

	FY2014 BUDGETED	FY2014 EXPENDED	FY2015 BUDGETED	FY2015 EXPENDED	FY2016 BUDGETED	FY2016 EXPENDED	FY2017 BUDGETED	FY2018 DEPT REQ	FY2018 TM REC	FY2018 FIN COM REC
<b>DPW WATER FILTRATION</b>										
<i>Salaries</i>										
5111 Regular	703,613	674,697	729,056	717,678	718,763	714,054	769,570	800,162	800,162	
5130 Overtime	62,057	59,468	52,000	60,104	68,302	64,351	58,000	61,450	61,450	
5135 Uniform Allowance	1,662	1,662	2,160	2,160	2,160	2,160	2,160	2,160	2,160	
5150 Car Allowance	3,600	3,600	3,600	3,600	3,600	3,600	3,600	7,200	7,200	
5160 Sick Leave Buy Back	1,263	1,263	5,000	2,575	2,700	1,323	2,700	47,270	47,270	
5163 Holiday Pay	17,583	17,583	18,822	18,221	18,822	18,747	19,300	19,800	19,800	
5180 All Other Salaries	838	120	500	156	500	108	1,000	2,000	2,000	
<b>Total Salaries</b>	<b>790,616</b>	<b>758,393</b>	<b>811,138</b>	<b>804,494</b>	<b>814,847</b>	<b>804,342</b>	<b>856,330</b>	<b>940,042</b>	<b>940,042</b>	
<i>Operating</i>										
5210 Energy Utilities	378,797	378,797	397,795	339,941	383,233	392,659.62	380,000	386,000	386,000	
5231 Water Purchase	33,980	33,980	24,760	24,760	26,701	26,700.93	8,000	8,000	8,000	
5240 Repairs and Maintenance	132,682	131,417	136,108	124,821	132,066	119,744.14	122,836	127,375	127,375	
5270 Leases and Contract	55,826	51,037	62,889	59,424	70,340	67,812.17	76,464	83,764	83,764	
5310 Professional Services	-	-	-	-	-	-	-	-	-	
5340 Communications	14,000	13,739	16,066	14,809	200,007	15,618.94	14,000	15,200	15,200	
5420 Office Supplies	2,000	1,635	2,713	2,163	2,700	2,000.00	2,500	2,500	2,500	
5423 All Other Supplies and Exp.	63,650	55,385	62,686	61,247	61,904	51,706.96	65,105	64,905	64,905	
5429 Computer Equipment	-	-	-	-	-	-	-	-	-	
5441 Chemicals	456,039	450,971	526,722	492,204	550,438	461,822.52	468,675	468,675	468,675	
5442 Residual Disposal	56,392	52,795	63,410	60,107	79,758	64,155.08	66,000	56,090	56,090	
5443 Water Assessment	8,000	6,911	8,000	7,330	8,000	7,636.40	8,000	8,000	8,000	
5580 Uniform Allowance	1,800	588	-	-	-	-	-	-	-	
5703 Dues and Memberships	700	481	700	319	700	534.00	700	700	700	
5790 Staff Development/Training	2,500	2,500	3,064	2,670	3,688	3,000.00	2,500	3,000	3,000	
<b>Total Operating</b>	<b>1,206,365</b>	<b>1,180,236</b>	<b>1,304,913</b>	<b>1,189,795</b>	<b>1,519,534</b>	<b>1,213,391</b>	<b>1,214,780</b>	<b>1,224,209</b>	<b>1,224,209</b>	
<i>Capital Outlay</i>										
5833 Capital Outlay	-	-	-	-	-	-	-	-	-	
<b>Total Capital Outlay</b>	<b>-</b>	<b>-</b>								
<b>Total Budget</b>	<b>1,996,981</b>	<b>1,938,628</b>	<b>2,116,051</b>	<b>1,994,289</b>	<b>2,334,382</b>	<b>2,017,733</b>	<b>2,071,110</b>	<b>2,164,251</b>	<b>2,164,251</b>	<b>-</b>

	FY2014 BUDGETED	FY2015 BUDGETED	FY2016 BUDGETED	FY2017 BUDGETED	FY2018 DEPT REQ	FY2018 TM REC	FY2018 FIN COM REC
Position	FTE	FTE	FTE	FTE	FTE	FTE	FTE
Assistant Superintendent				0.3	0.3	0.3	
Chief Water Operator	1	1	1	1	1	1	
Chemist	1	1	1	1	1	1	
Head Filter Operator (HFO)	6	6	6	6	6	6	
Water Machinery Repairman	1	1	1	1	1	1	
Proeject Manager		0.6					
Cross Connection Coordinator	1	1	1	1	1	1	
<b>Total Staffing</b>	<b>10</b>	<b>10.6</b>	<b>10</b>	<b>10</b>	<b>10.3</b>	<b>10</b>	<b>0</b>

