

Springwater Missing Gap

Linking the Springwater on the Willamette Trail to the Springwater Corridor Trail June 2006



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Executive Summary

Presently, a gap exists between the Springwater on the Willamette Trail (ending at SE Umatilla) and the Three Bridges portion of the Springwater Corridor Trail (starting at SE 19th). The optimal alignment to connect the trail segments utilizes the same railroad corridor and provides a direct and seamless connection. A cost/alignment alternative was produced for the railroad corridor connection. The cost estimate does not include right-of-way acquisition costs or compensation for loss of future business due to the removal of sidings. Cost estimates for all intersections were developed by the Portland Office of Transportation (PDOT).

Recommended Alignment - Green line on maps \$3,090,721.41

The recommended alignment is a rail-with-trail shared-use 12 foot path on the south/west side of the mainline track from SE Umatilla to SE Marion, the track is shifted to the northeast to provide space for the trail. At SE 13th, the alignment moves to the north of the mainline track for its duration. Between SE 13th and 17th, the railroad track and spur line are shifted to the south to accommodate the trail. Between SE 17th and SE 19th, the multi-use path is a 10 foot wide segment on the north side of SE Ochoco. The cost estimate does not include the sum necessary to acquire an easement through private property between 11th and 13th.

Alternative Alignment - Light green lines on map \$3,084,095.46

An alternative is offered which incorporates trail deviations in order to minimize costs associated with moving power poles and easement acquisition. Deviations occur from SE Marion to 11th Street through Metro owned property and along 11th and Ochoco St. to avoid the acquisition of an easement on private property. In this scenario, no easement or property acquisition is required.



Section 1: SE Umatilla to SE Harney



Section 2: SE Harney to SE Clatsop







Looking north between SE Harney and SE Clatsop

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Looking south between SE Harney and SE Clatsop

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Section 3: SE Clatsop to SE Marion

OPEN SPACES



Looking north from SE Marion

Section 4: SE Marion to SE Linn





Looking north from SE Linn

Section 5: SE Linn to 11th



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Section 6: SE 11th to SE 13th





Looking southeast from SE 11th



Looking northwest from SE 13th



Section 7: SE 13th to Power Station







Looking east from SE 13th

Section 8: Power Station to SE 16th







Looking east from SE 15th Place



Looking west from SE 15th Place

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Section 9: SE 16th to SE 17th





11

Looking west from SE 17th

Looking east from SE 16th

Section 10: SE 17th to SE 19th



SE Ochoco and SE 17th Intersection Improvements



METRO PEOPLE PLACES OPEN SPACES

Figure 1: Improved intersection of SE Ochoco and SE 17th including: pedestrian activated signal, crossing arms, caution signs, ladder style crosswalks, shifting SE Ochoco and inclusion of a fence and remote control gated section of rail line.

