



Attachment B

TVWD Cost Share Calculations

TVWD Cost Shares - TBWSP with Federal Cost Share

Dam Costs (including 40' dam raise and seismic improvements)									
Seismic Portion									
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total	
Existing Scoggins Storage (AC/FT)	4000	5000	4500	500	16900	37000	-	67900	
Existing Contract %	7.46%	9.32%	8.39%	0.93%	23.52%	50.38%	0.00%	100.00%	
Cost (15% of \$556 million)	\$ 6,221,640	\$ 7,772,880	\$ 6,997,260	\$ 775,620	\$ 19,615,680	\$ 42,016,920	\$ -	\$ 83,400,000	
40' Expansion Portion									
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total	
Participant IGA Percent	3.77%	21.70%			31.13%		43.40%	100.00%	
Total Dam Cost					\$740,000,000				
Seismic Participation					(83,400,000)				
Federal Participation					(472,600,000)				
Local Share Dam Cost					\$184,000,000				
Participant Cost	\$ 6,936,800	\$ 39,928,000			\$ 57,279,200		\$ 79,856,000	\$ 184,000,000	
Seismic Participant Cost	\$ 6,221,640	\$ 7,772,880	\$ 6,997,260	\$ 775,620	\$ 19,615,680	\$ 42,016,920	\$ -	\$ 83,400,000	
Total Cost	\$ 13,158,440	\$ 47,700,880	\$ 6,997,260	\$ 775,620	\$ 76,894,880	\$ 42,016,920	\$ 79,856,000	\$ 267,400,000	
Cost Share	4.92%	17.84%	2.62%	0.29%	28.76%	15.71%	29.86%		

Raw Water Intake, Pump Station & Pipeline (\$250,875,000 with 50% cost to new raw water storage; 50% cost to treatment plant)									
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total	
Storage Component									
Storage Component Cost					\$125,437,500				
Participant Cost	\$ 4,728,994	\$ 27,219,938			\$ 39,048,694		\$ 54,439,875	\$ 125,437,500	
Treatment Component									
2050 PDD (MGD)	16.5	65.1	10.3				61.4	153.3	
Percentage of PDD	10.76%	42.47%	6.72%				40.05%	100.00%	
Treatment Component Cost					\$125,437,500				
Participant Cost	\$ 13,501,101	\$ 53,267,979	\$ 8,427,960				\$ 50,240,460	\$ 125,437,500	
Total Participant Cost	\$ 18,230,095	\$ 80,487,917	\$ 8,427,960	\$ -	\$ 39,048,694	\$ -	\$ 104,680,335	\$ 250,875,000	
Cost share	7.27%	32.08%	3.36%	0.00%	15.57%	0.00%	41.73%	100.00%	

Phase 1 Water Treatment Plant Expansion (40 MGD @ \$116,250,000)									
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total	
Current Treatment Capacity (MGD)	18.75	33.75	10.00				12.50	75.00	
2026 PDD (MGD)	12.60	48.80	6.70				48	116.10	
Surplus / (Deficit) (MGD)	6.15	(15.05)	3.30				(35.50)	(41.10)	
Deficit Only (MGD)		(15.05)					(35.50)	(50.55)	
Deficit Percentage		29.77%	0.00%				70.23%	100.00%	
Treatment Cost					\$116,250,000				
Participant Cost		\$ 34,612,246	\$ -				\$ 81,637,754	\$ 116,250,000	
Cost share	0.00%	29.77%	0.00%	0.00%	0.00%	0.00%	70.23%		

Phase 2 Water Treatment Plant Expansion (20 MGD @ \$58,125,000)									
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total	
Current Treatment Capacity (MGD)	18.75	45.66	10.00				40.59	115.00	
2037 PDD (MGD)	14.40	58.20	8.30				54.3	135.20	
Surplus / (Deficit) (MGD)	-	(12.54)	-				(13.71)	(20.20)	
Deficit Only (MGD)		(12.54)					(13.71)	(26.25)	
Deficit Percentage		47.78%	0.00%				52.22%	100.00%	
Treatment Cost					\$58,125,000				
Participant Cost		\$ 27,770,696	\$ -				\$ 30,354,304	\$ 58,125,000	
Cost share		35.78%					64.22%		
		\$ 62,382,941					\$ 111,992,059	\$ 174,375,000	

Phase 3 Water Treatment Plant Expansion (20 MGD @ \$58,125,000)									
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total	
Current Treatment Capacity (MGD)	18.75	50.44	10.00				45.82	125.00	
2050 PDD (MGD)	16.50	65.10	10.30				61.4	153.30	
Surplus / (Deficit) (MGD)	2.25	(14.66)	(0.30)				(15.58)	(28.30)	
Deficit Only (MGD)		(14.66)	(0.30)				(15.58)	(30.55)	
Deficit Percentage		48.00%	0.99%				51.01%	100.00%	
Treatment Cost					\$58,125,000				
Participant Cost		\$ 27,897,443	\$ 575,542				\$ 29,652,015	\$ 58,125,000	
Cost share	0.00%	48.00%	0.99%	0.00%	0.00%	0.00%	51.01%		

