,600	
10.07	Concrete anchor, four-way expansion type, 3/4"-10 thread	EA	72	\$ 6.00	\$ 432	
10.08	Steel eye bolt, for lifting, galvanized, 3/4"-10 thread, 3" L	EA	72	\$ 25.0	\$ 1,800	
10.09	Galvanized steel wire rope, 3/8" dia., 7x19 strand core	LF	1640	\$ 2.00	\$ 3,280	
10.10	Galvanized steel wire rope clips, 3/8" cap.	EA	392	\$ 2.00	\$ 784	
10.11	Galvanized rope thimbles, heavy duty, 3/8" cap.	EA	72	\$ 2.00	\$ 144	
10.12	Galvanized steel staples, 3/8" x 4" length	EA	264	\$ 1.50	\$ 396	
10.13	Earthwork, excavation, backfill & compaction	CY	40	\$ -		
10.14	Installation (labor & equipment)	EA	4	\$ 3,230	\$ 12,920	
11.00	Channel Grade (CG) ELJ	EA	6	\$ 18,708	\$ 112,248	
11.01	Earthwork, excavation, bulk	CY	330	\$ -	\$ -	
11.02	Rootwad log, 1.5' dia. 40' L Log, 4.5' dia. 3' L RW	EA	24	\$ 750	\$ 18,000	4
11.03	Rootwad log, 1.25' dia. 40' L Log, 3.75' dia. 2.5' L RW	EA	24	\$ 500	\$ 12,000	4
11.04	Log pole, 1.5' dia., 40' L	EA	36	\$ 400	\$ 14,400	4
11.05	Slash and small woody debris	CY	60	\$ 30.0	\$ 1,800	
11.06	Galvanized steel wire rope, 1/2" dia., 6x19, EIPS, IWRC	LF	540	\$ 2.20	\$ 1,188	
11.07	Galvanized steel wire rope clips, 1/2" cap.	EA	144	\$ 4.00	\$ 576	
11.08	Galvanized steel staples, 3/8" x 4" length	EA	96	\$ 1.50	\$ 144	
11.09	Boulder, 3.5' intermediate dia.	EA	288	\$ 170	\$ 48,960	
11.10	Earthwork, backfill, native	CY	330	\$ -	\$ -	
11.11	Installation (labor & equipment)	EA	6	\$ 2,530	\$ 15,180	

continued on next page

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Tucannon River Restoration

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12.00	Bank Barb (BAr) ELJ	EA	1	\$ 10,960	\$ 10,960	
12.01	Earthwork, excavation, bulk	CY	10	\$ -	\$ -	
12.02	Rootwad log, 1.25' dia. 40' L Log, 3.75' dia. 2.5' L RW	EA	12	\$ 500	\$ 6,000	
12.03	Log Pole, 1.25' dia., 40' L	EA	6	\$ 300	\$ 1,800	
12.04	Slash and small woody debris	CY	10	\$ 30.0	\$ 300	
12.05	Earthwork, backfill, native	CY	10	\$ -	\$ -	
12.06	Installation (labor & equipment)	EA	1	\$ 2,860	\$ 2,860	
13.00	Bank Barb (BB) ELJ	EA	4	\$ 18,333	\$ 73,332	
13.01	Earthwork, excavation, bulk	CY	880	\$ -	\$ -	
13.02	Log Pole, 1.25' dia., 40' L	EA	8	\$ 300	\$ 2,400	4
13.03	Rootwad log, 1.25' dia. 40' L Log, 3.75' dia. 2.5' L RW	EA	88	\$ 500	\$ 44,000	4
13.04	Galvanized steel wire rope, 3/8" dia., 7x19 strand core	LF	1160	\$ 2.00	\$ 2,320	
13.05	Galvanized steel wire rope clips, 3/8" cap.	EA	232	\$ 2.00	\$ 464	
13.06	Galvanized steel staples, 3/8" x 4" length	EA	232	\$ 1.50	\$ 348	
13.07	Earthwork, backfill, native	CY	880	\$ -	\$ -	
13.08	Installation (labor & equipment)	EA	4	\$ 5,710	\$ 22,840	
14.00	Bar Apex Bank (BAb) ELJ	EA	1	\$ 21,700	\$ 21,700	
14.01	Earthwork, excavation, bulk	CY	325	\$ -	\$ -	
14.02	Rootwad log, 1.5' dia. 40' L Log, 4.5' dia. 3' L RW	EA	1	\$ 750	\$ 750	4
14.03	Rootwad log, 1.25' dia. 40' L Log, 3.75' dia. 2.5' L RW	EA	28	\$ 500	\$ 14,000	4
14.04	Log Pole, 1.25' dia., 40' L	EA	2	\$ 300	\$ 600	4
14.05	Slash and small woody debris	CY	10	\$ 30.0	\$ 300	
14.06	Galvanized steel wire rope, 1/2" dia., 6x19, EIPS, IWRC	LF	100	\$ 2.20	\$ 220	
14.07	Galvanized steel wire rope clips, 1/2" cap.	EA	24	\$ 4.00	\$ 96	
14.08	Galvanized steel staples, 3/8" x 4" length	EA	16	\$ 1.50	\$ 24	
14.09	Earthwork, backfill, native	CY	325	\$ -	\$ -	
14.10	Installation (labor & equipment)	EA	1	\$ 5,710	\$ 5,710	
15.00	Bar Apex (BA) ELJ	EA	3	\$ 26,500	\$ 79,500	
15.01	Earthwork, excavation, bulk	CY	1,050	\$ -	\$ -	
15.02	Rootwad log, 1.5' dia. 40' L Log, 4.5' dia. 3' L RW	EA	6	\$ 750	\$ 4,500	4
15.03	Rootwad log, 1.25' dia. 40' L Log, 3.75' dia. 2.5' L RW	EA	111	\$ 500	\$ 55,500	4
15.04	Slash and small woody debris	CY	45	\$ 30.0	\$ 1,350	
15.05	Galvanized steel wire rope, 1/2" dia., 6x19, EIPS, IWRC	LF	300	\$ 2.20	\$ 660	
15.06	Galvanized steel wire rope clips, 1/2" cap.	EA	72	\$ 4.00	\$ 288	
15.07	Galvanized steel staples, 3/8" x 4" length	EA	48	\$ 1.50	\$ 72	
15.08	Earthwork, backfill, native	CY	1050	\$ -	\$ -	
15.09	Installation (labor & equipment)	EA	3	\$ 5,710	\$ 17,130	

