

PORT OF BELLINGHAM
ROUGH ORDER MAGNITUDE (ROM) 23-746
ESTIMATE SHEET (+/- 30%)

Project Title:	<u>Rail Connection to BST</u>	Date:	<u>12/26/2023</u>	Versions:	<u>1</u>
Project Funding:	<u>Grant</u>	By:	<u>Strand</u>	Check:	<u>Chapman</u>
Project Sponsor:	<u>Cress</u>	Address: 661 Cornwall Avenue, Bellingham, WA			
Location:	<u>ST</u>				
Urgency:					

Scope:

The scope generally consists of estimating both the cost to design and to construct a conceptual layout of new Rail road sidings and spurs that may serve existing and future tenants operations and restore rail potential at the Bellingham Shipping Terminal. Development of the ROM will assist in ongoing discussion with BNSF and other stakeholders.

The detail of the design was paid for through a Professional Services Contract (PSA) with the Civil Engineering Co. Freeland and Associates, and the detail was approved by representatives of BNSF. No further scoping or design modifications have been considered in the development of this updated ROM.

A factor of roughly 7% plus rounding up has been added to each bid item from the original design to account for a 1 year cost adjustment. Also

Construction Management and Engineering Design of grant funded projects can get more complicated and so the percentages of those items have been increased from the original estimate also.

Direct Costs

Sub-Total Construction			<u>7,696,953</u>
Contractor OH & P	22%		<u>1,693,330</u>
Tax	8.8%		<u>826,345</u>
Total Construction			<u>10,216,628</u>

In-Direct Costs

Engineering Design (Admin., Engineering, Survey, & Work Orders)	15%	<u>1,532,494</u>
Permitting	5%	<u>510,831</u>
Construction Management	15%	<u>1,532,494</u>
Total Design		<u>3,575,820</u>

Sub-Total Design / Construction		<u><u>13,792,447</u></u>
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Contingencies	30%	<u>4,137,734</u>
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GRAND TOTAL - ROUNDED (\$) **17,931,000**

Item #	Description	QTY	Unit	Unit Cost	Total
1	Mobilization	10%	of	\$ 6,997,230.00	699,723.00
2	Direct Construction Cost	1	LS	4,910,230.00	4,910,230.00
3	Auto Switch (5)	1	LS	375,000.00	375,000.00
4	Fuel Surcharge	1	LS	160,500.00	160,500.00
5	BNSF Work	1	LS	856,000.00	856,000.00
6	Subgrade	1	LS	\$ 695,500.00	695,500.00
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FREELAND
& ASSOCIATES
CIVIL ENGINEERS

220 West Champion Street
Suite 200
Bellingham, Washington
360.650.1408

May 12, 2022

Port of Bellingham
1801 Roeder Avenue
Bellingham, WA 98225

Attention: Alec Strand

Subject: Bellingham Shipping Terminal
Rail Spur Cost Analysis

Dear Alec:

Please find enclosed our project cost estimate for the proposed Bellingham Shipping Terminal rail spurs. The estimate was prepared with the technical support of Western Refinery Services and GeoEngineer's Inc.

Sincerely Yours,
Freeland and Associates, Inc.

Tony Freeland

Tony Freeland, P.E.

Encl: Western Refinery Services Direct Cost Report
Port of Bellingham Site Plan
Freeland & Associates, Inc. Engineer's Estimate

Direct Cost Report

Activity Resource	Desc	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub- Contract	Total
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BID ITEM = 50 Land Item SCHEDULE: 1 100
Description = INSTALL SUBBALLAST Unit = TON Takeoff Quan: 6,960.000 Engr Quan: 6,960.000

100 PURCHASE MATERIAL Quan: 6,960.00 TON Hrs/Shft: 10.00 Cal: 50A WC: NONE

2RRMBALL300	Subballast@108.8%	1.10	7,656.00 TN	25.000	208,243					208,243
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200 INSTALL SUBBALLAST Quan: 6,960.00 TON Hrs/Shft: 10.00 Cal: 50A WC: NONE