**FISCAL YEAR 2017  
DPW WATER FILTRATION DEPARTMENT SALARY INFORMATION TOWN MANAGER RECOMMENDED**

**Regular Salaries**

Name	Position	Ann. Date	Grade	Step	Base Salary	Longevity %	Longevity \$	Wage Def.	Total Salary
Brian Pena	Assistant Superintendent Utility		A	9	30,003				30,003
Lewis Zediana	Chief Operator	5/9/1988	10	10	92,268	15%	13,840.20	\$3,714	109,822
Marlene Ladderbush	Chemist	5/17/2004	4	7	72,866		1,500		74,366
Michael Brothers	Head Filter Oper.	8/30/2004	3B	7	69,677		1,500		71,177
Michael Donovan	Head Filter Oper.	3/21/1994	3B	7	69,677		2,500		72,177
Frank Giannetti	Head Filter Oper.	4/8/1985	3	7	64,853	15%	9,727.95		74,581
Patrick Carey	Head Filter Oper.	4/6/1998	3B	7	69,677		2,000		71,677
	Longevity						200		200
Matt Hirtle	Head Filter Oper.	11/4/2002	3B	7	69,677		2,000		71,677
Robert Minor	Head Filter Oper.	4/26/1999	3B	7	69,677		2,000		71,677
John Salerno	Head Filter Oper.	7/3/1989	3B	7	69,677		3,000		72,677
Edward Vieweg	Head Filter Oper.	5/9/1988	3B	7	69,677	15%	10,451.55		80,129
<b>Total Regular Salaries</b>					747,729		48,720	3,714	800,162

**Overtime**

Name	Position	Amount	Total Benefit
	HFOs and Chemist	61,450	61,450
<b>Total Overtime</b>		61,450	61,450

**Uniform Allowance**

Name	Position	Amount	Total Benefit
	(8) HFOs and Chemist	2,160	2,160
<b>Total Uniform Allowance</b>		2,160	2,160

**Car Allowance**

Name	Position	Per/Month	# Months	Total Benefit
Lewis Zediana	Chief Operator	300	12	3,600
Brian Pena	Assistant Superintendent	300	12	3,600
<b>Total Car Allowance</b>		600		7,200

**Sick Leave Buy Back**

Name	Position	Retirement Date	# of Days	Annual Sal.	Weekly Sal.	Daily Sal.	Total Benefit
Robert Miner	Head Filter Oper.		5	\$ 71,677	1,375	\$ 275	1,375
John Salerno	Head Filter Oper.		5	\$ 72,677	1,395	\$ 279	1,395
*** Lew Zediana	Terminal Leave	May-18					44,500
<b>Total Sick Leave Buy-Back</b>			10				47,270

**Holiday Pay**

Name	Position	Amount	Total Benefit
	(4) HFOs	19,800	19,800
<b>Total Holiday Pay</b>		19,800	19,800

**All Other Salaries**

Name	Position	Amount	Total Benefit
Out of Grade	HFOs	2,000	2,000
<b>Total All Other Salaries</b>		2,000	2,000

<b>Department Total</b>									940,042
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\*\*\* Terminal Leave for Lew Zidana  
 Sick Leave - 40% of remaining accrual \$ 44,500.00  
 Vacation as last (6) weeks in annual salary -

**FISCAL YEAR 2017  
DPW WATER FILTRATION DEPARTMENT SALARY INFORMATION BUDGET REQUEST**

**Regular Salaries**

Name	Position	Ann. Date	Grade	Step	Base Salary	Longevity %	Longevity \$	Wage Def.	Total Salary
Brian Pena	Assistant Superintendent Utility		A	9	30,003				30,003
Lewis Zediana	Chief Operator	5/9/1988	10	10	92,268	15%	13,840.20	\$3,714	109,822
Marlene Ladderbush	Chemist	5/17/2004	4	7	72,866		1,500		74,366
Michael Brothers	Head Filter Oper.	8/30/2004	3B	7	69,677		1,500		71,177
Michael Donovan	Head Filter Oper.	3/21/1994	3B	7	69,677		2,500		72,177
Frank Giannetti	Head Filter Oper.	4/8/1985	3	7	64,853	15%	9,727.95		74,581
Patrick Carey	Head Filter Oper.	4/6/1998	3B	7	69,677		2,000		71,677
	Longevity						200		200
Matt Hirtle	Head Filter Oper.	11/4/2002	3B	7	69,677		2,000		71,677
Robert Minor	Head Filter Oper.	4/26/1999	3B	7	69,677		2,000		71,677
John Salerno	Head Filter Oper.	7/3/1989	3B	7	69,677		3,000		72,677
Edward Vieweg	Head Filter Oper.	5/9/1988	3B	7	69,677	15%	10,451.55		80,129
<b>Total Regular Salaries</b>					747,729		48,720	3,714	800,162