Typical Section: Single Track







Typical Section: Double Track



Figure 3. Typical trail section: Power station to end of spur line



Appendix A: Cost Estimates

Capital	Cost Estimate - Alta Planning + Design							
		Quantity	Unit Cost	Unit	Quantity	Unit Cost	Unit	Tota
Section	1: SE Umatilla to SE Harney - 290' (+ 30' roadw	vay)						\$154,358.6
1	Clear and Grub	2840	\$0.15	SF	866		M2	\$426.0
2	Erosion Control Seeding	4640	\$0.44	SF	1415			\$2,041.6
3	Silt Fence	290	\$4.75	LF	88	\$12.12	M	\$1,377.5
4	Bio Bags	3	\$13.50	EA				\$40.5
5	Gravel Construction Entrance	3	\$1,000.00	EA				\$3,000.0
6	Adjusting Inlets	1	\$500.00	EA				\$500.0
	Asphalt Paving (excavation, base, shoulders)	4640	\$5.50	SF	312	\$24.22	M2	\$25,520.0
	100 MM Trench Drain	280	\$8.00	LF	85	\$35.23	M	\$2,240.0
21	4' High Chain Link Fence	270	\$10.00	LF	82	\$23.00	м	\$2,700.0
	Street Improvements - Umatilla & Harney 2001 =	\$2 Allowance						\$96,980.0
	Concrete block wall (~4' height)	640	\$30.00	SF				\$19,200.0
	Cut & Fill (150' x 3' x 4' / 2)	900	\$0.37	SF		\$10.00	CY	\$333.0
Section	2: SE Harney to SE Clatsop - 550'							\$73.029.7
	Clear and Grub	8800	\$0.15	SF	818		M2	\$1,320.0
	Erosion Control Seeding	8800	\$0.44	SF	818		m2	\$3,872.0
	Silt Fence	550	\$4.75	LF	168	\$12.12	M	\$2,612.5
	Asphalt Paving (excavation, base, shoulders)	8800	\$5.50	SF	818	\$24.22	M2	\$48,400.0
	100 MM Trench Drain	550	\$8.00	LF	168	\$35.23	M	\$4,400.0
	Mile Post Markers	1	\$750.00	EA	100	\$33.23	INI .	\$750.0
	4' High Chain Link Fence	540	\$10.00	LF	165	\$23.00	M	\$5,400.0
	Cut & Fill (530 X 8 X 8 / 2)	16960	\$0.37	SF	100	\$23.00	CY	\$6,275.2
40	Property or Easement Acquisition required	10900	\$0.51	ər		\$10.00	01	40,213.2
Contion	3: SE Clatsop to SE Marion - (300' + 50' roadw	avi						\$105,932.5
	Clear and Grub	4800	\$0.15	SF	1463			\$720.0
	Erosion Control Seeding	4800	\$0.15	SF	1463			\$720.0
	Silt Fence	300	\$4.75	LF	91	\$12.12	M	\$2,112.0
-	Bio Bags	300	\$13.50	EA	31	\$12.12	M	\$1,425.0
	Gravel Construction Entrance	3		EA	0			
			\$1,000.00		-	604.00	140	\$1,000.0
	Asphalt Paving (excavation, base, shoulders)	4800	\$5.50	SF	446	\$24.22	M2 M	\$26,400.0
	100 MM Trench Drain	340	\$8.00		104	\$35.23		\$2,720.0
	4' High Chain Link Fence	300	\$10.00	LF	91	\$23.00	м	\$3,000.0
	Street Improvements - Marion 2001 = \$18,800	Allowance						\$26,455.0
	RR crossing Improvements	50	\$375.00	LF				\$18,750.0
40	Berm removal (280 x 45 x 10 / 2)	63,000	\$0.37	SF		\$10.00	CY	\$23,310.0

Capital (Cost Estimate - Alta Planning + Design							
		Quantity	Unit Cost	Unit	Quantity	Unit Cost	Unit	Tota
Section	4: SE Marion to SE Linn - 310' (+100' roadway)	8 2 2						\$161.818.40
and the second designed	Clear and Grub	4960	\$0.15	SF	1512			\$744.00
2	Erosion Control Seeding	4960	\$0.44	SF	1512			\$2,182,40
	Silt Fence	310	\$4.75	LF	95	\$12.12	M	\$1,472.50
4	Bio Bags	3	\$13.50	EA	1			\$40.50
5	Gravel Construction Entrance	2	\$1,000.00	EA	1			\$2,000.00
10	Asphalt Paving (excavation, base, shoulders)	4960	\$5.50	SF	461	\$24.22	M2	\$27,280.00
21	4' High Chain Link Fence	300	\$10.00	LF	91	\$23.00	M	\$3,000.00
30	Street Improvements - SE Linn 2001 = \$88,900	Allowance					8	\$125,099.00
Section	5: SE Linn to SE 11th - 475 (+ 65' roadway)							\$86,379.10
1	Clear and Grub	7040	\$0.15	SF	2146			\$1,056.00
2	Erosion Control Seeding	7040	\$0.44	SF	2146			\$3,097.60
3	Silt Fence	540	\$4.75	LF	165	\$12.12	M	\$2,565.00
4	Bio Bags	3	\$13.50	EA	1			\$40.50
5	Gravel Construction Entrance	2	\$1,000.00	EA	1			\$2,000.00
6	Adjusting Inlets	1	\$500.00	EA				\$500.00
8	Relocate Wood Power Pole (#NA, 135)	2	\$4,000.00	EA				\$8,000.00
10	Asphalt Paving (excavation, base, shoulders)	7040	\$5.50	SF	655	\$24.22	M2	\$38,720.00
21	4' High Chain Link Fence	430	\$10.00	LF	131	\$23.00	M	\$4,300.00
30	Street Improvements - SE 11th 2001 = \$13,000	Allowance						\$18,291.00
42	Relocate Pole with Vault & Obstacle (#130)	1	\$2,809.00	EA				\$2,809.00
43	Relocate Pole - Other (#131)	1	\$3,000.00	EA				\$3,000.00
45	Trim Vegetation	Allowance	\$2,000.00					\$2,000.00
Section	6: SE 11th to SE 13th - 460' (+ 30' sidewalk & 5	0' roadway)		1 - 1 - 1				\$84,848.80
1	Clear and Grub	7520	\$0.15	SF	2293			\$1,128.00
2	Erosion Control Seeding	7520	\$0.44	SF	2293			\$3,308.80
3	Silt Fence	460	\$4.75	LF	140	\$12.12	M	\$2,185.00
4	Bio Bags	6	\$13.50	EA	2	1.000	2.1	\$81.00
5	Gravel Construction Entrance	2	\$1,000.00	EA	1			\$2,000.00
10	Asphalt Paving (excavation, base, shoulders)	7520	\$5.50	SF	699	\$24.22	M2	\$41,360.00
30	Street Improvements - SE 13th 2001 = 23,300	Allowance		5119.54				\$32,786.00
45	Trim Vegetation	Allowance	\$2,000.00					\$2,000.00

