



How it Works

Water Treatment and Distribution in London TIIAME



The
**Teaching
Toolkit** by the
City of London



Lake Huron & Elgin Area Water Supply Systems

- London is supplied treated water through the Lake Huron Primary Water Supply System and the Elgin Area Primary Water Supply System

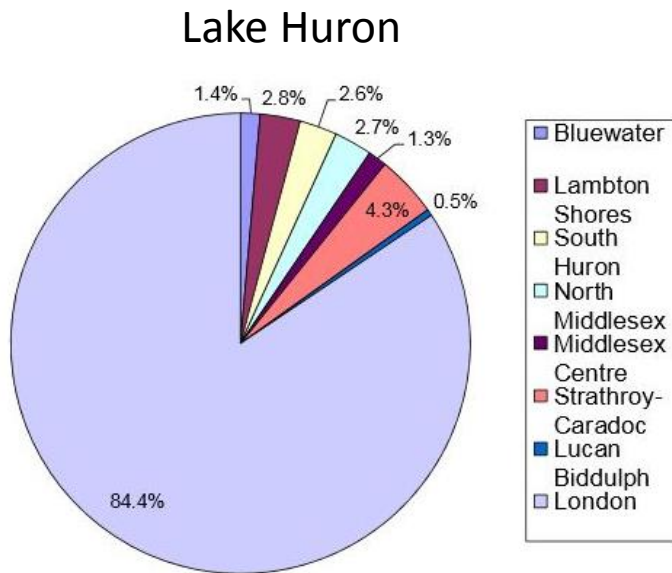


Figure 12: 2012 Treated Water Volume per Municipality

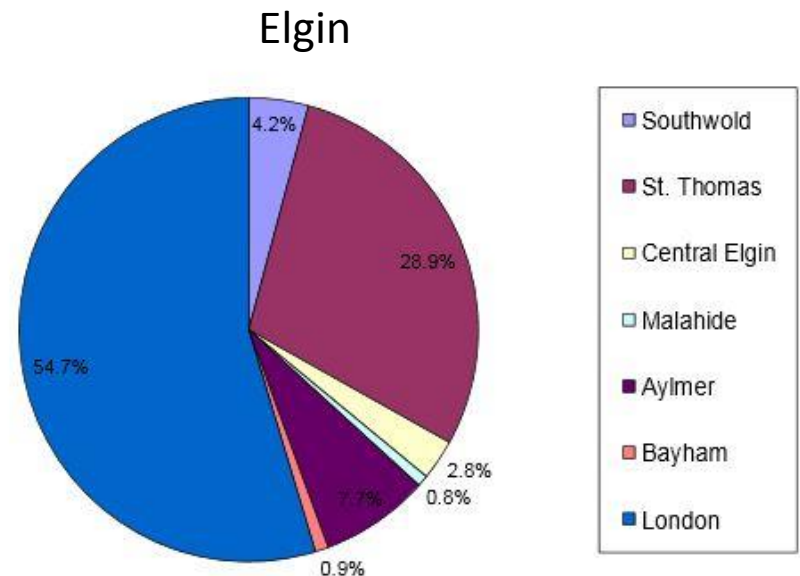


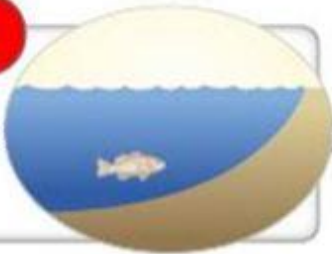
Figure 10 - 2012 Treated Water Volume per Municipality

The Value of Water

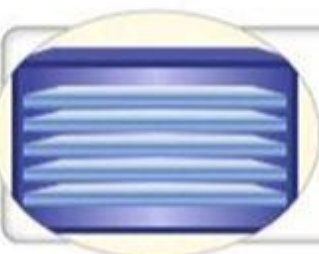


- The City of London uses 132 000 000 litres per day
- The average household uses 15 000 litres per month