<u>TW005</u>	INSTALL BOTTOM BALLAST CREW	139.20 CH	Eff: 100.00	Prod: 500.0000 US	Lab Pcs:	5.00	Eqp Pcs:	4.00
8CP60	60" SM DRUM VIB ROLL	1.00 139.20 HR		36.473		5,524		5,524
8DZ6	D6 DOZER	1.00 139.20 HR		66.046		10,003		10,003
8T250HRT	FORD F250 HI RAIL TRA	1.00 153.12 HR		19.768		3,027		3,027
8TWTR4	4000 GAL WTR TRUCK	1.00 139.20 HR		43.291		6,556		6,556
LAGEN	General	1.00 139.20 MH *		73.820	10,276			10,276
OP330	CAT330	1.00 139.20 MH *		97.840	13,619			13,619
OPD6	CAT D6	1.00 139.20 MH *		98.209	13,671			13,671
OPFORE	Operator Foreman	1.00 153.12 MH *		103.158	15,796			15,796
TMWATER	Water Truck	1.00 139.20 MH *		51.942	7,230			7,230
\$85,701.48	0.1020 MH/TON	709.92 MH		[5.432]	60,592	25,110		85,701
50.0000 Units/Hr	500.0000 Un/Shift *	9.8039 Unit/MH		8.71		3.61		12.31

=====> **Item Totals: 50 - INSTALL SUBBALLAST**
 \$293,944.68 0.1020 MH/TON 709.92 MH [5.432] 60,592 208,243 25,110 **293,945**
 42.233 6960 TON 8.71 29.92 3.61 42.23

BID ITEM = 100 Land Item SCHEDULE: 1 100
Description = CONSTRUCT TRACK Unit = TF Takeoff Quan: 5,385.000 Engr Quan: 5,385.000

111000 PURCHASE MATERIAL Quan: 5,385.00 TF Hrs/Shft: 8.00 WC: NONE

2RRMBALL100	#6Ballast@108.8%	1.10	8,888.00 TN	25.000	241,754			241,754
2RRMRail100	RAIL-NEW 115RE-@108.8	1.02	210.37 TN	1,600.000	366,212			366,212
2RRMTIES100	STD CONC TIES I@108.8	1.02	2,746.35 EA	140.000	418,324			418,324
3RAIL100	Rail Saw	1.00 1.00 EA		6,000.000		6,000		6,000
3RAIL120	Rail Drill	1.00 1.00 EA		7,500.000		7,500		7,500
\$1,039,789.73				[]	1,026,290	13,500		1,039,790
					190.58	2.51		193.09

111005 UNLOAD & STOCKPILE RAIL Quan: 10,770.00 LF Hrs/Shft: 8.00 WC: NONE

NEED TO ADD OUTSIDE TRUCKING

<u>TW001</u>	UNLOAD/STOCKPILE RAIL CREW	13.80 CH	Eff: 100.00	Prod: 6,240.0000 US	Lab Pcs:	7.00	Eqp Pcs:	3.00
8RR125	EXCAVATOR W/RAIL JI	2.00 27.62 HR		84.318		2,329		2,329
8T250HRT	FORD F250 HI RAIL TRA	1.00 15.53 HR		19.768		307		307
LAGEN	General	4.00 55.23 MH *		40.540	2,239			2,239
LALAB4	Laborer Foreman	1.00 13.81 MH *		45.190	624			624
OP330	CAT330	2.00 27.62 MH *		54.840	1,515			1,515
\$7,013.58	0.0089 MH/LF	96.66 MH		[0.406]	4,378	2,636		7,014
780.4348 Units/Hr	6,243.4783 Un/Shift *	111.4215 Unit/MH		0.41		0.24		0.65

111010 UNLOAD & STOCKPILE TIES Quan: 2,746.00 EA Hrs/Shft: 10.00 Cal: 50A WC: NONE

MAY NEED TO ADD OUTSIDE TRUCKING

<u>TW002</u>	UNLOAD/STOCKPILE TIE CREW	50.85 CH	Eff: 100.00	Prod: 540.0006 US	Lab Pcs:	4.00	Eqp Pcs:	2.00
8FL15W	FORKLIFT (15K) - WARE	1.00 50.85 HR		32.508		1,798		1,798
8T250HRT	FORD F250 HI RAIL TRA	1.00 55.94 HR		19.768		1,106		1,106