Capital Cost Estimate - Alta Planning + Design							
	Quantity	Unit Cost	Unit	Quantity	Unit Cost	Unit	Tota
Section 7: SE 13th to Power Station - 620'							\$114,745.80
2 Erosion Control Seeding	9840	\$0.44	SF	3000			\$4,329.60
3 Silt Fence	615	\$4.75	LF	188	\$12.12	M	\$2,921.25
5 Gravel Construction Entrance	1	\$1,000.00	EA	0			\$1,000.00
10 Asphalt Paving (excavation, base, shoulders)	9840	\$5.50	SF	915	\$24.22	M2	\$54,120.00
11 100 MM Trench Drain	615	\$8.00	LF	188	\$35.23	M	\$4,920.00
21 4' High Chain Link Fence	605	\$10.00	LF	184	\$23.00	M	\$6,050.00
34 Concrete block wall (2'6" height)	1360	\$30.00	SF				\$40,800.00
40 Berm removal (545 x 3 x 2 / 2)	1635	\$0.37	SF		\$10.00	CY	\$604.95
Section 8: Power Station to SE 16th - 390'							\$90,524.10
1 Clear and Grub	6240	\$0.15	SF	1902			\$936.00
2 Erosion Control Seeding	6240	\$0.44	SF	1902			\$2,745.60
3 Silt Fence	390	\$4,75	LF	119	\$12.12	M	\$1.852.50
5 Gravel Construction Entrance	1	\$1,000.00	EA	0	and the second	difference in the second secon	\$1,000.00
10 Asphalt Paving (excavation, base, shoulders)	6240	\$5.50	SF	580	\$24 22	M2	\$34,320.00
11 100 MM Trench Drain	390	\$8.00	LF	119	\$35.23	M	\$3,120.00
14 Mile Post Markers	1	\$750.00	EA	0			\$750.00
21 4' High Chain Link Fence	380	\$10.00	LF	116	\$23.00	M	\$3,800.00
31 Concrete Access Ramp	600	\$7.00	SF	56			\$4,200.00
34 Concrete Block Wall (360' x 3'6")	1260	\$30.00	SF				\$37,800.00
Section 9: SE 16th to SE 17th - 500' (+ 60' roadway)							\$279,926.50
1 Clear and Grub	8000	\$0,15	SF	2439			\$1,200.00
2 Erosion Control Seeding	8000	\$0.44	SF	2439			\$3,520.00
3 Silt Fence	490	\$4.75	LF	149	\$12.12	M	\$2,327.50
4 Bio Bags	6	\$13.50	EA	2			\$81.00
5 Gravel Construction Entrance	1	\$1,000.00	EA	0			\$1,000.00
10 Asphalt Paving (excavation, base, shoulders)	8000	\$5.50	SF	744	\$24.22	M2	\$44,000.00
11 100 MM Trench Drain	490	\$8.00	LF	149	\$35.23	M	\$3,920.00
13 Bollards	6	\$750.00	EA	2			\$4,500.00
16 Pavement Arrows	2	\$190.00	EA	1			\$380.00
17 Pavement Marking "Trail Xing"	3	\$500.00	EA	1		1000	\$1,500.00
21 4' High Chain Link Fence	490	\$10.00	LF	149	\$23.00	M	\$4,900.00
30 Street Improvements - SE 17th 2001 = \$143,620	1	\$143,620.00	EA	0		5	\$202,098.00
31 Concrete Access Ramp	600	7	SF	183			\$4,200.00
34 Concrete Block Wall (60' x 3'6")	210	\$30.00	SF				\$6,300.00