**Overtime**

Name	Position				Amount				Total Benefit
	HFOs and Chemist				61,450				61,450
<b>Total Overtime</b>					61,450				61,450

**Uniform Allowance**

Name	Position				Amount				Total Benefit
	(8) HFOs and Chemist				2,160				2,160
<b>Total Uniform Allowance</b>					2,160				2,160

**Car Allowance**

Name	Position				Per/Month	# Months			Total Benefit
Lewis Zediana	Chief Operator				300	12			3,600
Brian Pena	Assistant Superintendent				300	12			3,600
<b>Total Car Allowance</b>					600				7,200

**Sick Leave Buy Back**

Name	Position	Retirement Date		# of Days	Annual Sal.	Weekly Sal.	Daily Sal.	Total Benefit
Robert Miner	Head Filter Oper.			5	\$ 71,677	1,375	\$ 275	1,375
John Salerno	Head Filter Oper.			5	\$ 72,677	1,395	\$ 279	1,395
*** Lew Zediana	Terminal Leave	May-18						44,500
<b>Total Sick Leave Buy-Back</b>					10			47,270

**Holiday Pay**

Name	Position				Amount				Total Benefit
	(4) HFOs				19,800				19,800
<b>Total Holiday Pay</b>					19,800				19,800

**All Other Salaries**

Name	Position				Amount				Total Benefit
Out of Grade	HFOs				2,000				2,000
<b>Total All Other Salaries</b>					2,000				2,000

<b>Department Total</b>									940,042
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\*\*\* Terminal Leave for Lew Zidana  
 Sick Leave - 40% of remaining accrual \$ 44,500.00  
 Vacation as last (6) weeks in annual salary -

**FISCAL YEAR 2017  
DPW WATER FILTRATION DEPARTMENT SALARY INFORMATION**

**Regular Salaries**

Name	Position	Ann. Date	Grade	Step	Base Salary	Longevity %	Longevity \$	Wage Def.	Total Salary
Vacant	Assistant Superintendent Utility		10	1	24,027				24,027
Lewis Zediana	Chief Operator	5/9/1988	10	9	87,812	15%	13,171.86	\$3,073	104,058
Marlene Ladderbush	Chemist	5/17/2004	4	7	70,817		1,500		72,317
Michael Brothers	Head Filter Oper.	8/30/2004	3B	7	67,718		1,500		69,218
Michael Donovan	Head Filter Oper.	3/21/1994	3B	7	67,718		2,500		70,218
Frank Giannetti	Head Filter Oper.	4/8/1985	3	7	63,029	15%	9,454.40		72,484
Patrick Carey	Head Filter Oper.	4/6/1998	3B	7	67,718		2,000		69,718
Matt Hirtle	Head Filter Oper.	11/4/2002	3B	7	67,718		1,500		69,218
Robert Minor	Head Filter Oper.	4/26/1999	3B	7	67,718		2,000		69,718
John Salerno	Head Filter Oper.	7/3/1989	3B	7	67,718		3,000		70,718
Edward Vieweg	Head Filter Oper.	5/9/1988	3B	7	67,718	15%	10,157.71		77,876
<b>Total Regular Salaries</b>					695,685		46,784	3,073	769,570

**Overtime**

Name	Position	Amount	Total Benefit
	HFOs and Chemist	58,000	58,000
<b>Total Overtime</b>		58,000	58,000

**Uniform Allowance**

Name	Position	Amount	Total Benefit
	(8) HFOs and Chemist	240	2,160
<b>Total Uniform Allowance</b>		240	2,160

**Car Allowance**

Name	Position	Per/Month	# Months	Total Benefit
Lewis Zediana	Chief Operator	300	12	3,600
<b>Total Car Allowance</b>		300		3,600

**Sick Leave Buy Back**

Name	Position	Retirement Date	# of Days	Annual Sal.	Weekly Sal.	Daily Sal.	Total Benefit
			10			\$ 270	2,700
<b>Total Sick Leave Buy-Back</b>			10				2,700