Direct Cost Report

Activity Resource	Desc	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub- Contract	Total
BID ITEM = 100										
Description =	CONSTRUCT TRACK		Land Item Unit =	SCHEDULE: 1 TF	100 Takeoff Quan:		5,385.000	Engr Quan:		5,385.000
LAGEN	General	2.00	101.70 MH *	73.820	7,508					7,508
OPFORE	Operator Foreman	1.00	55.94 MH *	103.158	5,771					5,771
OPFORK	Forklift	1.00	50.85 MH *	97.840	4,975					4,975
\$21,157.67		0.0759 MH/EA	208.49 MH	[4.091]	18,253			2,904		21,158
54.0020	Units/Hr	540.0197 Un/Shift	* 13.1709 Unit/MH		6.65			1.06		7.70

111015 WELD RAIL Quan: 135.00 EA Hrs/Shft: 10.00 Cal: 50A WC: NONE

<u>TW003</u>	RAIL WELDING CREW		33.75 CH	Eff: 100.00	Prod: 40.0000 US	Lab Pcs:	7.00	Eqp Pcs:	4.00
4RRUT01	Ultrasonic Weld Testing	1.00	135.00 EA		35.000			4,725	4,725
4RRWELD01	Flash Butt Weld Mobilizatio	1.00	1.00 EA		7,500.000			7,500	7,500
4RRWELD02	Flash Butt Weld Sub	1.00	135.00 EA		200.000			27,000	27,000
4RRWELD04	Flash Butt Weld Fuel	1.00	4.00 DAY		400.000			1,600	1,600
4RRWELD05	Weld Qualification Testing	1.00	1.00 LS		25,000.000			25,000	25,000
8RR115	EXCAVATOR W/TIE JIG (	1.00	33.75 HR		93.977			3,172	3,172
8RR75	SPEED SWING	1.00	33.75 HR		65.427			2,208	2,208
8T250HRT	FORD F250 HI RAIL TRA	2.00	70.88 HR		19.768			1,401	1,401
LAGEN	General	4.00	135.00 MH *		73.820	9,966			9,966
OP330	CAT330	1.00	33.75 MH *		97.841	3,302			3,302
OPFORE	Operator Foreman	1.00	37.13 MH *		103.158	3,830			3,830
OPSPEED	Speed Swing	1.00	33.75 MH *		97.841	3,302			3,302
\$93,006.27		1.7750 MH/EA	239.63 MH	[92.612]	20,400			6,781	65,825
4.0000	Units/Hr	40.0000 Un/Shift	* 0.5634 Unit/MH		151.11			50.23	487.59

111020 L/T/D CWR TO GRADE Quan: 5,385.00 TF Hrs/Shft: 10.00 Cal: 50A WC: NONE

<u>TW004</u>	L/T/D RAIL CREW		10.00 CH	Eff: 100.00	Prod: 5,385.0000 US	Lab Pcs:	7.00	Eqp Pcs:	5.00
8RR110	CWR MINI-TRAIN	1.00	10.00 HR		59.536			595	595
8RR75	SPEED SWING	2.00	20.00 HR		65.427			1,309	1,309
8T250HRT	FORD F250 HI RAIL TRA	2.00	21.00 HR		19.768			415	415
LAGEN	General	4.00	40.00 MH *		73.821	2,953			2,953
LALAB4	Laborer Foreman	1.00	10.00 MH *		79.735	797			797
OPSPEED	Speed Swing	2.00	20.00 MH *		97.840	1,957			1,957
\$8,025.99		0.0129 MH/TF	70.00 MH	[0.648]	5,707			2,319	8,026
538.5000	Units/Hr	5,385.0000 Un/Shift	* 76.9286 Unit/MH		1.06			0.43	1.49

111025 INSTALL BOTTOM BALLAST Quan: 4,040.00 TON Hrs/Shft: 10.00 Cal: 50A WC: NONE

<u>TW005</u>	INSTALL BOTTOM BALLAST CREW	101.00	CH	Eff: 100.00	Prod: 400.0000 US	Lab Pcs:	5.00	Eqp Pcs:	4.00
8CP60	60" SM DRUM VIB ROLL	1.00	101.00 HR		36.473			4,008	4,008
8DZ6	D6 DOZER	1.00	101.00 HR		66.046			7,258	7,258
8T250HRT	FORD F250 HI RAIL TRA	1.00	111.10 HR		19.768			2,196	2,196
8TWTR4	4000 GAL WTR TRUCK	1.00	101.00 HR		43.291			4,757	4,757
LAGEN	General	1.00	101.00 MH *		73.820	7,456			7,456
OP330	CAT330	1.00	101.00 MH *		97.840	9,882			9,882
OPD6	CAT D6	1.00	101.00 MH *		98.209	9,919			9,919
OPFORE	Operator Foreman	1.00	111.10 MH *		103.158	11,461			11,461
TMWATER	Water Truck	1.00	101.00 MH *		51.942	5,246			5,246
\$62,182.82		0.1275 MH/TON	515.10 MH	[6.79]	43,964			18,219	62,183
40.0000	Units/Hr	400.0000 Un/Shift	* 7.8431 Unit/MH		10.88			4.51	15.39