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Section 10: SE 177h to Three Bridges Connection - 470' (to 19 5 Gravel Construction Entrance 10 Asphalt Paving (excavation, base, shoulders) 13 Bollards 18 Pavement Line 19 Pavement Line Removal 21 4' High Chain Link Fence 27 Sawout Existing AC 28 Curb & Gutter 32 Shrub Plantings 33 Irigation 34 Concrete block wall (~2'6' height x 320') 46 Pedestrain Activated Signal 47 Ladder Style Crosswalk Markings 48 Caution Sign 51 Tree plantings with tree grate 52 Retaining wall removal 53 Sidewalk removal 54 Demo asphalt (5x450) 55 4'' Aggregate base Property acquisition required - 5424 sq ft	Quantity 1 1 2700 3 3 375 375 375 600 900 900 900 900 2850 2850 2850 2850 2850 11 1600 4 10	Unit Cost \$1,000.00 \$1,000.00 \$5,50 \$670.00 \$0.35 \$16.00 \$2,25 \$6.00 \$24.00 \$1,50 \$1,50 \$1,75 \$30.00 \$180.000.00 \$5.00	Unit EA SF EA LF LF LF LF SF LF SF SF SF	Quantity 0 251	Unit Cost \$24.22	M2	Tota \$365,543.7 \$1,000 0 \$14,850 0 \$2,010 0 \$262 5 \$131 2 \$9,600 0 \$2,025 0 \$51,600 0 \$4,050 0 \$21,600 0
5 Gravel Construction Entrance 10 Asphalt Paving (excavation, base, shoulders) 13 Bollards 18 Pavement Line 19 Pavement Line Removal 21 4' High Chain Link Fence 27 Sawcut Existing AC 24 Concrete Paving 26 Curb Removal 28 Curb & Gutter 29 Shrub Plantings 33 Irrigation 34 Concrete block wall (~216" height x 320') 46 Pedestrain Activated Signal 47 Ladder Style Crosswalk Markings 48 Caution Sign 51 Tree plantings with tree grate 52 Retaining wall removal 53 Sidewalk removal 54 Demo asphalt (5x450) 55 4" Aggregate base	1 2700 3 375 375 600 900 8600 900 900 2850 2850 2850 2850 832 1 1600 4	\$5.50 \$670.00 \$0.70 \$0.35 \$16.00 \$2.25 \$6.00 \$4.50 \$1.50 \$1.50 \$1.75 \$30.00 \$180.000.00 \$5.00	SF EA LF LF LF LF SF LF SF SF SF		\$24.22	M2	\$1,000.0 \$14,850.0 \$2,010.0 \$262.5 \$131.2 \$9,600.0 \$2,025.0 \$51,600.0 \$4,050.0 \$21,600.0
5 Gravel Construction Entrance 10 Asphalt Paving (excavation, base, shoulders) 13 Bollards 14 Pavement Line 19 Pavement Line Removal 21 4' High Chain Link Fence 27 Sawcut Existing AC 24 Concrete Paving 26 Curb Removal 27 Curb Removal 28 Curb & Gutter 29 Shrub Plantings 33 Irrigation 34 Concrete block wall (~216" height x 320') 46 Pedestrain Activated Signal 47 Ladder Style Crosswalk Markings 48 Caution Sign 51 Tree plantings with tree grate 52 Retaining will removal 53 Sidewalk removal 54 Demo asphalt (5x450) 55 4" Aggregate base	1 2700 3 375 375 600 900 8600 900 900 2850 2850 2850 2850 832 1 1600 4	\$5.50 \$670.00 \$0.70 \$0.35 \$16.00 \$2.25 \$6.00 \$4.50 \$1.50 \$1.50 \$1.75 \$30.00 \$180.000.00 \$5.00	SF EA LF LF LF LF SF LF SF SF SF		\$24.22	M2	\$1,000.0 \$14,850.0 \$2,010.0 \$262.0 \$131.3 \$9,600.0 \$2,025.0 \$51,600.0 \$4,050.0 \$21,600.0
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13 Bollards 18 Pavement Line 19 Pavement Line Removal 21 4' High Chain Link Fence 22 Sawcut Existing AC 24 Concrete Paving 26 Curb Removal 28 Curb Removal 29 Strub Plantings 31 Irrigation 34 Concrete block wall (~26° height x 320') 46 Pedestrain Activated Signal 47 Ladder Style Crosswalk Markings 48 Caution Sign 51 Tree plantings with tree grate 52 Retaining wall removal 53 Sidewalk removal 54 Demo asphalt (5x450) 55 4" Aggregate base	3 375 375 600 900 8600 900 900 900 2850 2850 2850 832 1 1600 4	\$670.00 \$0.70 \$0.35 \$16.00 \$2.25 \$6.00 \$4.50 \$24.00 \$1.50 \$1.50 \$1.75 \$30.00 \$180.000.00 \$5.00	EA LF LF LF SF LF LF SF SF SF	251	\$24 22	M2	\$2,010 (\$262 (\$131, \$9,600 (\$2,025 (\$51,600 (\$4,050 (\$21,600 (