**Holiday Pay**

Name	Position	Amount	Total Benefit
	(4) HFOs	19,300	19,300
<b>Total Holiday Pay</b>		19,300	19,300

**All Other Salaries**

Name	Position	Amount	Total Benefit
Out of Grade	HFOs	1,000	1,000
<b>Total All Other Salaries</b>		1,000	1,000

<b>Department Total</b>								856,330
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**FISCAL YEAR 2016  
DPW WATER FILTRATION DEPARTMENT SALARY INFORMATION**

**Regular Salaries**

Name	Position	Ann. Date	Grade	Step	Base Salary	Longevity %	Longevity \$	Wage Def.	Total Salary
Lewis Zediana	Chief Operator	5/9/1988	A/4		83,583	15%	12,399.00		95,982
Marlene Ladderbush	Chemist	5/17/2004	4	7	68,919		1,500		70,419
Michael Brothers	Head Filter Oper.	8/30/2004	3b	7	65,946		1,250		67,196
	Longevity (Full)	12/1/2014			-		250		250
Michael Donovan	Head Filter Oper.	3/21/1994	3b	7	65,946		2,500		68,446
Frank Giannetti	Head Filter Oper.	4/8/1985	3	7	61,449	15%	9,068.00		70,517
Patrick Carey	Head Filter Oper.	4/6/1998	3b	6	51,532		2,000		53,532
	Step	4/23/2016		7	12,395				12,395
Matt Hirtle	Head Filter Oper.	11/4/2002	3b	7	65,946		1,500		67,446
Robert Minor	Head Filter Oper.	4/26/1999	3b	7	65,946		2,000		67,946
John Salerno	Head Filter Oper.	7/3/1989	3b	7	65,946		3,000		68,946
Edward Vieweg	Head Filter Oper.	5/9/1988	3b	7	65,946	15%	9,743.00		75,689
<b>Total Regular Salaries</b>					673,553		45,210	-	718,763

**Overtime**

Name	Position	Amount	Total Benefit
	HFOs and Chemist	68,302	68,302
<b>Total Overtime</b>		68,302	68,302

**Uniform Allowance**

Name	Position	Amount	Total Benefit
	HFOs and Chemist	2,160	2,160
<b>Total Uniform Allowance</b>		2,160	2,160

**Car Allowance**

Name	Position	Per/Month	# Months	Total Benefit
Lewis Zediana	Chief Operator	3,600		3,600
<b>Total Car Allowance</b>		3,600		3,600

**Sick Leave Buy Back**

Name	Position	Retirement Date	# of Days	Annual Sal.	Weekly Sal.	Daily Sal.	Total Benefit
			1,323				1,323
<b>Total Sick Leave Buy-Back</b>			1,323				1,323

**Holiday Pay**

Name	Position	Amount	Total Benefit
	HFOs	18,822	18,822
<b>Total Holiday Pay</b>		18,822	18,822

**All Other Salaries**

Name	Position	Amount	Total Benefit
Out of Grade	HFOs	500	500
<b>Total All Other Salaries</b>		500	500

<b>Department Total</b>								813,470
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**DESCRIPTION/DETAIL**

**DPW WATER FILTRATION OPERATING**

*5210 Energy Utilities*

FY2014 BUDGETED	FY2014 EXPENDED	FY2015 BUDGETED	FY2015 EXPENDED	FY2016 BUDGETED	FY2016 EXPENDED	FY2017 BUDGETED	FY2018 DEPT REQ	FY2018 TM REC
378,797	378,797	397,795	339,941	383,233	392,660	380,000	<b>386,000</b>	<b>386,000</b>

Based on historical average of the last three budgets the plant used \$374,000 of energy.

The average cost of Electricity to produce and pump 1 million gallons from 2014-2016 is 355/mg:

The annual flow through the plant is based on a high consumption year (2014) at 900 million gallons plus 5%

336,000 336,000

\*\*An increase to the plant's electric cost has been incorporated to address estimate to run new aeration facility, light and heat, laboratory addition and new equalizing tank etc.

