Figure SWL-7: Static Water Levels and Groundwater Temperature
MMM-09-01 Nest

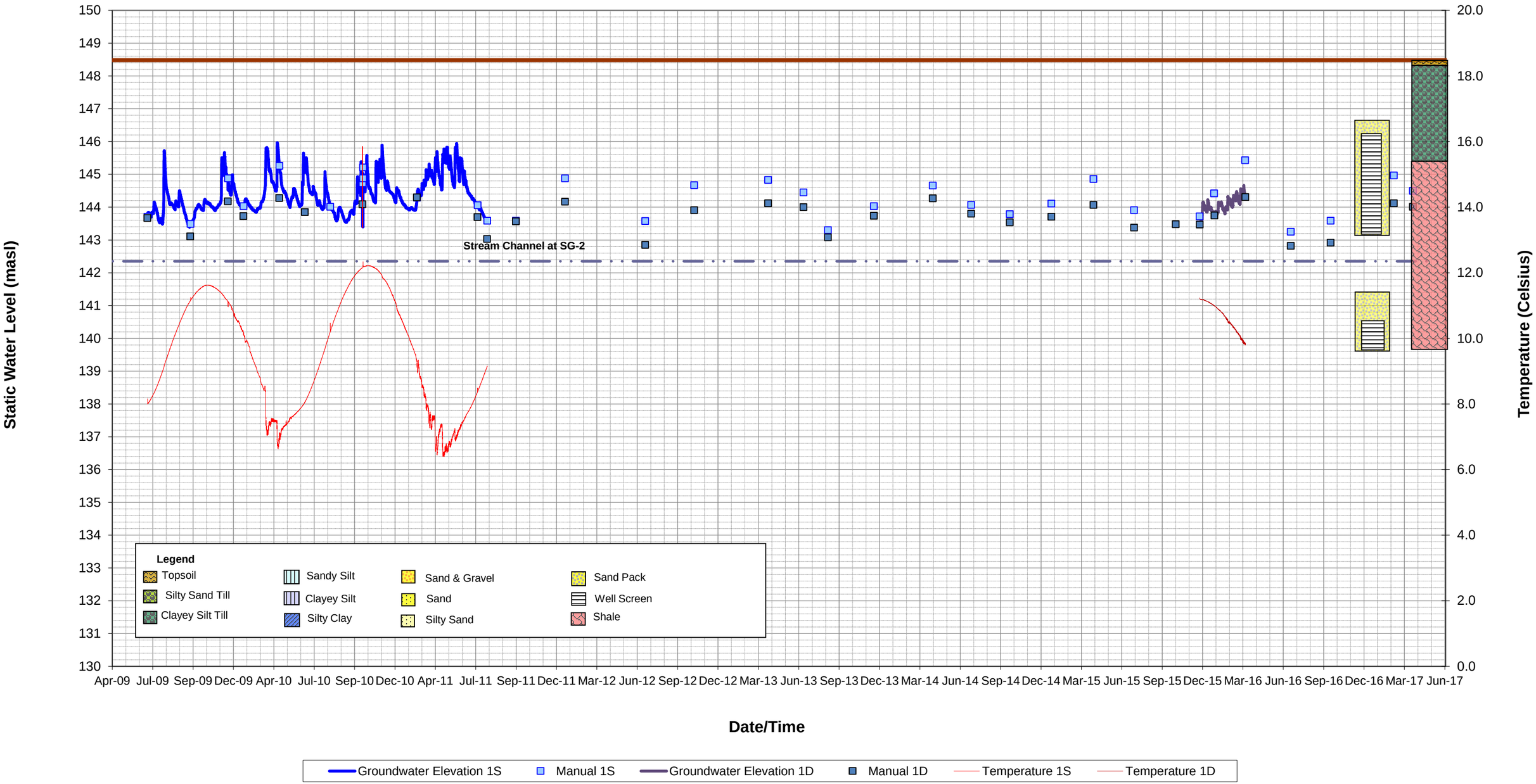


Figure SWL-7a: Static Water Levels
MMM-09-01 Nest - 5 m Vertical Scale

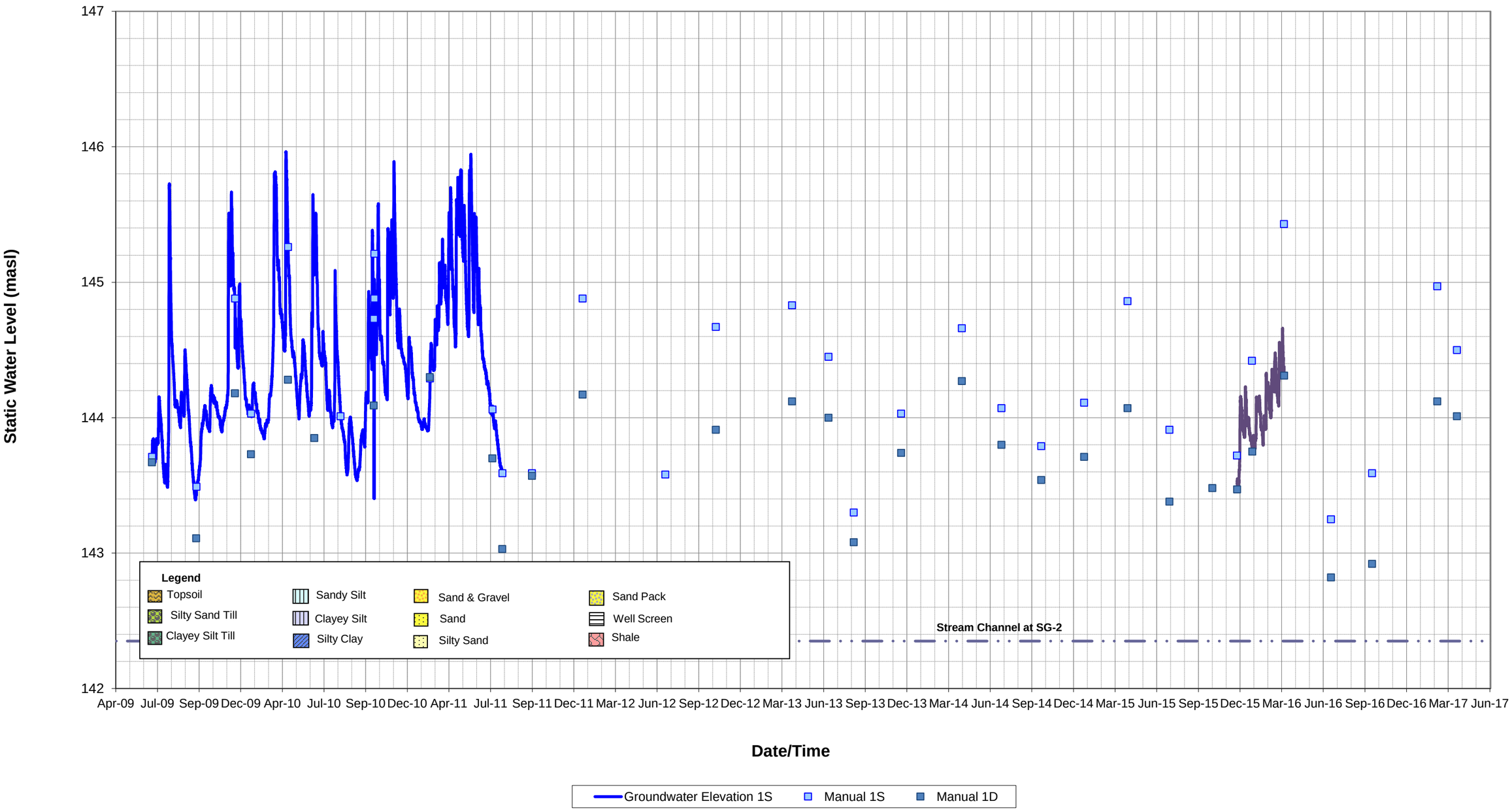


Figure SWL-8: Static Water Levels and Groundwater Temperature
MMM-09-04

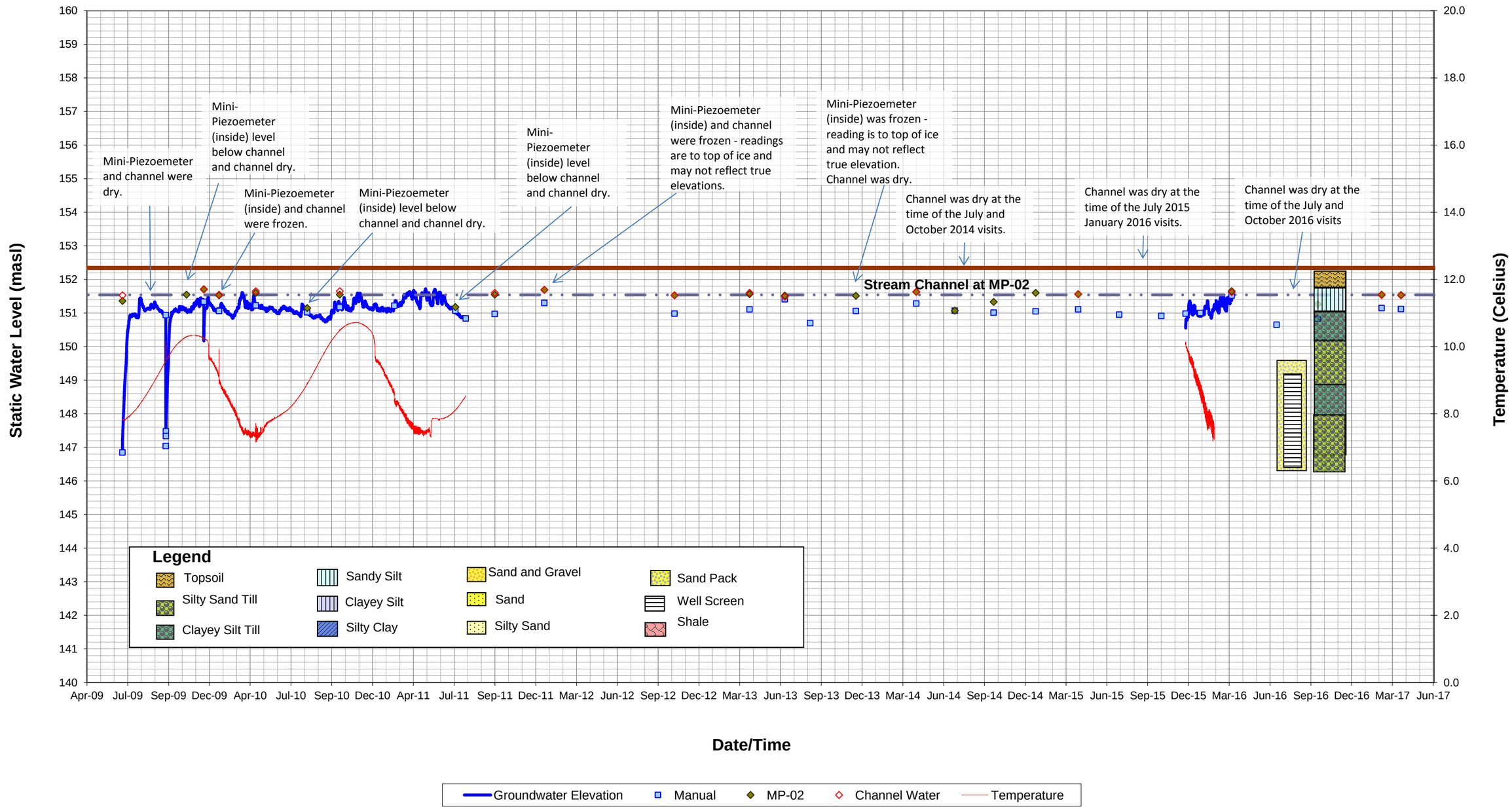


Figure SWL-8a: Static Water Levels
MMM-09-04 - 5 m Vertical Scale

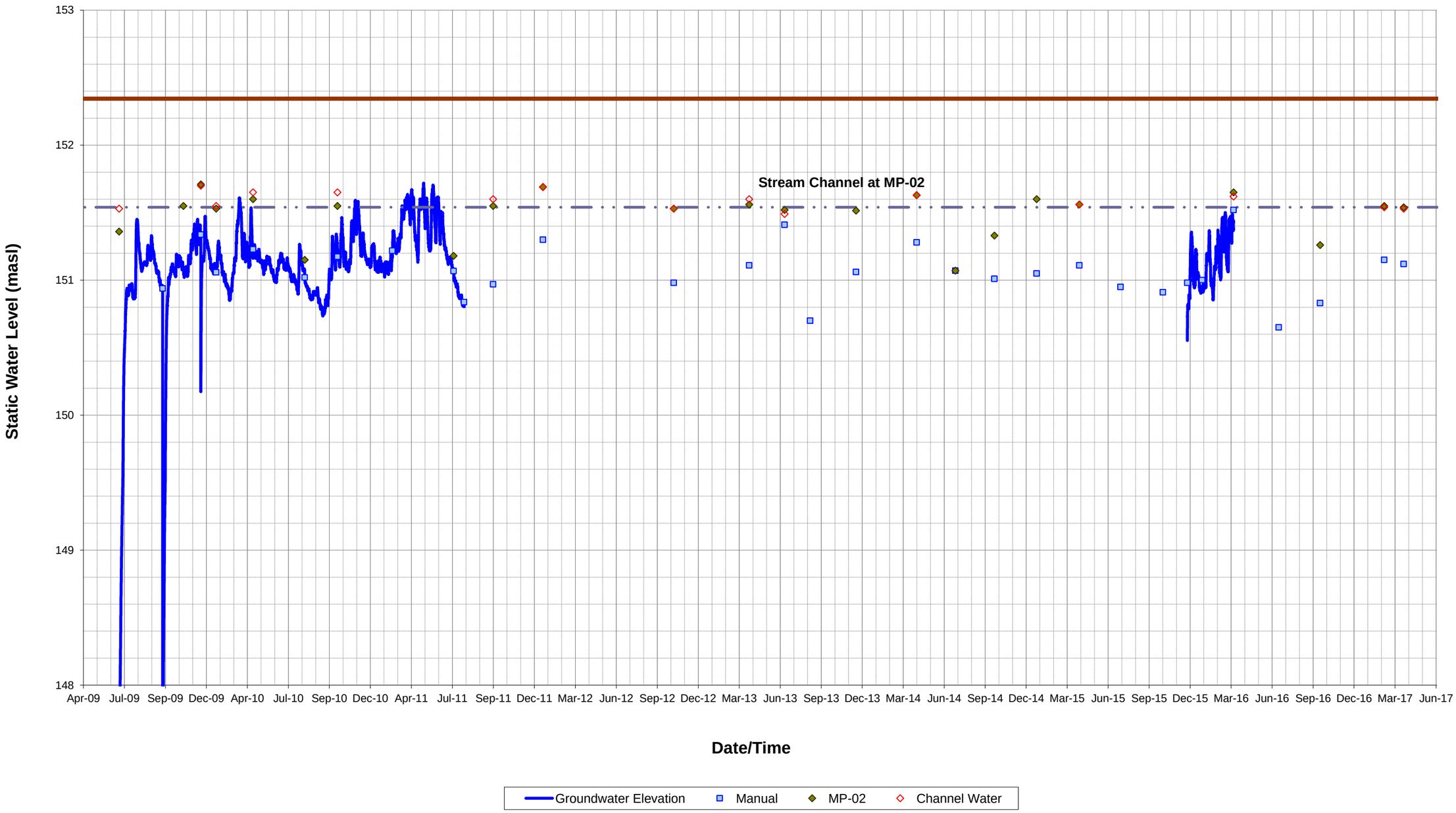


Figure SWL-9: Static Water Levels and Groundwater Temperature
MMM-09-09

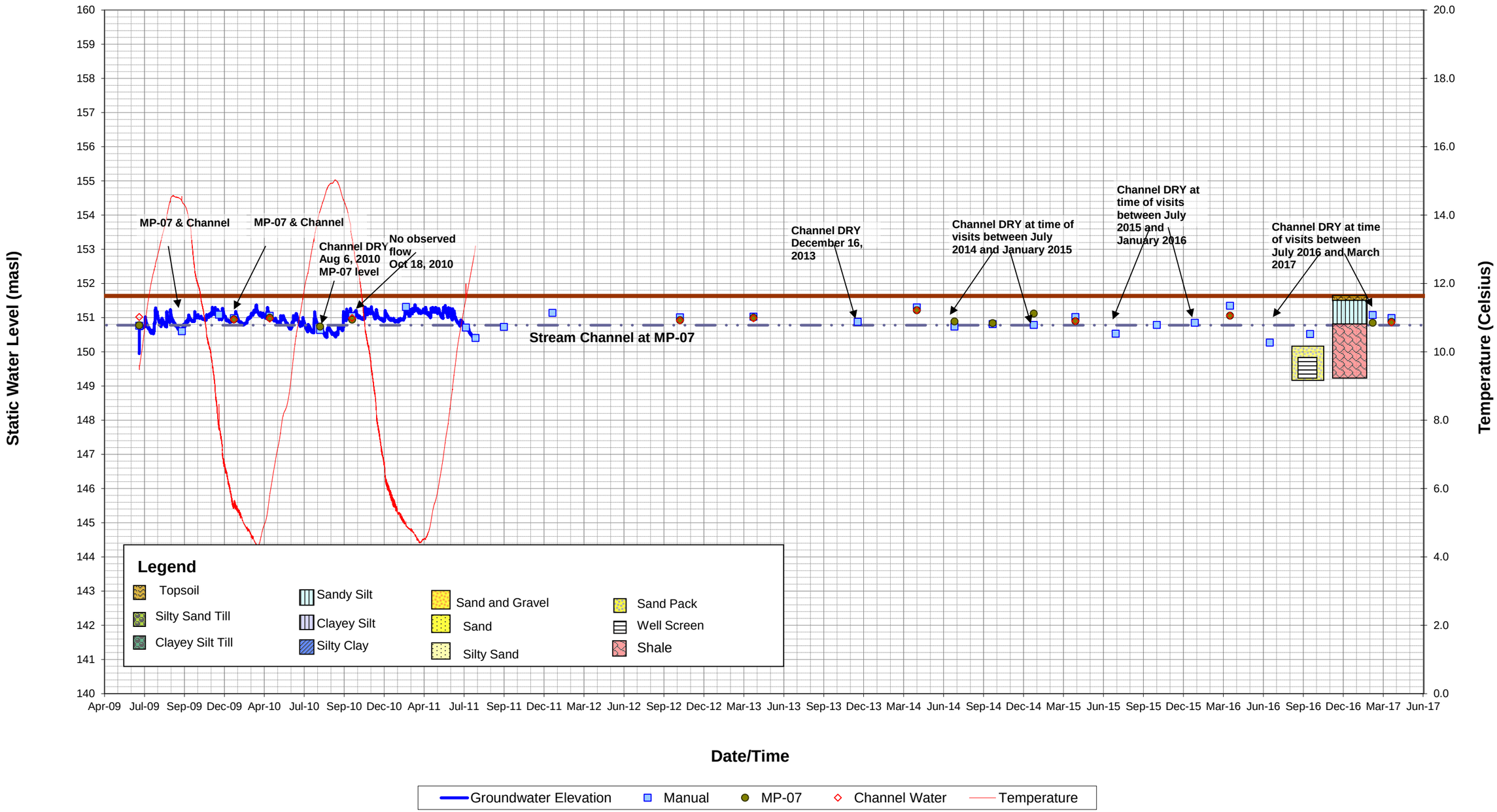


Figure SWL-9a: Static Water Levels
MMM-09-09 - 5 m Vertical Scale

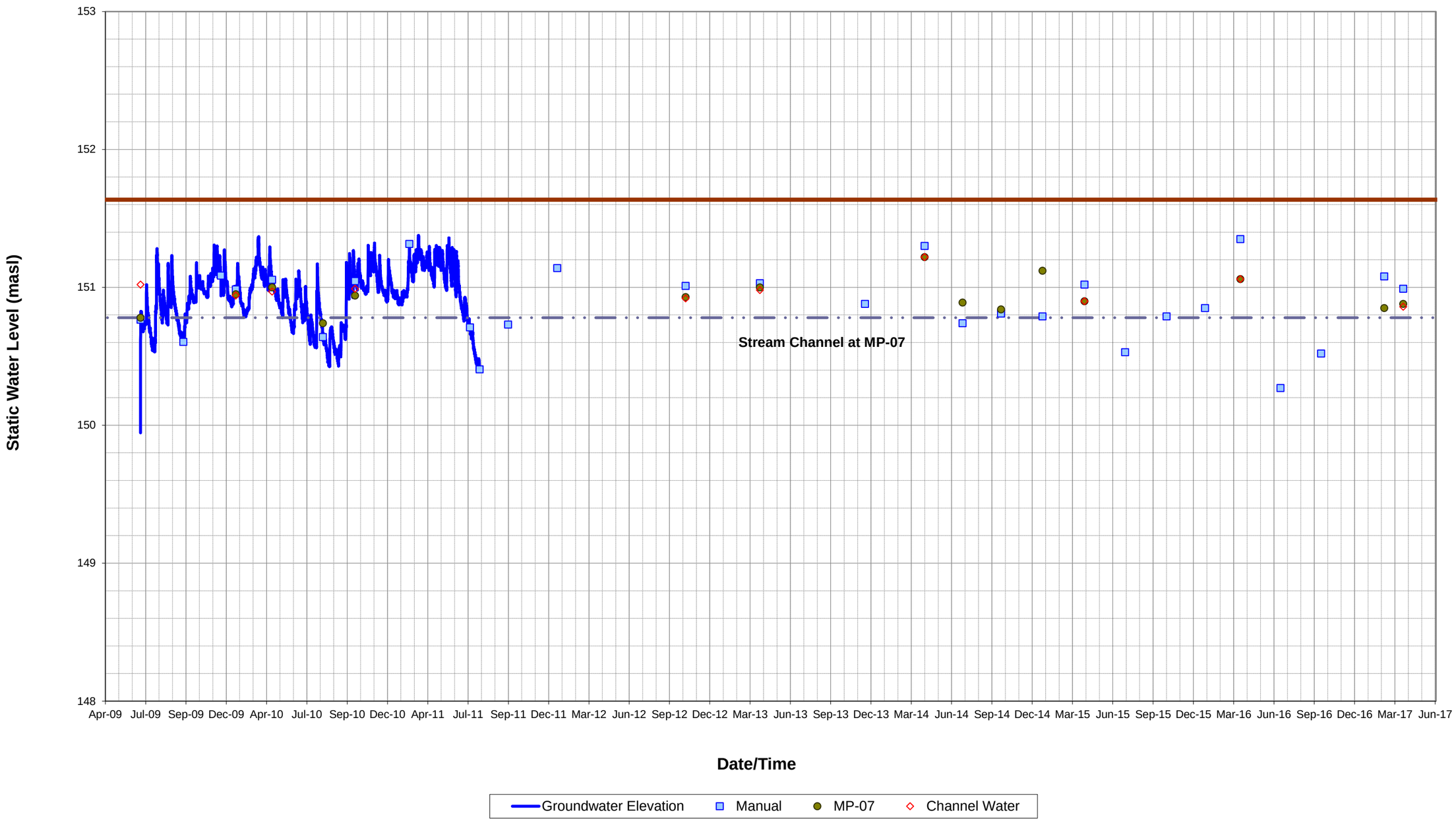


Figure SWL-10: Static Water Levels and Groundwater Temperature
MMM-09-10 Nest