18 Pavement Line 19 Pavement Line Removal 21 4' High Chain Link Fence 27 Sawcut Existing AC 24 Concrete Paving 26 Curb Removal 28 Curb Removal 29 Shrub Plantings 31 Imgation 32 Shrub Plantings 33 Imgation 34 Concrete block wall (~2*6" height x 320') 46 Pedestrain Activated Signal 47 Ladder Style Crosswalk Markings 48 Caution Sign 51 Tree plantings with tree grate 52 Retaining wall removal 53 Sidewalk removal 54 Demo asphalt (5x450) 55 4" Aggregate base	375 375 600 900 8600 900 900 2850 2850 2850 2850 1 1600 4	\$0.70 \$0.35 \$16.00 \$2.25 \$6.00 \$4.50 \$24.00 \$1.50 \$1.75 \$30.00 \$180,000.00 \$5.00	LF LF LF SF LF LF SF SF SF				\$262 (\$131. \$9,600 (\$2,025 (\$51,600 (\$4,050 (\$21,600 (
19 Pavement Line Removal 21 4' High Chain Link Fence 27 Sawcut Existing AC 24 Concrete Paving 26 Curb Removal 28 Curb Removal 29 Shrub Plantings 31 Irrigation 32 Shrub Plantings 33 Irrigation 34 Concrete block wall (~2'6' height x 320') 46 Pedestrain Activated Signal 47 Ladder Style Crosswalk Markings 48 Caution Sign 51 Tree plantings with tree grate 52 Retaining wall removal 53 Sidewalk removal 54 Demo asphalt (5x450) 55 4'' Aggregate base	375 600 900 8600 900 2850 2850 2850 832 1 1600 4	\$0.35 \$16.00 \$2.25 \$6.00 \$4.50 \$1.50 \$1.75 \$30.00 \$180,000.00 \$5.00	LF LF SF LF LF SF SF SF				\$131. \$9,600 \$2,025 \$51,600 \$4,050 \$2,050 \$2,050
21 4' High Chain Link Fence 27 Sawcut Existing AC 24 Concrete Paving 26 Curb Removal 27 Shrub Removal 28 Curb Removal 29 Curb & Gutter 30 Irrigation 33 Irrigation 34 Concrete block wall (~26' height x 320') 46 Pedestrain Activated Signal 47 Ladder Style Crosswalk Markings 48 Caution Sign 51 Tree plantings with tree grate 52 Retaining will removal 53 Sidewalk removal 54 Demo asphalt (5x450) 55 4'' Aggregate base	600 900 8600 900 2850 2850 832 1 1600 4	\$16.00 \$2.25 \$6.00 \$4.50 \$1.50 \$1.75 \$30.00 \$180.000.00 \$5.00	LF LF LF LF LF SF SF SF				\$9,600 \$2,025 \$51,600 \$4,050 \$2,1,600
27 Sawout Existing AC 24 Concrete Paving 26 Curb Removal 28 Curb & Gutter 32 Shrub Plantings 33 Irrigation 34 Concrete block wall (~26" height x 320') 46 Pedestrain Activated Signal 47 Ladder Style Crosswalk Markings 48 Caution Sign 51 Tree plantings with tree grate 52 Retaining wall removal 53 Sidewalk removal 54 Demo asphalt (5x450) 55 4" Aggregate base	900 8600 900 2850 2850 832 1 1600 4	\$2.25 \$6.00 \$4.50 \$1.50 \$1.75 \$30.00 \$180.000.00 \$5.00	LF SF LF LF SF SF SF				\$2,025 \$51,600 \$4,050 \$21,600
24 Concrete Paving 26 Curb Removal 28 Curb & Gutter 32 Shrub Plantings 33 Irrigation 34 Concrete block wall (~26" height x 320') 46 Pedestrain Activated Signal 47 Ladder Style Crosswalk Markings 48 Caution Sign 51 Tree plantings with tree grate 52 Retaining wall removal 53 Sidewalk removal 54 Demo asphalt (5x450) 55 4" Aggregate base	8600 900 2850 2850 832 1 1600 4	\$6.00 \$4.50 \$24.00 \$1.50 \$1.75 \$30.00 \$180.000.00 \$5.00	SF LF LF SF SF SF				\$51,600 \$4,050 \$21,600
26 Curb Removal 28 Curb & Gutter 32 Shrub Plantings 33 Irrigation 34 Concrete block wall (~26" height x 320') 46 Pedestrain Activated Signal 47 Ladder Style Crosswalk Markings 48 Caution Sign 51 Tree plantings with tree grate 52 Retaining wall removal 53 Sidewalk removal 54 Demo asphalt (5x450) 55 4" Aggregate base	900 900 2850 2850 832 1 1600 4	\$4.50 \$24.00 \$1.50 \$1.75 \$30.00 \$180.000.00 \$5.00	LF LF SF SF SF				\$4,050 \$21,600