Reservoir (20 MG @ \$15,321,250)										
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation			CWS	TVID	TVWD	Total
Current Treatment Capacity (MGD)		33.75						12.50	46.25	
2050 PDD (MGD)		65.10						61.4	126.50	
Greatest Value (MGD)		31.35						48.90	80.25	
Ownership Percentage	0.00%	39.07%	0.00%	0.00%	0.00%	0.00%	0.00%	60.93%	100.00%	
Reservoir Cost	\$15,840,500									
Participant Cost	\$ -	\$ 6,188,351	\$ -					\$ 9,652,149	\$ 15,840,500	
Cost share	0.00%	39.07%	0.00%	0.00%	0.00%	0.00%	0.00%	60.93%		

Booster Pump Station on STL (\$4,375,000) - based on capacity needs in 2028 (implementation year for STL2)										
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation			CWS	TVID	TVWD	Total
Current STL Capacity (MGD)	14.00	20.00						4.00	38.00	
Current Non-Emergency NTL Capacity (MGD)	2.00	39.00						39.00	80.00	
Total Trans. Capacity (MGD)	16.00	59.00						43.00	118.00	
2028 PDD (MGD)	16.50	51.70						49.1	117.30	
Surplus / (Deficit) (MGD)	(0.50)	7.30						(6.10)	0.70	
Deficit Only	(0.50)	-						(6.10)	(6.60)	
Deficit Percentage	7.58%	0.00%						92.42%	100.00%	
Treatment Cost	\$4,375,000									
Participant Cost	\$ 331,439	\$ -						\$ 4,043,561	\$ 4,375,000	
Cost share	7.58%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	92.42%		

Transmission Lines (\$140,500,000)										
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation			CWS	TVID	TVWD	Total
Current STL Capacity (MGD)	14.00	20.00						4.00	38.00	
Current Non-Emergency NTL Capacity (MGD)	2.00	39.00						39.00	80.00	
Total Trans. Capacity (MGD)	16.00	59.00						43.00	118.00	
2050 PDD (MGD)	16.50	65.10						61.4	143.00	
Surplus / (Deficit) (MGD)	(0.50)	(6.10)						(18.40)	(25.00)	
Percentage of Total 80 mgd capacity	0.63%	7.62%						23.00%	31.25%	
Transmission Line Cost	\$140,500,000									
Total Length (assume all pipe same unit cost)	93600									
Total Cost for STL2 Main Segment	\$140,500,000									
Reservoir to Hazeldale (LF)	59100									
Reservoir to Hazeldale (\$)	\$94,135,000									
Participant Cost	\$588,344	\$7,177,794						\$21,651,050	\$29,417,188	
Hazeldale to NTL (LF)	34500									
Hazeldale to NTL (\$)	\$46,365,000									
Assumed Capacity Desired (MGD)	2	22						12	36	
Participation Percentage	5.56%	61.111%						33.33%	100%	
Participant Cost	\$2,575,833	\$28,334,167						\$15,455,000	\$46,365,000	
Total Trans. Line Participant Cost (\$)	\$3,164,177	\$35,511,960						\$37,106,050	\$75,782,188	
Total Trans. Line Participation (%)	4.18%	46.86%						48.96%	100.00%	
as proportion of overall transmission project costs	2.25%	25.28%	0.00%	0.00%	0.00%	0.00%	0.00%	26.41%	53.94%	

Total										
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation			CWS	TVID	TVWD	Total
Supply Participant Cost	\$21,725,711	\$212,468,612	\$9,003,502	\$0	\$39,048,694	\$0	\$0	\$297,126,168	\$579,372,688	
40' Dam Construction Cost+seismic	\$ 13,158,440	\$ 47,700,880	\$ 6,997,260	\$ 775,620	\$ 76,894,880	\$ 42,016,920	\$ 79,856,000	\$ 267,400,000		
Total	\$34,884,151	\$260,169,492	\$16,000,762	\$775,620	\$115,943,574	\$42,016,920	\$376,982,168	\$846,772,688		
Overall share of costs	4.12%	30.72%	1.89%	0.09%	13.69%	4.96%	44.52%			
Check Number		\$ 303,705,428						Cost in TM 9C	865428250	
								Adjustment in portion of transmission for redundancy	(64,717,813)	
								Adjustment in total dam cost (reduction in TVID contribution)	\$ 45,453,000	
								Adjusted cost	\$846,163,438	
								Approximate non construction (30%)	\$253,849,031.25	
								Actual non-construction costs	\$141,696,250	

