## Greenfield Water Reclamation Plant - Phase III Expansion Capital Cost Allocation

		City of Me	sa	Town of Gill	pert	Town of Queer	Total	
Area	Description	\$ Share	% Share	\$ Share	% Share	\$ Share	% Share	
Direct Cost	's							
00	General Requirements	\$4,129,424	60.1%	\$2,219,923	32.3%	\$517,875	7.5%	\$6,867,223
01	Yard / Site Facilities	\$8,083,224	68.9%	\$3,388,497	28.9%	\$253,425	2.2%	\$11,725,146
02	Power Service / Distribution Facilities	\$1,965,792	56.3%	\$1,113,332	31.9%	\$411,303	11.8%	\$3,490,427
03	Headworks Facilities	\$6,988,252	59.9%	\$3,490,229	29.9%	\$1,178,560	10.1%	\$11,657,041
04	Grit Handling Facilities	\$0		\$0		\$0		\$0
05	Primary Sedimentation Facilities	\$5,768,931	59.3%	\$2,882,024	29.6%	\$1,074,029	11.0%	\$9,724,984
06	Secondary BNR Facilities	\$15,594,935	59.4%	\$8,855,839	33.7%	\$1,816,330	6.9%	\$26,267,104
07	Secondary Clarification Facilities	\$8,716,561	63.7%	\$4,267,688	31.2%	\$709,281	5.2%	\$13,693,530
08	Tertiary Filtration & Chemical Feed Facilities	\$3,820,907	46.4%	\$3,299,067	40.1%	\$1,106,690	13.5%	\$8,226,664
09	Disinfection Facilities	\$2,681,195	46.7%	\$2,298,167	40.0%	\$766,056	13.3%	\$5,745,418
10	Effluent Pumping / Storage Facilities	\$923,440	47.8%	\$755,982	39.2%	\$251,564	13.0%	\$1,930,985
11	Solids Handling Facilities	\$3,993,828	55.8%	\$2,471,813	34.5%	\$695,404	9.7%	\$7,161,045
12	Digestion Facilities	\$14,476,006	65.5%	\$6,598,842	29.9%	\$1,011,352	4.6%	\$22,086,199
13	Digester Heating & Waste Gas Facilities	\$1,918,358	66.1%	\$860,649	29.7%	\$123,235	4.2%	\$2,902,242
14	Administration & Maintenance Facilities	\$0		\$0		\$0		\$0
	Subtotal Direct Costs	\$79,060,853		\$42,502,053		\$9,915,102		\$131,478,008
Indirect Co.	<u>sts</u>							
Α	Approved Allowances	\$5,132,859	60.1%	\$2,759,356	32.3%	\$643,717	7.5%	\$8,535,932
В	General Conditions	\$5,135,461	60.1%	\$2,760,755	32.3%	\$644,043	7.5%	\$8,540,260
С	CMAR Fee	\$5,466,945	60.1%	\$2,938,956	32.3%	\$685,615	7.5%	\$9,091,517
D	Bonds & Insurance	\$1,790,510	60.1%	\$962,554	32.3%	\$224,550	7.5%	\$2,977,614
E	Sales Tax	\$3,757,312	60.1%	\$2,019,881	32.3%	\$471,208	7.5%	\$6,248,401
	Subtotal Indirect Costs	\$21,283,088		\$11,441,502		\$2,669,134		\$35,393,724
Te	otal Estimated Construction Cost and % Share <sup>(1)</sup>	\$100,343,941	60.1%	\$53,943,555	32.3%	\$12,584,236	7.5%	\$166,871,732
Total Proje	act Costs		-	'-			-	
	Design Concept Report (DCR)	\$548,302	47.0%	\$466,640	40.0%	\$151,658	13.0%	\$1,166,600
	CMAR Pre-Construction	\$764,325	62.0%	\$406,818	33.0%	\$61,639	5.0%	\$1,232,783
	Engineering / Detailed Design	\$7,065,180	62.0%	\$3,646,545	32.0%	\$683,727	6.0%	\$11,395,452
	Construction Administration & Inspection (CA&I)	\$5,730,117	60.1%	\$3,080,434	32.3%	\$718,620	7.5%	\$9,529,170
	Additional Services (Programming, AM, EOM, ESS)	\$2,142,315	60.1%	\$1,151,680	32.3%	\$268,670	7.5%	\$3,562,664
	Permit Fee	\$300,662	60.1%	\$1,131,080	32.3%	\$37,706	7.5% 7.5%	\$500,000
	Owner's Direct Cost	\$739,913	60.1%	\$397,767	32.3%	\$92,793	7.5% 7.5%	\$1,230,474
	Owner's Contingency	\$5,017,446	60.1%	\$2,697,311	32.3%	\$629,243	7.5%	\$8,344,000
	CIP Administration Fee	\$1,225,498	60.1%	\$658,811	32.3%	\$153,691	7.5% 7.5%	\$2,038,000
	Subtotal Project Costs	\$23,533,757	00.170	\$12,667,638	32.3/0	\$2,797,747	7.570	\$38,999,143
	Total Estimated Costs and % Share (1)		60.29/		22 49/		7.5%	
	Total Estimated Costs and % Share	\$123,877,698	60.2%	\$66,611,193	32.4%	\$15,381,984	7.5%	\$205,870,875