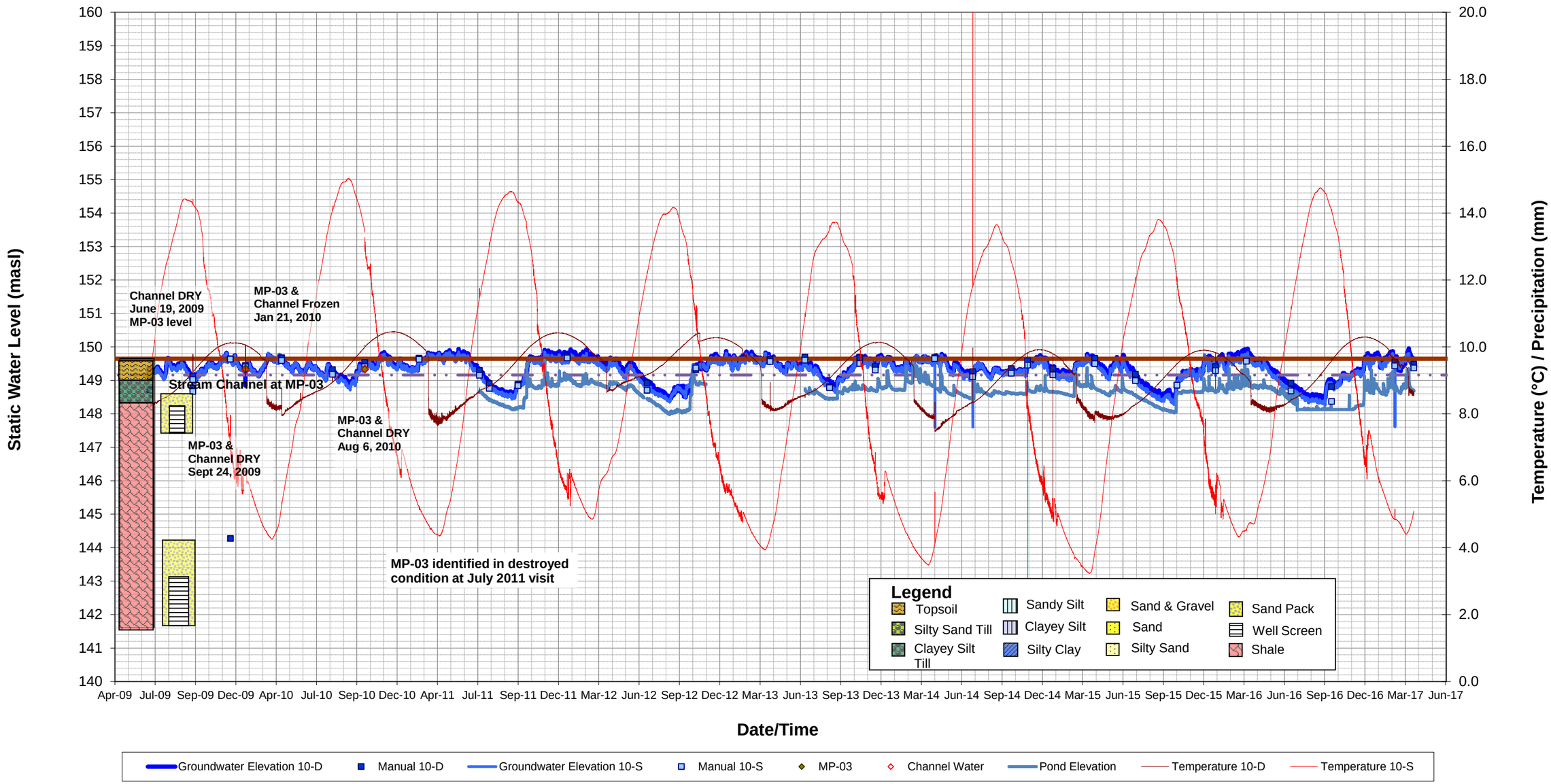


Figure SWL-10a: Static Water Level
MMM-09-10 Nest - 5 m Vertical Scale

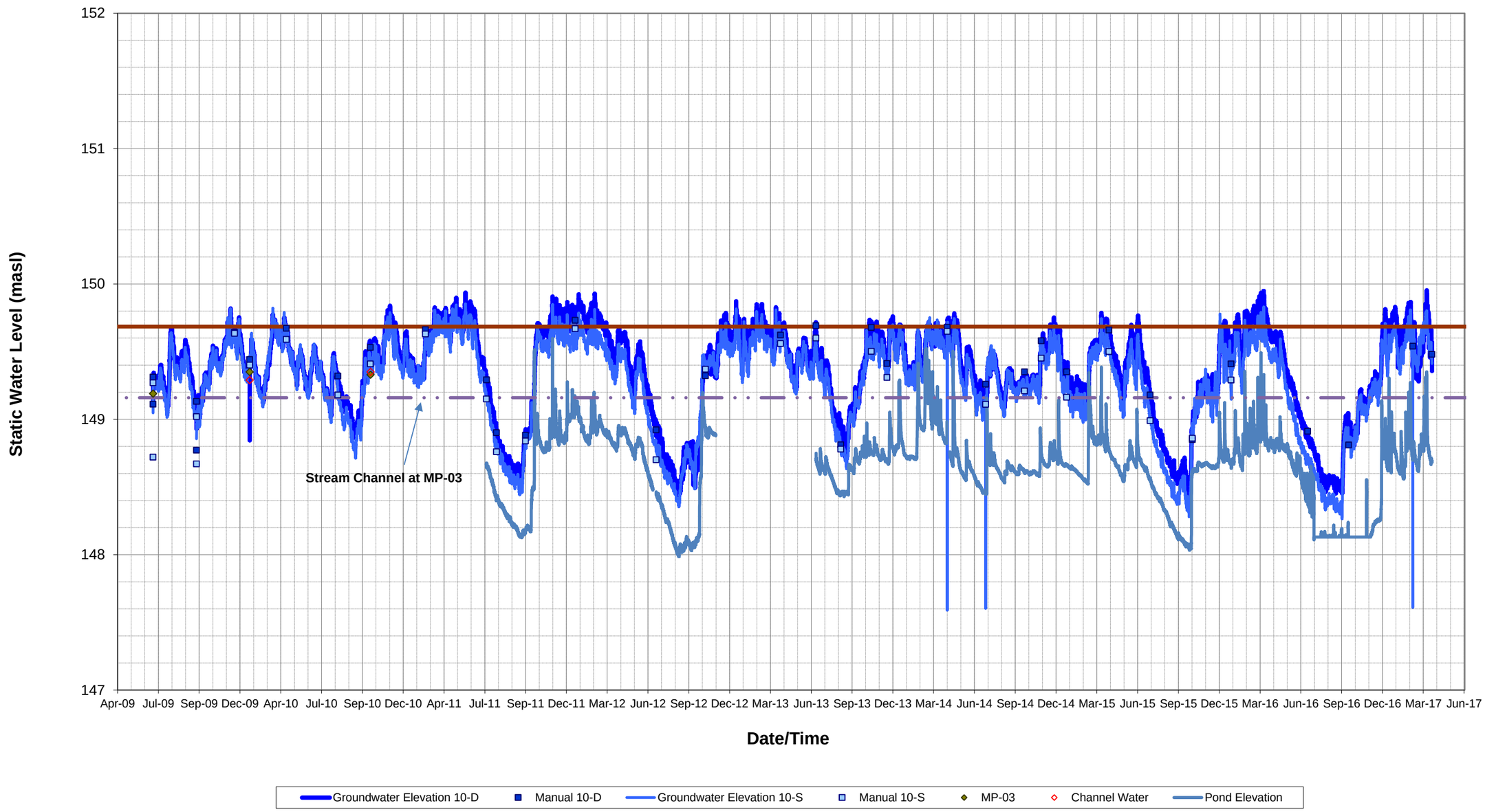


Figure SWL-11: Static Water Levels and Groundwater Temperature
MMM-09-15S (2009-2011)

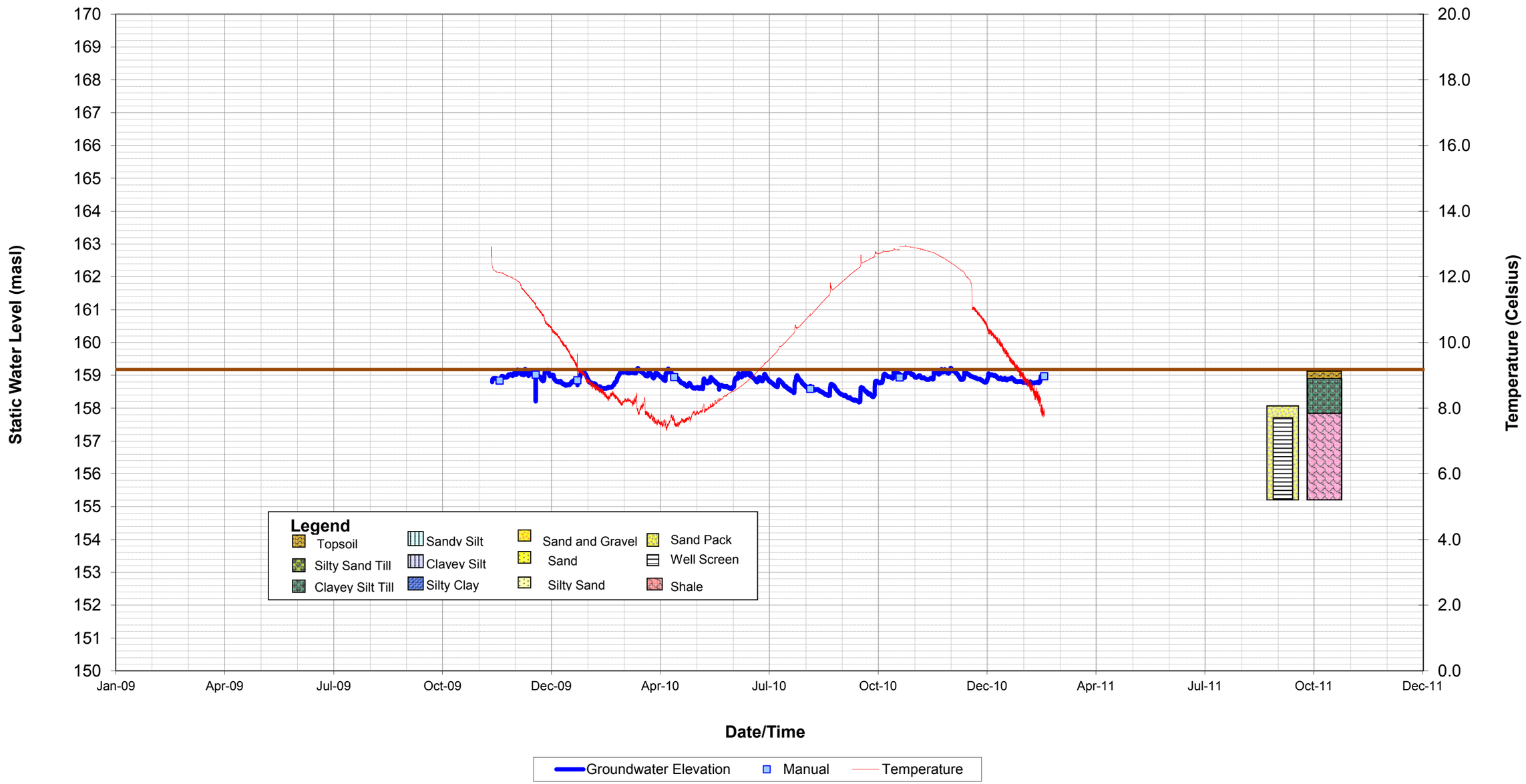


Figure SWL-11a: Static Water Levels
MMM-09-15S - 5 m Vertical Scale (2009-2011)

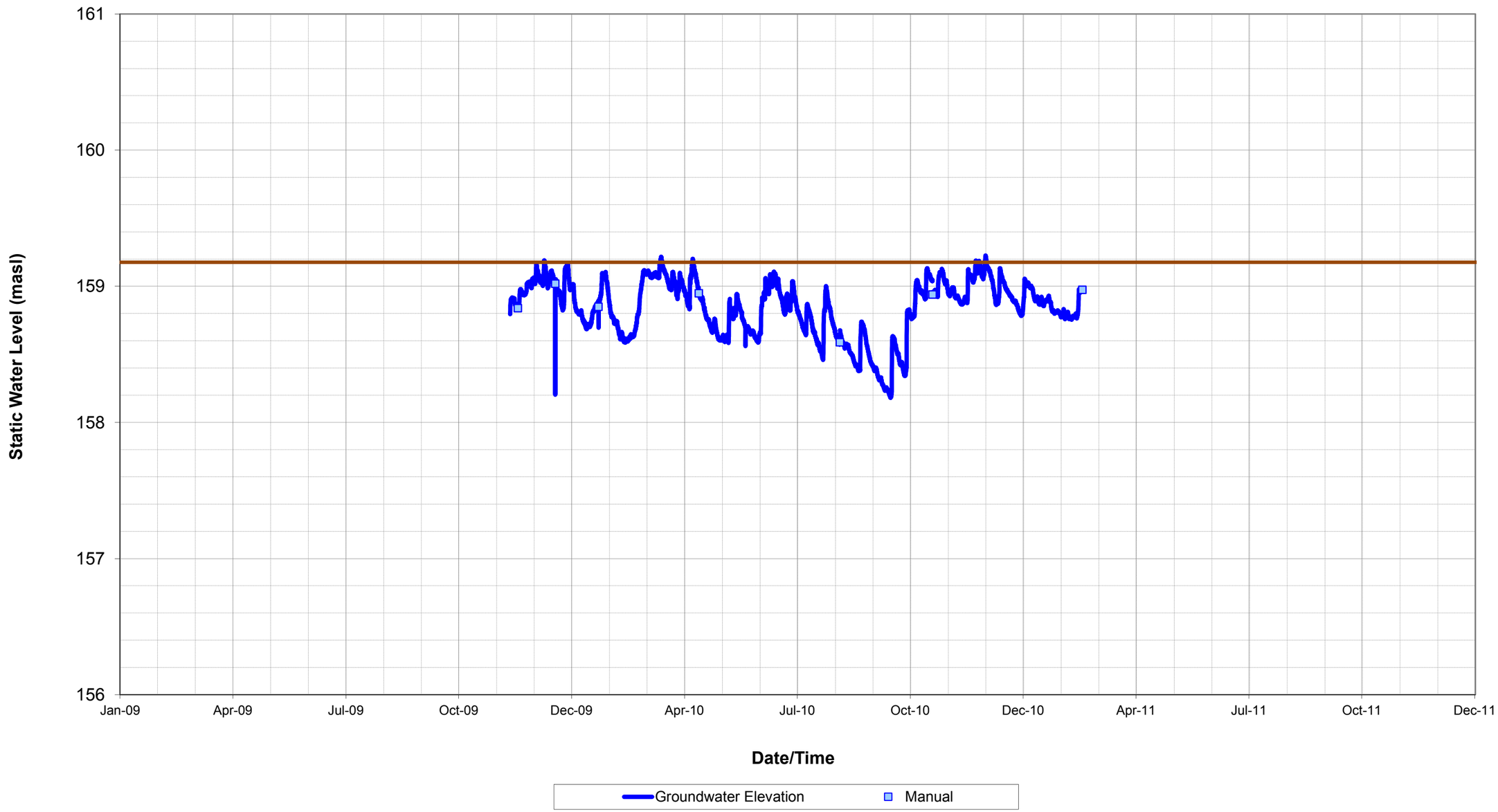


Figure SWL-12: Static Water Levels and Groundwater Temperature
MMM-09-17 (2009-2011)

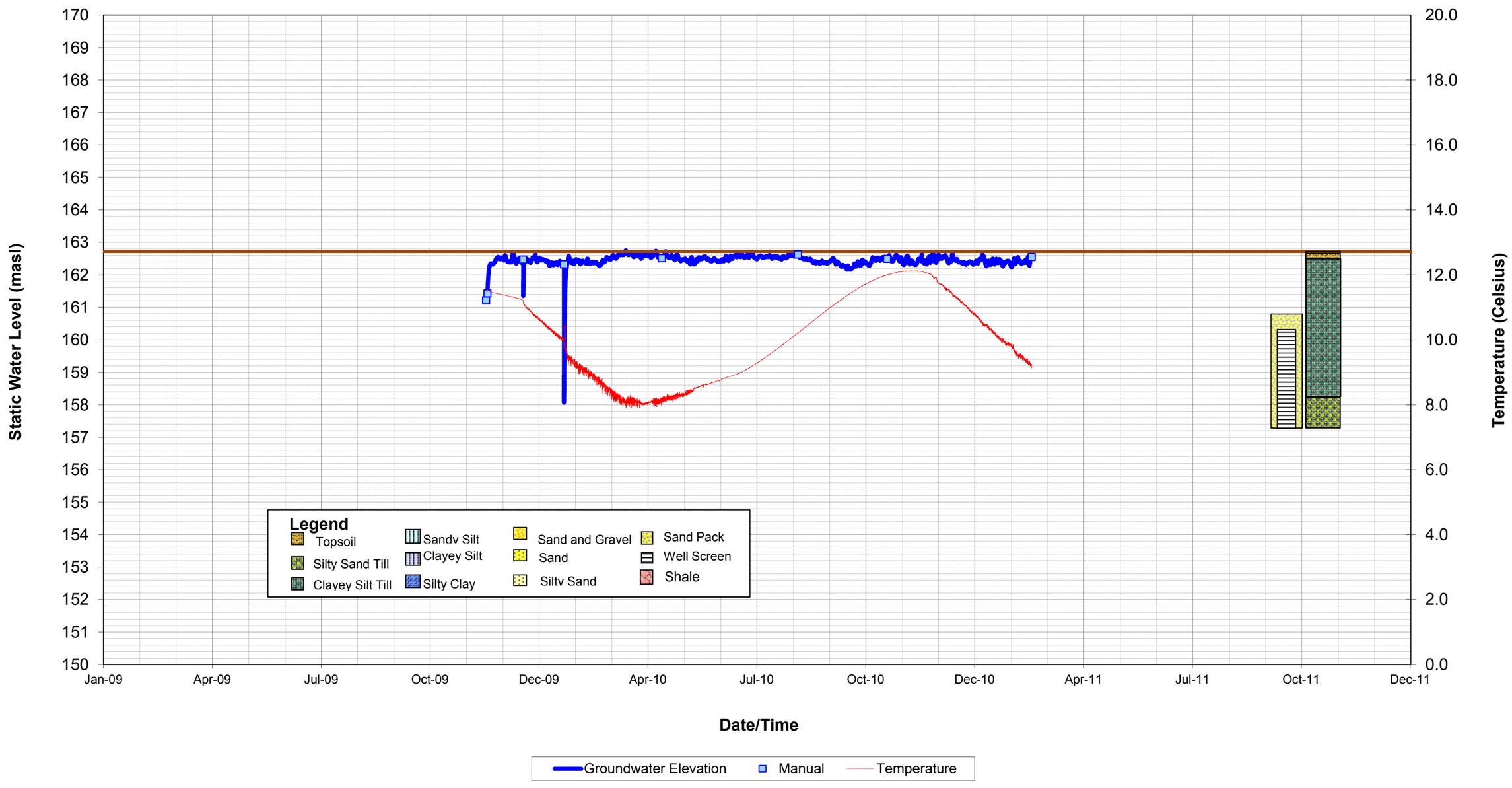


Figure SWL-12a: Static Water Levels
MMM-09-17 - 5 m Vertical Scale (2009-2011)

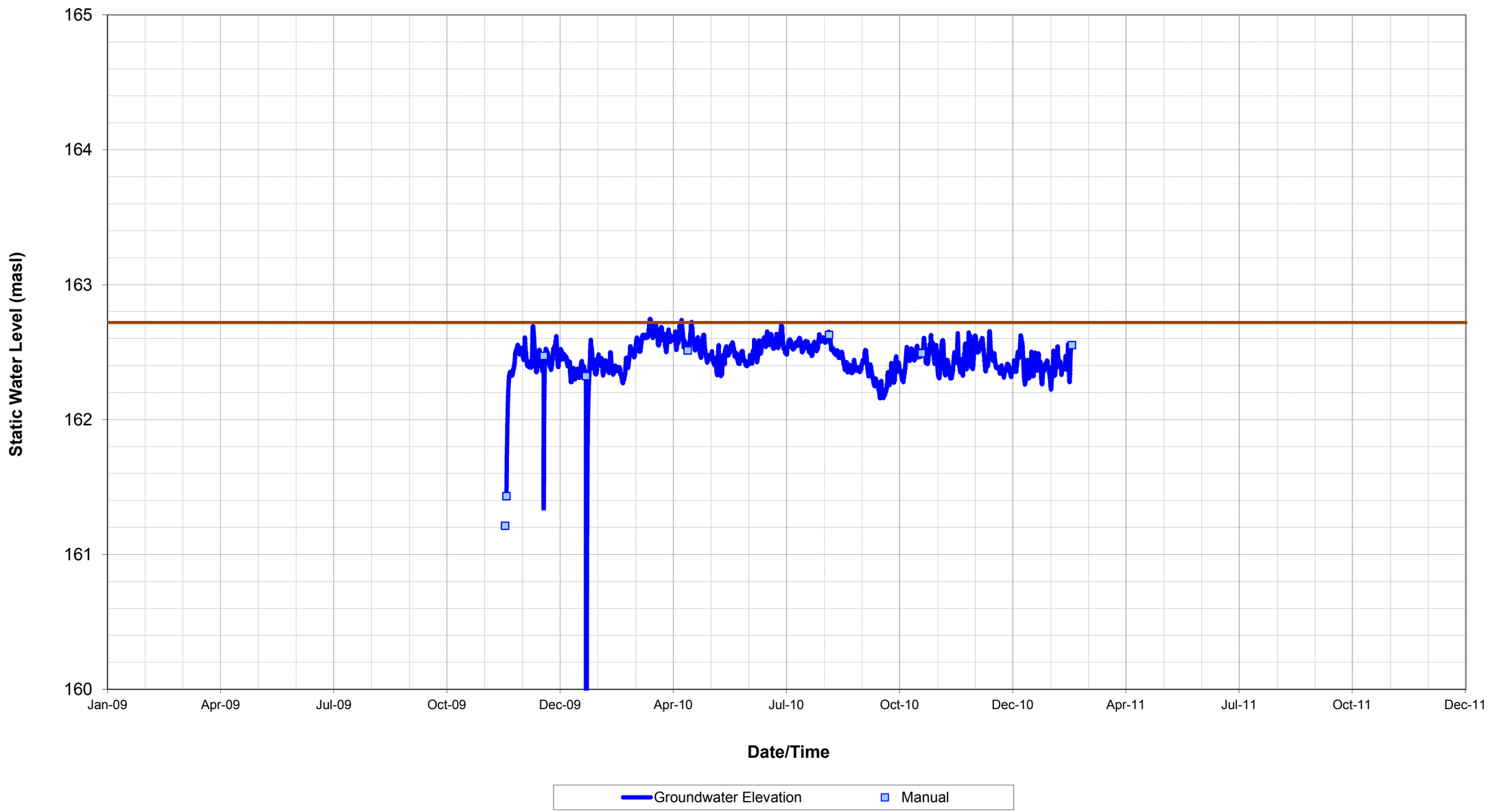


Figure SWL-13: Static Water Levels and Groundwater Temperature
MMM-09-19 Nest (2009-2011)