TVWD Cost Shares - Mid-Willamette

Dam Raise Cost								
Seismic Upgrade Portion								
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total
Existing Scoggins Storage (AC/FT)	4000	5000	4500	500	16900	37000	-	67900
Existing Contract %	7.46%	9.32%	8.39%	0.93%	23.52%	50.38%	0.00%	100.00%
Cost (15% of \$556 million)	\$ 6,221,640	\$ 7,772,880	\$ 6,997,260	\$ 775,620	\$ 19,615,680	\$ 42,016,920	\$ -	\$ 83,400,000
9' Expansion Portion								
Scoggins Storage (Discounted, AC/FT)	3,912	4,890	4,401	489	12,340	26,428	-	52,460
Barney Storage (Discounted, AC/FT)	3,360	4,845	391	-	1,563	-	5,471	15,630
Natural Flow (184-day, AC/FT)	-	5,109	-	-	-	-	-	5,109
Total Storage (Discounted, AC/FT)	7,272	14,844	4,792	489	13,903	26,428	5,471	73,199
2050 Demand (AC/FT)	7,272	14,844	4,792	489	62,641	26,428	5,471	93,938
Surplus (Deficit) (AC/FT)	-	-	-	-	(48,738)	-	-	(48,738)
Deficit only (AC/FT)	-	-	-	-	(48,738)	-	-	(48,738)
Participant Percent Deficit	0.00%	0.00%	-	-	100.00%	-	0.00%	100.00%
Total Dam Cost				\$489,000,000				
Seismic Participation				(83,400,000)				
Federal Participation				(472,600,000)				
Expansion Portion of the Dam Cost								
Participant Cost	\$ -	\$ -	\$ -	\$ -	\$ (67,000,000)	\$ -	\$ -	\$ (67,000,000)
Seismic Participant Cost	\$ 6,221,640	\$ 7,772,880	\$ 6,997,260	\$ 775,620	\$ 19,615,680	\$ 42,016,920	\$ -	\$ 83,400,000
Total Cost	\$ 6,221,640	\$ 7,772,880	\$ 6,997,260	\$ 775,620	\$ (47,384,320)	\$ 42,016,920	\$ -	\$ 16,400,000
Cost share	37.94%	47.40%	42.67%	4.73%	-288.93%	256.20%	0.00%	100.00%

Raw Water Pump Station & Pipeline (\$9,146,800)								
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total
Current Treatment Capacity (MGD)	18.75	33.75	10.00	-	-	-	12.50	75.00
2050 PDD (MGD)	16.50	65.10	10.30	-	-	-	61.40	153.30
Surplus / (Deficit) (MGD)	2.25	(31.35)	(0.30)	-	-	-	(48.90)	(78.30)
Deficit Only (MGD)	-	(31.35)	-	-	-	-	(48.90)	(80.25)
Deficit Percentage	-	39.07%	-	-	-	-	60.93%	100.00%
Pmp Station & Pipe Cost				\$9,146,800				
Buy-in	\$ 2,500,000						(2,500,000)	
Participant Cost	\$ 3,573,347						\$ 5,573,453	\$ 9,146,800
Total Cost	\$ 6,073,347						\$ 3,073,453	\$ 9,146,800
Cost share	0.00%	66.40%	0.00%	0.00%	0.00%	0.00%	33.60%	

Phase 1 Water Treatment Plant Expansion (40 MGD @ \$68,500,250)								
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total
Current Treatment Capacity (MGD)	18.75	33.75	10.00	-	-	-	12.50	75.00
2026 PDD (MGD)	12.60	48.80	6.70	-	-	-	48	116.10
Surplus / (Deficit) (MGD)	6.15	(15.05)	3.30	-	-	-	(35.50)	(41.10)
Deficit Only (MGD)	-	(15.05)	-	-	-	-	(35.50)	(50.55)
Deficit Percentage	-	29.77%	0.00%	-	-	-	70.23%	100.00%
Treatment Cost				\$68,500,250				
Participant Cost	\$ 20,395,247						\$ 48,105,003	\$ 68,500,250
Cost share	0.00%	29.77%	0.00%	0.00%	0.00%	0.00%	70.23%	

Phase 2 Water Treatment Plant Expansion (10 MGD @ \$17,125,063)								
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total
Current Treatment Capacity (MGD)	18.75	45.66	10.00	-	-	-	40.59	115.00
2031 PDD (MGD)	13.40	54.10	7.40	-	-	-	50.9	125.80
Surplus / (Deficit) (MGD)	-	(8.44)	-	-	-	-	(10.31)	(10.80)
Deficit Only (MGD)	-	(8.44)	-	-	-	-	(10.31)	(18.75)
Deficit Percentage	-	45.02%	0.00%	-	-	-	54.98%	100.00%
Treatment Cost				\$17,125,063				
Participant Cost	\$ 7,709,964						\$ 9,415,099	\$ 17,125,063
Cost share	-	32.82%	-	-	-	-	67.18%	
		\$ 28,105,211					\$ 57,520,101	\$ 85,625,313