\$ 25,000 \$ 25,000

Natural gas has varried depending on serverity of winter weather  
Avg NG cost for last three years \$25,000

25,000 25,000

*Total 5210 Energy Utilities:* 386,000 386,000

\*\* Total Expected cost after renovation

Aeration

2.2 MGD \* 35 HP/MGD \* .7471 HP/KWatt \* 3 months \* 30 days/month \* 24 hrs. /day \* \$0.1389/ KWatt- hr. = \$17,259

Equalization tank

2 x 2 HP \* 0.7471 HP/KWatt \* 365 days/yr. \* 18 hrs./day\*\$0.1389 /KWatt-hr. = \$2,727

Additional Lights and Heat for newly installed buildings

2 KWatt \* 365 days \* 24 hrs./day \* \$0.1389/ KWatt-Hr. = \$2,102

Cooling for VFD's

4 KWatts \* 3 months \* 30 days/month \* 24 hrs./day \* \$0.1389 / KWatt-hr. = \$1200

**DESCRIPTION/DETAIL**

**DPW WATER FILTRATION EXPENSES**

*5231 Water Purchase*

FY2014 BUDGETED	FY2014 EXPENDED	FY2015 BUDGETED	FY2015 EXPENDED	FY2016 BUDGETED	FY2016 EXPENDED	FY2017 BUDGETED	FY2018 DEPT REQ	FY2018 TM REC
33,980	33,980	24,760	24,760	26,701	26,701	8,000	<b>8,000</b>	<b>8,000</b>

Purchase of water for residents supplied from the City of Lowell 8,000 8,000

*Total 5231 Water Purchase:* 8,000 8,000

**DESCRIPTION/DETAIL**

**DPW WATER FILTRATION OPERATING**

*5240 Repairs and Maintenance*

	FY2014 BUDGETED	FY2014 EXPENDED	FY2015 BUDGETED	FY2015 EXPENDED	FY2016 BUDGETED	FY2016 EXPENDED	FY2017 BUDGETED	FY2018 DEPT REQ	FY2018 TM REC
	132,682	131,417	136,108	124,821	132,066	119,744	122,836	127,375	127,375

The budget number anticipates need and correctly reflects a BMP of budgeting 10% of operating for repairs and maintenance 127,375 127,375

*Total 5240 Repairs and Maintenance:* \$ 127,375 127,375

***Chemical Feed Pump Repairs and Supplies***

Rebuild Kits for new Chemical feed pumps; the plant has been outfitted with (5) different sized pumps from a new manufacturer; requiring numerous stock parts to be replaced

All spare parts and pumps will be surplusd according to Chapter 30B and/or shared with other regional water districts \$8,000

Walchem antisiphon valves	8	\$145	\$1,160
Chemical Injectors spring loaded	6	\$55	\$330
Various PVC parts/piping, primer, glue	1	\$1,500	\$1,500

***Lubrication***

White Grease, Red Grease, Turbo Oil	1	\$500	\$500
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***Backflow Program***

Brass Inserts for Testing Backflow Devices	1	\$400	\$400
Calibration of Backflow Testing Gauge	2	\$200	\$400

***Sludge Drying System***

Replacement Filter Cloth	2	\$520	\$1,040
Replacement Autovac Vacuum Seals	2	\$1,335	\$2,670
Replacement Vacuum Pump Seals	2	\$1,200	\$2,400
Duct Tape, Two-sided Tape	24	\$10	\$240
New Knife Blades	3	\$1,445	\$4,335

***Replacement Items***

Sample Pumps	0	\$270	\$0
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***Contingency Repair (major failure)***

Unanticipated or Unplanned	1	\$30,000	\$30,000
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***Repair Services***

HVAC Repair	1	\$4,000	\$4,000
Aeration Blower Maintenance	1	\$2,500	\$2,500
Rebuild Flygt pumps	1	\$2,200	\$2,200
Misc.. Repairs and Contingency (small items)	1	\$15,000	\$15,000
Landscaping equipment maintenance/repair	1	\$2,200	\$2,200
Maintenance for remote Stations	1	\$5,000	\$5,000
4 Generators Annual Maintenance (oil/filter)	1	\$1,500	\$1,500
Sludge collection system/ motors/ gears/ chain	2	\$3,000	\$6,000
Mechanical Seals for Large Water Pumps	2	\$2,000	\$4,000

***Facility Maintenance***

Vegetation Mngt at Storage Tank locations	1	\$20,000	\$20,000
Cleaning Services	1	\$12,000	\$12,000

**DESCRIPTION/DETAIL**

**DPW WATER FILTRATION OPERATING**  
*5270 Leases and Contract Services*

FY2014 BUDGETED	FY2014 EXPENDED	FY2015 BUDGETED	FY2015 EXPENDED	FY2016 BUDGETED	FY2016 EXPENDED	FY2017 BUDGETED	FY2018 DEPT REQ	FY2018 TM REC
55,826	51,037	62,889	59,424	70,340	67,812	76,464	<b>83,764</b>	<b>83,764</b>