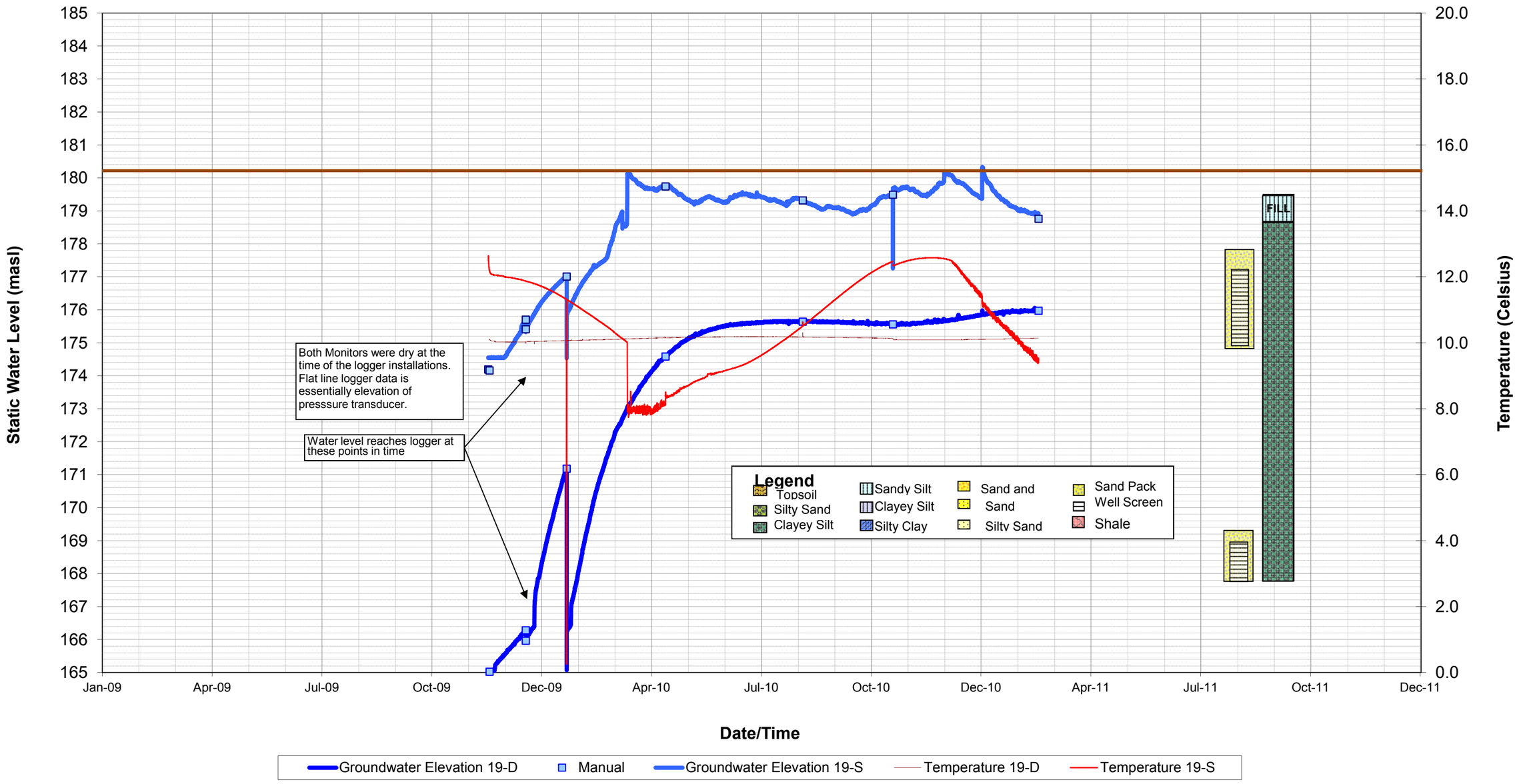


Figure SWL-13a: Static Water Levels
MMM-09-19 Nest - 5 m Vertical Scale (2009-2011)

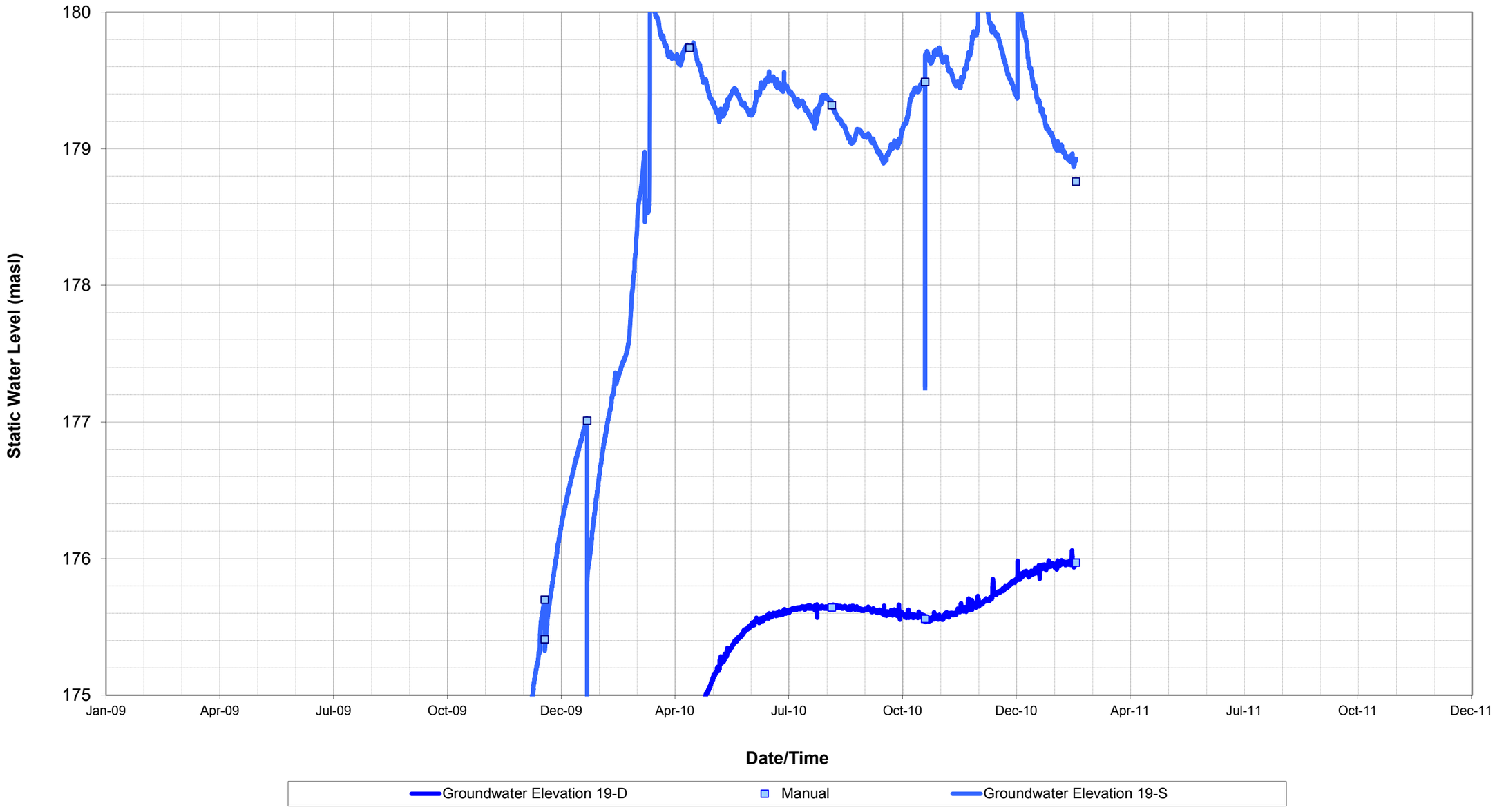


Figure SWL-14: Static Water Levels and Groundwater Temperature
MMM-09-20 (2009-2011)

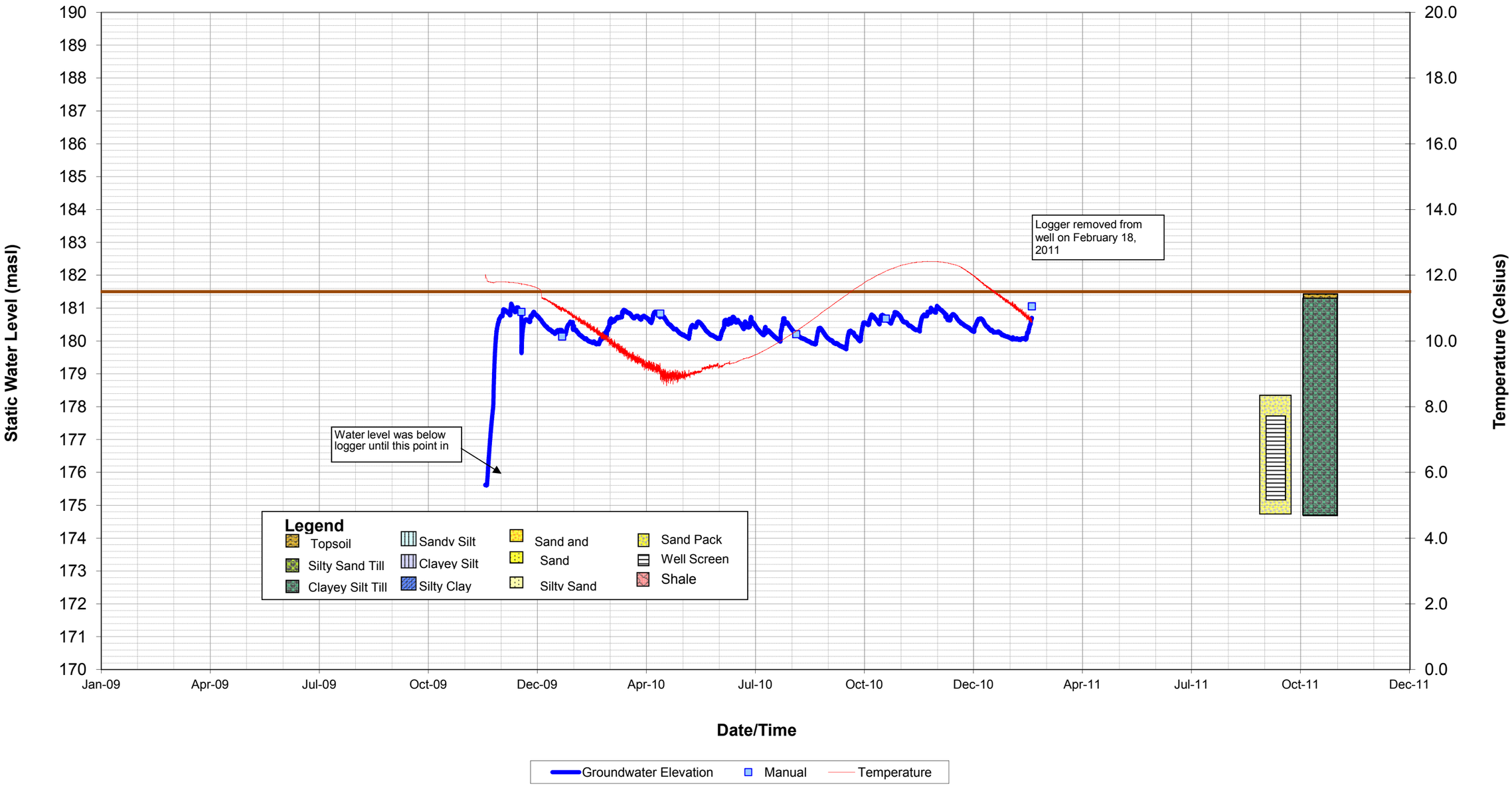


Figure SWL-14a: Static Water Levels
MMM-09-20 - 5 m Vertical Scale (2009-2011)