Phase3 Water Treatment Plant Expansion (10 MGD @ \$17,125,063)								
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total
Current Treatment Capacity (MGD)	18.75	50.16	10.00	-	-	-	46.09	125.00
2037 PDD (MGD)	14.40	58.20	8.30	-	-	-	54.3	135.20
Surplus / (Deficit) (MGD)	4.35	(8.04)	1.70	-	-	-	(8.21)	(10.20)
Deficit Only (MGD)	-	(8.04)	-	-	-	-	(8.21)	(16.25)
Deficit Percentage	-	49.47%	0.00%	-	-	-	50.53%	100.00%
Treatment Cost				\$17,125,063				
Participant Cost	\$ 8,472,421						\$ 8,652,641	\$ 17,125,063
Cost share	0.00%	49.47%	0.00%	0.00%	0.00%	0.00%	50.53%	

Phase 4 Water Treatment Plant Expansion (10 MGD @ \$17,125,063)								
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total
Current Treatment Capacity (MGD)	18.75	55.11	10.00	-	-	-	51.14	135.00
2045 PDD (MGD)	15.90	62.70	9.40	-	-	-	58.8	146.80
Surplus / (Deficit) (MGD)	2.85	(7.59)	-	-	-	-	(7.66)	(11.80)
Deficit Only (MGD)	-	(7.59)	-	-	-	-	(7.66)	(15.25)
Deficit Percentage	-	49.78%	0.00%	-	-	-	50.22%	100.00%
Treatment Cost				\$17,125,063				
Participant Cost	\$ 8,525,610						\$ 8,599,453	\$ 17,125,063
Cost share	0.00%	49.78%	0.00%	0.00%	0.00%	0.00%	50.22%	

Phase 5 Water Treatment Plant Expansion (10 MGD @ \$17,125,063)								
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total
Current Treatment Capacity (MGD)	18.75	60.09	10.00				56.16	145.00
2050 PDD (MGD)	16.50	65.10	10.30				61.4	153.30
Surplus / (Deficit) (MGD)	2.25	(5.01)	(0.30)				(5.24)	(8.30)
Deficit Only (MGD)		(5.01)	(0.30)				(5.24)	(10.55)
Deficit Percentage		47.51%	2.87%				49.62%	100.00%
Treatment Cost	\$17,125,063							
Participant Cost	\$	8,136,331	\$	491,027			\$	8,497,705
Cost share	0.00%	47.51%	2.87%	0.00%	0.00%	0.00%	49.62%	
	\$ 53,239,573							

Reservoir (20 MG @ \$15,840,500)								
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total
Current Treatment Capacity (MGD)		33.75					12.50	46.25
2050 PDD (MGD)		65.10					61.4	126.50
Greatest Value (MGD)		31.35					48.90	80.25
Ownership Percentage	0.00%	39.07%	0.00%	0.00%	0.00%	0.00%	60.93%	100.00%
Reservoir Cost	\$15,840,500							
Participant Cost	\$	-	\$	6,188,351	\$	-	\$	9,652,149
Cost share	0.00%	39.07%	0.00%	0.00%	0.00%	0.00%	60.93%	
	\$ 15,840,500							

Booster Pump Stations								
Pump Station at the WTP (\$25,374,700) - cost share according to share of new supply								
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total
Current Treatment Capacity (MGD)	18.75	33.75	10.00				12.50	75.00
2050 PDD (MGD)	16.50	65.10	10.30				61.40	153.30
Surplus / (Deficit) (MGD)	2.25	(31.35)	(0.30)				(48.90)	(78.30)
Deficit Only (MGD)		(31.35)					(48.90)	(80.25)
Deficit Percentage		39.07%					60.93%	100.00%
Pmp Station & Pipe Cost	\$25,374,700							
Participant Cost	\$	9,913,042					\$	15,461,658
Cost share								
	\$ 25,374,700							
Booster Pump Station on the Hillsboro Extension Line (\$15,840,500) - cost copied over from Portland supply, was missing in original Willamette estimates								
Assumed Capacity Desired (MGD)	2	22					12	36
Participation Percentage	5.56%	61.11%					33.33%	100%
Participant Cost	\$531,339	\$5,844,728					\$3,188,033	\$9,564,100
Total Booster Pumping Participant Cost (\$)	\$531,339	\$15,757,770					\$18,649,691	\$34,938,800
Total Trans. Line Participation (%)	1.52%	45.10%					53.38%	100.00%
Cost share	1.52%	45.10%	0.00%	0.00%	0.00%	0.00%	53.38%	