1
Water Intake



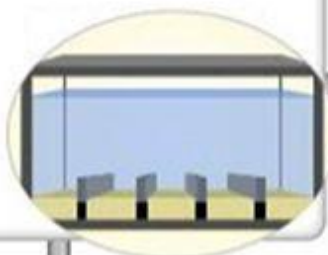
2
Intake
Screens



3
Pre-
Chlorination

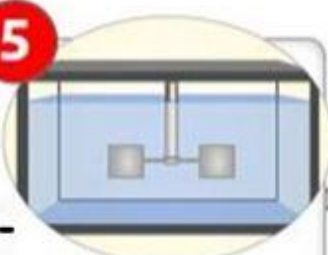


6
Sedimentation

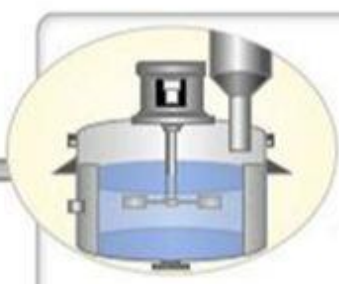


5
Coagulation-

Flocculation



4
Flash
Mixing



7
Filtration



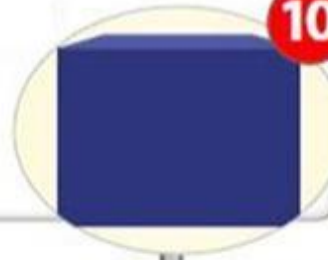
8
Post-Chlorination



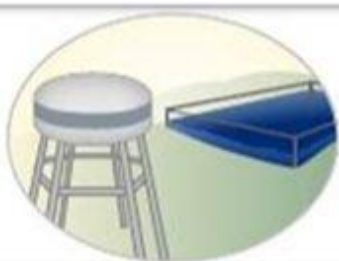
Fluoridation

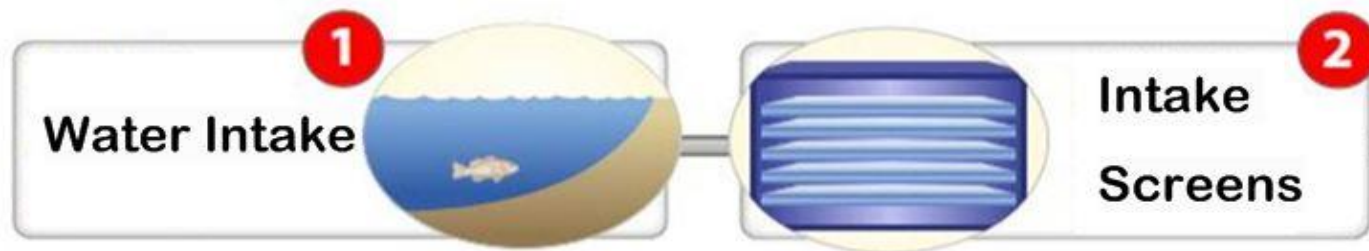


10
Clear Well



11
Distribution





This is the low lift pump station which pumps the lake water from Lake Erie to the treatment plant.



The lake water from Lake Huron is fully treated within this building before starting its journey to London.



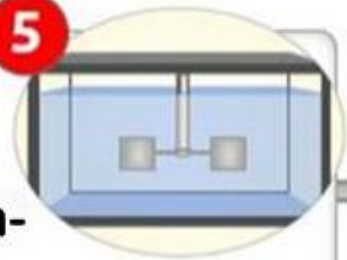
Chlorinator	Location
1	Intake Crib
2	Pre-Chlorinator
3	Post-Chlorinator
4	Spare (Redundancy)

These chlorinators control the concentration of chlorine distributed throughout the treatment processes including pre-chlorination.