111030 L/T & DISTRIBUTE TIES Quan: 2,693.00 EA Hrs/Shft: 10.00 Cal: 50A WC: NONE

<u>TW006</u>	L/T & DISTRIBUTE CROSSTIES		44.88 CH	Eff: 100.00	Prod: 600.0004 US	Lab Pcs:	7.00	Eqp Pcs:	6.00
8FL15W	FORKLIFT (15K) - WARE	1.00	44.88 HR		32.508			1,587	1,587
8L966	966 LOADER	1.00	44.88 HR		68.736			3,356	3,356
8T250HRT	FORD F250 HI RAIL TRA	2.00	94.25 HR		19.768			1,863	1,863
8TTRANSFULL	OR MANNED LOWBOY (	2.00	89.77 HR		150.000			14,650	14,650
LAGEN	General	4.00	179.53 MH *		73.820	13,253			13,253

Direct Cost Report

Activity	Desc	Quantity	Unit	Unit	Perm	Constr	Equip	Sub-	Total
Resource		Pcs		Cost	Labor	Material	Matl/Exp	Ment Contract	
BID ITEM = 100									
Description =	CONSTRUCT TRACK		Land Item	SCHEDULE: 1 100					
			Unit =	TF	Takeoff	Quan:	5,385.000	Engr Quan:	5,385.000
OP966	CAT966	1.00	44.88 MH *	97.840	4,391				4,391
OPFORE	Operator Foreman	1.00	49.37 MH *	103.158	5,093				5,093
OPFORK	Forklift	1.00	44.88 MH *	97.840	4,391				4,391
\$48,585.27	0.1183 MH/EA		318.66 MH	[6.174]	27,128		21,457		48,585
60.0045	Units/Hr	600.0446	Un/Shift *	8.4510	Unit/MH	10.07	7.97		18.04

111035 BED CROSSTIES
Quan: 2,693.00 EA Hrs/Shft: 10.00 Cal: 50A WC: NONE

<u>TW024</u>	BED CROSSTIES		44.88 CH	Eff: 100.00	Prod: 600.0004 US	Lab Pcs:	3.00	Eqp Pcs:	2.00
8RR115	EXCAVATOR W/TIE JIG (	1.00	44.88 HR		93.977		4,218		4,218
8T250HRT	FORD F250 HI RAIL TRA	1.00	49.37 HR		19.768		976		976
LAGEN	General	1.00	44.88 MH *		73.821	3,313			3,313
LALAB4	Laborer Foreman	1.00	44.88 MH *		79.736	3,579			3,579
OP330	CAT330	1.00	44.88 MH *		97.840	4,391			4,391
\$16,476.28	0.0499 MH/EA		134.64 MH	[2.577]	11,283		5,194		16,476
60.0045	Units/Hr	600.0446	Un/Shift *	20.0015	Unit/MH	4.19	1.93		6.12

111040 SET CWR ON TIES & CLIP
Quan: 5,385.00 TF Hrs/Shft: 10.00 Cal: 50A WC: NONE

<u>TW007</u>	SET RAIL ON TIE & CLIP CREW		38.46 CH	Eff: 100.00	Prod: 1,400.0000 US	Lab Pcs:	10.00	Eqp Pcs:	3.00
8RR75	SPEED SWING	1.00	38.46 HR		65.427		2,516		2,516
8T250HRT	FORD F250 HI RAIL TRA	2.00	80.78 HR		19.768		1,597		1,597
LAGEN	General	8.00	307.71 MH *		73.820	22,715			22,715
LALAB4	Laborer Foreman	1.00	38.46 MH *		79.736	3,067			3,067
OPSPED	Speed Swing	1.00	38.46 MH *		97.840	3,763			3,763
\$33,658.03	0.0714 MH/TF		384.63 MH	[3.334]	29,545		4,113		33,658
140.0156	Units/Hr	1,400.1560	Un/Shift *	14.0005	Unit/MH	5.49	0.76		6.25