Transmission Lines (\$319,689,500)								
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total
Current JWC Capacity (MGD)		33.75					12.50	46.25
2050 PDD (MGD) Surplus		65.10					61.40	126.50
/(Deficit) (MGD) Deficit		(31.35)					(48.90)	(80.25)
Percentage		39.07%					60.93%	100.00%
Transmission Line Cost	\$319,689,500							
Total Length (assume all pipe same unit cost)	137500							
WTP to Terminal Storage (LF)	71800							
WTP to Terminal Storage (LF)	\$187,697,922							
Participant Cost	\$0	\$73,327,267					\$114,370,655	\$187,697,922
Current JWC Capacity (MGD)		33.75					12.50	46.25
Willamette Eastern Ext Capacity (MGD)		-					30.00	30.00
2050 PDD (MGD) Surplus		65.10					61.40	126.50
/(Deficit) (MGD) Deficit		(31.35)					(18.90)	(50.25)
Percentage		62.39%					37.61%	100.00%
Terminal Storage to Hazeldale (LF)	103000							
Terminal Storage to Hazeldale (\$)	\$77,174,953							
Participant Cost	\$0	\$48,150,351					\$29,024,602	\$77,174,953
Hazeldale to NTL (LF)	34500							
Hazeldale to NTL (\$)	\$54,816,625							
Assumed Capacity Desired (MGD)	2	22					12	36
Participation Percentage	5.56%	61.11%					33.33%	100%
Participant Cost	\$3,045,368	\$33,499,048					\$18,272,208	\$54,816,625
Total Trans. Line Participant Cost (\$)	\$3,045,368	\$154,976,667					\$161,667,465	\$319,689,500
Total Trans. Line Participation (%)	0.95%	48.48%					50.57%	100.00%
Cost share	0.95%	48.48%	0.00%	0.00%	0.00%	0.00%	50.57%	100.00%

Transmission Line Cost - Eastern Extension to TVWD West Hills Area								
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total
Assumed Capacity Desired (MGD)	0	0					30	30
Participation Percentage	0.00%	0.00%					100.00%	100%
Participant Cost	\$0	\$0					\$84,649,842	\$84,649,842
Cost share	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	

Total								
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total
Sub Total Participant Cost	\$3,576,707	\$236,235,707	\$491,027	\$0	\$0	\$0	\$360,962,501	\$601,265,942
9' Dam Construction Cost+seismic	\$ 6,221,640	\$ 7,772,880	\$ 6,997,260	\$ 775,620	\$ (47,384,320)	\$ 42,016,920	\$ -	\$ 16,400,000
Total	\$9,798,347	\$244,008,587	\$7,488,287	\$775,620	(47,384,320)	\$42,016,920	\$360,962,501	\$617,665,942
Overall share of cost (for non-construction costs)	1.59%	39.50%	1.21%	0.13%	-7.67%	6.80%	58.44%	100.00%
Check Number	\$ 333,232,914							

Original cost in TM 9C \$514,514,000
 Adjustment for Dam Cost 8,938,000.00
 Additional Pipeline to TVWD West Hills Area \$84,649,842
 Additional Booster Pump Station \$9,564,100
 Total \$617,665,942

TVWD Cost Shares - Portland with Partners

Cost shares without Partners not shown (all capital cost shares were 100%)

Dam Raise Cost									
Seismic Upgrade Portion									
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total	
Existing Scoggins Storage (AC/FT)	4000	5000	4500	500	16900	37000	-	67900	
Existing Contract %	7.46%	9.32%	8.39%	0.93%	23.52%	50.38%	0.00%	100.00%	
Cost (15% of \$556 million)	\$ 6,221,640	\$ 7,772,880	\$ 6,997,260	\$ 775,620	\$ 19,615,680	\$ 42,016,920	\$ -	\$ 83,400,000	
9' Expansion Portion									
Scoggins Storage (Discounted, AC/FT)	3,912	4,890	4,401	489	12,340	26,428	-	52,460	
Barney Storage (Discounted, AC/FT)	3,360	4,845	391	-	1,563	-	5,471	15,630	
Natural Flow (184-day, AC/FT)		5,109						5,109	
Total Storage (Discounted, AC/FT)	7,272	14,844	4,792	489	13,903	26,428	5,471	73,199	
2050 Demand (AC/FT)	7,272	14,844	4,792	489	62,641	26,428	5,471	93,938	
Surplus (Deficit) (AC/FT)	-	-	-	-	(48,738)	-	-	(48,738)	
Deficit only (AC/FT)	-	-	-	-	(48,738)	-	-	(48,738)	
Participant Percent Deficit	0.00%	0.00%			100.00%		0.00%	100.00%	
Total Dam Cost					\$489,000,000				
Seismic Participation					(\$83,400,000)				
Federal Participation					(\$472,600,000)				
Local Share Dam Cost					(\$67,000,000)				
Participant Cost	\$ -	\$ -			\$ (67,000,000)		\$ -	\$ (67,000,000)	
Seismic Participant Cost	\$ 6,221,640	\$ 7,772,880	\$ 6,997,260	\$ 775,620	\$ 19,615,680	\$ 42,016,920	\$ -	\$ 83,400,000	
Total Cost	\$ 6,221,640	\$ 7,772,880	\$ 6,997,260	\$ 775,620	\$ (47,384,320)	\$ 42,016,920	\$ -	\$ 16,400,000	
Cost share	37.94%	47.40%	42.67%	4.73%	-288.93%	256.20%	0.00%	100.00%	