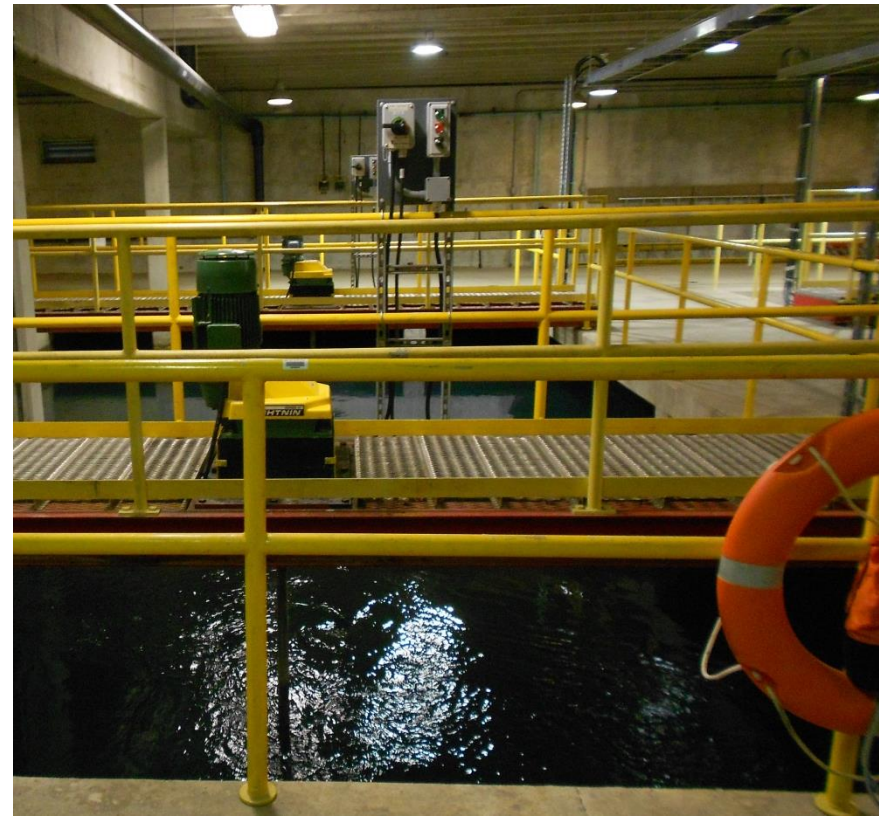
How it Works

5



Coagulation-

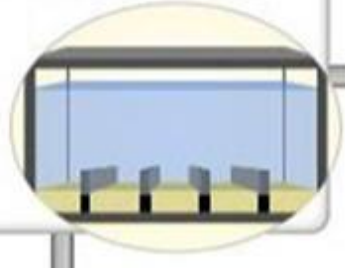
Flocculation

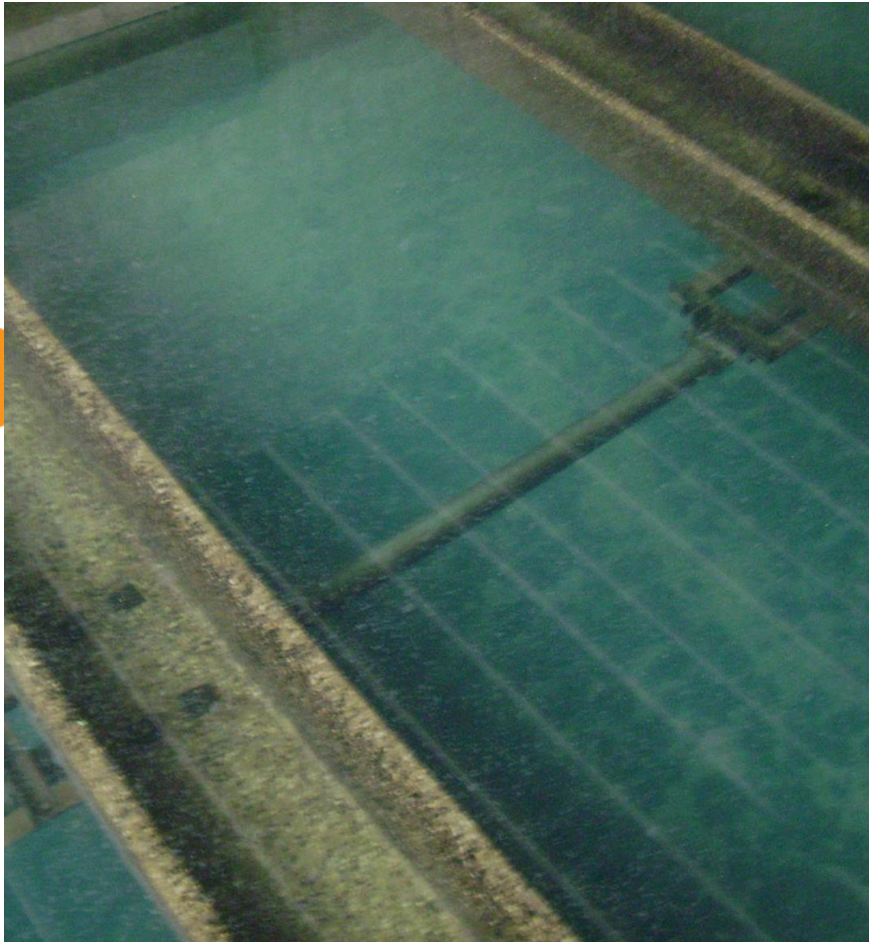




Sedimentation

6

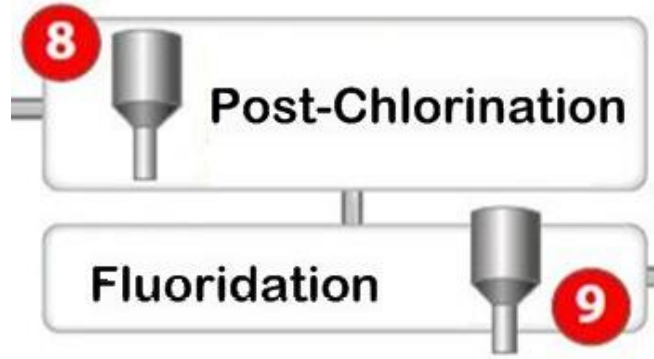




This is a diagram cross-section of the filters present at Elgin and Huron treatment plants.



How it Works



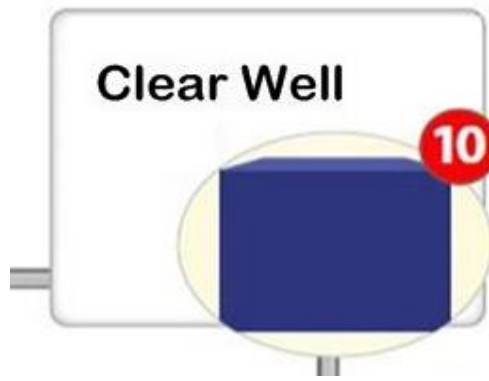
Fluoride tanks at Arva Pumping Station put fluoride into the water coming into the City from Lake Huron.