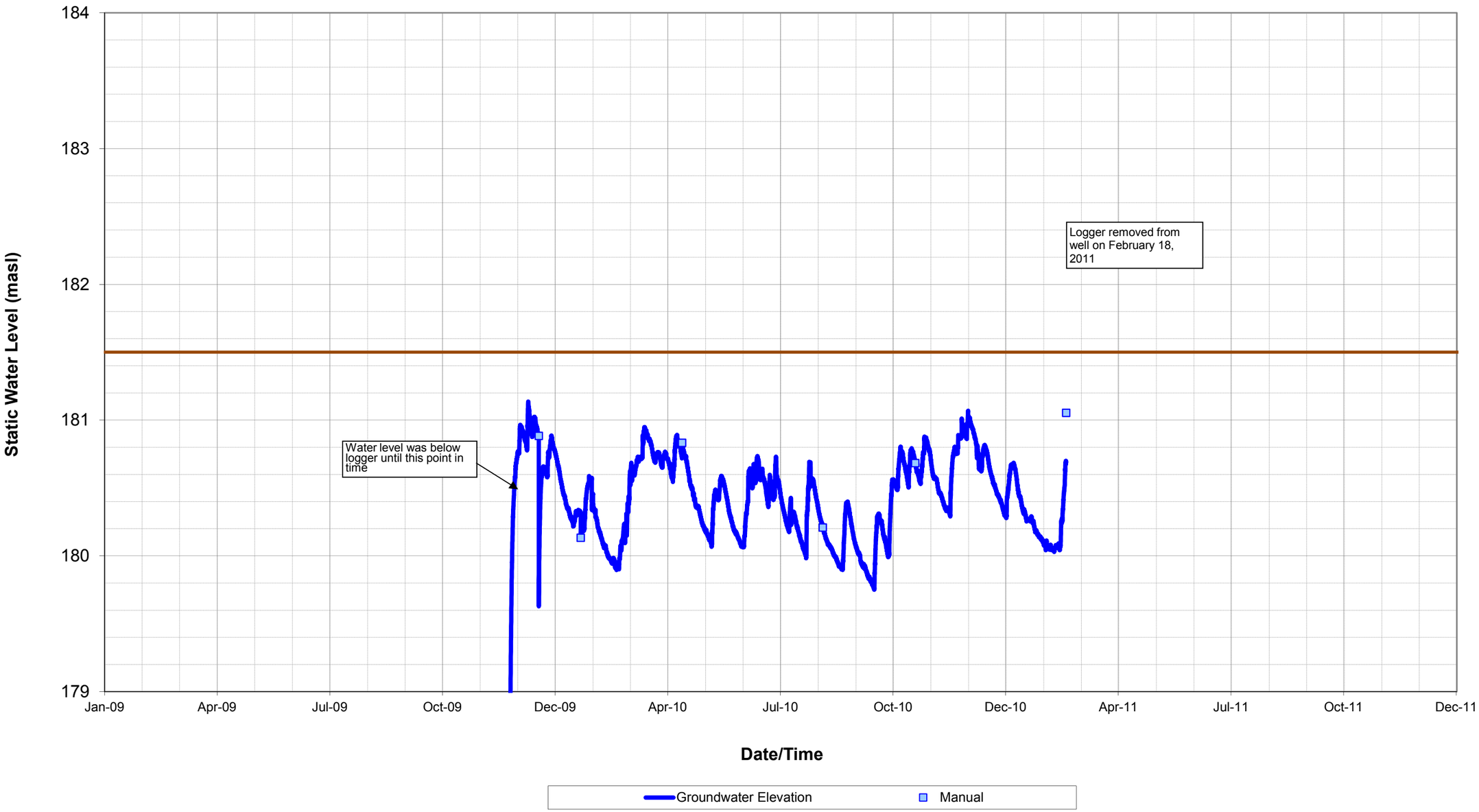


Figure SWL-15: Static Water Levels and Groundwater Temperature
MMM-09-06 Nest

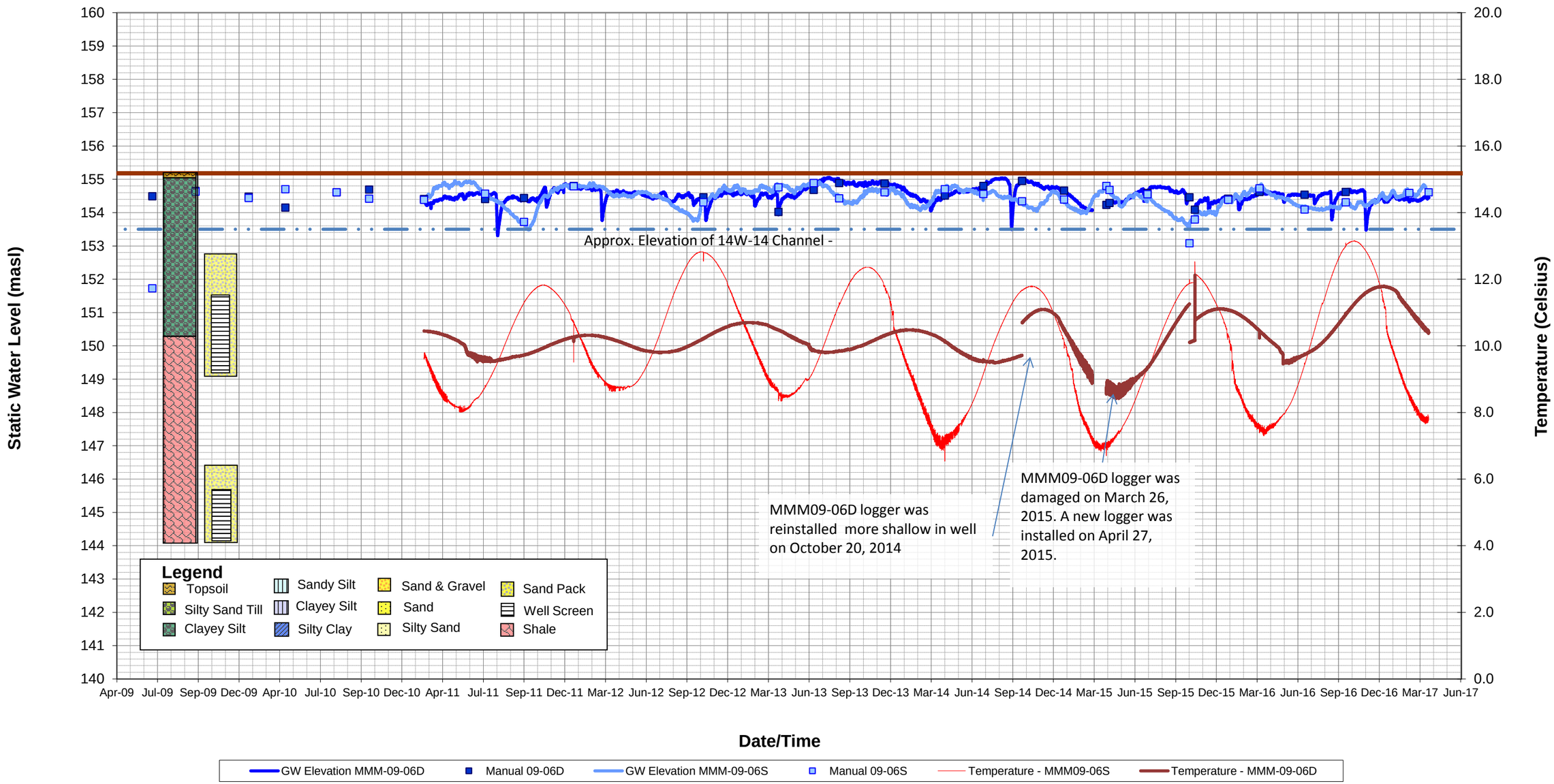


Figure SWL-15a: Static Water Levels
MMM-09-06 Nest - 5 m Vertical Scale

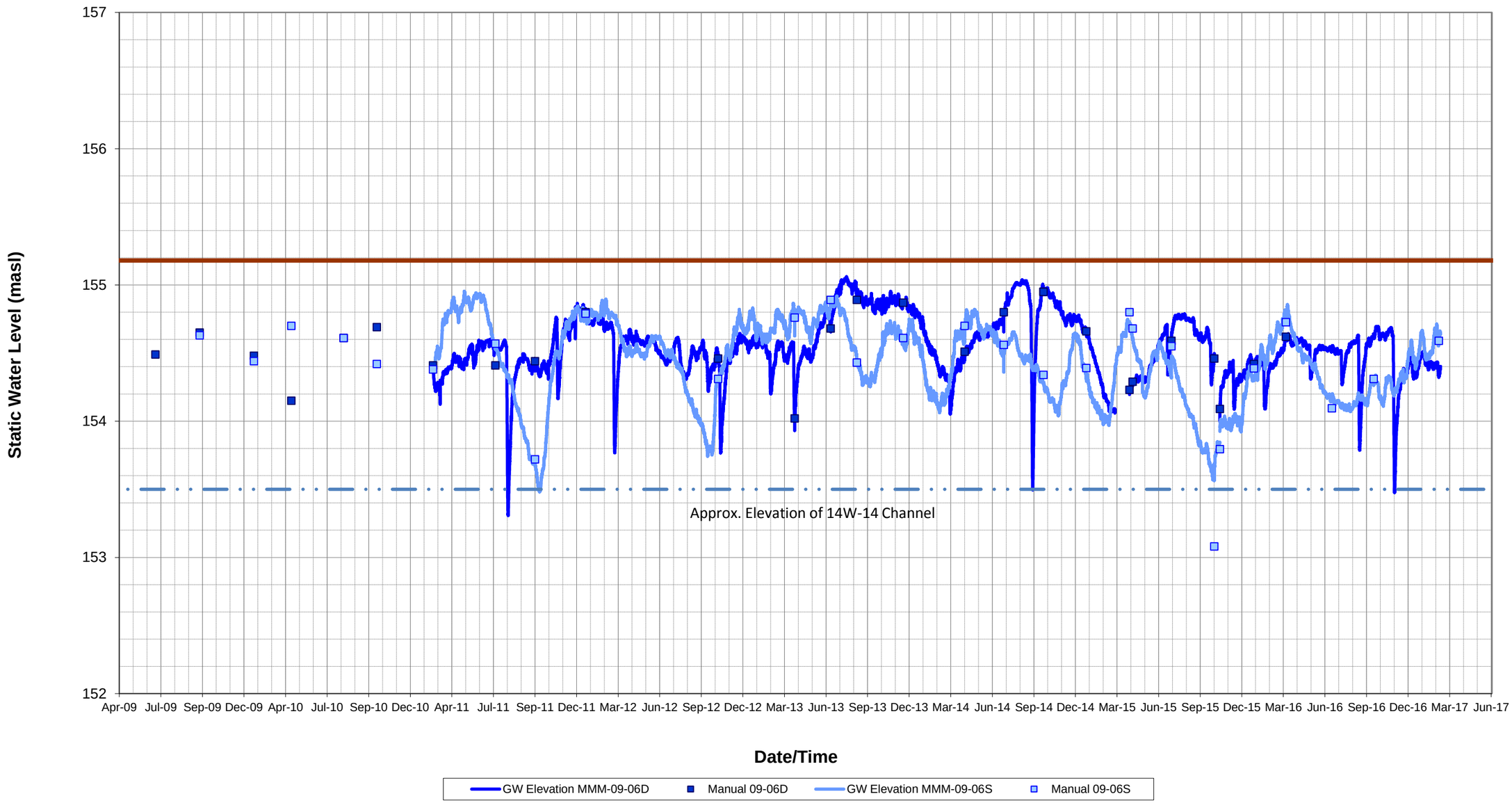


Figure SWL-16: Static Water Levels and Groundwater Temperature
MMM-09-02

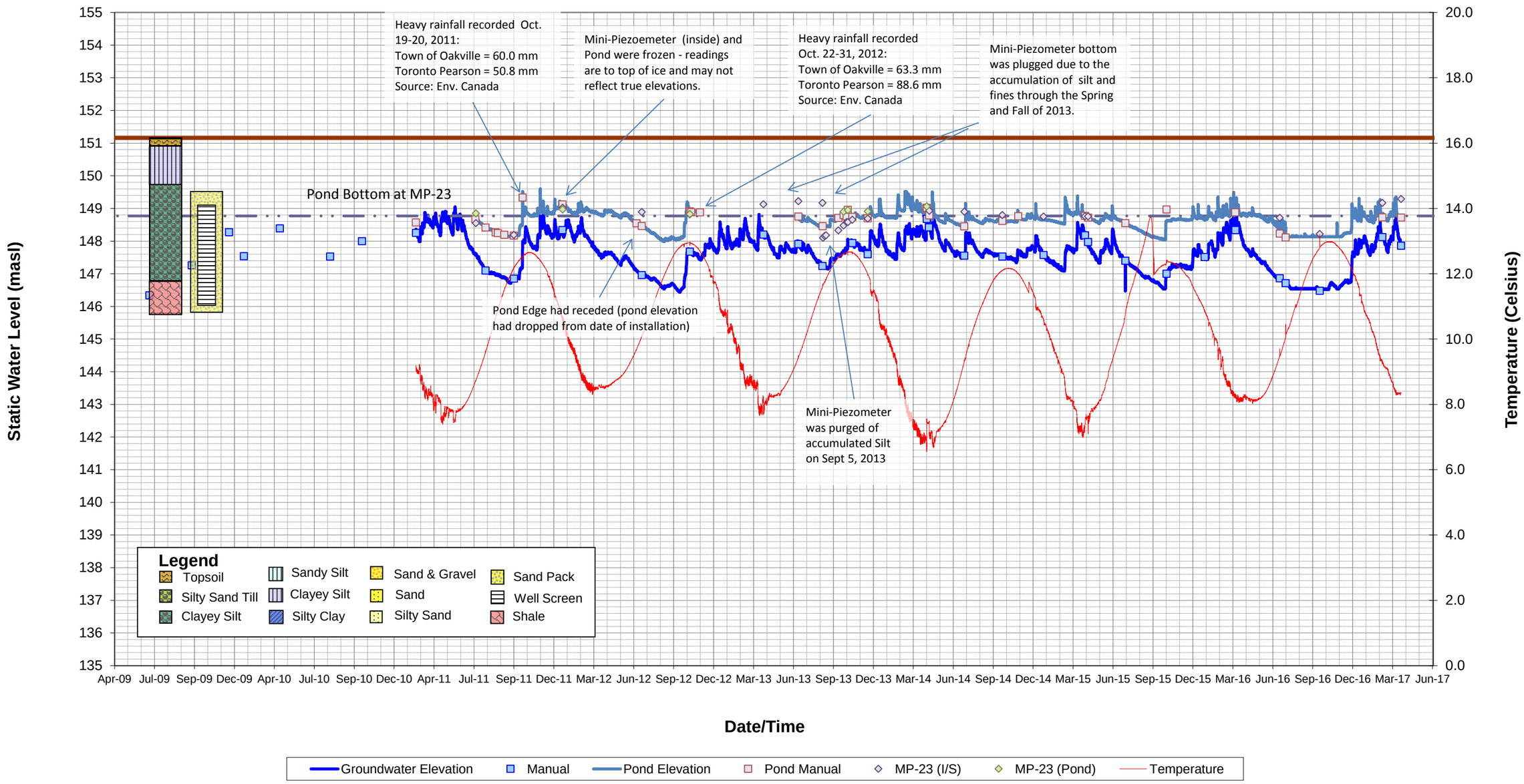


Figure SWL-16a: Static Water Levels
MMM-09-02

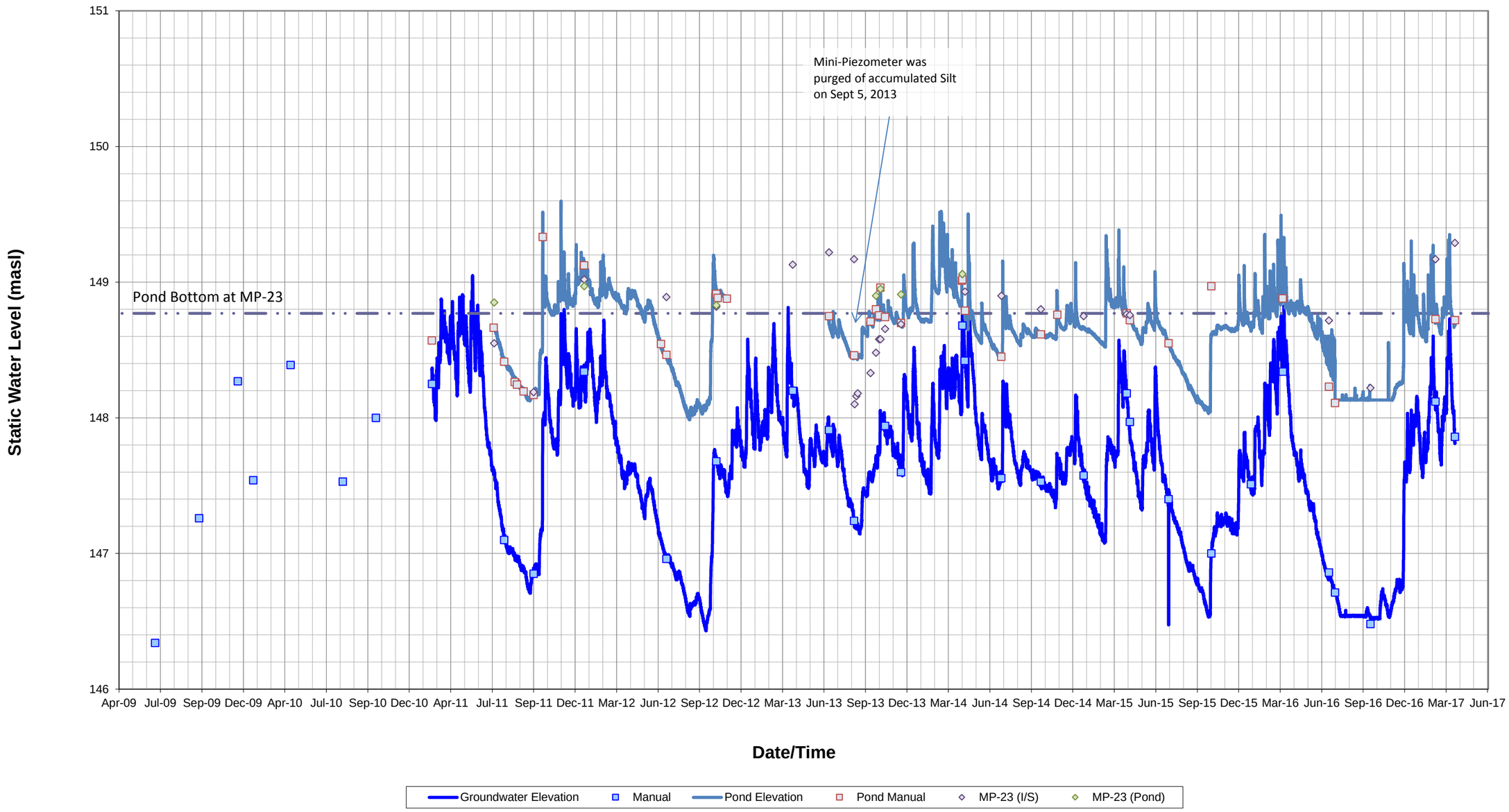


Figure SWL-17: Static Water Levels and Groundwater Temperature
MMM-11-21

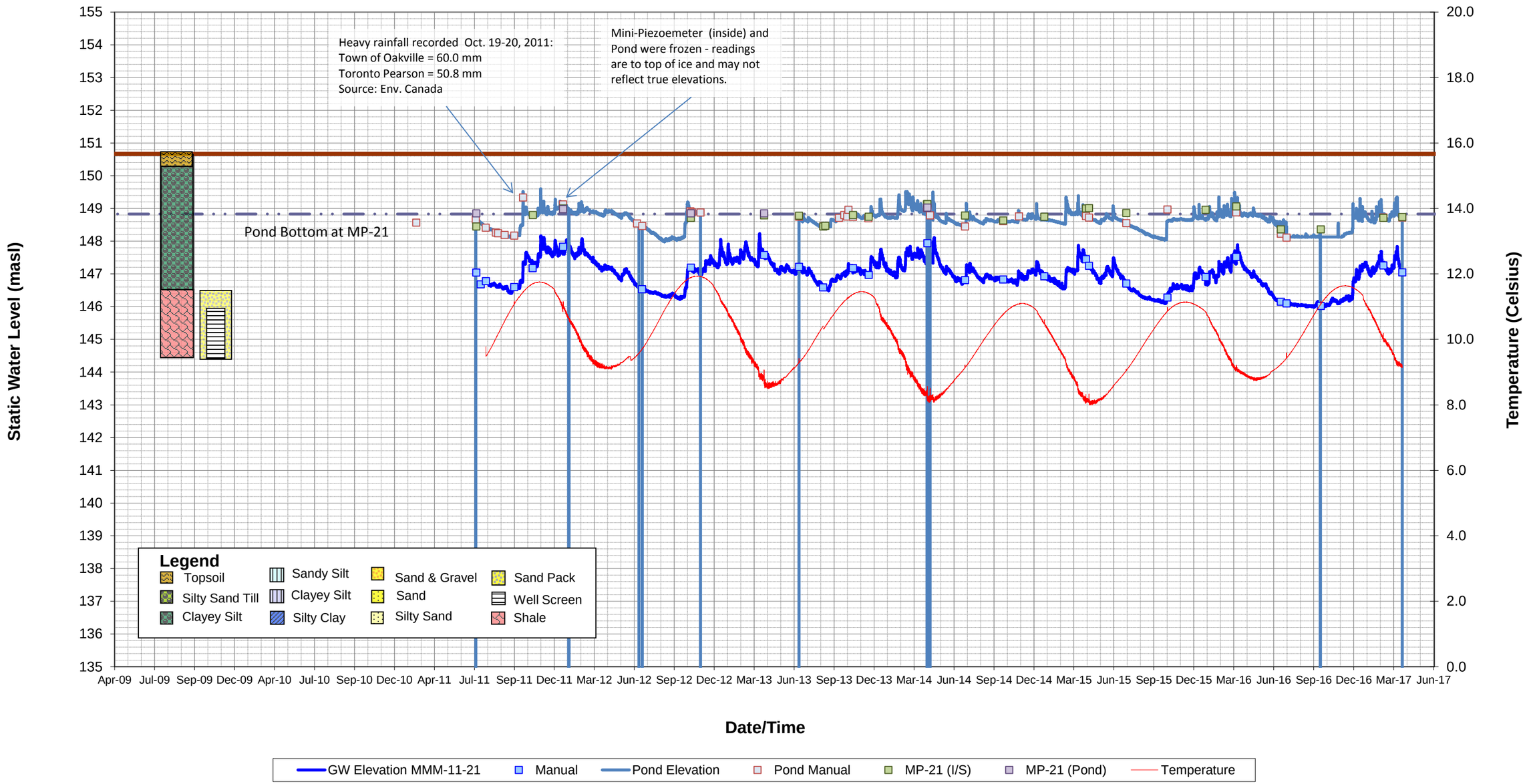


Figure SWL-17a: Static Water Levels
MMM-11-21 - 5 m Vertical Scale

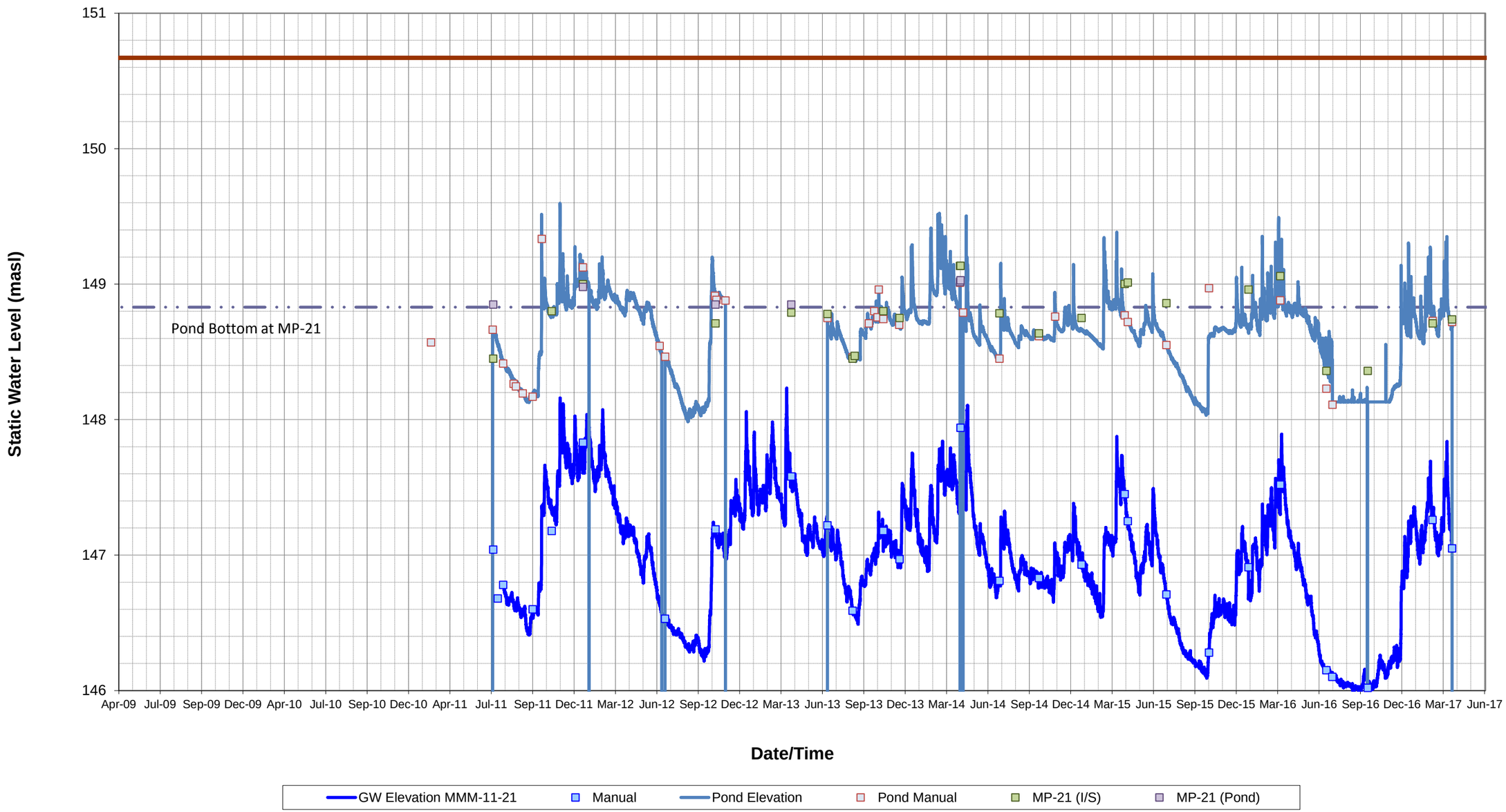


Figure SWL-18: Static Water Levels and Groundwater Temperature
MMM-11-22 Nest