Water Treatment Plant Expansion (\$65,075,500)									
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total	
Participant Cost		\$ 65,075,400						\$ 65,075,400	
Cost share	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	

Reservoir (20 MG @ \$15,840,500)									
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total	
Current Treatment Capacity (MGD)		33.75					12.50	46.25	
2050 PDD (MGD)		65.10					61.4	126.50	
Greatest Value (MGD)		31.35					48.90	80.25	
Ownership Percentage	0.00%	39.07%	0.00%	0.00%	0.00%	0.00%	60.93%	100.00%	
Reservoir Cost					\$15,840,500				
Participant Cost	\$ -	\$ 6,188,351	\$ -				\$ 9,652,149	\$ 15,840,500	
Cost share	0.00%	39.07%	0.00%	0.00%	0.00%	0.00%	60.93%	100.00%	

Booster Pump Station (\$9,564,100)									
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total	
STL to NTL Segment Capacity	2	22					12	36	
Ownership Percentage	5.56%	61.11%					33.33%	100%	
Treatment Cost					\$9,564,100				
Participant Cost	\$ 531,339	\$ 5,844,728	\$ -				\$ 3,188,033	\$ 9,564,100	
Cost share	5.56%	61.11%	0.00%	0.00%	0.00%	0.00%	33.33%	100%	

Transmission Lines (\$652,303,764)									
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total	
Current JWC Capacity (MGD)		33.75					12.50	46.25	
Current WCSL Capacity (MGD)		-					34.70	34.70	
Total Trans. Capacity (MGD)		33.75					47.20	80.95	
2050 PDD (MGD) Surplus		65.10					61.40	126.50	
/(Deficit) (MGD) Deficit		(31.35)					(14.20)	(45.55)	
Percentage		68.83%					31.17%	100.00%	
Transmission Line Cost					\$472,410,547				
Total Length (assume all pipe same unit cost)					162300				
Estimate Unit Cost (\$/lf)					\$2,910.72				
Powell Butte to Hazeldale (LF)					127800				
Powell Butte to Hazeldale (\$)					\$413,763,703				
Participant Cost	\$0	\$284,790,430					\$128,973,274	\$413,763,703	
Hazeldale to NTL (LF)					34500				
Hazeldale to NTL (\$)					\$58,646,844				
Assumed Capacity Desired (MGD)	2	22					12	36	
Participation Percentage	5.56%	61.11%					33.33%	100%	
Participant Cost	\$3,258,158	\$35,839,738					\$19,548,948	\$58,646,844	
Total Trans. Line Participant Cost (\$)	\$3,258,158	\$320,630,168					\$148,522,221	\$472,410,547	
Total Trans. Line Participation (%)	0.69%	67.87%					31.44%	100.00%	
Cost share	0.69%	67.87%	0.00%	0.00%	0.00%	0.00%	31.44%	100.00%	

Total	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total
Sub Total Participant Cost	\$3,789,497	\$397,738,646	\$0	\$0	\$0	\$0	\$161,362,404	\$562,890,547
9' Dam Construction Cost	\$ 6,221,640	\$ 7,772,880	\$ 6,997,260	\$ 775,620	\$ (47,384,320)	\$ 42,016,920	\$ -	\$ 16,400,000
Total	\$10,011,137	\$405,511,526	\$6,997,260	\$775,620	(\$47,384,320)	\$42,016,920	\$161,362,404	\$579,290,547
Overall Percent	1.73%	70.00%	1.21%	0.13%	-8.18%	7.25%	27.86%	100.00%
Check Number		\$ 626,821,333					Original cost in TM 9C	\$700,788,400
							Adjustment for Dam Cost	\$8,938,000
							Adjustment for Pipeline Upsizing	\$40,686,703
							Adjustment for removing piping to/from terminal reservoir	(\$171,200,000)
							Total	\$579,213,103