111045 INSTALL TOP BALLAST
Quan: 4,040.00 TON Hrs/Shft: 8.00 WC: NONE

<u>TW008</u>	INSTALL TOP BALLAST CREW		64.64 CH	Eff: 100.00	Prod: 500.0000 US	Lab Pcs:	4.00	Eqp Pcs:	4.00
8L966	966 LOADER	1.00	64.64 HR		68.736		4,834		4,834
8RR85	HI-RAIL DUMP TRUCK (	1.00	64.64 HR		57.473		3,715		3,715
8T250HRT	FORD F250 HI RAIL TRA	1.00	72.72 HR		19.768		1,438		1,438
8TWTR4	4000 GAL WTR TRUCK	1.00	64.64 HR		43.291		3,045		3,045
LAGEN	General	1.00	64.64 MH *		40.540	2,621			2,621
OP966	CAT966	1.00	64.64 MH *		54.840	3,545			3,545
OPFORE	Operator Foreman	1.00	72.72 MH *		57.130	4,154			4,154
TMDUMP	Hi-Rail Dump Truck	1.00	64.64 MH *		36.050	2,330			2,330
\$25,681.31	0.0660 MH/TON		266.64 MH	[3.131]	12,650		13,031		25,681
62.5000	Units/Hr	500.0000	Un/Shift *	15.1515	Unit/MH	3.13	3.23		6.36

111050 SURFACE/LINE/DRESS TRACK
Quan: 5,385.00 TF Hrs/Shft: 10.00 Cal: 50A WC: NONE

<u>TW009</u>	S/L/D TRACK CREW		53.85 CH	Eff: 100.00	Prod: 1,000.0000 US	Lab Pcs:	3.00	Eqp Pcs:	3.00
8RR10	MARK IV TAMPER	1.00	53.85 HR		144.073		7,758		7,758
8RR60	BALLAST REGULATOR	1.00	53.85 HR		69.436		3,739		3,739
8T250HRT	FORD F250 HI RAIL TRA	1.00	59.24 HR		19.768		1,171		1,171
OPFORE	Operator Foreman	1.00	59.24 MH *		103.158	6,111			6,111
OPREG	RR Regulator	1.00	53.85 MH *		98.209	5,289			5,289
OPTAMPER	RR Tamper	1.00	53.85 MH *		98.209	5,289			5,289
\$29,356.70	0.0310 MH/TF		166.94 MH	[1.927]	16,688		12,668		29,357
100.0000	Units/Hr	1,000.0000	Un/Shift *	32.2571	Unit/MH	3.10	2.35		5.45

111055 STRESS & RECLIP TRACK
Quan: 5,385.00 TF Hrs/Shft: 10.00 Cal: 50A WC: NONE

<u>TW010</u>	STRESS & RECLIP TRACK CREW		38.46 CH	Eff: 100.00	Prod: 1,400.0000 US	Lab Pcs:	10.00	Eqp Pcs:	5.00
8RR70	RAIL HEATER/VIBRATO	1.00	38.46 HR		76.414		2,939		2,939
8RR95	CLIP MACHINE	2.00	76.93 HR		30.177		2,322		2,322

Direct Cost Report

Activity Resource	Desc	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub- Contract	Total
BID ITEM = 100										
Description =	CONSTRUCT TRACK			Land Item Unit =	SCHEDULE: 1 TF	100 Takeoff Quan:	5,385.000	Engr Quan:		5,385.000
8T250HRT	FORD F250 HI RAIL TRA	2.00	80.78 HR		19.768			1,597		1,597
LAGEN	General	6.00	230.79 MH *		73.820	17,037				17,037
LALAB4	Laborer Foreman	1.00	38.46 MH *		79.736	3,067				3,067
OPCLIP	Clip Machine	2.00	76.93 MH *		97.840	7,527				7,527
OPHEAT	Rail Heater	1.00	38.46 MH *		98.209	3,777				3,777
\$38,264.84	0.0714 MH/TF		384.64 MH		[3.561]	31,408		6,857		38,265
140.0156 Units/Hr	1,400.1560 Un/Shift	*	14.0001 Unit/MH			5.83		1.27		7.11