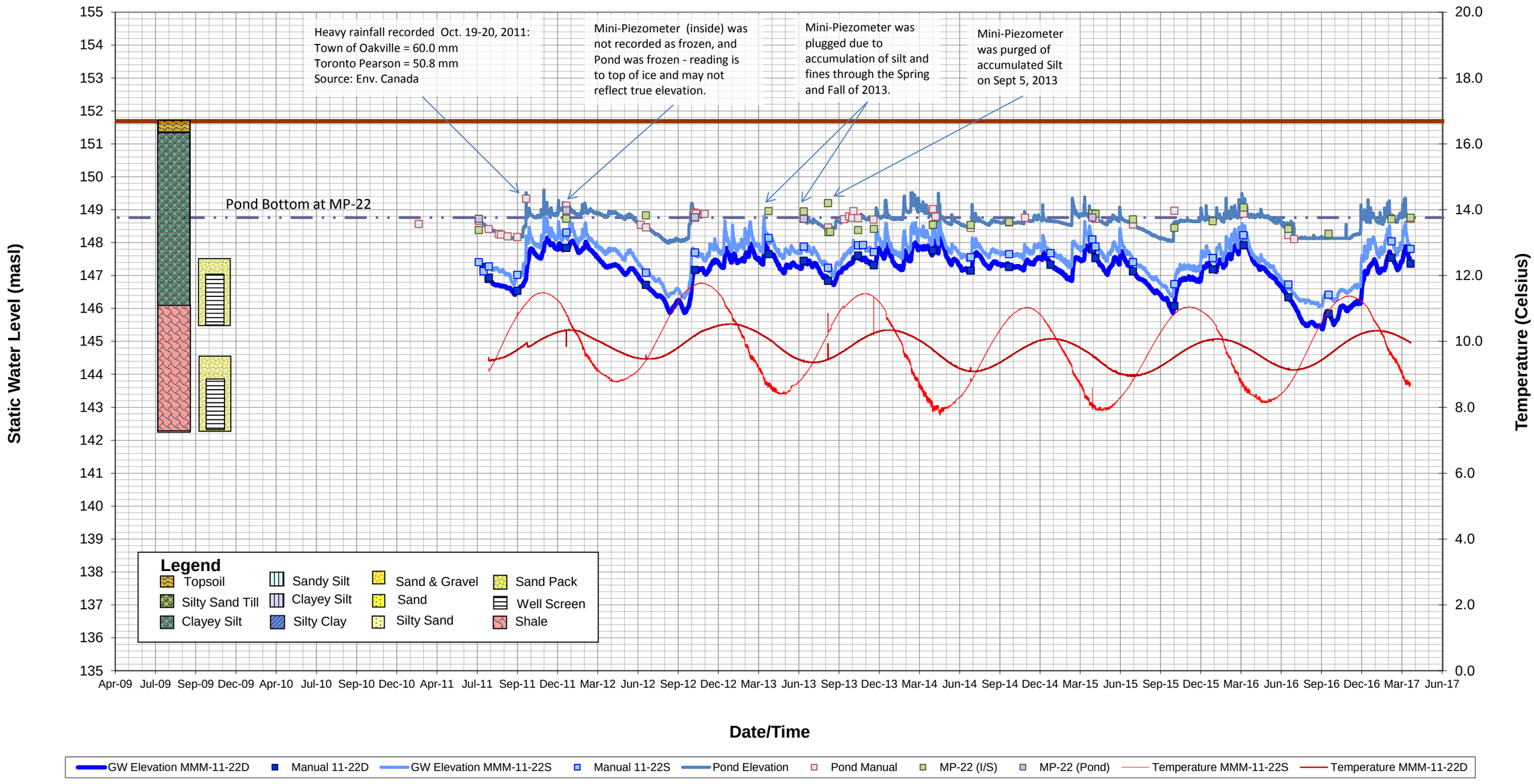


Figure SWL-18a: Static Water Levels
MMM-11-22 Nest - 5 m Vertical Scale

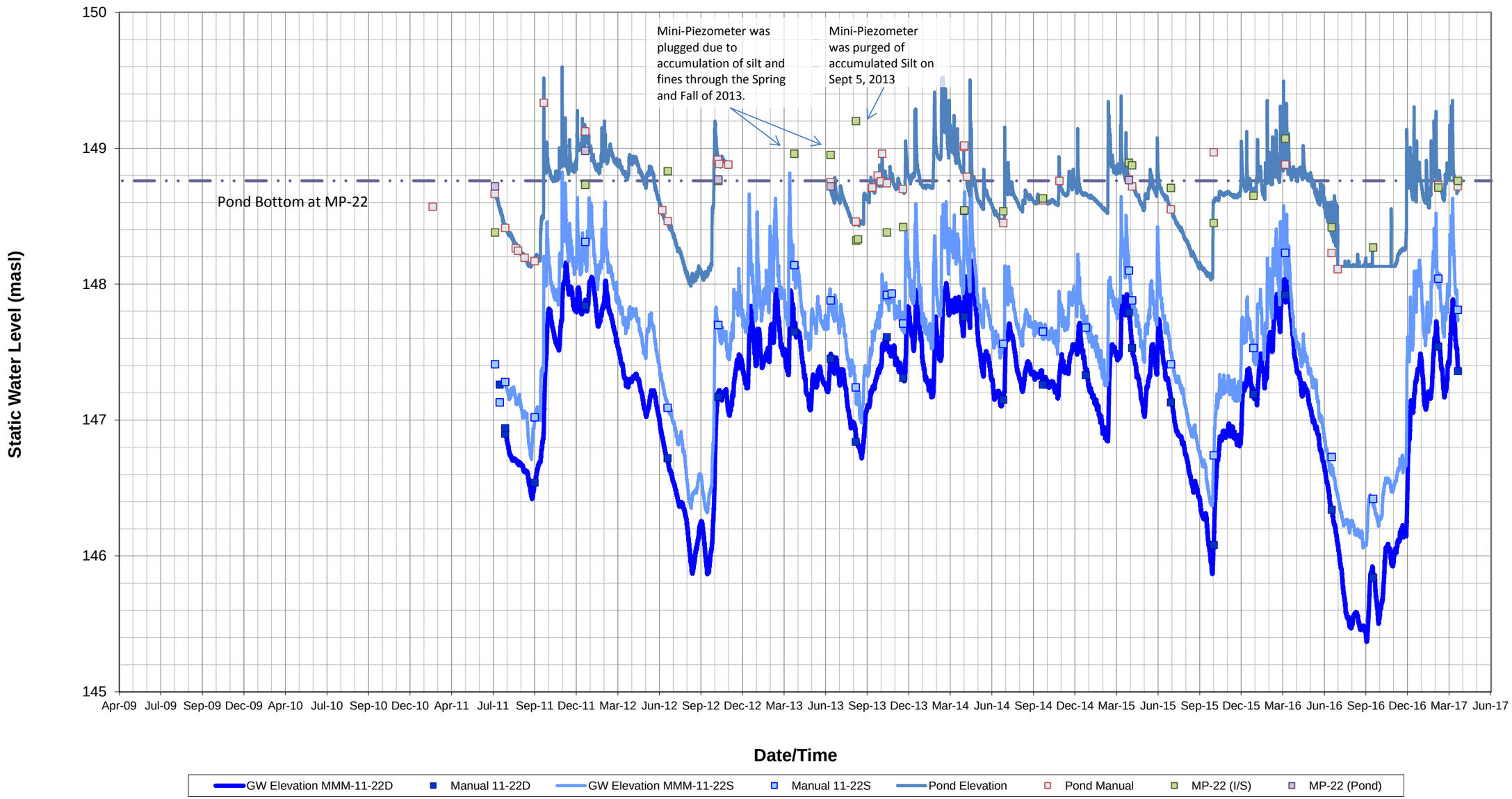


Figure SWL-19: Pond Water Level and Temperature
MMM-11-Pond

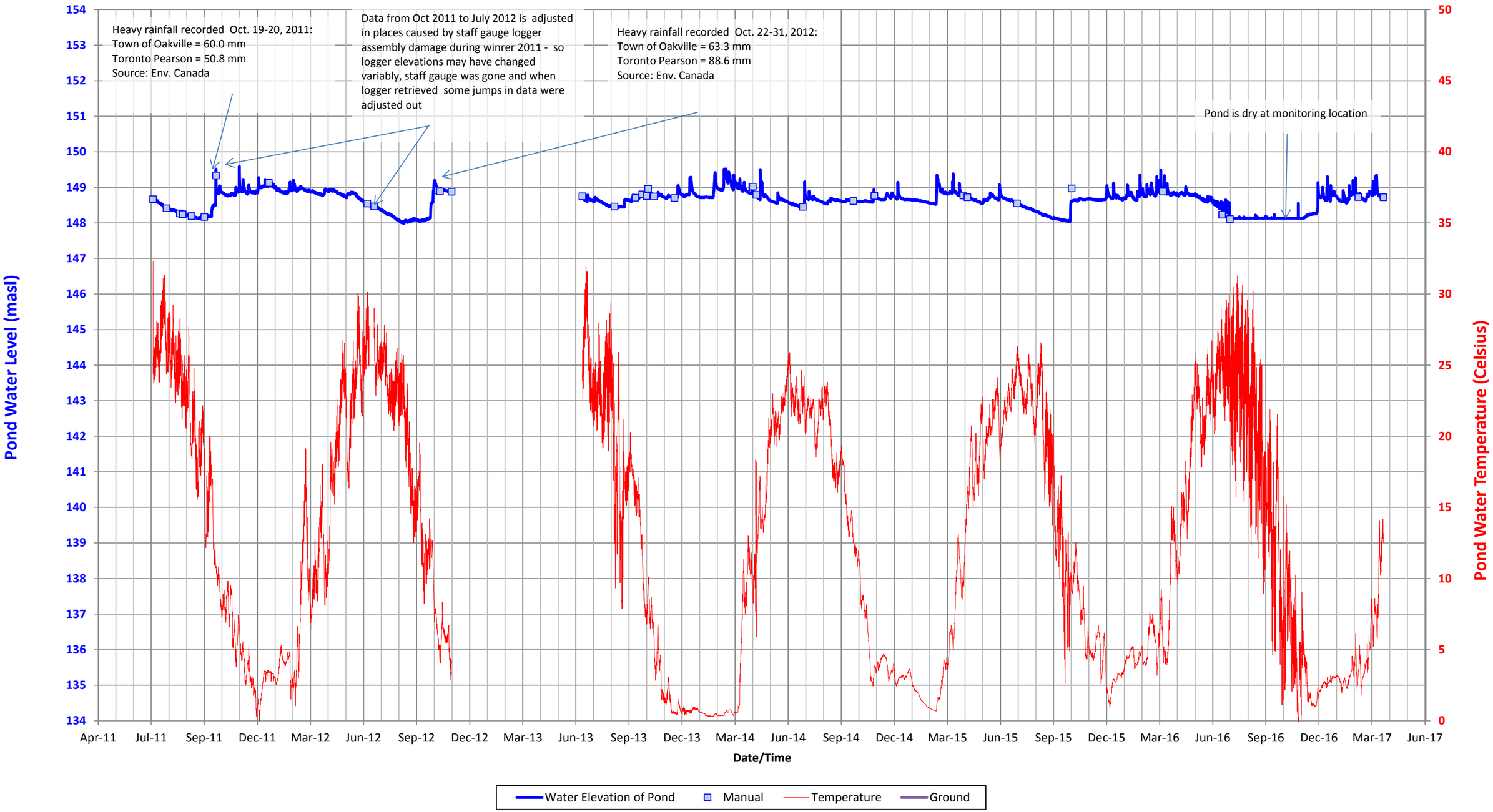


Figure SWL-19a: Pond Water Level and Temperature
MMM-11-Pond - 5 m Vertical Scale

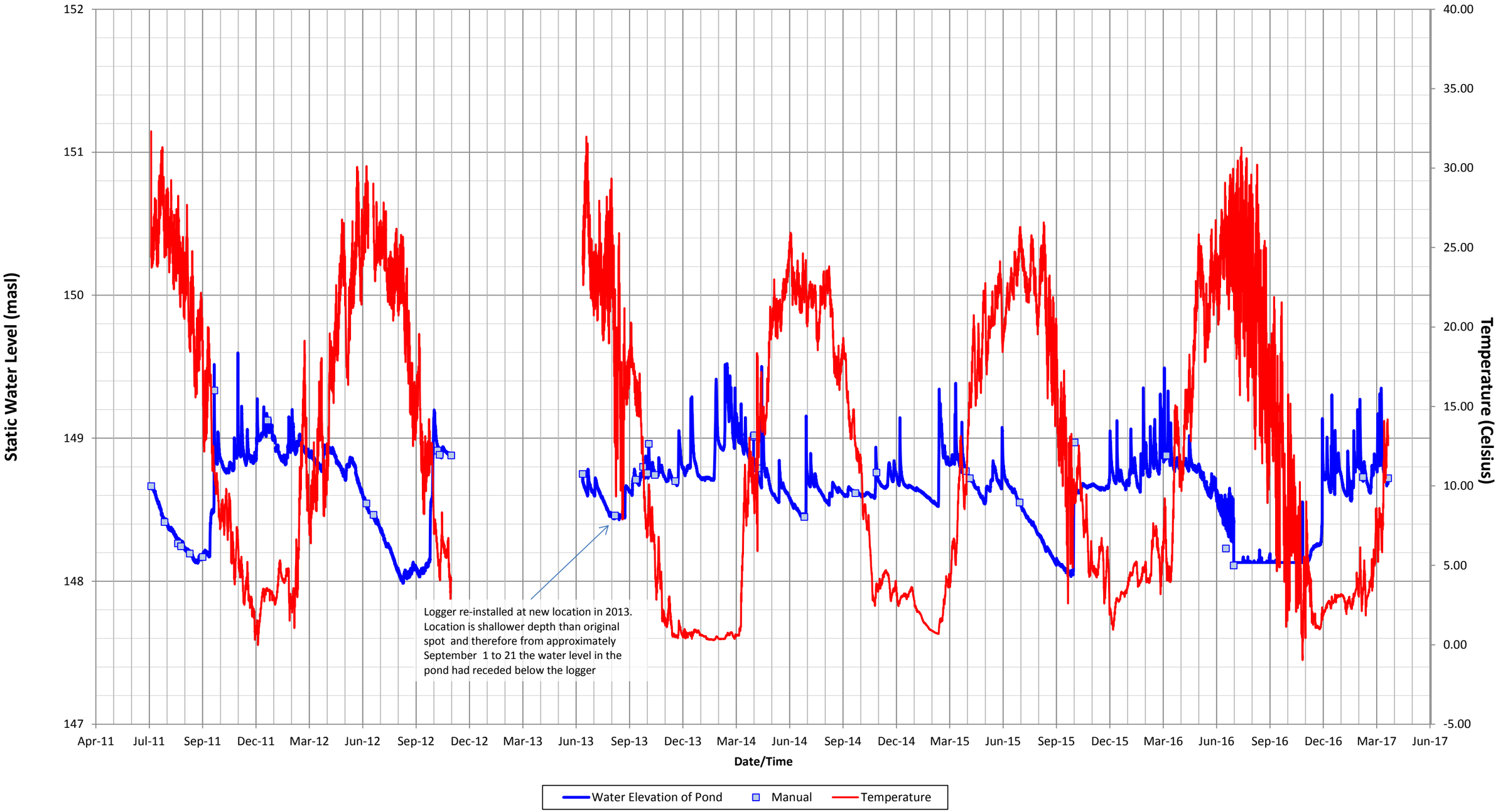


Figure SWL-19b: Pond Water Level and Temperature
MMM-11-Pond

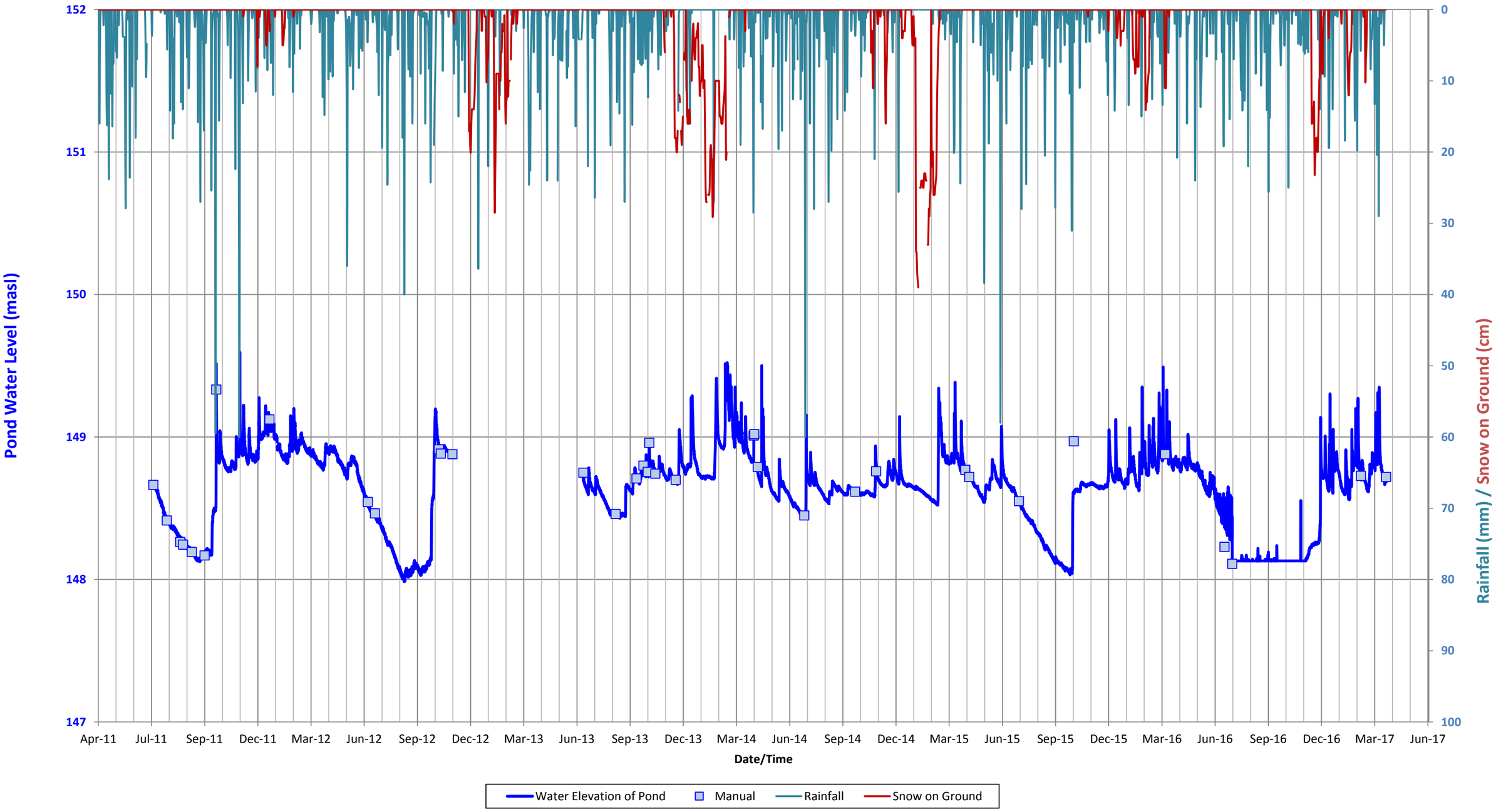


Figure SWL 20-1: Static Water Levels and Groundwater Temperature
MMM-MP24 (2013-2015)

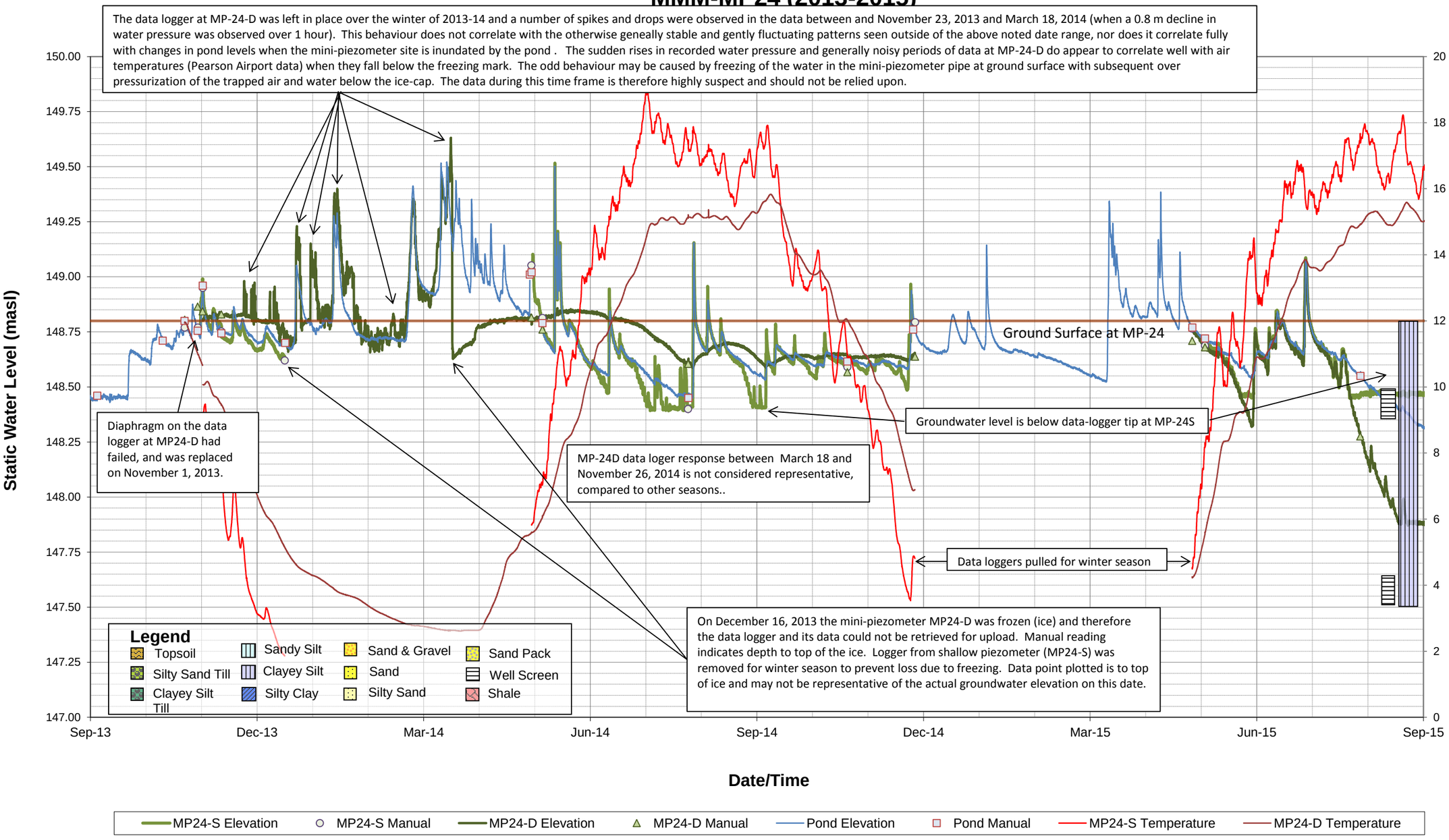


Figure SWL 20-2: Static Water Levels and Groundwater Temperature
MMM-MP24 (2015-2017)

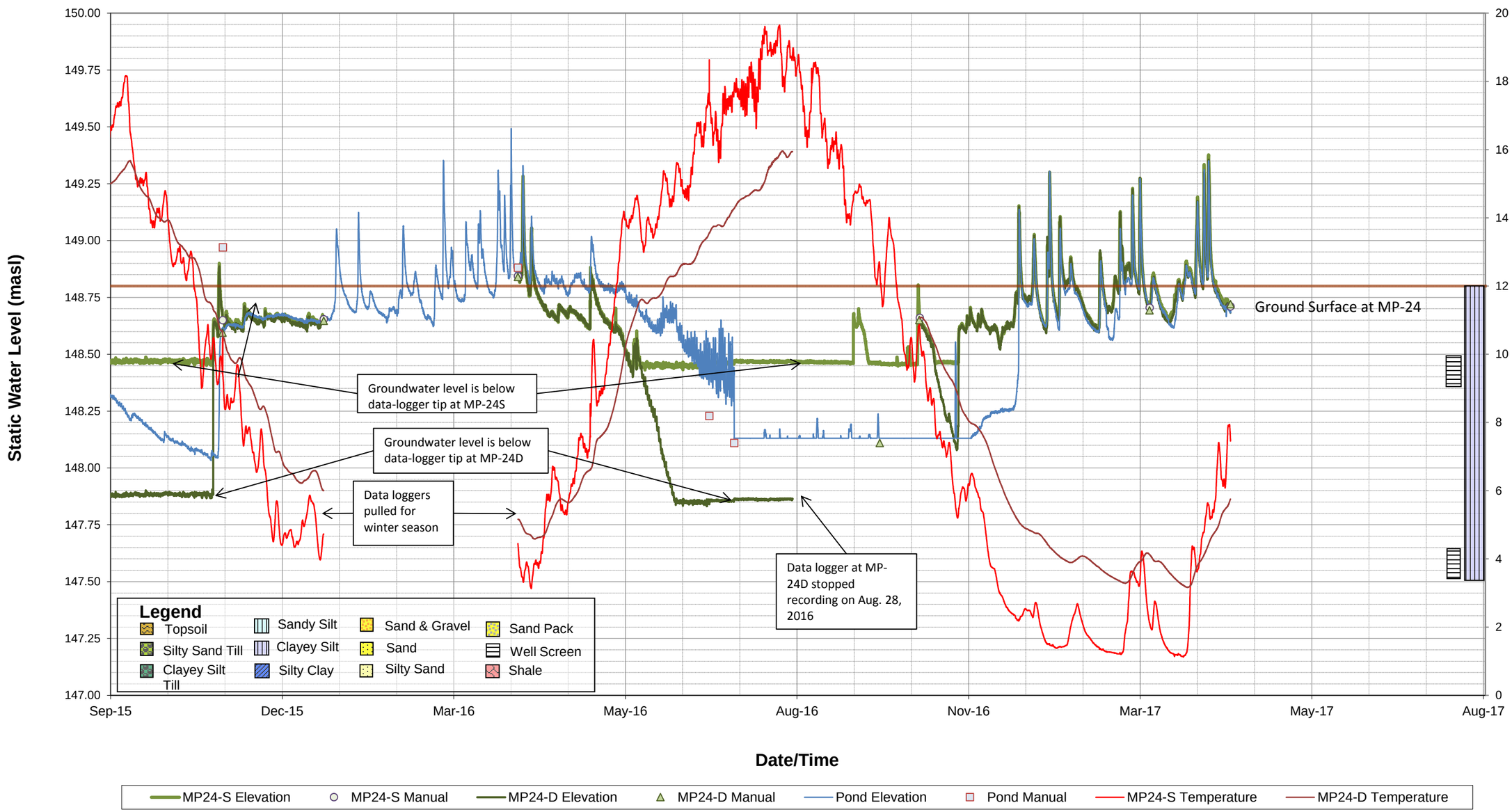


Figure SWL 20-1a: Static Water Levels
MMM-MP24 - 5 m Vertical Scale (2013-2015)