TVWD Cost Shares - Northern Groundwater

Dam Raise Cost									
Seismic Upgrade Portion									
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total	
Existing Scoggins Storage (AC/FT)	4000	5000	4500	500	16900	37000	-	67900	
Existing Contract %	7.46%	9.32%	8.39%	0.93%	23.52%	50.38%	0.00%	100.00%	
Cost (15% of \$556 million)	\$ 6,221,640	\$ 7,772,880	\$ 6,997,260	\$ 775,620	\$ 19,615,680	\$ 42,016,920	\$ -	\$ 83,400,000	
9' Expansion Portion									
Scoggins Storage (Discounted, AC/FT)	3,912	4,890	4,401	489	12,340	26,428	-	52,460	
Barney Storage (Discounted, AC/FT)	3,360	4,845	391	-	1,563	-	5,471	15,630	
Natural Flow (184-day, AC/FT)		5,109						5,109	
Total Storage (Discounted, AC/FT)	7,272	14,844	4,792	489	13,903	26,428	5,471	73,199	
2050 Demand (AC/FT)	7,272	14,844	4,792	489	62,641	26,428	5,471	93,938	
Surplus (Deficit) (AC/FT)	-	-	-	-	(48,738)	-	-	(48,738)	
Deficit only (AC/FT)	-	-	-	-	(48,738)	-	-	(48,738)	
Participant Percent Deficit	0.00%	0.00%			100.00%		0.00%	100.00%	
Total Dam Cost					\$489,000,000				
Seismic Participation					(\$83,400,000)				
Federal Participation					(\$472,600,000)				
Local Share Dam Cost					(\$67,000,000)				
Participant Cost	\$ -	\$ -			\$ (67,000,000)		\$ -	\$ (67,000,000)	
Seismic Participant Cost	\$ 6,221,640	\$ 7,772,880	\$ 6,997,260	\$ 775,620	\$ 19,615,680	\$ 42,016,920	\$ -	\$ 83,400,000	
Total Cost	\$ 6,221,640	\$ 7,772,880	\$ 6,997,260	\$ 775,620		\$ 42,016,920	\$ -	\$ 16,400,000	
Cost share	37.94%	47.40%	42.67%	4.73%	-288.93%	256.20%	0.00%	100.00%	

Phase 1 Water Treatment Plant + Wells (40 MGD @ \$157,127,880 + wells @ \$24,050,000)									
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total	
Current Treatment Capacity (MGD)	18.75	33.75	10.00				12.50	75.00	
2026 PDD (MGD)	12.60	48.80	6.70				48	116.10	
Surplus / (Deficit) (MGD)	6.15	(15.05)	3.30				(35.50)	(41.10)	
Deficit Only (MGD)		(15.05)					(35.50)	(50.55)	
Deficit Percentage		29.77%	0.00%				70.23%	100.00%	
Treatment Cost					\$181,177,880				
Participant Cost		\$ 53,943,857	\$ -				\$ 127,234,023	\$ 181,177,880	
Cost share	0.00%	29.77%	0.00%	0.00%	0.00%	0.00%	70.23%		

Phase 2 Water Treatment Plant Expansion + Wells (10 MGD @ \$26,187,980 + pipeline @ \$3,639,194 + wells @ \$6,012,500)									
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total	
Current Treatment Capacity (MGD)	18.75	45.66	10.00				40.59	115.00	
2031 PDD (MGD)	13.40	54.10	7.40				50.9	125.80	
Surplus / (Deficit) (MGD)	-	(8.44)	-				(10.31)	(10.80)	
Deficit Only (MGD)		(8.44)	-				(10.31)	(18.75)	
Deficit Percentage		45.02%	0.00%				54.98%	100.00%	
Treatment Cost					\$35,839,674				
Participant Cost		\$ 16,135,567	\$ -				\$ 19,704,107	\$ 35,839,674	
Cost share		32.29%					67.71%		
		\$ 70,079,424					\$ 146,938,130	\$ 217,017,554	

Phase 3 Water Treatment Plant Expansion + Wells (10 MGD @ \$26,187,980 + pipeline @ \$3,639,194 + wells @ \$6,012,500)									
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total	
Current Treatment Capacity (MGD)	18.75	50.16	10.00				46.09	125.00	
2037 PDD (MGD)	14.40	58.20	8.30				54.3	135.20	
Surplus / (Deficit) (MGD)	4.35	(8.04)	1.70				(8.21)	(10.20)	
Deficit Only (MGD)		(8.04)	-				(8.21)	(16.25)	
Deficit Percentage		49.47%	0.00%				50.53%	100.00%	
Treatment Cost					\$35,839,674				
Participant Cost		\$ 17,731,253	\$ -				\$ 18,108,421	\$ 35,839,674	
Cost share	0.00%	49.47%	0.00%	0.00%	0.00%	0.00%	50.53%		

Phase 4 Water Treatment Plant Expansion + Wells (10 MGD @ \$26,187,980 + pipeline @ \$3,639,194 + wells @ \$6,012,500)									
	Beaverton	Hillsboro	Forest Grove	Lake Oswego Corporation	CWS	TVID	TVWD	Total	
Current Treatment Capacity (MGD)	18.75	55.11	10.00				51.14	135.00	
2045 PDD (MGD)	15.90	62.70	9.40				58.8	146.80	
Surplus / (Deficit) (MGD)	2.85	(7.59)	-				(7.66)	(11.80)	
Deficit Only (MGD)		(7.59)	-				(7.66)	(15.25)	
Deficit Percentage		49.78%	0.00%				50.22%	100.00%	
Treatment Cost					\$35,839,674				
Participant Cost		\$ 17,842,567	\$ -				\$ 17,997,107	\$ 35,839,674	
Cost share	0.00%	49.78%	0.00%	0.00%	0.00%	0.00%	50.22%		