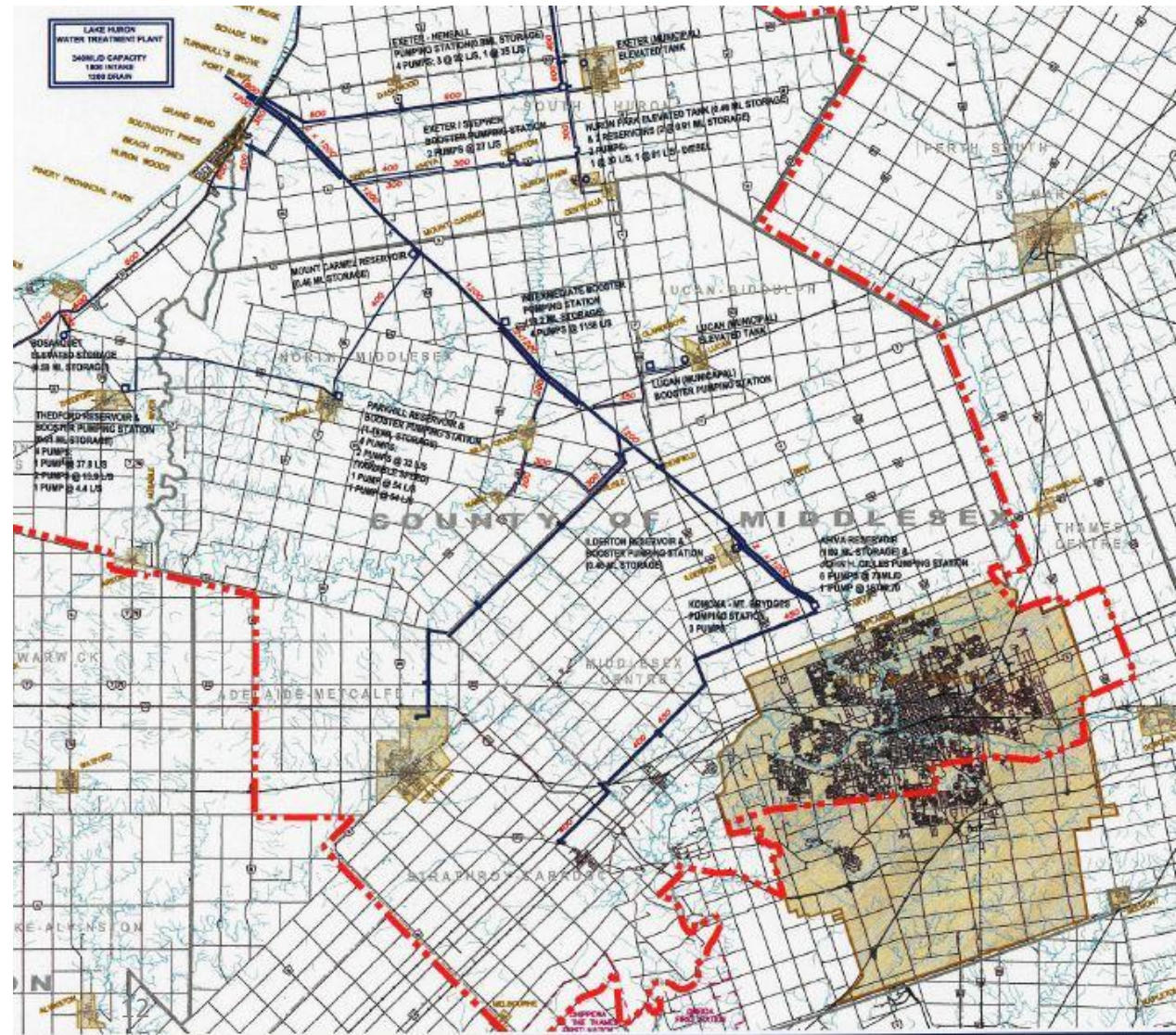
Measuring Residual Chlorine



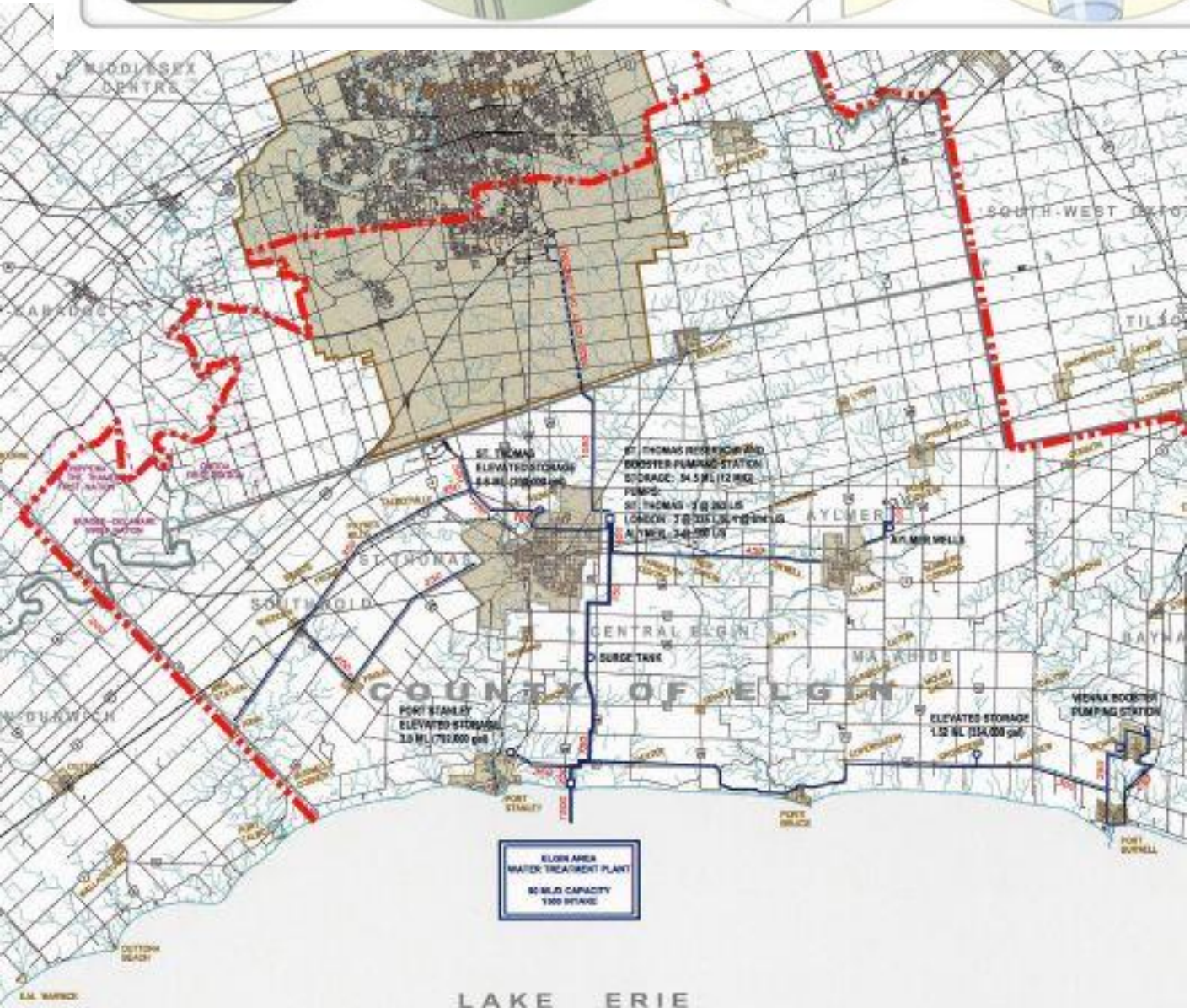
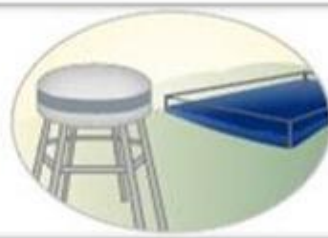
How it Works