111060 CLOSURE WELDS **Quan: 10.00 EA Hrs/Shft: 10.00 Cal: 50A WC: NONE**

<u>TW011</u>	FIELD WELD CREW		25.00 CH	Eff: 100.00	Prod:	4.0000 US	Lab Pcs:	3.00	Eqp Pcs:	1.00
2RRMMISC100	Field Weld Kits@108.8%	1.03	10.30 EA		115.000		1,289			1,289
3RAIL160	Field Weld Setups	1.00	1.00 EA		25,000.000		25,000			25,000
4RRUT01	Ultrasonic Weld Testing	1.03	10.30 EA		35.000				361	361
8RR90	HI RAIL WELDERS TRU	1.00	25.00 HR		37.248			931		931
LAGEN	General	2.00	50.00 MH *		73.820	3,691				3,691
LALAB4	Laborer Foreman	1.00	25.00 MH *		79.736	1,993				1,993
\$33,264.87	7.5000 MH/EA		75.00 MH		[347.243]	5,684	1,289	25,000	931	361
0.4000 Units/Hr	4.0000 Un/Shift	*	0.1333 Unit/MH			568.44	128.87	2,500.00	93.12	36.05

===== **Item Totals: 100 - CONSTRUCT TRACK**

\$1,456,463.36	0.5312 MH/TF		2,861.03 MH		[27.155]	227,088	1,027,578	38,500	97,111	66,186	1,456,463
270.467	5385 TF					42.17	190.82	7.15	18.03	12.29	270.47

BID ITEM = 200

Description =	CONSTRUCT TURNOUTS			Land Item Unit =	SCHEDULE: 1 EA	100 Takeoff Quan:	5.000	Engr Quan:		5.000
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112426 BAL GENERIC T/O - PURCHASE MATERIAL **Quan: 5.00 EA Hrs/Shft: 8.00 WC: NONE**

2RRMBALL100	#6Ballast@108.8%	1.10	1,540.00 TN		25.000		41,888			41,888
2RRMSPEC320	#11 - CONC. TIE@108.8%	1.00	5.00 EA		100,000.000		544,000			544,000
\$585,888.00					[]		585,888			585,888
							117,177.60			117,177.60

112428 BAL GENERIC T/O - CONSTRUCT **Quan: 5.00 EA Hrs/Shft: 8.00 WC: NONE**

<u>TW012</u>	CONSTRUCT TURNOUT CREW		80.00 CH	Eff: 100.00	Prod:	2.0000 SU	Lab Pcs:	8.00	Eqp Pcs:	3.00
8RR80	PRENTICE LOADER	1.00	80.00 HR		79.000			6,320		6,320
8T250HRT	FORD F250 HI RAIL TRA	2.00	170.00 HR		19.768			3,361		3,361
LAGEN	General	6.00	480.00 MH *		40.540	19,459				19,459
LALAB4	Laborer Foreman	1.00	80.00 MH *		45.190	3,615				3,615
OPPRENTICE	Prentice Loader	1.00	80.00 MH *		54.840	4,387				4,387
\$37,142.16	128.0000 MH/EA		640.00 MH		[5492.32]	27,462		9,681		37,142
0.0625 Units/Hr	0.5000 Un/Shift		0.0078 Unit/MH			5,492.32		1,936.11		7,428.43

112430 BAL GENERIC T/O -BALLAST, SURFACE/LINE/D **Quan: 5.00 EA Hrs/Shft: 8.00 WC: NONE**

<u>TW013</u>	BALLAST, S/L/D TURNOUT CREW		40.00 CH	Eff: 100.00	Prod:	1.0000 SU	Lab Pcs:	12.00	Eqp Pcs:	6.00
8L966	966 LOADER	1.00	40.00 HR		68.736			2,991		2,991
8RR10	MARK IV TAMPER	1.00	40.00 HR		144.073			5,763		5,763
8RR60	BALLAST REGULATOR	1.00	40.00 HR		69.436			2,777		2,777
8RR85	HI-RAIL DUMP TRUCK (	1.00	40.00 HR		57.473			2,299		2,299
8T250HRT	FORD F250 HI RAIL TRA	2.00	85.00 HR		19.768			1,680		1,680
LAGEN	General	6.00	240.00 MH *		40.540	9,730				9,730
LALAB4	Laborer Foreman	1.00	40.00 MH *		45.190	1,808				1,808
OP966	CAT966	1.00	40.00 MH *		54.840	2,194				2,194