Phase 5 Water Treatment Plant Expansion + Wells (10 MGD @ \$26,187,980 + pipeline @ \$3,639,194 + wells @ \$6,012,500)									
	Beaverton	Hillsboro	Forest Grove	Lake Oswego			TVWD	Total	
				Corporation	CWS	TVID			
Current Treatment Capacity (MGD)	18.75	60.09	10.00				56.16	145.00	
2050 PDD (MGD)	16.50	65.10	10.30				61.4	153.30	
Surplus / (Deficit) (MGD)	2.25	(5.01)	(0.30)				(5.24)	(8.30)	
Deficit Only (MGD)		(5.01)	(0.30)				(5.24)	(10.55)	
Deficit Percentage		47.51%	2.87%				49.62%	100.00%	
Treatment Cost				\$35,839,674					
Participant Cost		\$ 17,027,876	\$ 1,027,630				\$ 17,784,168	\$ 35,839,674	
Cost share	0.00%	47.51%	2.87%	0.00%	0.00%	0.00%	49.62%		
		\$ 122,681,119	37.8%					\$ 324,536,576	

Reservoir (20 MG @ \$15,840,500)									
	Beaverton	Hillsboro	Forest Grove	Lake Oswego			TVWD	Total	
				Corporation	CWS	TVID			
Current Treatment Capacity (MGD)		33.75					12.50	46.25	
2050 PDD (MGD)		65.10					61.4	126.50	
Greatest Value (MGD)		31.35					48.90	80.25	
Ownership Percentage	0.00%	39.07%	0.00%	0.00%	0.00%	0.00%	60.93%	100.00%	
Reservoir Cost				\$15,840,500					
Participant Cost	\$ -	\$ 6,188,351	\$ -				\$ 9,652,149	\$ 15,840,500	
Cost share	0.00%	39.07%	0.00%	0.00%	0.00%	0.00%	60.93%		

Booster Pump Station (\$15,940,600)									
	Beaverton	Hillsboro	Forest Grove	Lake Oswego			TVWD	Total	
				Corporation	CWS	TVID			
Current Treatment Capacity (MGD)		33.75					12.50	46.25	
2050 PDD (MGD)		65.10					61.4	126.50	
Greatest Value (MGD)		31.35					48.90	80.25	
Ownership Percentage	0.00%	39.07%	0.00%	0.00%	0.00%	0.00%	60.93%	100.00%	
Reservoir Cost				\$15,940,600					
Participant Cost	\$ -	\$ 6,227,456	\$ -				\$ 9,713,144	\$ 15,940,600	
Cost share	0.00%	39.07%	0.00%	0.00%	0.00%	0.00%	60.93%		

Transmission Lines (\$363,919,400)									
	Beaverton	Hillsboro	Forest Grove	Lake Oswego			TVWD	Total	
				Corporation	CWS	TVID			
Current JWC Capacity (MGD)		33.75					12.50	46.25	
2050 PDD (MGD) Surplus		65.10					61.40	126.50	
/ (Deficit) (MGD) Deficit		(31.35)					(48.90)	(80.25)	
Percentage		39.07%					60.93%	100.00%	
Transmission Line Cost				\$349,362,624					
Total Length (assume all pipe same unit cost)				97,318					
Wellfield to Hillsboro Conn. (LF)				76,618					
Initial Wellfield plus Wellfield to Hillsboro Conn. (\$)				\$316,864,650					
Participant Cost	\$0	\$123,788,364					\$193,076,286	\$316,864,650	
Hillsboro Conn. to Beaverton (LF)				20700					
Hillsboro Conn. to Beaverton (\$)				\$32,497,974					
Assumed Capacity Desired (MGD)	2.5	21.5					12	36	
Participation Percentage	6.94%	59.72%					33.33%	100%	
Participant Cost	\$2,256,804	\$19,408,512					\$10,832,658	\$32,497,974	
Total Trans. Line Participant Cost (\$)	\$2,256,804	\$143,196,877					\$203,908,944	\$349,362,624	
Total Trans. Line Participation (%)	0.65%	40.99%					58.37%	100.00%	
Cost share	0.65%	40.99%	0.00%	0.00%	0.00%	0.00%	58.37%		

Total									
	Beaverton	Hillsboro	Forest Grove	Lake Oswego			TVWD	Total	
				Corporation	CWS	TVID			
Sub Total Participant Cost	\$2,256,804	\$278,293,803	\$1,027,630	\$0	\$0	\$0	\$424,102,063	\$705,680,300	
9' Dam Construction Cost	\$ 6,221,640	\$ 7,772,880	\$ 6,997,260	\$ 775,620	\$ (47,384,320)	\$ 42,016,920	\$ -	\$ 16,400,000	
Total	\$8,478,444	\$286,066,683	\$8,024,890	\$775,620	(\$47,384,320)	\$42,016,920	\$424,102,063	\$722,080,300	
Overall Percent	1.17%	39.62%	1.11%	0.11%	-6.56%	5.82%	58.73%	1	
Check Number		\$ 398,830,420							

Original cost in TM 9C \$713,142,300
 Adjustment for Dam Cost \$ 8,938,000
 Total \$722,080,300