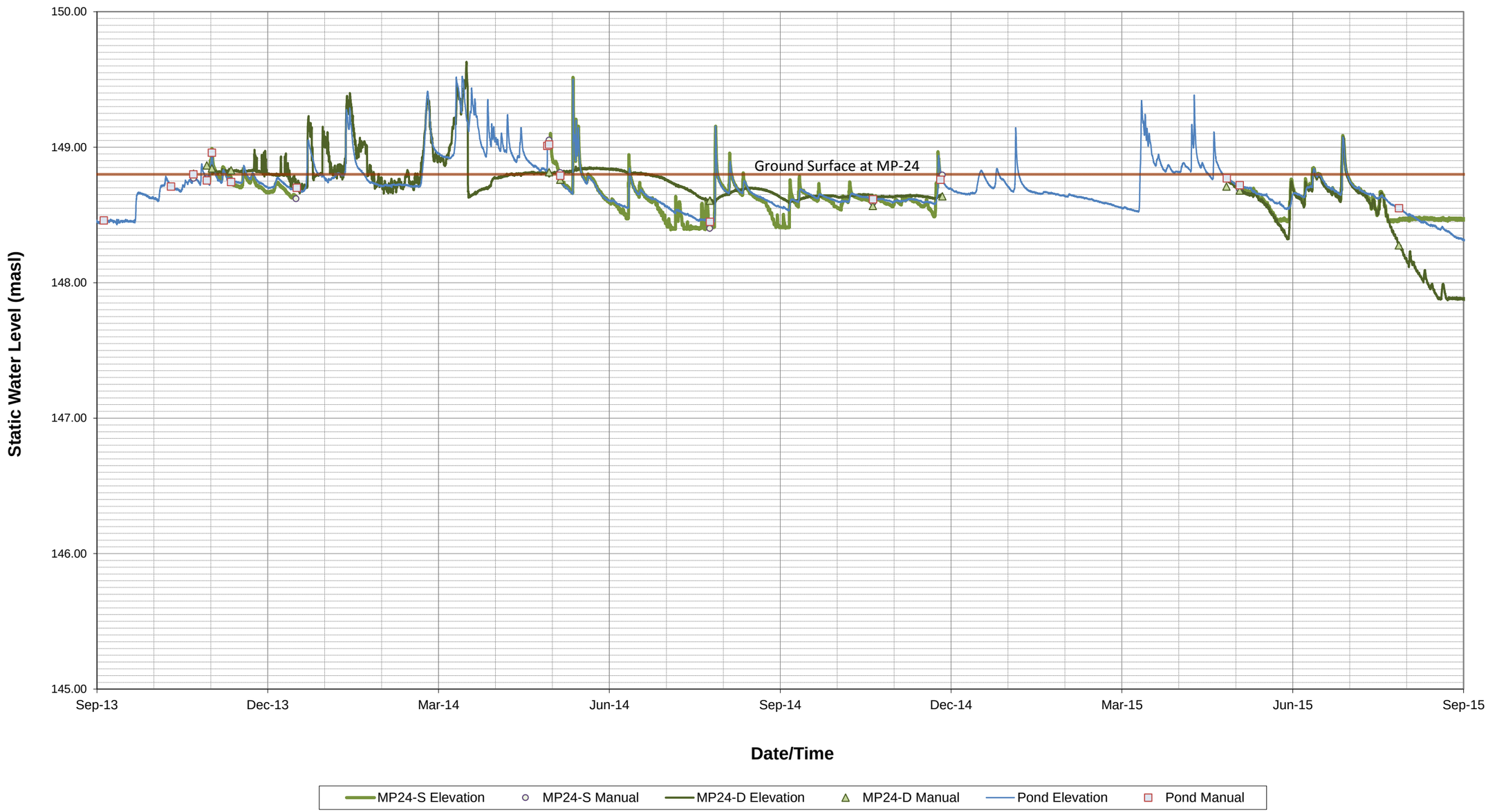
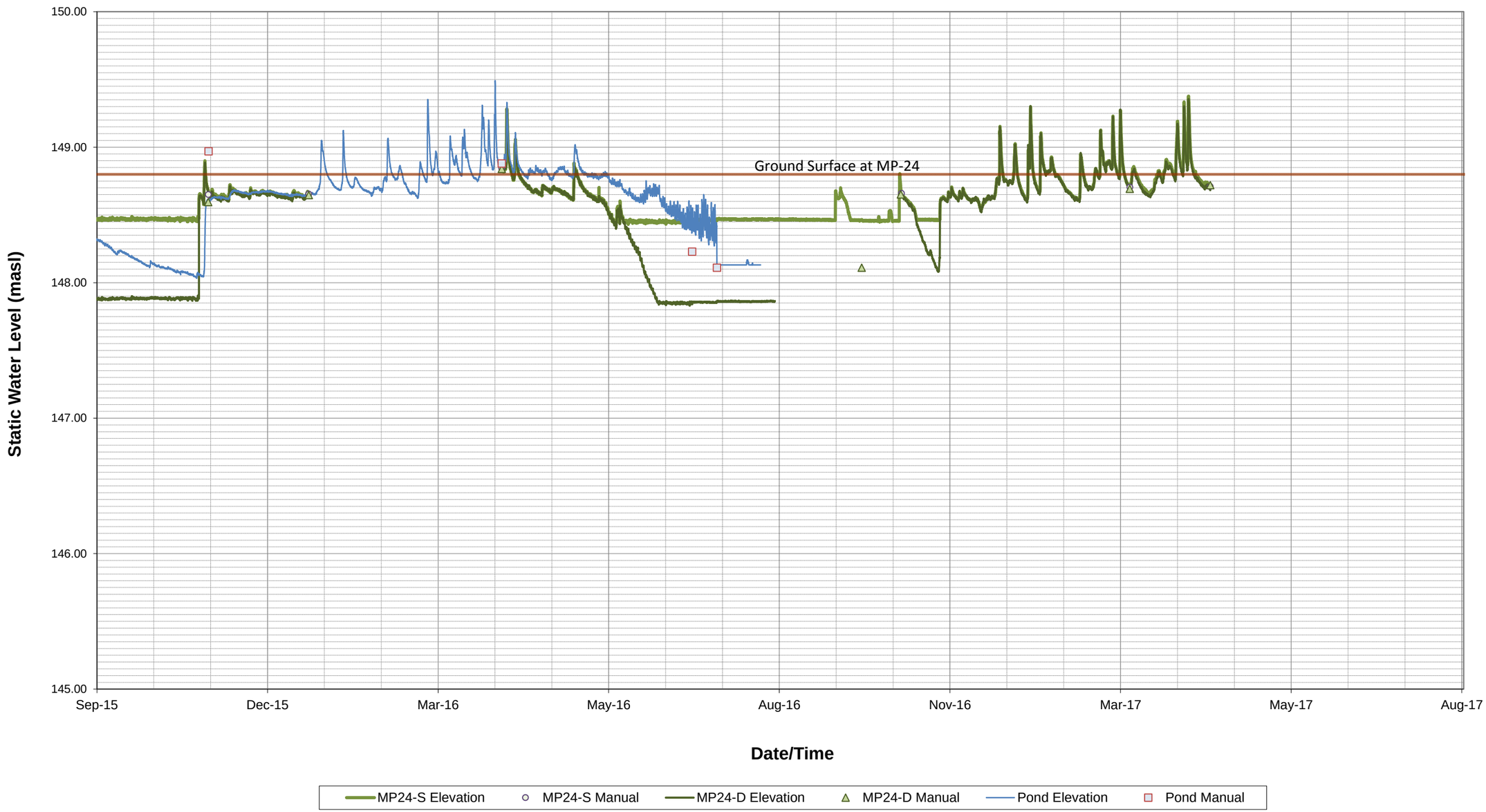
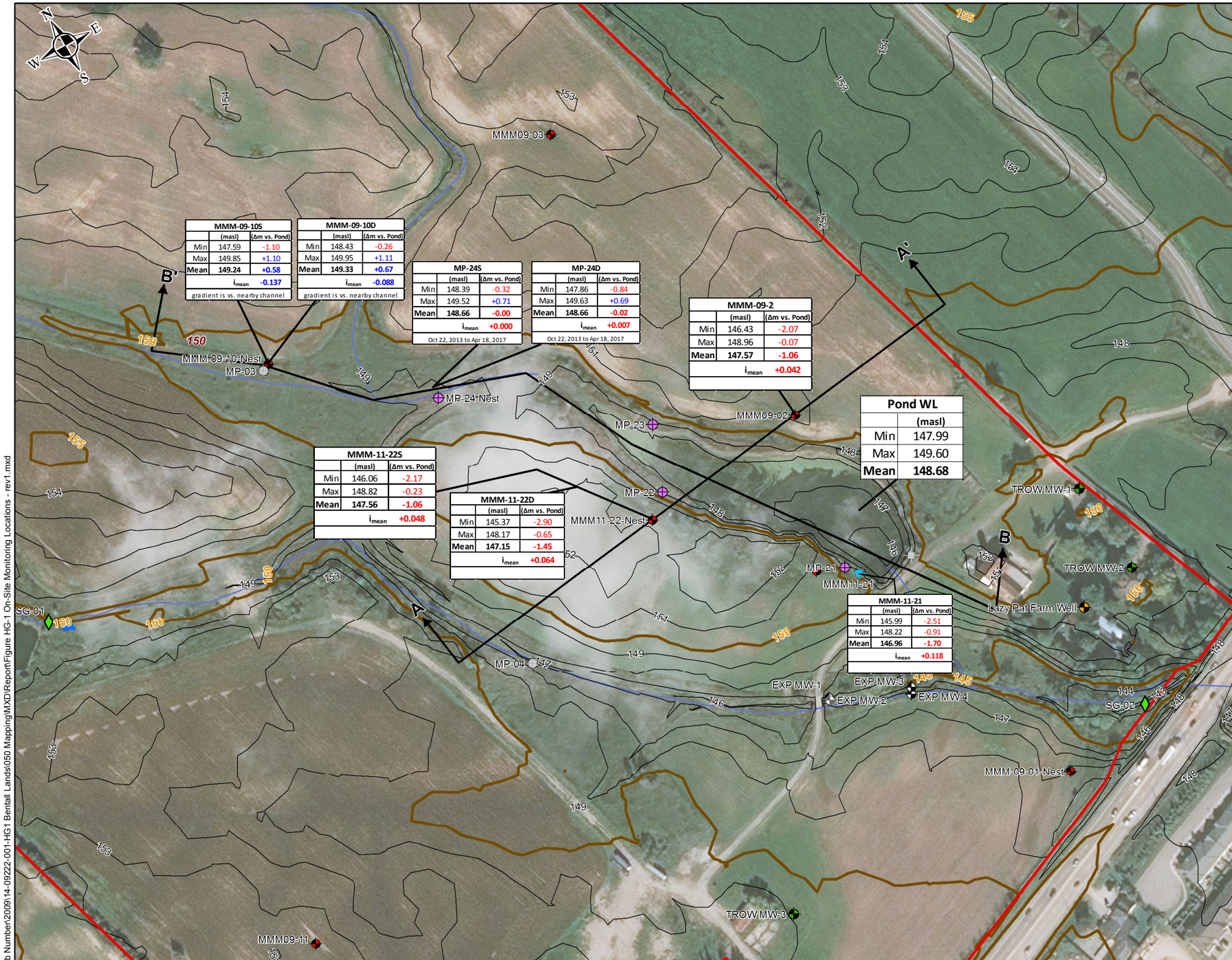


Figure SWL 20-2a: Static Water Levels
MMM-MP24 - 5 m Vertical Scale (2015-2017)



Environmental Implementation Report / Functional Servicing Study for 14 Mile Creek West and the Lazy Pat Farm Property

Onsite Monitoring Locations in Vicinity of the Pond



MMM-09-10S	(masl)	(Δm vs. Pond)
Min	147.59	-1.10
Max	149.85	+1.10
Mean	**149.24**	**+0.58**
	i_{mean}	**-0.137**
gradient is vs. nearby channel		

MMM-09-10D	(masl)	(Δm vs. Pond)
Min	148.43	-0.26
Max	149.95	+1.11
Mean	**149.33**	**+0.67**
	i_{mean}	**-0.088**
gradient is vs. nearby channel		

MP-24S	(masl)	(Δm vs. Pond)
Min	148.39	-0.32
Max	149.52	+0.71
Mean	**148.66**	**-0.00**
	i_{mean}	**+0.000**
Oct 22, 2013 to Apr 18, 2017		

MP-24D	(masl)	(Δm vs. Pond)
Min	147.86	-0.84
Max	149.63	+0.69
Mean	**148.66**	**-0.02**
	i_{mean}	**+0.007**
Oct 22, 2013 to Apr 18, 2017		

MMM-09-2	(masl)	(Δm vs. Pond)
Min	146.43	-2.07
Max	148.96	-0.07
Mean	**147.57**	**-1.06**
	i_{mean}	**+0.042**

Pond WL	(masl)
Min	147.99
Max	149.60
Mean	**148.68**

MMM-11-22S	(masl)	(Δm vs. Pond)
Min	146.06	-2.17
Max	148.82	-0.23
Mean	**147.56**	**-1.06**
	i_{mean}	**+0.048**

MMM-11-22D	(masl)	(Δm vs. Pond)
Min	145.37	-2.90
Max	148.17	-0.65
Mean	**147.15**	**-1.45**
	i_{mean}	**+0.064**

MMM-11-21	(masl)	(Δm vs. Pond)
Min	145.99	-2.51
Max	148.22	-0.91
Mean	**146.96**	**-1.70**
	i_{mean}	**+0.118**

Notes regarding the ranges shown for the monitoring locations and the pond:
Elevations (masl) are based on all data recorded from data loggers from July 4, 2011 to April 18, 2017.
Min, Max and Mean elevations are based on all data, over differing time periods for each individual monitor. Care should be exercised in comparing these between different monitors considering the different time periods.
Differences between groundwater levels at monitors and the water level on the pond are based on the differences recorded at each hourly time step, and only at times when both loggers are present and recording at the same time intervals.
The mean hydraulic gradients (iMean) are calculated using mean differences in elevation between the pond/watercourse and the monitor, and the vertical and horizontal distances from the monitor centroid to the edge of the pond at the mean pond water level.
Data is not calculated at all stations at times when the pond was dry (at the pond logger location), nor was data calculated at individual stations when they were dry.

Negative Gradients indicate flow from ground towards the pond or watercourse.

Legend

- Pond Logger (July 2013 - Present)
- Pond Logger (July 2011 - November 2012)
- Lost / Destroyed Mini-Piezometers
- Lost / Destroyed MWs

Monitoring Locations

- EXP Monitoring Well (2011)
- MMM Monitoring Well (2009/2011)
- Mini-Piezometer
- TROW Monitoring Well (2001)
- Lazy Pat Farm Well
- Flow Monitoring Points
- Staff Gauge
- Surface Water Sampling Location at SG-01
- Supplemental Pond Study Cross Section
- Watercourse

Topographic Contours

- 5 m Interval
- 1 m Interval
- Subject Property

Scale 0 50 100 200 Metres

Client: QuadReal

Prepared By: wsp

Date: May 2019

Project No. 09M-00013-01

Scale as Shown

Figure: HG-1

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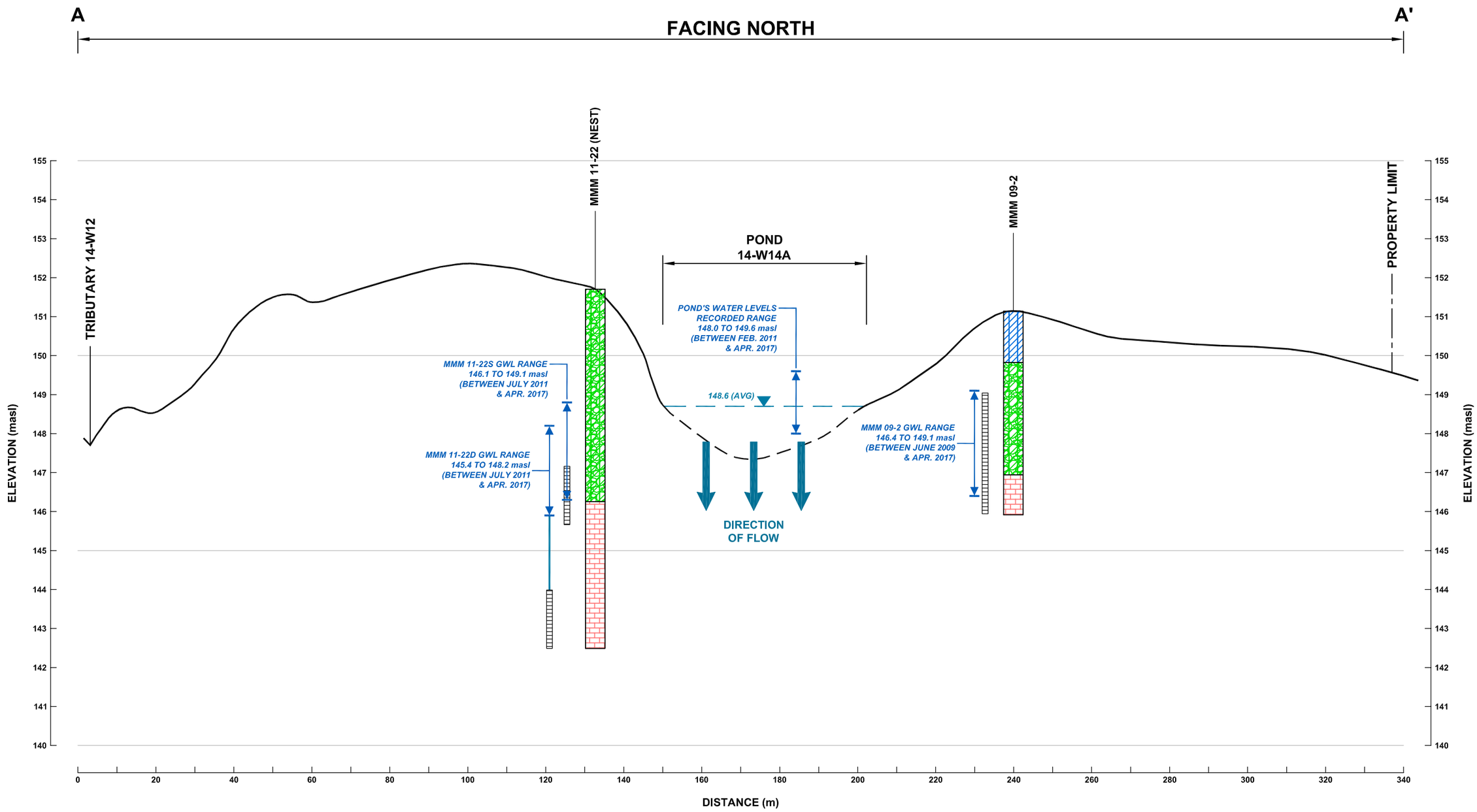
J:\1442 Projects by Job Number\2009\14-09222-001-HG1 Bentall Lands\050 Mapping\MXD\Report\Figure HG-1 On-Site Monitoring Locations - rev1.mxd



LEGEND

CLAYEY SILT

CLAYEY SILT TILL

SHALE BEDROCK

GWL RANGE

SCREEN

MMM 09-2 —— BOREHOLE ID.

NOTE:
POND BOTTOM BASED ON BATHYMETRY DATA.

Environmental Implementation Report / Functional Servicing Study for 14 Mile Creek West and the Lazy Pat Farm Property

Hydrogeological Cross-Section A-A' Through Pond

Scale: H = 1:1000 V = 1:100

Client: QuadReal

Prepared by: wsp

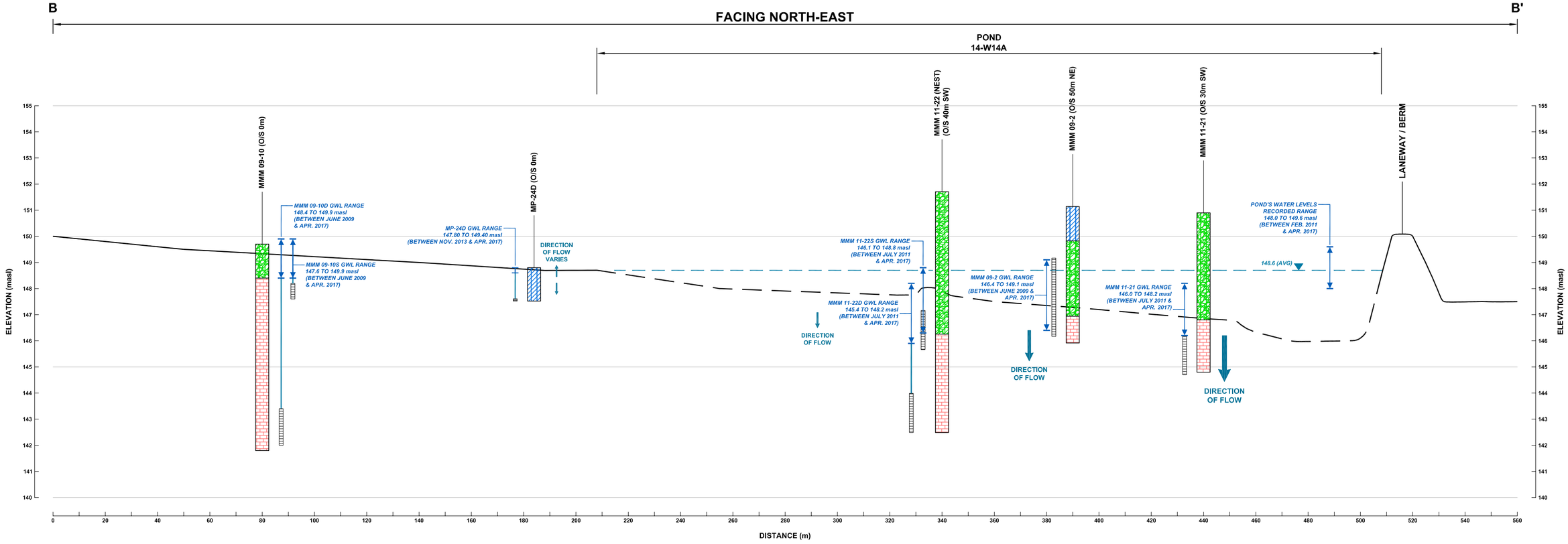
Date: MAY 2019

Project No.: 09M-00013-01 (1409222-001)

Aerial Photo

Figure HG2

FIGURE - Cross-Sections.dwg FIGURE HG2 - Hydrogeological Cross-Section A-A' Through Pond S:\14-42\1409222-001-HG1\005-REPORT MAY 2019\ May 07, 2019 - 1:17pm



LEGEND

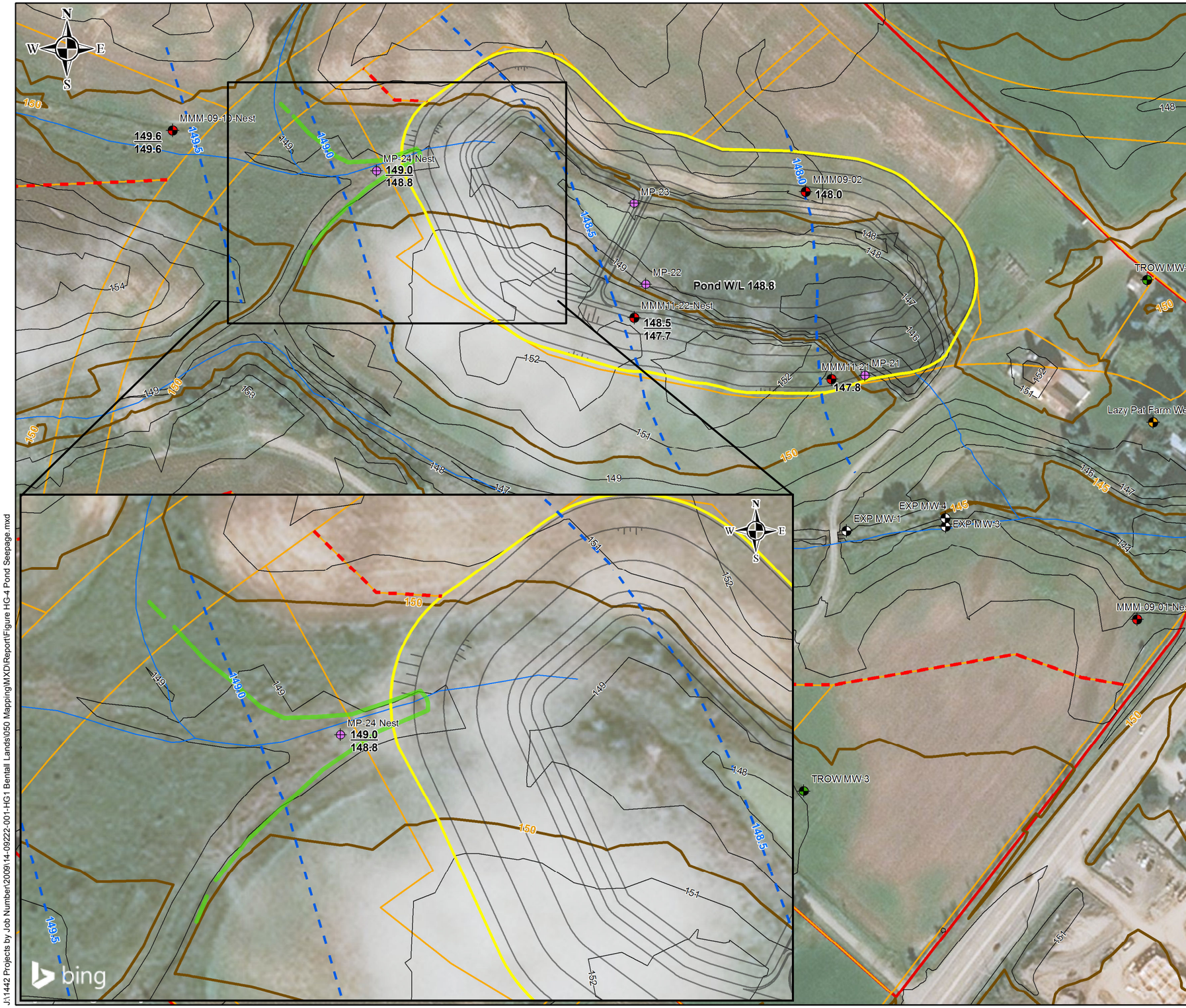
- CLAYEY SILT
- CLAYEY SILT TILL
- SHALE BEDROCK
- GWL RANGE
- SCREEN
- BOREHOLE ID.
- OFFSET FROM ROAD CENTRELINE

MMM 09-2 (O/S 50m NW)

NOTE:
POND BOTTOM BASED ON BATHYMETRY DATA.