Distribution

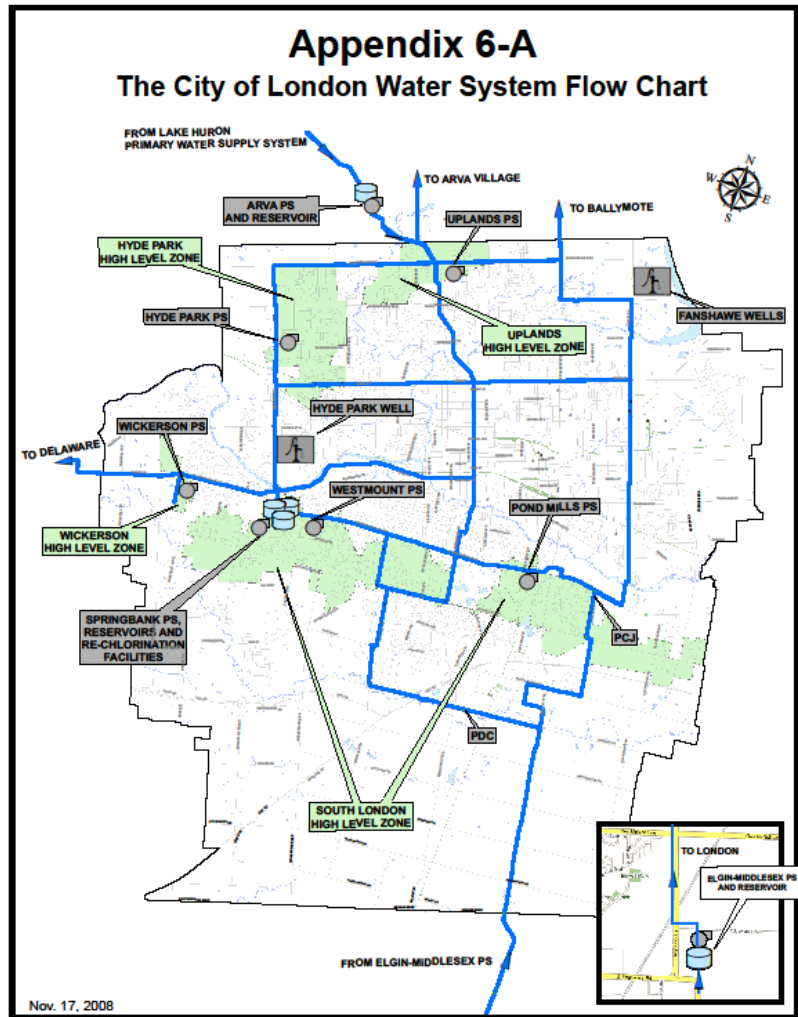


Distribution





Distribution







A concrete utility building with a light blue door and a large white roll-up garage door. A blue address sign above the door displays the number "844". A white pickup truck is parked in front of the garage door. The building has a flat roof with a metal safety fence. On the left side of the building, there is a small blue logo and the word "MUNICIPAL" written vertically.

A green utility cabinet with a white base and a metal railing. It is situated on a concrete pad next to a grassy hill.

A white pickup truck with a utility bed, parked in front of the concrete building. It has a yellow emergency light on the roof and a license plate that reads "88-877".

844

MUNICIPAL



Pumping Stations



Above: Uplands Pumping Station
Upper Right: Arva Pumping Station
Lower Right: Re-Chlorination at Springbank Reservoirs

City of London Water Supply Chlorine Residuals and Bacteriological Sampling Locations