Direct Cost Report

Activity Resource	Desc	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub- Contract	Total
BID ITEM = 200										
Description =	CONSTRUCT TURNOUTS		Land Item Unit =	SCHEDULE: 1 EA	100 Takeoff Quan:		5.000	Engr Quan:		5.000
OPSPEED	Speed Swing	1.00	40.00 MH *	54.840	2,194					2,194
OPSTAB	RR Stabilizer	1.00	40.00 MH *	55.130	2,205					2,205
OPTAMPER	RR Tamper	1.00	40.00 MH *	55.130	2,205					2,205
TMDUMP	Hi-Rail Dump Truck	1.00	40.00 MH *	36.050	1,442					1,442
\$37,287.74	96.0000 MH/EA		480.00 MH	[4355.36]	21,777			15,511		37,288
0.1250 Units/Hr	1.0000 Un/Shift		0.0104 Unit/MH		4,355.36			3,102.19		7,457.55

112432	BAL GENERIC T/O - FIELD WELDS	Quan:	50.00 EA	Hrs/Shft:	8.00	WC: NONE				
<u>TW011</u>	FIELD WELD CREW	100.00 CH	Eff: 100.00	Prod:	4.0000 US	Lab Pcs:	3.00	Eqp Pcs:	1.00	
2RRMMISC100	Field Weld Kits@108.8%	1.03	51.50 EA	115.000		6,444				6,444
3RAIL300	UT Field Welds	1.03	51.50 EA	35.000			1,803			1,803
8RR90	HI RAIL WELDERS TRU	1.00	100.00 HR	37.248				3,725		3,725
LAGEN	General	2.00	200.00 MH *	40.540	8,108					8,108
LALAB4	Laborer Foreman	1.00	100.00 MH *	45.190	4,519					4,519
\$24,597.98	6.0000 MH/EA		300.00 MH	[252.54]	12,627	6,444	1,803	3,725		24,598
0.5000 Units/Hr	4.0000 Un/Shift	*	0.1667 Unit/MH		252.54	128.87	36.05	74.50		491.96
===== Item Totals: 200 - CONSTRUCT TURNOUTS										
\$684,915.88	284.0000 MH/EA		1,420.00 MH	[12373.08]	61,865	592,332	1,803	28,916		684,916
136,983.176	5 EA				12,373.08	118,466.34	360.50	5,783.26		136,983.18

BID ITEM = 300										
Description =	INSTALL BUMPERS		Land Item Unit =	SCHEDULE: 1 EA	100 Takeoff Quan:		3.000	Engr Quan:		3.000
150100105	BUMPING POST - FURNISH & INSTALL BUMPER	Quan:	3.00 EA	Hrs/Shft:	10.00	Cal: 50A	WC: NONE			
<u>TW020</u>	BUMPER CREW	30.00 CH	Eff: 100.00	Prod:	1.0000 US	Lab Pcs:	6.00	Eqp Pcs:	2.00	
2RRMMISC200	Standard Bumpin@108.8%	1.00	3.00 EA	7,000.000		22,848				22,848
8RR80	PRENTICE LOADER	1.00	30.00 HR	79.000				2,370		2,370
8T250HRT	FORD F250 HI RAIL TRA	1.00	33.00 HR	19.768				652		652
LAGEN	General	4.00	120.00 MH *	73.821	8,858					8,858
LALAB4	Laborer Foreman	1.00	30.00 MH *	79.736	2,392					2,392
OPPRENTICE	Prentice Loader	1.00	30.00 MH *	97.840	2,935					2,935
\$40,056.07	60.0000 MH/EA		180.00 MH	[2884.09]	14,186	22,848		3,022		40,056
0.1000 Units/Hr	1.0000 Un/Shift	*	0.0167 Unit/MH		4,728.58	7,616.00		1,007.45		13,352.02
===== Item Totals: 300 - INSTALL BUMPERS										
\$40,056.07	60.0000 MH/EA		180.00 MH	[2884.09]	14,186	22,848		3,022		40,056
13,352.023	3 EA				4,728.58	7,616.00		1,007.45		13,352.02

\$2,475,379.99 * Report Totals ***** 5,170.95 MH 363,731 1,851,001 40,303 154,159 66,186 **2,475,380**

>>> indicates Non Additive Activity

-----Report Notes:-----

The estimate was prepared with TAKEOFF Quantities.