28 Curb & Gutter 32 Shrub Plantings 33 Irrigation 34 Concrete block wall (~2%" height x 320") 46 Pedestrain Activated Signal 47 Ladder Style Crosswalk Markings 48 Caution Sign 51 Tree plantings with tree grate 52 Retaining wall removal 53 Sidewalk removal 54 Demo asphalt (5x450) 55 4" Aggregate base	900 2850 2850 832 1 1600 4	\$24.00 \$1.50 \$1.75 \$30.00 \$180.000.00 \$5.00	LF SF SF SF				\$21,600.
32 Shrub Plantings 33 Irrigation 34 Concrete block wall (~2'6" height x 320') 46 Pedestrain Activated Signal 47 Ladder Style Crosswalk Markings 48 Caution Sign 51 Tree plantings with tree grate 52 Retaining wall removal 53 Sidewalk removal 54 Demo asphalt (5x450) 55 4" Aggregate base	2850 2850 832 1 1600 4	\$1.50 \$1.75 \$30.00 \$180.000.00 \$5.00	SF SF SF				
33 Irrigation 34 Concrete block wall (~2'6" height x 320') 46 Pedestrain Activated Signal 47 Ladder Style Crosswalk Markings 48 Caution Sign 51 Tree plantings with tree grate 52 Retaining wall removal 53 Sidewalk removal 54 Demo asphalt (5x450) 55 4" Aggregate base	2850 832 1 1600 4	\$1.75 \$30.00 \$180.000.00 \$5.00	SF SF				
34 Concrete block wall (~216" height x 320') 46 Pedestrain Activated Signal 47 Ladder Style Crosswalk Markings 48 Caution Sign 51 Tree plantings with tree grate 52 Retaining wall removal 53 Sidewalk removal 54 Demo asphalt (5x450) 55 4" Aggregate base	832 1 1600 4	\$30.00 \$180,000.00 \$5.00	SF				\$4,275.0
46 Pedestrain Activated Signal 47 Ladder Style Crosswalk Markings 48 Caution Sign 51 Tree plantings with tree grate 52 Retaining wall removal 53 Sidewalk removal 54 Demo asphalt (5x450) 55 4" Aggregate base	1 1600 4	\$180,000 00 \$5.00					\$4,987.5
46 Pedestrain Activated Signal 47 Ladder Style Crosswalk Markings 48 Caution Sign 51 Tree plantings with tree grate 52 Retaining wall removal 53 Sidewalk removal 54 Demo asphalt (5x450) 55 4" Aggregate base	1 1600 4	\$180,000 00 \$5.00	100				\$24,960.0
47 Ladder Style Crosswalk Markings 48 Caution Sign 51 Tree plantings with tree grate 52 Retaining wall removal 53 Sidewalk removal 54 Demo asphalt (5x450) 55 4" Aggregate base	4	\$5.00	EA				\$180,000
48 Caution Sign 51 Tree plantings with tree grate 52 Retaining wall removal 53 Sidewalk removal 54 Demo asphalt (5x450) 55 4* Aggregate base			SF				\$8.000.0
51 Tree plantings with tree grate 52 Retaining wall removal 53 Sidewalk removal 54 Demo asphalt (5x450) 55 4" Aggregate base	10	\$200.00	EA				\$800.
52 Retaining wall removal 53 Sidewalk removal 54 Demo asphalt (5x450) 55 4" Aggregate base		\$2,200.00	EA				\$22,000
54 Demo asphalt (5x450) 55 4" Aggregate base	320	\$4.50	LF				\$1,440
55 4* Aggregate base	320	\$4.50	LF				\$1,440
	2250	\$0.85	SF				\$1,912
Property acquisition required - 5424 sq ft	8600	\$1.00	SF				\$8,600
	5424		SF				
Section 11: SE 19th (between Linn & Ochoco)							
Street Improvements (initial 2001 PDOT estimate adjuste	ed for inflation)						\$312,593.0
	147	3			Construct	tion Subtotal	\$1,829,700.
Additional Construction Costs							
Public Art (2%)				-			\$36,594
Flagging/Railroad shutdown (1%)							\$18,297
Construction Surveying (2%)							\$36,594 (
					Const	ruction Total	\$1,921,185.
Design Costs				-			
Parks (20%)							\$365,940.0
Metro (3%)							\$54.891
ODOT							\$50,000
Construction Management (10%)							\$182,970
				-			\$365.940
Contingency (20%)							\$305,940
Mobilization (5%)						ign Subtotal	\$1,111,226.
				- bb-	Des	Total	\$3,032,411
RR Track Removal and Movement						Subtotal	\$58,310