continued on next page

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Item No.	Work Item	Unit	Quantity	Unit Cost	Line Cost	Notes
16.00	Excavation of Pilot Channels	CY	505		\$ 7,575	
16.01	Cut B - Earthwork, excavation and reuse as ballast for structures	CY	100	\$ 15.0	\$ 1,500	
16.02	Cut C - Earthwork, excavation and reuse as ballast for structures	CY	65	\$ 15.0	\$ 975	
16.03	Cut D - Earthwork, excavation and reuse as ballast for structures	CY	70	\$ 15.0	\$ 1,050	
16.04	Cut E - Earthwork, excavation and reuse as ballast for structures	CY	270	\$ 15.0	\$ 4,050	
17.00	Spoils Pile Removal				\$ 5,000	
17.01	Removal of spoil material and year one gravel augmentation	CY	1,000	\$ 5.00	\$ 5,000	
18.00	Bridge Removal				\$ 30,000	
18.01	Removal of bridge and abutments	LS	1	\$ 30,000	\$ 30,000	
19.00	Care of Water Work				\$ 66,300	3
19.01	Fence, fish exclusion, temporary	EA	40	\$ 250	\$ 10,000	
19.02	Temporary flow diversion, native gravel berm	EA	13	\$ 1,500	\$ 19,500	
19.03	Fish rescue and recovery	EA	53	\$ 400	\$ 21,200	
19.04	Dewatering, pumping	EA	13	\$ 1,200	\$ 15,600	
20.00	Vegetation Restoration				\$ 976	
20.01	Selective planting, riparian enhancement	AC	0.2	\$ 5,000	\$ 976	
21.00	Gravel Augmentation Program				\$ 85,000	
21.01	Placement of approximately 500 cubic yards per year	YR	17.0	\$ 5,000	\$ 85,000	14
SUMMARY						
	Construction Subtotal				\$ 773,682	5
	Contingencies (10%)				\$ 77,400	6
	Columbia County sales tax (7.9%)				\$ 67,235	7
	Project Construction Total				\$ 918,318	8-13

Notes and abbreviations:

- Mobilization is assumed to be 8% of the pre-tax subtotal; Gravel Augmentation Program not included.
- Costs do not include traffic control plan or traffic control measures. It is assumed it will not be necessary.
- The extent of site preparation and TESC Measures along with requirements for care of water work will be defined by the permits.
- Rootwad and log pole lengths are for procurement purposes, all materials are cut to fit. It is assumed that material longer than what is required will but cut to fit and the excess used in other portions of the feature or structure.
- Construction subtotal includes mobilization.
- Contingencies account for site condition and cost (products, labor equipment) uncertainty.
- Sales tax is applied to the 'Construction Subtotal' and 'Contingencies'.
- Costs are in 2012 dollars.
- Survey work required for construction is not included in this opinion.
- Construction quality assurance oversight activities by the Engineer required for construction is not included in this opinion.
- Engineering design/permitting, legal, and administrative costs are not included in this opinion.
- Costs for maintaining project post-construction are not included in this opinion (e.g. irrigation and planting protection measures).
- In providing opinions of probable construction cost, the Client understands that the Consultant 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, expressed or implied that the bids or the negotiated cost of the Work will not vary from the Consultant's opinion of probable construction cost.
- Estimated annual maintenance activities. Unit cost based on anticipated equipment need and estimated volume of gravel placement, sourced from 2 locations. Unit cost does not include permitting or other administrative costs. Unit cost assumes minimal mobilization costs.

AC - Acre, CY - Cubic Yard, Dia. - Diameter, EA - Each, LF - Linear Foot, LS - Lump Sum, SY - Square Yard, YR - Year
LWD - Large Woody Debris Cap. - Capacity
ELJ - Engineered Log Jam RW - Rootwad