Environmental Implementation Report / Functional Servicing Study for 14 Mile Creek West and the Lazy Pat Farm Property	Scale: H = 1:1000 V = 1:100
	Client: QuadReal
	Prepared by: wsp
Hydrogeological Cross-Section B-B' Through Pond	Date: MAY 2019
	Project No.: 09M-00013-01 (1409222-001)
	Aerial Photo:
	Figure HG3

FIGURE 1 - CrossSections.dwg FIGURE HG3 - Hydrogeological CrossSection B-B' Through Pond S:\114-2\1409222\001\HG\1000\-REPORT MAY 2019\ May 07, 2019 - 1:14pm



Environmental Implementation Report / Functional Servicing Study for 14 Mile Creek West and the Lazy Pat Farm Property

Potential Seepage Area Near Upper End of Central Pond

Legend

Monitoring Locations

- EXP Monitoring Well (2011)
- MMM Monitoring Well (2009/2011)
- Mini-Piezometer
- TROW Monitoring Well (2001)
- Lazy Pat Farm Well
- Interpreted Contours for Seepage
- Potential Seepage Zone
- Proposed Infiltration Trenches
- Proposed Limit of SWMP Cut/Fill
- Pond Grading Contours
- Watercourse

Topographic Contours

- 5 m Interval
- 1 m Interval
- Development Parcels
- Subject Property

Note: Static water levels were taken on April 30, 2014.

Scale 0 50 100 Metres

Client: QuadReal

Prepared By: wsp

Date: May 2019

Project No. 09M-00013-01

Scale as Shown

Figure: HG-4

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J:\1442 Projects by Job Number\2009\14-09222-001-HG1 Bentall Lands\050 Mapping\MXD\Report\Figure HG-4 Pond Seepage.mxd

Flow Estimates

Bentall Lands Oakville - May 5, 2009

	Bank Edge		Bank Edge	Sums/Avgs
MP-03 Location				
Length (inches)	34.00			
Width (inches)	7.00			
Depth (inches)	2.00	3.50	3.00	
Sub-Section Location (m)	0.000	0.089	0.178	
Sub-section Width (m)		0.089	0.089	0.178
Sub-Section Depth (m)	0.051	0.089	0.076	
Areas (m^2)		0.006	0.007	0.014
Length of Run (m)	0.86			
Run # -->	1	2	3	
Time (seconds)	1.74	1.99	1.98	
	4	5	6	
	2.10	1.63	2.07	1.92
Avg. Vel	0.450	m/sec		
Q=vA	0.006	m^3/sec		
(ignores friction so these	366.0	L/min		
may be overestimated)	80.5	igpm		

MP-01 Location				
Length (inches)	24.00			
Width (inches)	9.00			
Depth (inches)	2.25	2.50	1.50	
Sub-Section Location (m)	0.000	0.114	0.229	
Sub-section Width (m)		0.114	0.114	0.229
Sub-Section Depth (m)	0.057	0.064	0.038	
Areas (m^2)		0.007	0.006	0.013
Length of Run (m)	0.61			
Run # -->	1	2	3	
Time (seconds)	2.12	2.02	1.95	
	4	5	6	
	2.00	2.35	2.10	2.09
Avg. Vel	0.292	m/sec		
Q=vA	0.004	m^3/sec		
(ignores friction so these	222.3	L/min		
may be overestimated)	48.9	igpm		

Flow Estimates

Bentall Lands Oakville - May 5, 2009

	Bank Edge		Bank Edge	Sums/Avgs
MP-07 (West of Small Pond)				
Length (inches)	14.00			
Width (inches)	15.00			
Depth (inches)	1.50	2.25	2.00	
Sub-Section Location (m)	0.000	0.191	0.381	
Sub-section Width (m)		0.191	0.191	0.381
Sub-Section Depth (m)	0.038	0.057	0.051	
Areas (m^2)		0.009	0.010	0.019
Length of Run (m)	0.36			
Run # -->	1	2	3	
Time (seconds)	0.86	0.84	0.94	
	4	5	6	
	0.85	0.95	1.05	0.92
Avg. Vel	0.389	m/sec		
Q=vA	0.008	m^3/sec		
(ignores friction so these	451.3	L/min		
may be overestimated)	99.3	igpm		

Main Tributary by Dundas Street				
Length (inches)	28.00			
Width (inches)	33.00			
Depth (inches)	5.00	7.00	5.00	
Sub-Section Location (m)	0.000	0.419	0.838	
Sub-section Width (m)		0.419	0.419	0.838
Sub-Section Depth (m)	0.127	0.178	0.127	
Areas (m^2)		0.064	0.064	0.128
Length of Run (m)	0.71			
Run # -->	1	2	3	
Time (seconds)	4.92	8.12	6.11	
	4	5	6	
	3.65	4.60	4.73	5.36
Avg. Vel	0.133	m/sec		
Q=vA	0.017	m^3/sec		
(ignores friction so these	1017.9	L/min		
may be overestimated)	223.9	igpm		

Flow Estimates

Bentall Lands Oakville - May 29, 2009

	Bank Edge		Bank Edge	Sums/Avgs
MP-02				
Length (m)	0.70			
Width (m)	0.46			
Depth (m)	0.06	0.07	0.03	
Sub-Section Location (m)	0.000	0.230	0.460	
Sub-section Width (m)		0.230	0.230	0.460
Sub-Section Depth (m)	0.060	0.070	0.030	
Areas (m^2)		0.015	0.012	0.026
Length of Run (m)	0.70			
Run # -->	1	2	3	
Time (seconds)	4.00	4.70	4.80	
	4	5	6	
				4.50
Avg. Vel	0.156	m/sec		
Q=vA	0.004	m^3/sec		
(ignores friction so these	246.9	L/min		
may be overestimated)	54.3	igpm		

MP-07				
Length (m)	0.70			
Width (m)	0.32			
Depth (m)	0.09	0.16	0.12	
Sub-Section Location (m)	0.000	0.160	0.320	
Sub-section Width (m)		0.160	0.160	0.320
Sub-Section Depth (m)	0.090	0.160	0.120	
Areas (m^2)		0.020	0.022	0.042
Length of Run (m)	0.70			
Run # -->	1	2	3	
Time (seconds)	4.00	4.00	4.00	
	4	5	6	
				4.00
Avg. Vel	0.175	m/sec		
Q=vA	0.007	m^3/sec		
(ignores friction so these	445.2	L/min		
may be overestimated)	97.9	igpm		

Flow Estimates

Bentall Lands Oakville - May 29, 2009

	Bank Edge		Bank Edge	Sums/Avgs
MP-04				
Length (m)	0.70			
Width (m)	0.30			
Depth (m)	0.04	0.05	0.03	
Sub-Section Location (m)	0.000	0.150	0.300	
Sub-section Width (m)		0.150	0.150	0.300
Sub-Section Depth (m)	0.040	0.050	0.030	
Areas (m^2)		0.007	0.006	0.013
Length of Run (m)	0.70			
Run # -->	1	2	3	
Time (seconds)	2.00	2.00	2.00	
	4	5	6	
				2.00
Avg. Vel	0.350	m/sec		
Q=vA	0.004	m^3/sec		
(ignores friction so these	267.8	L/min		
may be overestimated)	58.9	igpm		

MP-01				
Length (m)	0.60			
Width (m)	0.55			
Depth (m)	0.04	0.05	0.02	
Sub-Section Location (m)	0.000	0.275	0.550	
Sub-section Width (m)		0.275	0.275	0.550
Sub-Section Depth (m)	0.040	0.050	0.020	
Areas (m^2)		0.012	0.010	0.022
Length of Run (m)	0.60			
Run # -->	1	2	3	
Time (seconds)	6.00	6.50	6.00	
	4	5	6	
				6.17
Avg. Vel	0.097	m/sec		
Q=vA	0.002	m^3/sec		
(ignores friction so these	128.4	L/min		
may be overestimated)	28.3	igpm		

Flow Estimates

Bentall Lands Oakville - May 29, 2009

	Bank Edge		Bank Edge	Sums/Avgs
MP-03				
Length (m)	0.30			
Width (m)	0.16			
Depth (m)	0.02	0.04	0.02	
Sub-Section Location (m)	0.000	0.080	0.160	
Sub-section Width (m)		0.080	0.080	0.160
Sub-Section Depth (m)	0.020	0.040	0.020	
Areas (m^2)		0.002	0.002	0.005
Length of Run (m)	0.30			
Run # -->	1	2	3	
Time (seconds)	2.00	2.00	2.00	
	4	5	6	
				2.00
Avg. Vel	0.150	m/sec		

Q=vA	0.001	m^3/sec
(ignores friction so these	43.2	L/min
may be overestimated)	9.5	igpm

Flow Estimates

Bentall Lands Oakville - June 19, 2009

	Bank Edge		Bank Edge	Sums/Avgs
MP-04				
Length (m)	1.00			
Width (m)	0.42			
Depth (m)	0.04	0.05	0.03	
Sub-Section Location (m)	0.000	0.210	0.420	
Sub-section Width (m)		0.210	0.210	0.420
Sub-Section Depth (m)	0.040	0.050	0.030	
Areas (m^2)		0.009	0.008	0.018
Length of Run (m)	1.00			
Run # -->	1	2	3	
Time (seconds)	1.50	1.78	1.70	
	4	5	6	
				1.66
Avg. Vel	0.602	m/sec		
Q=vA	0.011	m^3/sec		
(ignores friction so these	645.2	L/min		
may be overestimated)	141.9	igpm		

Flow Estimates

Bentall Lands Oakville - Nov 9, 2009

	Bank Edge			Bank Edge	Sums/Avgs
SG-1					
Length (m)	0.50				
Width (m)	0.30				
Depth (m)	0.02	0.04	0.06	0.02	
Sub-Section Location (m)	0.000	0.100	0.200	0.300	
Sub-section Width (m)		0.100	0.100	0.100	0.300
Sub-Section Depth (m)	0.020	0.040	0.060	0.020	
Areas (m^2)		0.003	0.005	0.004	0.012
Length of Run (m)	0.50				
Run # -->	1	2	3		
Time (seconds)	3.00	3.00	4.00		
	4	5	6		
	3.00	4.00			3.40
Avg. Vel	0.147	m/sec			
Q=vA	0.002	m^3/sec			
(ignores friction so these	105.9	L/min			
may be overestimated)	23.3	igpm			

Flow Estimates

Bentall Lands Oakville - Nov 20, 2009

	Bank Edge			Bank Edge			Sums/Avgs
SG-2							
Length (m)	1.00						
Width (m)	1.15						
Depth (m)	0.25	0.04	0.06	0.06	0.06	0.06	
Sub-Section Location (m)	0.000	0.420	0.550	0.650	1.000	1.150	
Sub-section Width (m)		0.420	0.130	0.100	0.350	0.150	1.000
Sub-Section Depth (m)	0.250	0.250	0.140	0.100	0.040	0.000	
Areas (m^2)		0.105	0.025	0.012	0.025	0.003	0.167
Length of Run (m)	1.00						
Run # -->	1	2	3				
Time (seconds)	5.00	6.50	6.00				
	4	5	6				
	7.00						6.13
Avg. Vel	0.163	m/sec					
Q=vA	0.027	m^3/sec					
(ignores friction so these	1634.4	L/min					
may be overestimated)	359.5	igpm					

Flow Estimates

Bentall Lands Oakville - Dec. 18, 2009

	Bank Edge				Bank Edge	Sums/Avgs
FMP-1						
Length (m)	0.50					
Width (m)	0.90					
Depth (m)	0.04	0.10	0.14	0.09	0.06	
Sub-Section Location (m)	0.000	0.225	0.450	0.675	0.900	
Sub-section Width (m)		0.225	0.225	0.225	0.225	0.900
Sub-Section Depth (m)	0.040	0.100	0.140	0.090	0.060	
Areas (m^2)		0.016	0.027	0.026	0.017	0.086
Length of Run (m)	0.50					
Run # -->	1	2	3			
Time (seconds)	4.00	5.00	4.00			
	4	5	6			
						4.33
Avg. Vel	0.115	m/sec				
Q=vA	0.010	m^3/sec				
(ignores friction so these	591.9	L/min				
may be overestimated)	130.2	igpm				

Flow Estimates

Bentall Lands Oakville - Jan 21, 2010

	Bank Edge		Bank Edge	Sums/Avgs
MP-04 Location				
Length (m)	0.20			
Width (m)	0.12			
Depth (m)	0.04			
Sub-Section Location (m)	0.000	0.060	0.120	
Sub-section Width (m)	0.12	0.120	0.100	0.220
Sub-Section Depth (m)	0.030	0.040	0.040	
Areas (m^2)		0.004	0.004	0.008
Length of Run (m)	0.20			
Run # -->	1	2	3	
Time (seconds)	1.50	1.70	1.50	
	4	5	6	
				1.57
Avg. Vel	0.128	m/sec		
Q=vA	0.001	m^3/sec		
(ignores friction so these	62.8	L/min		
may be overestimated)	13.8	igpm		

Flow Estimates

Bentall Lands Oakville - April 13, 2010

	Bank Edge			Bank Edge	Sums/Avgs
FMP-2					
Length (m)	1.00				
Upstream Cross-Section (25% weighted contribution)					
Width (m)	0.23				
Depth (m)	0.02	0.02	0.02	0.04	
Sub-Section Location (m)	0.000	0.077	0.153	0.230	
Sub-section Width (m)		0.077	0.077	0.077	0.230
Sub-Section Depth (m)	0.020	0.020	0.020	0.040	
Areas (m^2)		0.002	0.002	0.002	0.005
Midpoint Cross-Section (50% weighted contribution)					
Width (m)	0.40				
Depth (m)	0.04	0.07	0.07	0.01	
Sub-Section Location (m)	0.000	0.133	0.267	0.400	
Sub-section Width (m)		0.133	0.133	0.133	0.400
Sub-Section Depth (m)	0.040	0.070	0.070	0.010	
Areas (m^2)		0.007	0.009	0.005	0.022
Downstream Cross-Section (25% weighted contribution)					
Width (m)	0.40				
Depth (m)	0.02	0.03	0.07	0.04	
Sub-Section Location (m)	0.000	0.133	0.267	0.400	
Sub-section Width (m)		0.133	0.133	0.133	0.400
Sub-Section Depth (m)	0.020	0.030	0.070	0.040	
Areas (m^2)		0.003	0.007	0.007	0.017
Weighted Cross-Sectional Area (m^2)					0.017
Length of Run (m)	**1.00**				
Run # -->	**1**	**2**	**3**		
Time (seconds)	2.59	4.62	3.07		
	4	**5**	**6**		
	3.18	2.50	3.40		3.23
Avg. Vel	**0.310**	m/sec			
Q=vA	**0.002**	m^3/sec			
(ignores friction so these	**99.8**	L/min			
may be overestimated)	**22.0**	igpm			

Flow Estimates

Bentall Lands Oakville - April 13, 2010

	Bank Edge			Bank Edge	Sums/Avgs
FMP-4					
Length (m)	0.50				
Upstream Cross-Section (25% weighted contribution)					
Width (m)	0.30				
Depth (m)	0.03	0.04	0.03		
Sub-Section Location (m)	0.000	0.150	0.300		
Sub-section Width (m)		0.150	0.150		0.300
Sub-Section Depth (m)	0.030	0.040	0.030		
Areas (m^2)		0.005	0.005		0.011
Midpoint Cross-Section (50% weighted contribution)					
Width (m)	0.35				
Depth (m)	0.02	0.04	0.03		
Sub-Section Location (m)	0.000	0.175	0.350		
Sub-section Width (m)		0.175	0.175		0.350
Sub-Section Depth (m)	0.020	0.040	0.030		
Areas (m^2)		0.005	0.006		0.011
Downstream Cross-Section (25% weighted contribution)					
Width (m)	0.40				
Depth (m)	0.02	0.04	0.01		
Sub-Section Location (m)	0.000	0.200	0.400		
Sub-section Width (m)		0.200	0.200		0.400
Sub-Section Depth (m)	0.020	0.040	0.010		
Areas (m^2)		0.006	0.005		0.011
Weighted Cross-Sectional Area (m^2)					0.011
Length of Run (m)	0.50				
Run # -->	1	2	3		
Time (seconds)	4.10	3.60	3.20		
	4	5	6		
	3.80	3.30		3.60	
Avg. Vel	0.139	m/sec			
Q=vA	0.001	m^3/sec			
(ignores friction so these	87.5	L/min			
may be overestimated)	19.2	igpm			

Flow Estimates

Bentall Lands Oakville - April 13, 2010

	Bank Edge			Bank Edge		Sums/Avgs
FMP-1						
Length (m)	1.00					
Upstream Cross-Section (25% weighted contribution)						
Width (m)	0.80					
Depth (m)	0.01	0.05	0.15	0.16	0.10	
Sub-Section Location (m)	0.000	0.200	0.400	0.600	0.800	
Sub-section Width (m)		0.200	0.200	0.200	0.200	0.800
Sub-Section Depth (m)	0.010	0.050	0.150	0.160	0.100	
Areas (m^2)		0.006	0.020	0.031	0.026	0.083
Midpoint Cross-Section (50% weighted contribution)						
Width (m)	0.90					
Depth (m)	0.01	0.05	0.12	0.16	0.14	
Sub-Section Location (m)	0.000	0.225	0.450	0.675	0.900	
Sub-section Width (m)		0.225	0.225	0.225	0.225	0.900
Sub-Section Depth (m)	0.010	0.050	0.120	0.160	0.140	
Areas (m^2)		0.007	0.019	0.032	0.034	0.091
Downstream Cross-Section (25% weighted contribution)						
Width (m)	0.90					
Depth (m)	0.04	0.09	0.16	0.14		
Sub-Section Location (m)	0.000	0.300	0.600	0.900		
Sub-section Width (m)		0.300	0.300	0.300		0.900
Sub-Section Depth (m)	0.040	0.090	0.160	0.140		
Areas (m^2)		0.020	0.038	0.045		0.102
Weighted Cross-Sectional Area (m^2)						0.092
Length of Run (m)	1.00					
Run # -->	1	2	3			
Time (seconds)	11.30	13.70	13.80			
	4	5	6			
	14.90	11.70			13.08	
Avg. Vel	0.076	m/sec				
Q=vA	0.006	m^3/sec				
(ignores friction so these	380.7	L/min				
may be overestimated)	83.8	igpm				

Flow Estimates

Bentall Lands Oakville - April 13, 2010

	Bank Edge			Bank Edge	Sums/Avgs
MP-03					
Length (m)	1.00				
Upstream Cross-Section (25% weighted contribution)					
Width (m)	0.19				
Depth (m)	0.04	0.06	0.02		
Sub-Section Location (m)	0.000	0.095	0.190		
Sub-section Width (m)		0.095	0.095		0.190
Sub-Section Depth (m)	0.040	0.060	0.020		
Areas (m^2)		0.005	0.004		0.009
Midpoint Cross-Section (50% weighted contribution)					
Width (m)	0.20				
Depth (m)	0.10	0.04	0.02		
Sub-Section Location (m)	0.000	0.100	0.200		
Sub-section Width (m)		0.100	0.100		0.200
Sub-Section Depth (m)	0.100	0.040	0.020		
Areas (m^2)		0.007	0.003		0.010
Downstream Cross-Section (25% weighted contribution)					
Width (m)	0.24				
Depth (m)	0.07	0.05	0.05	0.02	
Sub-Section Location (m)	0.000	0.080	0.160	0.240	
Sub-section Width (m)		0.080	0.080	0.080	0.240
Sub-Section Depth (m)	0.070	0.050	0.050	0.020	
Areas (m^2)		0.005	0.004	0.003	0.012
Weighted Cross-Sectional Area (m^2)					0.010
Length of Run (m)	1.00				
Run # -->	1	2	3		
Time (seconds)	2.89	2.93	2.31		
	4	5	6		
	3.12	2.79		2.81	
Avg. Vel	0.356	m/sec			
Q=vA	0.003	m^3/sec			
(ignores friction so these	182.7	L/min			
may be overestimated)	40.2	igpm			

Flow Estimates

Bentall Lands Oakville - April 13, 2010

	Bank Edge			Bank Edge	Sums/Avgs
FMP-3					
Length (m)	1.00				
Upstream Cross-Section (50% weighted contribution)					
Width (m)	0.40				
Depth (m)	0.05	0.10	0.06		
Sub-Section Location (m)	0.000	0.200	0.400		
Sub-section Width (m)		0.200	0.200		0.400
Sub-Section Depth (m)	0.050	0.100	0.060		
Areas (m^2)		0.015	0.016		0.031
Downstream Cross-Section (50% weighted contribution)					
Width (m)	0.60				
Depth (m)	0.15	0.18	0.10		
Sub-Section Location (m)	0.000	0.300	0.600		
Sub-section Width (m)		0.300	0.300		0.600
Sub-Section Depth (m)	0.150	0.180	0.100		
Areas (m^2)		0.050	0.042		0.092
Weighted Cross-Sectional Area (m^2)					0.061
Length of Run (m)	1.00				
Run # -->	1	2	3		
Time (seconds)	7.14	8.68	8.32		
	4	5	6		
	7.67	7.77		7.92	
Avg. Vel	0.126	m/sec			
Q=vA	0.004	m^3/sec			
(ignores friction so these	235.0	L/min			
may be overestimated)	51.7	igpm			