*Note:* (1) Subject to reconciliation.

References: "GWRP3\_Cost Split Template\_rev02-06-18.xlsx" spreadsheet (Carollo Engineers, 2018)

"Memo\_GWRP3 Cost Split\_122017.docx" memorandum (Carollo Engineers, 2017)

## **GWRP COST SHARING BREAKDOWN**

(Phase II flow 16 mgd, Solids 24 mgd) (Buildout flow 52 mgd, Solids 64 mgd)

COMPONENT	SUBUNIT	TIME SPAN	SHARES		RAW COST	CONTRACTOR	SCALATION	TOTAL COSTS	PROJECT COSTS	SHARE COSTS			
COMPONENT			MESA	GILBERT	Q.C.	RAW COST	FEES (14.5%)	(5.9%)	TOTAL COSTS	(11.5%)	MESA	GILBERT	Q. C.
Influent pumping and Screening	Building	Intermediate Note 1	0.356	0.442	0.202	\$1,429,008	\$207,206	\$84,311	\$1,720,526	\$1,918,386	\$682,945	\$847,927	\$387,514
	Screens	Phase II	0.250	0.500	0.250	\$830,540	\$120,428	\$49,002	\$999,970	\$1,114,967	\$278,742	\$557,483	\$278,742
	Pumps	Phase II	0.250	0.500	0.250	\$504,900	\$73,211	\$29,789	\$607,900	\$677,808	\$169,452	\$338,904	\$169,452
Grit Removal	Building	Intermediate Note 1	0.356	0.442	0.202	\$1,049,500	\$152,178	\$61,921	\$1,263,598	\$1,408,912	\$501,573	\$622,739	\$284,600
	Mech Equip	Phase II	0.250	0.500	0.250	\$460,625	\$66,791	\$27,177	\$554,593	\$618,371	\$154,593	\$309,185	\$154,593
Primary Clarification	2000	Phase II	0.250	0.500	0.250	\$1,245,813	\$180,643	\$73,503	\$1,499,959	\$1,672,454	\$418,114	\$836,227	\$418,114
Aeration System	2207	Phase II Note 2	0.292	0.472	0.236	\$10,743,179	\$1,557,761	\$633,848	\$12,934,788	\$14,422,288	\$4,206,501	\$6,810,525	\$3,405,262
Blower Building		Phase II Note 2	0.292	0.472	0.236	\$3,381,875	\$490,372	\$199,531	\$4,071,778	\$4,540,032	\$1,324,176	\$2,143,904	\$1,071,952
Secondary Clarification	240	Phase II Note 2	0.292	0.472	0.236	\$5,985,978	\$867,967	\$353,173	\$7,207,118	\$8,035,936	\$2,343,815	\$3,794,748	\$1,897,374
Tertiary Filtration	Building	Buildout	0.461	0.385	0.154	\$186,000	\$26,970	\$10,974	\$223,944	\$249,698	\$115,111	\$96,134	\$38,453
	All Other	Phase II	0.250	0.500	0.250	\$5,329,095	\$772,719	\$314,417	\$6,416,230	\$7,154,097	\$1,788,524	\$3,577,048	\$1,788,524
Disinfection	****	Phase II	0.250	0.500	0.250	\$2,893,843	\$419,607	\$170,737	\$3,484,187	\$3,884,868	\$971,217	\$1,942,434	\$971,217
Effluent Pumping	1000	Phase II	0.250	0.500	0.250	\$530,175	\$76,875	\$31,280	\$638,331	\$711,739	\$177,935	\$355,869	\$177,935 \$0
Admin/ Maint Building		Intermediate Note 1	0.356	0.442	0.202	\$2,061,000	\$298,845	\$121,599	\$2,481,444	\$2,766,810	\$984,984	\$1,222,930	\$558,896