Instrument Calibration/Repair (Plant, monthly)	12			\$650			7,800	7,800
Hach Calibration program	4			\$4,000			16,000	16,000
Thermo Fluoride applicator maintenance	1			\$1,100			1,100	1,100
Lab Equipment Calibration (Annual)	1			\$1,500			1,500	1,500
Fume Hood Inspection (Annual)	1			\$300			300	300
Copier Maintenance Contract	1			\$600			600	600
HVAC maintenance contract	1			\$8,000			8,000	8,000
Equipment / pump rental	1			\$200			200	200
Tokay Computer Software Annual Support	1			\$500			500	500
Tank Rental Propane	1			\$99			99	99
Tank Lease Nitrogen	1			\$265			265	265
Fire System Maintenance/Testing	2			\$1,500			3,000	3,000
Solarbee tank mixer Maintenance Contract	1			\$2,200			2,200	2,200
Backflow Inspections and surveys	1			\$40,000			40,000	40,000
Maintenance new SCADA system	1			\$2,200			2,200	2,200

*Total 5270 Leases and Contracts:*                    **83,764**                    **83,764**

\*\* Supplemental Request  
     Backflow Inspection    \$5,000



**DESCRIPTION/DETAIL**

**DPW WATER FILTRATION OPERATING**

*5340 Communications*

FY2014 BUDGETED	FY2014 EXPENDED	FY2015 BUDGETED	FY2015 EXPENDED	FY2016 BUDGETED	FY2016 EXPENDED	FY2017 BUDGETED	FY2018 DEPT REQ	FY2018 TM REC
14,000	13,739	16,066	14,809	200,007	15,619	14,000	<b>15,200</b>	<b>15,200</b>

CCR report	1	\$6,500	6,500	6,500
CCTV Monitoring	1	\$2,000	2,000	2,000
Telephone/FIOS (Verizon)	1	\$6,200	6,200	6,200
Backflow direct mailing costs	1	\$500	500	500

*Total 5340 Communications:*                    **15,200**                    **15,200**

**DESCRIPTION/DETAIL**

**DPW WATER FILTRATION OPERATING**

*5420 Office Supplies*

FY2014 BUDGETED	FY2014 EXPENDED	FY2015 BUDGETED	FY2015 EXPENDED	FY2016 BUDGETED	FY2016 EXPENDED	FY2017 BUDGETED	FY2018 DEPT REQ	FY2018 TM REC
2,000	1,635	2,713	2,163	2,700	2,000	2,500	<b>2,500</b>	<b>2,500</b>

Pens, paper, toner, fax supplies,  
File cabinets, ink cartridges, laser jet cartridges  
Labeling/chart printouts and business postage

2,500 2,500

*Total 5420 Office Supplies:* 2,500 2,500

**DESCRIPTION/DETAIL**

**DPW WATER FILTRATION OPERATING**

*5423 All Other Supplies and Equipment*

FY2014 BUDGETED	FY2014 EXPENDED	FY2015 BUDGETED	FY2015 EXPENDED	FY2016 BUDGETED	FY2016 EXPENDED	FY2017 BUDGETED	FY2018 DEPT REQ	FY2018 TM REC
63,650	55,385	62,686	61,247	61,904	51,707	65,105	<b>64,905</b>	<b>64,905</b>

*Laboratory Budget*

Performance Evaluation DEP	1	\$600					600	600
Misc. accessories, expendables	1	\$3,000					3,000	3,000
EPA/DEP Required Sample Analysis	1	\$10,000					10,000	10,000
IOC, SEC, THM, HAA5, VOC, TOC, Chlorite	4	\$2,160					8,640	8,640
UCMR3 mandated analysis (continued)	4	\$1,500					6,000	6,000
Inorganic Chemicals, KI, acids, reagents	1	\$4,000					4,000	4,000
Biological supplies, media	4	\$1,250					5,000	5,000
Microbiology cultures for QC	4	\$100					400	400
Instrumental Supplies, analytical kits	1	\$1,930					1,930	1,930
FEDEX for overnight sample shipments	1	\$3,000					3,000	3,000
Organic Chemicals, dyes, indicators, etc.	1	\$660					660	660
pH meter, supplies, standards, probes	1	\$1,500					1,500	1,500
THM-100 analyzers	1	\$12,000					12,000	12,000
Chemtrec chlorine analyzers (maintenance)	6	\$200					1,200	1,200

