

Item	Qt	Name	Vendor	Approval	Unit Cost	Total Cost	Total Spent	Estimated Total:	Notes:
1	2	Plusrite UV Bulb	New Egg	Delivered	\$8.39	\$16.78	\$469.92	\$693.66	
2	1	Carbon Block Filter	Home Depot	Delivered	\$16.50	\$16.50			
3	1	US Pleated Filter	US Water Systems	Delivered	\$4.99	\$4.99			
4	1	T9FB51502	Global Industrial	Delivered	\$12.37	\$12.37			
5	1	12V SLA Battery	Walmart	Delivered	\$17.99	\$17.99			
6	2	T5 Lampholde	New Egg	Delivered	\$4.99	\$9.98			
7	1	Double Pin lamp	1000Bulbs	Delivered	\$38.91	\$38.91			
8	1	Quartz Sleeve	AtlanticUV	Delivered	\$35.00	\$35.00			
9	1	UV Bulb Ballast	AtlanticUV	Delivered	\$29.00	\$29.00			
10	1	Solar Panel	Renogy	Delivered	\$43.99	\$43.99			
11	2	ATTINY85 Micro	DigiKey	Delivered	\$1.26	\$2.52			
12	1	ADC	DigiKey	Delivered	\$2.76	\$2.76			
13	1	Boost Regulator	DigiKey	Delivered	\$1.74	\$1.74			
14	1	10uF Cap.	DigiKey	Ordered	\$0.45	\$0.45			
15	3	0.1uF Cap.	DigiKey	Ordered	\$0.01	\$0.03			
16	1	200k Resistor	DigiKey	Ordered	\$0.39	\$0.39			
17	1	150k Resistor	DigiKey	Ordered	\$0.45	\$0.45			
18	1	100k Resistor	DigiKey	Ordered	\$0.39	\$0.39			
19	2	Schottky 3A,40V,0.5m	Mouser	Ordered	\$0.64	\$1.28			
20	1	22uF Ceramic Cap.	DigiKey	Ordered	\$4.31	\$4.31			
21	1	39pF Cap.	DigiKey	Ordered	\$0.10	\$0.10			
22	1	68uF Cap.	DigiKey	Ordered	\$4.74	\$4.74			
23	1	Standard Diode	DigiKey	Ordered	\$0.27	\$0.27			
24	1	6.8uH Inductor	Mouser	Ordered	\$2.39	\$2.39			
25	1	2.2mH Inductor	Mouser	Ordered	\$1.71	\$1.71			
26	2	Solenoid Valve	Electric Solenoid Valves	Delivered	\$16.99	\$33.98			
27	1	Pump Kit	Home Depot	Delivered	\$12.33	\$12.33			
28	1	Protoboard	DigiKey	Delivered	\$11.71	\$11.71			
29	2	Filter Housing	Fresh Water Systems	Delivered	\$8.59	\$17.18			
30	1	O-ring Pack	Home Depot	Delivered	\$16.06	\$16.06			
31	5	Buck Regulator	Mouser	Ordered	\$1.00	\$5.00			
32	1	PLA Filament	B&H Photo & Video	Delivered	\$29.00	\$29.00			
33	1	LCD Display	ADA Fruit	Ordered	\$19.95	\$19.95			
34	1	Liquid Flow Meter	ADA Fruit	Ordered	\$9.95	\$9.95			
35	3	PCB Relays	Mouser	Ordered	\$1.35	\$4.05			

36	1	PVC Pipe Sch. 40, 4"	Home Depot	Reimbursement	\$23.90	\$23.90			
37	1	Vinyl Tubing 3/8" ID	Home Depot	Reimbursement	\$9.60	\$9.60			
38	3	3/8"x3/8" Brass Adapt	Home Depot	Reimbursement	\$3.74	\$11.22			
39	1	Ultraquiet Pump	Amazon	Ordered	\$16.95	\$16.95	Increased Budget Request		
40	1	MS2 Coliphage	ATCC	Not Submitted	\$120.00	\$120.00	\$240.69		
41	1	An-23p E housing	Polycase	Not Submitted	\$41.30	\$41.30			
42	2	Female 3/8"x1/2" Bart	Home Depot	Not Submitted	\$3.74	\$7.48			
43	2	Brass 1/2" Coupling	Home Depot	Not Submitted	\$6.56	\$13.12			
44	1	Quartz Sleeve	AtlanticJV	Not Submitted	\$35.00	\$35.00			
45	1	Plumber's tape	Home Depot	Not Submitted	\$1.38	\$1.38			
46	2	Female Adapter	Home Depot	Not Submitted	\$2.73	\$5.46			

Budget Increase Request

Team: P18461

Team Solar Powered UV Purification

Guide: Chris Leibfried

Contributors: Phil Sammon, & Erik Messier

Reasons For Request

1. Preliminary estimated budget was too low
 - a. See Coliphage Cost/Expensive
 - i. Conventionally, water treatment devices are tested by a third party, however third party treatment validation is expensive. Since validation of water purification is one of our customer requirements we are planning to perform purification analyses here at RIT. In order to do this we will need to purchase MS2 coliphage from ATCC and associated media for a cost of about \$120 (\$60 per freeze dried sample of MS2 coliphage & \$60 since coliphage is notoriously difficult to work with (preemptive measure)).
2. Part Damage
 - a. See Quartz Sleeve
 - i. Original dimensions of the sleeve incorrect, manufacturing specs did not account for the connectors at the ends of the bulb
 - ii. The bulb did not fit with the connectors
 - iii. Tried to cut the quartz sleeve and it broke, the cutting tool used was not designed for cutting the sleeve
3. Design Changes
 - a. Made Design Updates that introduced new expenses
 - i. Switched from hand pump to automated pump
 - ii. Switched from designed housings to standardized
 - iii. New fittings required after making design change