Odor Control & Chemical Storage		Intermediate Note 1,3	0.414	0.402	0.183	\$506,876	\$73,497	\$29,906	\$610,279	\$680,461	\$281,938	\$273,772	\$124,751
	All Other	Phase II Note 3	0.333	0.444	0.222	\$4,034,793	\$585,045	\$238,053	\$4,857,891	\$5,416,548	\$1,805,516	\$2,407,355	\$1,203,677
Solids Handling	Building	Buildout	0.562	0.313	0.125	\$8,479,307	\$1,229,500	\$500,279	\$10,209,086	\$11,383,130	\$6,397,319	\$3,562,920	\$1,422,891
	Mech Equip	Intermediate Note 1	0.531	0.323	0.146	\$9,926,065	\$1,439,279	\$585,638	\$11,950,982	\$13,325,345	\$7,075,758	\$4,304,087	\$1,945,500
Anaerobic Digestion	Digesters & Equip	Phase II	0.500	0.333	0.167	\$9,775,504	\$1,417,448	\$576,755	\$11,769,707	\$13,123,223	\$6,561,612	\$4,370,033	\$2,191,578
-	Storage & Equip	Buildout	0.562	0.313	0.125	\$1,288,500	\$186,833	\$76,022	\$1,551,354	\$1,729,760	\$972,125	\$541,415	\$216,220
	All Other (+Gas Mgmt	Intermediate Note 1	0.531	0.323	0.146	\$11,958,469	\$1,733,978	\$705,550	\$14,397,997	\$16,053,766	\$8,524,550	\$5,185,367	\$2,343,850
SEWRP Sludge & Grit			1.000	0.000	0.000	\$1,374,286	\$199,271	\$81,083	\$1,654,640	\$1,844,924	\$1,844,924	\$0	\$0
Misc Onsite	Power Center & Gen	Phase II	0.250	0.500	0.250	\$7,375,000	\$1,069,375	\$435,125	\$8,879,500	\$9,900,643	\$2,530,658	\$5,061,315	\$2,530,658
	All Other	Buildout	0.461	0.385	0.154	\$9,993,750	\$1,449,094	\$589,631	\$12,032,475	\$13,416,210	\$6,184,873	\$5,165,241	\$2,066,096
Misc Offsite	2002	Buildout	0.461	0.385	0.154	\$9,300,000	\$1,348,500	\$548,700	\$11,197,200	\$12,484,878	\$5,755,529	\$4,806,678	\$1,922,671

TOTAL

\$110,644,081

\$133,215,474 \$148,535,253 \$62,052,481 \$59,134,239 \$27,570,521 % Share 41.8% 39.8% 18.4%

Note 1: Based on 50% Phase II and 50% Buildout

Note 2: Based on loadings to the secondary system the split is 5/6 on flow and 1/6 on solids

Note 2: Two systems are flow related and one is for solids so the split is 2/3 on flow and 1/3 on solids

Share Factor Calculation								
Flow	Mesa	Gilbert	Q.C.					
Phase II	4/16 = 0.25	8/16 = 0.50	4/16 = 0.25					
Intermediate	(0.25+0.461)/2 = 0.356	(0.50+0.385)/2 = 0.442	(0.25+0.154)/2 = 0.202					
Buildout	24/52 = 0.461	20/52 = 0.385	8/52 = 0.154					
Solids	Mesa	Gilbert	Q.C.					
Phase II	12/24 = 0.50	8/24 = 0.333	4/24 = 0.167					
Intermediate	(0.50+0.562)/2 = 0.531	(0.333+0.313)/2 = 0.323	(0.167+0.125)/2 = 0.146					
Buildout	36/64 = 0.562	20/64 = 0.313	8/64 = 0.125					

% Share