*General Plant Items*

Cleaning supplies, brooms, mops, pads	1	\$1,500					1,500	1,500
Paper products (TP, C-fold towels etc.)	1	\$1,000					1,000	1,000
Safety supplies, replacement masks, filters	1	\$1,000					1,000	1,000
Fire /Safety Inspections (extinguishers)	1	\$0					-	-
Misc. items, batteries, flashlights, gloves,	1	\$500					500	500
First Aid kit supplies	6	\$100					600	600
Hazardous chemical disposal	1	\$500					500	500
Shop Tools	1	\$1,000					1,000	1,000
Nitrogen gas, Propane	1	\$875					875	875

*Total 5423 All Other Supplies and Equipment:* 64,905 64,905

**DESCRIPTION/DETAIL**

**DPW WATER FILTRATION OPERATING**

*5429 Computer Equipment*

FY2014 BUDGETED	FY2014 EXPENDED	FY2015 BUDGETED	FY2015 EXPENDED	FY2016 BUDGETED	FY2016 EXPENDED	FY2017 BUDGETED	FY2018 DEPT REQ	FY2018 TM REC
-		-	-	-	-	-	-	-

*Total 5429 Computer Equipment:* - -

**DESCRIPTION/DETAIL**

**DPW WATER FILTRATION OPERATING**

*Chemicals*

FY2014 BUDGETED	FY2014 EXPENDED	FY2015 BUDGETED	FY2015 EXPENDED	FY2016 BUDGETED	FY2016 EXPENDED	FY2017 BUDGETED	FY2018 DEPT REQ	FY2018 TM REC
456,039	450,971	526,722	492,204	550,438	461,823	468,675	468,675	468,675

*Total Chemicals:* 468,675 468,675

Tewksbury Water Plant Chemical Budgeting Using Tank Fill Counts/Deliveries

Historical Analysis of Actual Use of Chemicals

Chemical Name	Amount each fill	Units	FY16	FY15	FY14 Actual amount	FY13 Used	Fill/Delivery (Expected FY18)
NaChlorite	1500	gallons	10	6	7	7	7
Alum	4000	gallons	12	13	12	15	13
Hypo	4000	gallons	8	8	10	11	10
HCl	1000	gallons	6	5	6	6	6
Silly Acid	55	gallons	36	56	54	61	41
25% NaOH	4000	gallons	10	12	11	13	12
ZOP	1000	gallons	1	1	0	1	1
PAC	5	bags	2	4	5	8	5
GAC	70000	pounds	1	1	1	1	1
DE	40	bags	10	11	10	9	10

This method is based on fill counts of chemical deliveries

Based on actual amount of each chemical used and historically how many deliveries or fills used.

One cycle of each chemical (where applicable) is added for contingency of a hot summer, high usage or low amount at end of year.

Depending on usage and how much chemical is left at the end of the year will determine if the extra fill is needed.

Certain chemicals such as GAC and ZOP will not have overages due to the nature of the usage.

Prediction of Chemical Use and Expected Cost \$

Chemical Name	Amount	Units	Fills	Cost /fill FY17	Total Cost	Add 1 fill	Total Used \$
NaChlorite	1500	gallons	7	\$8,663	\$60,641	\$8,663	\$69,304
Alum	4000	gallons	13	\$4,031	\$52,403	\$4,031	\$56,434
Hypo	4000	gallons	10	\$2,635	\$26,350	\$2,635	\$28,985
HCl	1000	gallons	6	\$1,833	\$10,998	\$1,833	\$12,831
Silly Acid (Fluoride)	55	gallons	41	\$214	\$8,767	\$214	\$8,981
25% NaOH	4000	gallons	12	\$3,190	\$38,280	\$3,190	\$41,470
ZOP (Corrosion Inhibitor)	1000	gallons	1	\$8,650	\$8,650	\$0	\$8,650
**PAC	5	bags	5	\$1,300	\$6,500	\$1,300	\$7,800
GAC (two filters per year)	70000	pounds	1	\$77,826	\$77,826	\$0	\$77,826
*DE	40	bags*	10	\$13,400	\$134,000	\$13,400	\$147,400
					\$424,415	\$35,266	\$ 459,681

Some misc. chemicals are purchased such as ice melter, back-up barrels of chemicals etc.

\*DE comes in 1000 lb. super sacks

\*\*PAC comes in 900 lb. supersacks

Some misc. chemicals are purchased such as ice melter, back-up barrels of chemicals etc.

Due to favorable marketing conditions chemical pricing is based on FY17 prices

Please note that some chemicals shall be shipped in different volumes as the new unit process comes online.

The total volumes are the same.