▲ Daily City Wide Sampling Locations

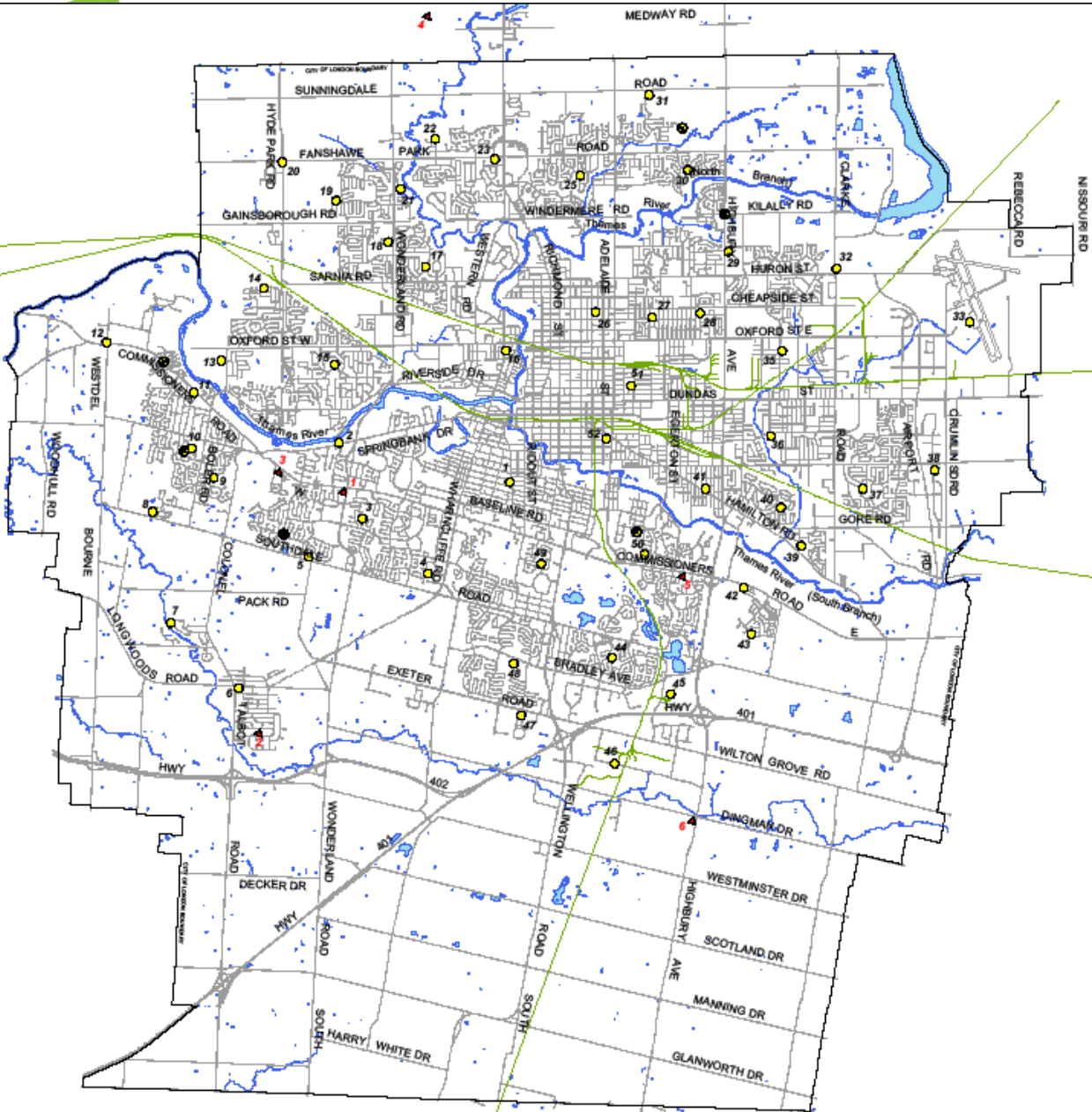
Site ID	Location Description	Address
1	Westmont Pumping Station	633 Wonderland Road
2	47 Outer Drive	47 Outer Drive
3	#5 Reservoir	844 Commissioners Road
4	Arva Pumping Station	13696 Medway Road
5	Pond Mills Pumping Station	1121 Commissioners Road E.
6	Highbury Avenue @ Dingman Dr.	2005 Dingman Drive

● Monthly City Wide Sampling Locations

Site ID	Location Description	Address
1	Worley Road School	310 Worley Road
2	Chic Garden Complex	615 Highridge Drive
3	W. Sherwood Fox School	690 Sleephease Drive
4	Sir Isaac Brook School	80 St. Lawrence Boulevard
5	Westmont Pharmacy	1005 Fairham Road
6	Main Street Filter Plant	2028 Main Street
7	Fire Hydrant	3942 West Gahm Place
8	Fire Hydrant	1745 Birchwood Drive
9	Byron Somerset School	176 Whitewood Avenue
10	Byron Southwood School	1379 Lois Street
11	Byron Northlaw Public School	1370 Commissioners Road W
12	Brookhans's Elm	1919 Commissioners Road W
13	St. Thomas Aquinas S.S.	1365 Oxbow Street
14	Fire Hydrant	1172 Manchester Road
15	Oakridge Arena	625 Valetta Street
16	Empress Public School	214 Winfield Road N
17	Orchard Park Public School	50 Wychood Park
18	Medway Arena	119 Sherwood Forest Square
19	St. Marguerite D'ouville	170 Hawthorne Road
20	Fanshawe Motors	1446 Fanshawe Park Road W
21	Lawson Museum	1600 Alwarden Road
22	Fire Hydrant	170 West Riverence Walk
23	Messaline School	25 Hillview Boulevard
24	Jack Chambers School	1650 Hastings Drive N
25	Stoneybrook School	1460 Stoneybrook Crescent S
26	St. Michael's School	626 Millard Street
27	Knoxford Park School	70 Cawenage Street
28	Sir John A. MacDonald School	1150 Landon Street
29	Montclair SS	1200 Highbury Avenue
30	Knothridge School	25 McLean Drive
31	Mother Theresa SS	1065 Surringdale Road
32	Royal Rent-All Centre	1900 Haron Street
33	London International Airport	750 Cunliffe Road
34	Bonaventure Meadows School	141 Bonaventure Drive
35	F. D. Roosevelt School	560 Second Street
36	Prince Charles School	1601 West Street
37	John P. Roberts School	64 Bow Street
38	Bubbie's Diner	490 Sovereign Road
39	London District Christian School	24 Bransley Avenue
40	Thesedeur School	349 Bransley Avenue
41	Salting School	640 Hamilton Road
42	Mac's Convenience Store	1467 Commissioners Road E
43	Fire Hydrant	3625 Meadonville Boulevard
44	Wilcox Grove School	626 Ogilvie Drive
45	Buchanan Hydro One Sub-Station	690 Pond Mills Road
46	Fire Hydrant	1010 Green Valley Road
47	Ministry of Transportation	691 Gower Road
48	White Oaks School	565 Bradley Avenue
49	Sir George Elmerie Carter School	695 Chiddingfold Avenue
50	C.C. Carothers School	390 Chippendale Crescent
51	Lorne Avenue School	72 Lorne Avenue
52	Aberdeen School	590 Grey Street