em No.	Description	Unit Cost/E	Unit	
1	Clear and Grub	\$0.15	LF	
2	Erosion Control Seeding	\$0.44	SF	
3	Silt Fence	\$4.75	LF	
4	Bio Bags	\$13.50	EA	
5	Gravel Construction Entrance	\$1,000.00	EA	
6	Adjusting Inlets	\$500.00	EA	
10	Asphalt Paving (excavation, base, shoulder	\$5.50	SF	
11	100 MM Trench Drain	\$8.00	LF	
12	Cast in Place 3'-5' High Retaining Wall	\$22.30	SF	
13	Bollards	\$670.00	EA	
14	Mile Post Markers	\$750.00	EA	
16	Pavement Arrows	\$190.00	EA	
17	Pavement Marking "Trail Xing"	\$500.00	EA	
18	Pavement Line	\$0.70		
19	Pavement Line Removal	\$0.35		
20	Stop Sign	\$250.00		
21	4' High Chain Link Fence	\$10.00		
22	Siding Line Removal	\$10.00		
23	Track Relocation	\$15.00		
24	Concrete Paving	\$15.00		
24	Curb Removal	\$4.50		
20	Sawcut Existing AC (assume 4" depth)	\$4.50	LF	
27	Curb &Gutter			
		\$24.00		
29	AC Patch	\$1.18	SF	
30	Street Improvements			
31	Concrete Access Ramp	\$7.00	SF	
32	Shrub Plantings	\$1.50		
33	Irrigation	\$1.75	SF	
34	Concrete Block Wall	\$30.00		
35	PT Wood Retaining Wall, 4x4 Posts	\$14.00		
36	Imported Top Soil	\$30.00		
37	Railroad Crossing Improvement	\$8.00	SF	
38	Tree Removal	\$4,000.00		
39	Spur Relocation	\$15.00		
40	Cut & Fill	\$10.00		
41	Relocate Pole with Vault	\$5,000.00		
42	Relocate Pole with Vault & Obstacle	\$6,000.00		
43	Relocate Pole (Other)	\$3,000.00		
44 45	Relocate Wood Tower	\$9,000.00 \$2,000.00		
45	Trim Vegetation		EA	
46	Pedestrain Activated Signal Ladder Style Crossing	1 \$500	EA	
47	Caution Sign	\$200	EA	
40	Construction Fencing	\$200	LF	
50	Remote Operated Gate	20000	EA	
51	Tree plantings with tree grate	\$2,200	EA	