**DESCRIPTION/DETAIL**

**DPW WATER FILTRATION OPERATING**

*Residual Disposal*

FY2014 BUDGETED	FY2014 EXPENDED	FY2015 BUDGETED	FY2015 EXPENDED	FY2016 BUDGETED	FY2016 EXPENDED	FY2017 BUDGETED	FY2018 DEPT REQ	FY2018 TM REC
56,392	52,795	63,410	60,107	79,758	64,155	66,000	<b>56,090</b>	<b>56,090</b>

*Total Residual Disposal:* 56,090 56,090

**Residuals Calculation:**

Based on typical 870 Million Gallons of water production and producing 35 mg/L of total settling solids from the pretreatment. The plant will use about 360,000 lbs. of DE which will remove 327,000 (+/-) lbs of solids. The typical sludge has a moisture content of about 33%. Therefore the 687,000 lbs of solids will yield 2,081,818 lbs of wet cake. Amount generated: 1,040 +/- tons of wet cake per year. Unit load (Dumpster) consist of 5-6 runs. Each run @ 3 tons +/-, for a total of 15-18 tons +/- per pull

1041	\$20.00	Tipping fee/Ton	\$20,820.00			
60	\$505.00	Hauling/Pull	\$30,300.00	or	\$4,260.00 per month	\$51,120.00
			\$51,120.00			

Since sludge production is unpredictable extra money is budgeted for heavy production years and Where water quality may contain heavy levels of solid (TSS). 60 Tons \$3,220.00

Also, additional dried sludge is produced when process/storage tanks for sludge are cleaned. 35 Tons \$1,750.00

**DESCRIPTION/DETAIL**

**DPW WATER FILTRATION OPERATING**  
Water Assessment

FY2014 BUDGETED	FY2014 EXPENDED	FY2015 BUDGETED	FY2015 EXPENDED	FY2016 BUDGETED	FY2016 EXPENDED	FY2017 BUDGETED	<b>FY2018 DEPT REQ</b>	<b>FY2018 TM REC</b>
8,000	6,911	8,000	7,330	8,000	7,636	8,000	<b>8,000</b>	<b>8,000</b>
Mandatory fee charged by DEP based on previous years reported water volumes							8,000	8,000
<i>Total Water Assessment:</i>							8,000	8,000

**DESCRIPTION/DETAIL**

**DPW WATER FILTRATION OPERATING**

*5580 Uniform Allowance*

FY2010 BUDGETED	FY2010 EXPENDED	FY2011 BUDGETED	FY2011 EXPENDED	FY2012 BUDGETED	FY2012 EXPENDED	FY2013 BUDGETED	FY2014 DEPT REQ	FY2014 TM REC
1,800	588	-	-	-	-	-	-	-

*Total 5580 Uniform Allowance:* - -

**DESCRIPTION/DETAIL**

**DPW WATER FILTRATION OPERATING**

*5703 Dues and Memberships*

FY2014 BUDGETED	FY2014 EXPENDED	FY2015 BUDGETED	FY2015 EXPENDED	FY2016 BUDGETED	FY2016 EXPENDED	FY2017 BUDGETED	FY2018 DEPT REQ	FY2018 TM REC
700	481	700	319	700	534	700	<b>700</b>	<b>700</b>

Professional Water and Microbiology organizations and publications incl: American Water Works Association,  
New England Water Works Association, Massachusetts Water Works Association for Chief Operator and Chemist

700 700

*Total 5703 Dues and Memberships:* 700 700

**DESCRIPTION/DETAIL**

**DPW WATER FILTRATION OPERATING**

*5790 Staff Development/Training*

FY2014 BUDGETED	FY2014 EXPENDED	FY2015 BUDGETED	FY2015 EXPENDED	FY2016 BUDGETED	FY2016 EXPENDED	FY2017 BUDGETED	FY2018 DEPT REQ	FY2018 TM REC
2,500	2,500	3,064	2,670	3,688	3,000	2,500	<b>3,000</b>	<b>3,000</b>

Staffing education for renewal of drinking water license.  
(9) staff 20 credits over 2-years

3,000 3,000

*Total 5790 Staff Development/Training:*

3,000 3,000

**DESCRIPTION/DETAIL**

**DPW WATER FILTRATION**  
*5833 Capital Outlay*

FY2014 BUDGETED	FY2014 EXPENDED	FY2015 BUDGETED	FY2015 EXPENDED	FY2016 BUDGETED	FY2016 EXPENDED	FY2017 BUDGETED	FY2018 DEPT REQ	FY2018 TM REC
-		-		-		-	-	-

*Total 5833 Capital Outlay:* - -