This report shows TAKEOFF Quantities with the resources.

WARNING!

The estimate has item(s) with no burden because there is no burden table assigned in Estimate Information or Labor Setup.

Direct Cost Report

Activity Resource	Desc	Pcs	Quantity Unit	Unit Cost	Labor	Perm Material	Constr Matl/Exp	Equip Ment	Sub- Contract	Total
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BID ITEM = **300** Land Item SCHEDULE: 1 100
 Description = INSTALL BUMPERS Unit = EA Takeoff Quan: 3.000 Engr Quan: 3.000
 Bid Date: Owner: Engineering Firm:
 Estimator-In-Charge:

JOB NOTES

Estimate created on: 06/24/2020 by User#: 19 - John Douglas
 Source estimate used: L:\HEAVYBID\DENVER\EST\ESTMAST

* on units of MH indicate average labor unit cost was used rather than base rate.

[] in the Unit Cost Column = Labor Unit Cost Without Labor Burdens

In equipment resources, rent % and EOE % not = 100% are represented as XXX%YYY where XXX=Rent% and YYY=EOE%

-----Calendar Codes-----

402 FIVE 8-HR SHIFTS - AM/PM
 40A FIVE 8-HR SHIFTS - DAY
 40B FIVE 8-HR SHIFTS - NIGHT
 502 FIVE 10-HR SHIFTS - AM/PM
 50A FIVE 10-HR SHIFTS - DAY
 50P FIVE 10-HR SHIFTS - NIGHT
 602 SIX 10-HR SHIFTS - AM/PM
 60A SIX 10-HR SHIFTS - DAY
 60B SIX 10-HR SHIFTS - NIGHT
 WE2 WEEKEND WORK - AM/PM (F-M)

**BELLINGHAM SHIPPING TERMINAL
RAIL SPUR ANALYSIS
ENGINEER'S ESTIMATE**

Construction

1.	Direct Construction Cost	\$	2,475,380.00
2.	Direct Construction Cost Inflation (15%)	\$	375,000.00
3.	Subgrade Preparation	\$	650,000.00
4.	Rail Switches	\$	110,000.00
5.	Bond Mobilization, Indirect Costs	\$	550,000.00
6.	Profit (15%)	\$	435,000.00
		<i>Subtotal</i>	\$ 4,595,380.00
		<i>WSST (8.8%)</i>	\$ 404,393.44
		<i>Contingency (30%)</i>	\$ 1,378,614.00
		Total	\$ 6,378,387.44

Planning, Design, and Permitting

1.	Topographic Surveying	\$	20,000.00
2.	Geotechnical Engineering	\$	40,000.00
3.	Civil Engineering	\$	150,000.00
4.	Shoreline Permit	\$	50,000.00
5.	SEPA Checklist	\$	30,000.00
		Total	\$ 290,000.00

Project Total	\$ 6,668,387.44
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**BELLINGHAM SHIPPING TERMINAL
RAIL SPUR ANALYSIS
ENGINEER'S ESTIMATE
w/ BNRR Review**

Construction

1.	Direct Construction Cost	\$	4,589,000.00
2.	Auto Switch (5)	\$	350,000.00
3.	Fuel Surcharge	\$	150,000.00
4.	BNSF Work	\$	800,000.00
5.	Bond Mobilization, Indirect Costs	\$	585,000.00
6.	Subgrade Preparation	\$	650,000.00
		<i>Subtotal</i>	\$ 7,124,000.00
		<i>WSST (8.8%)</i>	\$ 626,912.00
		<i>Profit (15%)</i>	\$ 1,162,636.80
		<i>Contingency (30%)</i>	\$ 2,674,064.64
		Total	\$ 11,587,613.44

Planning, Design, and Permitting

1.	Topographic Surveying	\$	50,000.00
2.	Geotechnical Engineering	\$	80,000.00
3.	Civil Engineering	\$	500,000.00
4.	Shoreline Permit	\$	300,000.00
5.	SEPA Checklist	\$	40,000.00
6.	Construction Administration	\$	200,000.00
		Total	\$ 1,170,000.00

Project Total \$ 12,757,613.44