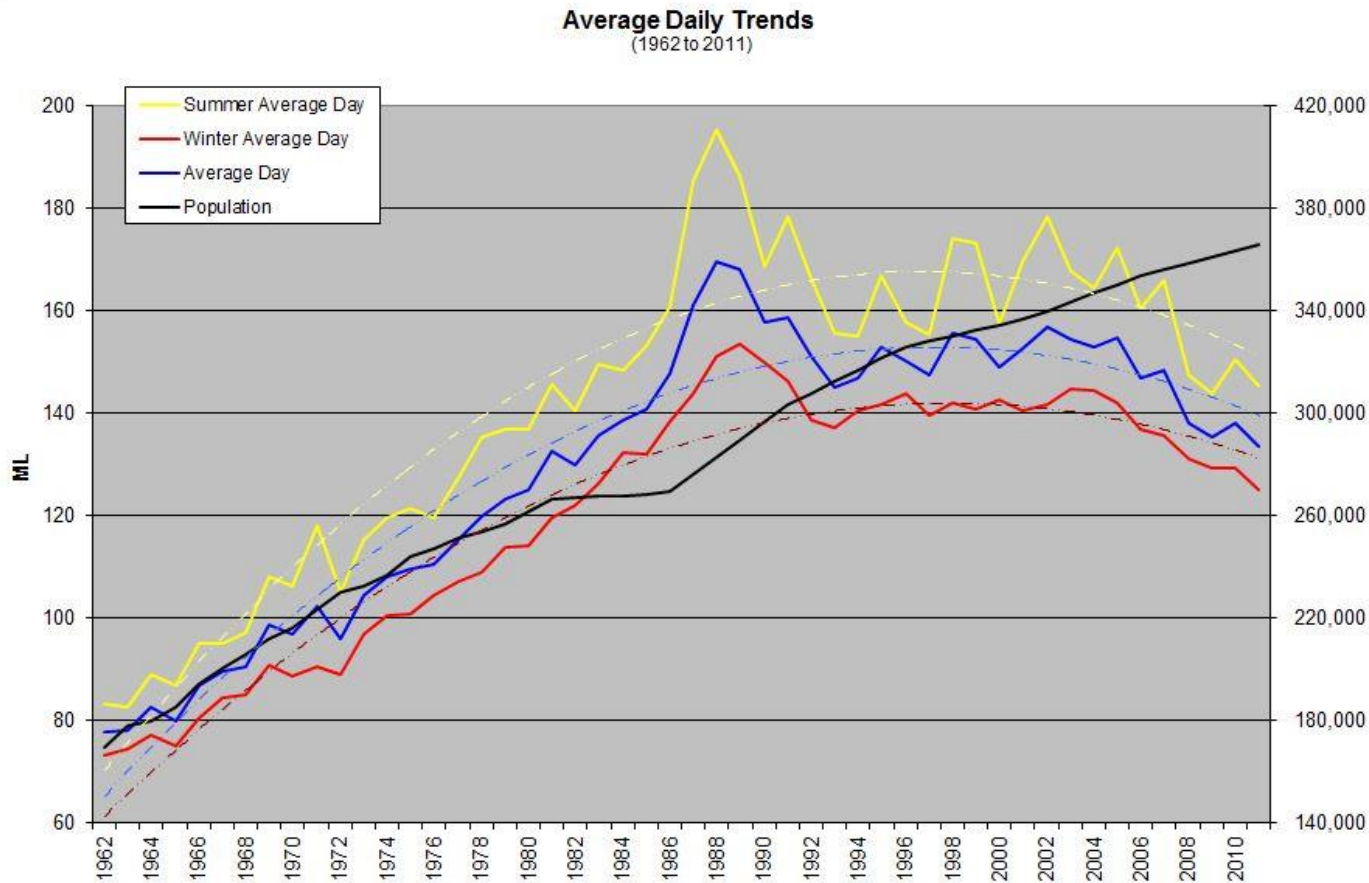


Scale

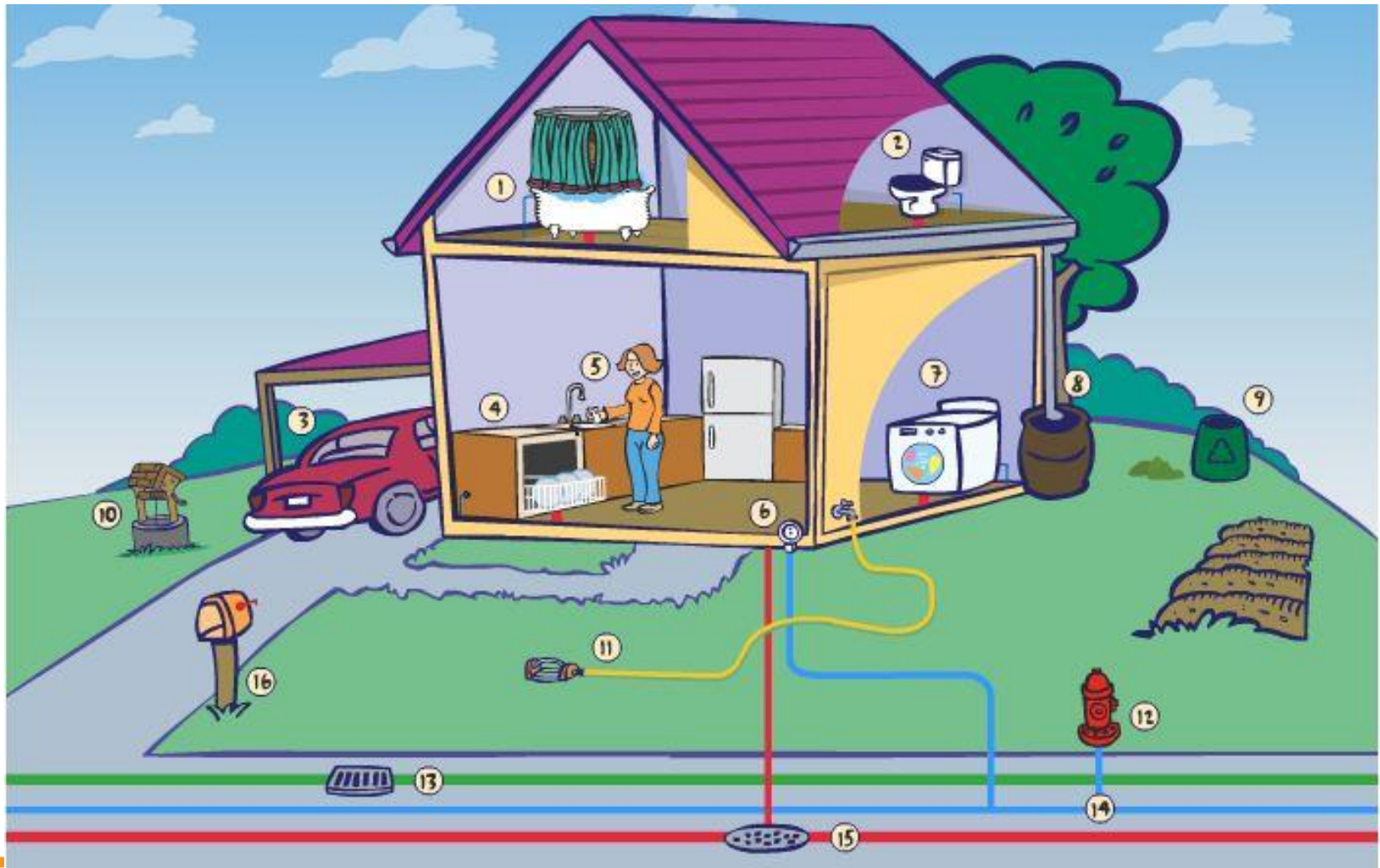


Water Use in London

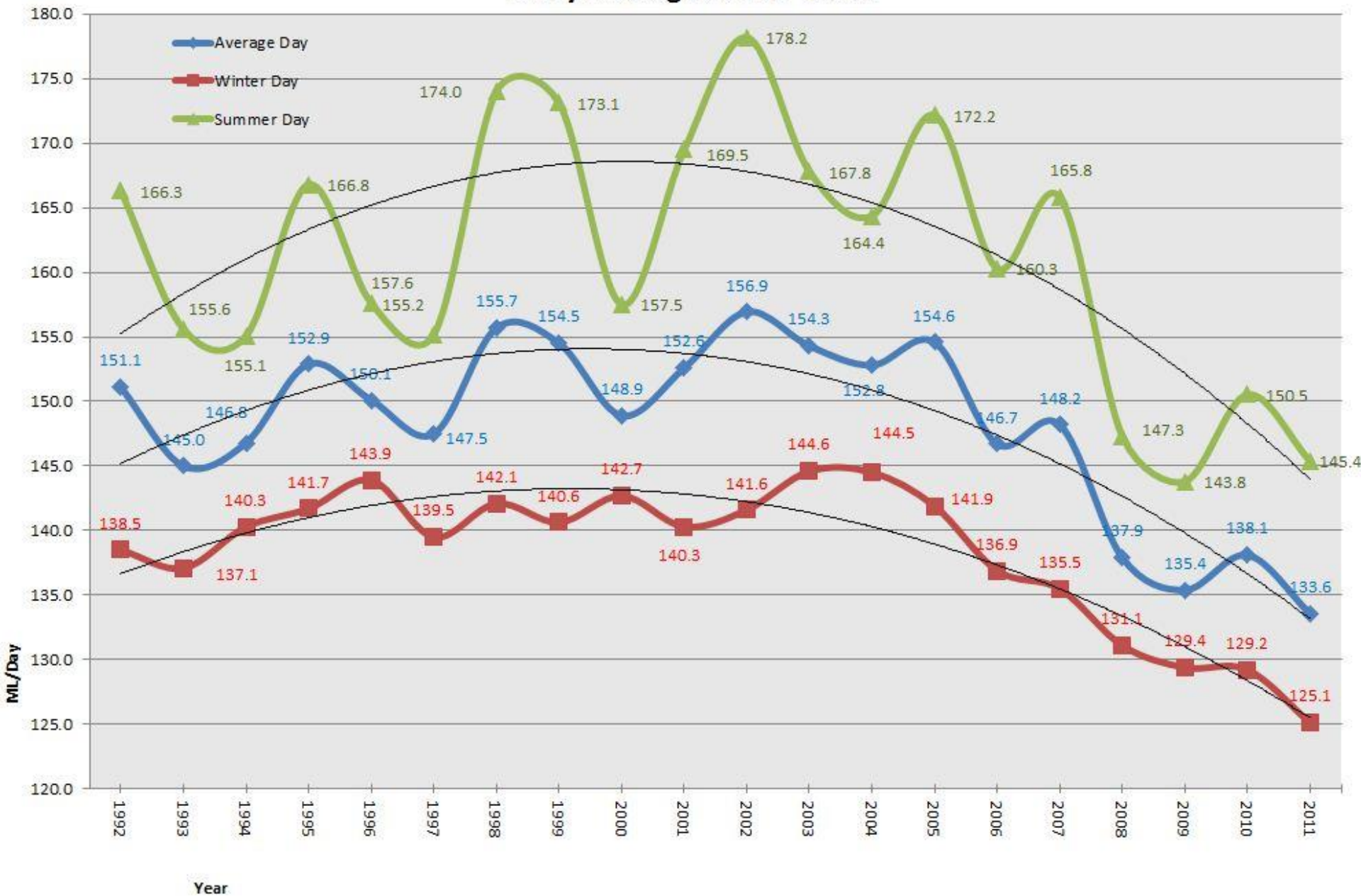
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WATER



Daily Averages 1992 - 2011



Conclusion

- As population continues to increase in the City of London there will be increased demands on our water system.
- Water conservation is a great way to reduce these impacts!