Summary of Individual Costs

SPRINGWATER MISSING GAP - 2006

Pole #	Amt of Shift	In Street ROW	Cost	Out of Street ROW	Cost	Comments
Umatilla to Ha	amey					
202	2.4"	x	2,151.00		0.00	
291	2'1"	x	2,404.00		0.00	
tower	0	x	0.00		0.00	
239	2'1"	x	5,000.00		0.00	vault
Harney to Cla			0,000.00		0.00	1001
287	4'6"	X	1,948.00		0.00	
76	5'11"	x	4,000.00		0.00	
78	1'10"	x	6,000.00		0.00	vault
Clapsop to M			0,000,00		0.00	TOUL
tower	0		0.00	x	0.00	
0	0	x	0.00	•	0.00	old pole
Marion to Lin		<u>^</u>	0.00		0.00	ola pole
Manon to Lin 88	2'0"	x	5,000.00		0.00	vault
94	1'8"	2	0.00	х	1,880.00	
			0.00	x	2020.22	too close to tower to move
tower	0	~		~	0.00	
92	2'6"	X	3,405.00		0.00	vault
Linn to 11th	0101		0.00		0.000.00	
130	2'3"		0.00	x	2,809.00	
131	2'8"	7621	0.00	x	3,000.00	
133	2'8"	x	4,000.00	22.05	0.00	
0	~3'0"		0.00	×	4,000.00	no measurement assume 3' shift
135	3'5"		0.00	X	4,000.00	
11th to 13th						
137	0	X	0.00		0.00	no measurement ample space
0	0		0.00	х	0.00	too close to tower to move
tower	0		0.00	х	0.00	check distance to property line
139	0		0.00	х	0.00	v. difficult to move due to tower lines
140	0		0.00	x	0.00	
141	0		0.00	х	0.00	
8	0	x	0.00		0.00	non-issues
13th to power						
9898	3'6"	x	4,421.00		0.00	
2913	0	x	0.00		0.00	
923	ő	x	0.00		0.00	
924	o	x	0.00		0.00	
925	0	â	0.00		0.00	
tower	3'10"	Ŷ	5.000.00		0.00	
926	0	Ŷ	0.00		0.00	
Power Station	the second state of the se	^	0.00		0.00	
Power Station 927	0	x	0.00		0.00	
	1000					
tower	5'3"	×	5,000.00		0.00	
1590	0	X	0.00		0.00	
tower	6'0"	×	5,000.00		0.00	easement needed from private property
1602	0	X	0.00		0.00	
16th Ave to 1	and the second se					
932	0	x	0.00		0.00	
tower	0	х	0.00		0.00	
933	0	х	0.00		0.00	
934	0	х	0.00		0.00	
935	0	X	0.00		0.00	
		In Street	Section and the section of the	Out of Street	Carlos and the second	
Totals		ROW	\$53,329.00	ROW	\$15,689.00	

Summary of Power Poles

Note: Costs to relocate poles obtained from PGE