Flow Estimates

Bentall Lands Oakville - April 13, 2010

	Bank Edge			Bank Edge	Sums/Avgs
FMP-6/MP-04					
Length (m)	0.60				
Upstream Cross-Section (25% weighted contribution)					
Width (m)	0.65				
Depth (m)	0.05	0.15	0.05		
Sub-Section Location (m)	0.000	0.325	0.650		
Sub-section Width (m)		0.325	0.325		0.650
Sub-Section Depth (m)	0.050	0.150	0.050		
Areas (m^2)		0.033	0.033		0.065
Midpoint Cross-Section (50% weighted contribution)					
Width (m)	0.45				
Depth (m)	0.05	0.08	0.06		
Sub-Section Location (m)	0.000	0.225	0.450		
Sub-section Width (m)		0.225	0.225		0.450
Sub-Section Depth (m)	0.050	0.080	0.060		
Areas (m^2)		0.015	0.016		0.030
Downstream Cross-Section (25% weighted contribution)					
Width (m)	0.75				
Depth (m)	0.06	0.07	0.05		
Sub-Section Location (m)	0.000	0.375	0.750		
Sub-section Width (m)		0.375	0.375		0.750
Sub-Section Depth (m)	0.060	0.070	0.050		
Areas (m^2)		0.024	0.023		0.047
Weighted Cross-Sectional Area (m^2)					0.043
Length of Run (m)	0.60				
Run # -->	1	2	3		
Time (seconds)	3.01	2.57	2.89		
	4	5	6		
	2.42	2.53		2.68	
Avg. Vel	0.224	m/sec			
Q=vA	0.015	m^3/sec			
(ignores friction so these	871.8	L/min			
may be overestimated)	191.8	igpm			

Flow Estimates

Bentall Lands Oakville - October 18-19, 2010

	Bank Edge			Bank Edge	Sums/Avgs
FMP-2					
Length (m)	1.00				
Upstream Cross-Section (25% weighted contribution)					
Width (m)	0.34				
Depth (m)	0.02	0.04	0.02		
Sub-Section Location (m)	0.000	0.170	0.340		
Sub-section Width (m)		0.170	0.170		0.340
Sub-Section Depth (m)	0.020	0.040	0.020		
Areas (m^2)		0.005	0.002		0.007
Midpoint Cross-Section (50% weighted contribution)					
Width (m)	0.32				
Depth (m)	0.02	0.05	0.01		
Sub-Section Location (m)	0.000	0.160	0.320		
Sub-section Width (m)		0.160	0.160		0.320
Sub-Section Depth (m)	0.015	0.050	0.010		
Areas (m^2)		0.005	0.001		0.006
Downstream Cross-Section (25% weighted contribution)					
Width (m)	0.37				
Depth (m)	0.01	0.05	0.03		
Sub-Section Location (m)	0.000	0.185	0.370		
Sub-section Width (m)		0.185	0.185		0.370
Sub-Section Depth (m)	0.010	0.050	0.030		
Areas (m^2)		0.006	0.003		0.008
Weighted Cross-Sectional Area (m^2)					0.007
Length of Run (m)	1.00				
Run # -->	1	2	3		
Time (seconds)	12.00	11.13	12.88		
	4	5	6		
	14.65			12.67	
Avg. Vel	0.079	m/sec			
Q=vA	0.001	m^3/sec			
(ignores friction so these	32.2	L/min			
may be overestimated)	7.1	igpm			

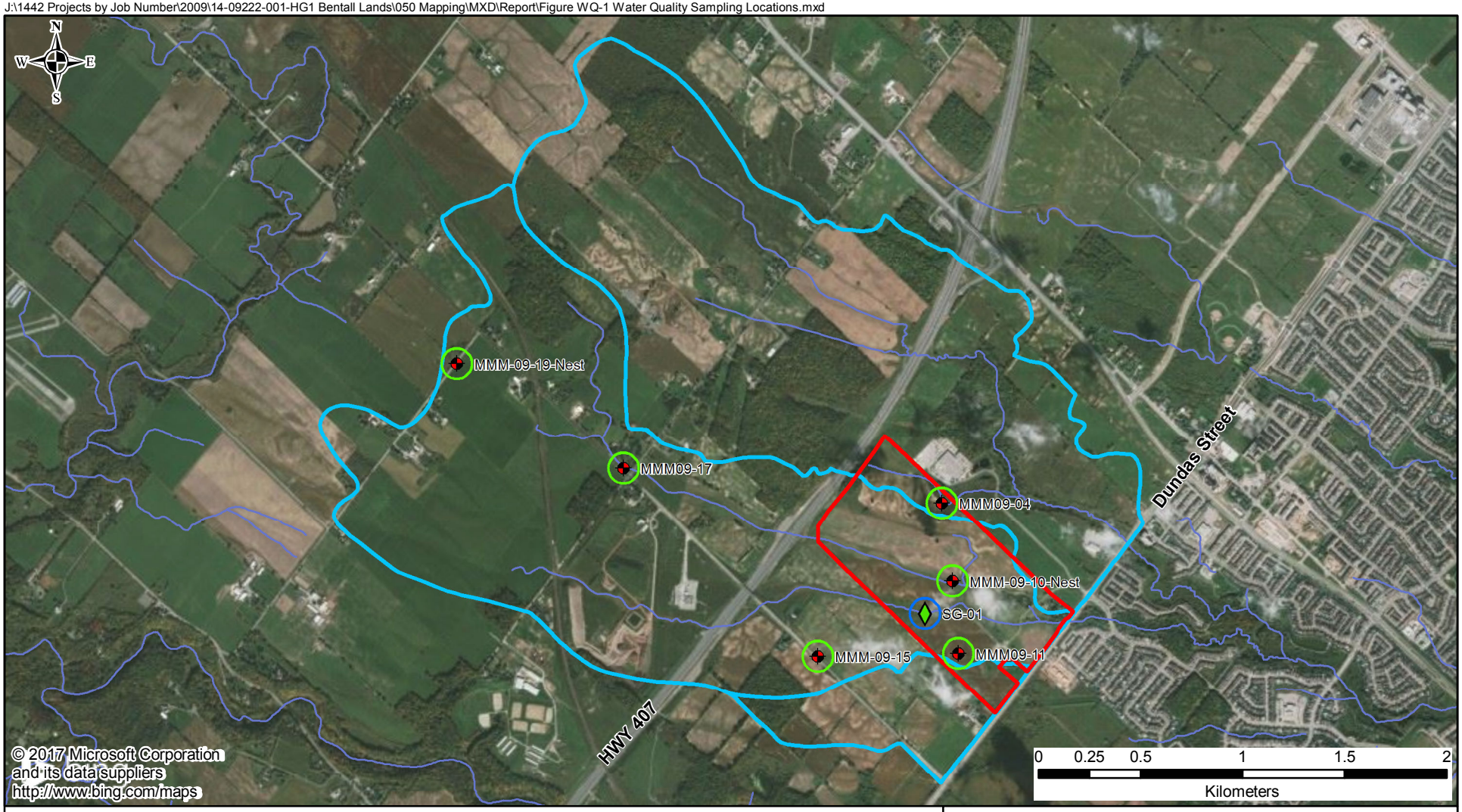
Flow Estimates

Bentall Lands Oakville - October 18-19, 2010

	Bank Edge			Bank Edge	Sums/Avgs
FMP-5/MP-03					
Length (m)	1.00				
Upstream Cross-Section (25% weighted contribution)					
Width (m)	0.20				
Depth (m)	0.04	0.04	0.04		
Sub-Section Location (m)	0.000	0.100	0.200		
Sub-section Width (m)		0.100	0.100		0.200
Sub-Section Depth (m)	0.040	0.040	0.040		
Areas (m^2)		0.004	0.002		0.006
Midpoint Cross-Section (50% weighted contribution)					
Width (m)	0.20				
Depth (m)	0.06	0.05	0.03		
Sub-Section Location (m)	0.000	0.100	0.200		
Sub-section Width (m)		0.100	0.100		0.200
Sub-Section Depth (m)	0.060	0.050	0.030		
Areas (m^2)		0.006	0.002		0.007
Downstream Cross-Section (25% weighted contribution)					
Width (m)	0.20				
Depth (m)	0.03	0.04	0.03		
Sub-Section Location (m)	0.000	0.100	0.200		
Sub-section Width (m)		0.100	0.100		0.200
Sub-Section Depth (m)	0.030	0.040	0.030		
Areas (m^2)		0.004	0.002		0.005
Weighted Cross-Sectional Area (m^2)					0.006
Length of Run (m)	1.00				
Run # -->	1	2	3		
Time (seconds)	4.24	4.77	4.30		
	4	5	6		
	4.00			4.33	
Avg. Vel	0.231	m/sec			
Q=vA	0.001	m^3/sec			
(ignores friction so these	83.2	L/min			
may be overestimated)	18.3	igpm			

APPENDIX 4-6
Ground Water and Surface Water Quality

J:\1442 Projects by Job Number\2009\14-09222-001-HG1 Bentall Lands\050 Mapping\MXD\Report\Figure WQ-1 Water Quality Sampling Locations.mxd



Legend

- Subject Property
- Subcatchment Areas
- Watercourse

Monitoring Locations

- Surface Water Sample (Staff Gauge)
- Groundwater Samples (Monitoring Wells)

Client:	**QuadReal**
Title:	**Water Quality Sampling locations**
Prepared By:	wsp
09M-00013-01	Scale as Shown / Review: AK
Date: May 2019	**Figure: WQ-1**
© Queen's Printer for Ontario	

Figure WQ-2
Selected General Chemistry and Metal Parameter Concentrations
Oakville, Ontario

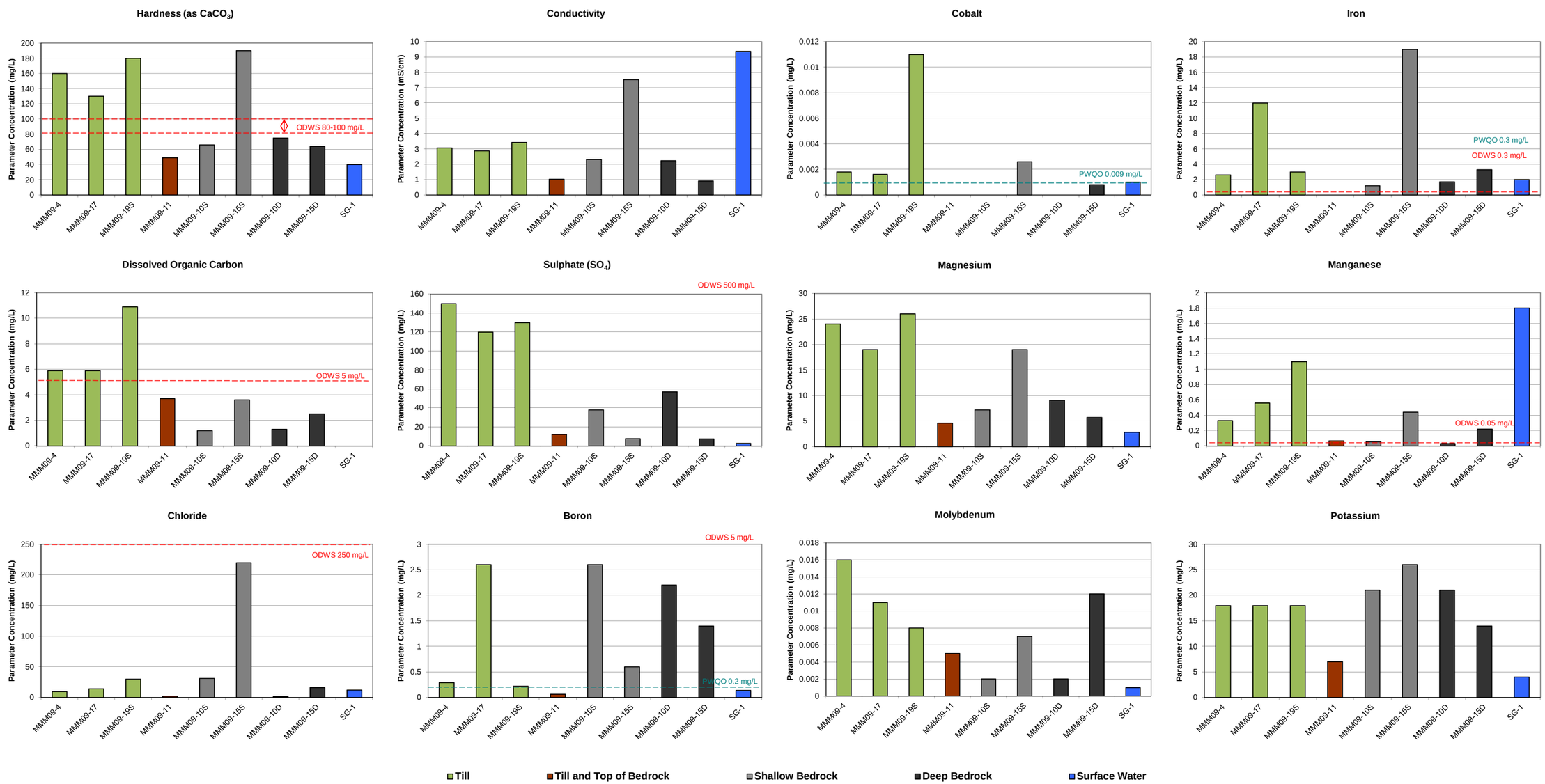
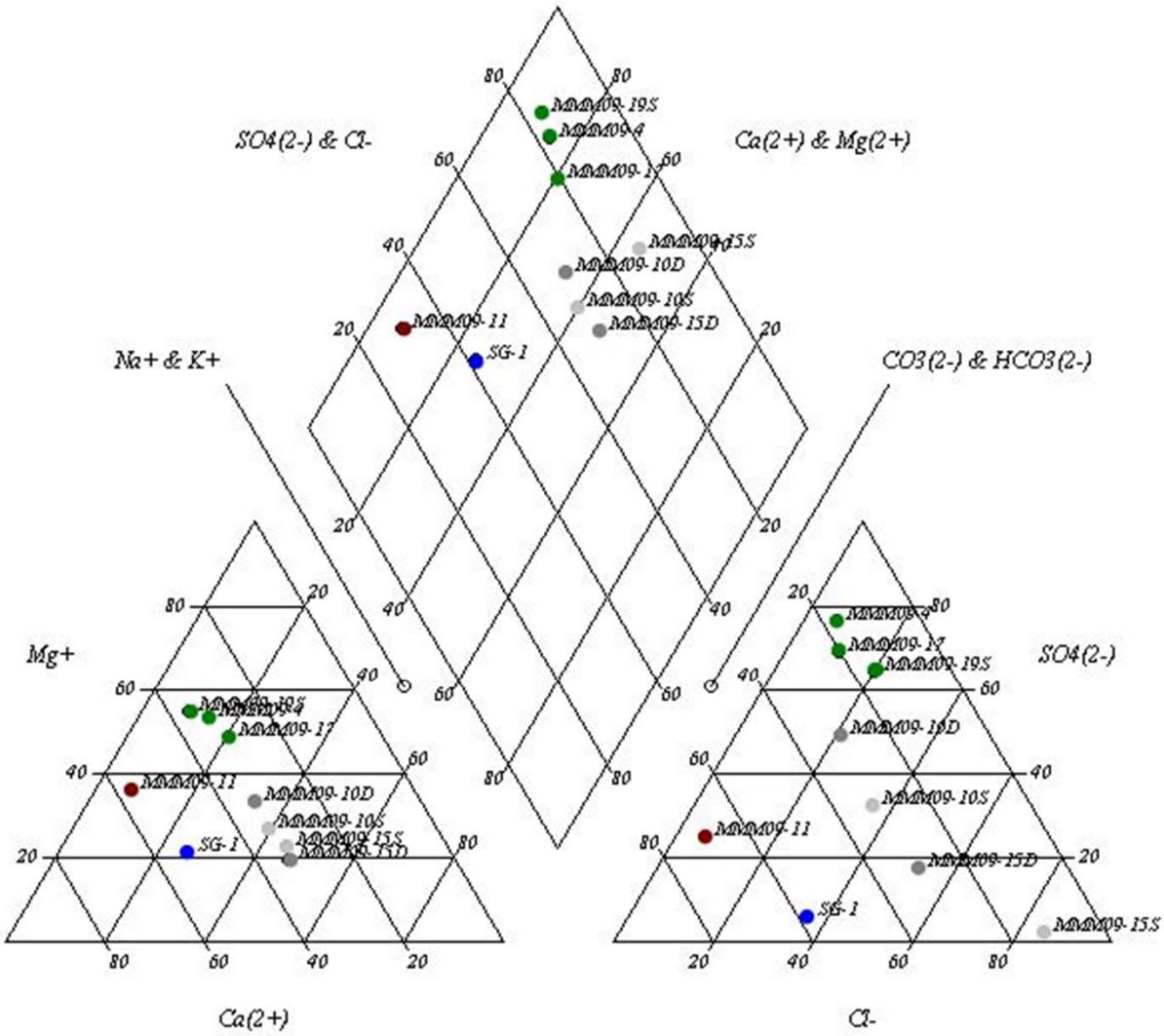


Figure WQ-3
Piper / Trilinear Plot
Oakville, Ontario

Triplot Results:

9 points (Data Provided in MEq).



Source: http://www.rime.com.au/triplot/triplot.html

Table WQ-1
Summary of Water Quality Results
Dissolved Metals
Oakville, Ontario

Parameter	PWQO	ODWS	RDL	MMM09-4	RDL	MMM09-17	FD-1 (MMM09-17)	MMM09-19S	RDL	MMM09-11	MMM09-10S	RDL	MMM09-15S	RDL	MMM09-10D	RDL	MMM09-15D	RDL	SG-1
Date Sampled -->	mg/L			**24-Sept-2009**		**24-Jan-2010**	**24-Jan-2010**	**24-Jan-2010**		**24-Sept-2009**	**24-Sept-2009**		**24-Jan-2010**		**24-Sept-2009**		**24-Jan-2010**		**24-Sept-2009**
Dissolved Aluminum (Al)	0.075	0.1	0.005	0.012	0.005	0.009	0.006	0.006	0.005	0.006	<0.005	0.005	0.005	0.005	<0.005	0.005	0.007	0.005	**(1.6)**
Dissolved Antimony (Sb)	0.02	0.006	0.0005	0.0006	0.0005	<0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0005	0.0005	<0.0005	0.0005	<0.0005	0.0005	<0.0005	0.0005	(<0.0005)
Dissolved Arsenic (As)	0.1	0.025	0.001	0.003	0.001	0.006	0.006	0.001	0.001	<0.001	0.003	0.001	0.006	0.001	<0.001	0.001	0.002	0.001	(0.002)
Dissolved Barium (Ba)	NV	1	0.005	0.007	0.005	0.027	0.027	0.005	0.005	0.036	0.023	0.005	0.24	0.005	0.015	0.005	0.17	0.005	(0.095)
Dissolved Beryllium (Be)	1.1	NV	0.0005	<0.0005	0.0005	<0.0005	<0.0005	<0.0005	0.0005	<0.005	<0.0005	0.0005	<0.0005	0.0005	<0.0005	0.0005	<0.0005	0.0005	(<0.0005)
Dissolved Bismuth (Bi)	NV	NV	0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.001	-
Dissolved Boron (B)	0.2	5	0.01	**0.29**	0.01	**2.6**	**2.6**	**0.22**	0.01	0.063	**2.6**	0.01	**0.6**	0.01	**2.2**	0.01	**1.4**	0.01	(0.14)
Dissolved Cadmium (Cd)	0.0002	0.005	0.0001	<0.0001	0.0001	<0.0001	<0.0001	0.0002	0.0001	<0.0001	<0.0001	0.0001	<0.0001	0.0001	<0.0001	0.0001	<0.0001	0.0001	(<0.0001)
Dissolved Calcium (Ca)	NV	NV	0.2	240	0.2	200	200	280	0.2	120	150	0.2	450	0.2	150	0.2	160	0.2	115 (95)
Dissolved Chromium (Cr)	NV	0.05	0.005	<0.005	0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	(<0.005)
Dissolved Cobalt (Co)	0.0009	NV	0.0005	**0.0018**	0.0005	**0.0016**	**0.0016**	**0.011**	0.0005	<0.0005	<0.0005	0.0005	**0.0026**	0.0005	<0.0005	0.0005	0.0008	0.0005	**(0.001)**
Dissolved Copper (Cu)	0.005	1	0.001	<0.001	0.001	<0.001	<0.001	0.002	0.001	0.003	0.002	0.001	0.002	0.001	<0.001	0.001	<0.001	0.001	**(0.006)**
Dissolved Iron (Fe)	0.3	0.3	0.1	**2.6**	0.1	**12**	**12**	**3**	0.1	<0.1	**1.2**	0.1	**19**	0.1	**1.7**	0.1	**3.3**	0.1	**(2)**
Dissolved Lead (Pb)	0.025	0.01	0.0005	<0.0005	0.0005	<0.0005	<0.0005	<0.0005	0.0005	<0.0005	<0.0005	0.0005	<0.0005	0.0005	<0.0005	0.0005	<0.0005	0.0005	(0.0011)
Dissolved Magnesium (Mg)	NV	NV	0.05	240	0.05	190	190	260	0.05	46	72	0.05	190	0.05	91	0.05	57	0.05	28.2 (25)
Dissolved Manganese (Mn)	NV	0.05	0.002	**0.33**	0.002	**0.56**	**0.54**	**1.1**	0.002	**0.066**	**0.055**	0.002	**0.44**	0.002	0.029	0.002	**0.22**	0.002	**(1.8)**
Dissolved Molybdenum (Mo)	0.04	NV	0.001	0.016	0.001	0.011	0.011	0.008	0.001	0.005	0.002	0.001	0.007	0.001	0.002	0.001	0.012	0.001	(0.001)
Dissolved Nickel (Ni)	0.025	NV	0.001	0.006	0.001	0.004	0.005	0.012	0.001	<0.001	<0.001	0.001	<0.005	0.001	0.002	0.001	0.002	0.001	(0.002)
Dissolved Phosphorus (P)	NV	NV	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	0.1	<0.1	0.1	(0.16)
Dissolved Potassium (K)	NV	NV	0.2	18	0.2	18	18	18	0.2	7	21	0.2	26	0.2	21	0.2	14	0.2	4 (4)
Dissolved Selenium (Se)	0.1	0.01	0.002	<0.002	0.002	<0.002	<0.002	0.005	0.002	<0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	<0.002	0.002	(<0.002)
Dissolved Silicon (Si)	NV	NV	0.05	6.9	0.05	7.5	7.4	6.7	0.05	7.4	6.3	0.05	7.5	0.05	5.6	0.05	3.7	0.05	(6.1)
Dissolved Silver (Ag)	0.0001	NV	0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	**0.0002**	0.0001	<0.0001	0.0001	<0.0001	0.0001	<0.0001	0.0001	(<0.0001)
Dissolved Sodium (Na)	NV	200	0.1	110	0.1	140	140	74	0.1	13	190	0.1	**700**	0.1	160	0.1	**250**	0.1	61.2 (50)
Dissolved Strontium (Sr)	NV	NV	0.001	7	0.001	5.9	5.8	1.9	0.001	1.9	23	0.001	36	0.001	25	0.001	9.3	0.001	-
Dissolved Thallium (Tl)	0.0003	NV	5E-05	0.00006	5E-05	<0.00005	<0.00005	<0.00005	5E-05	<0.00005	0.00005	5E-05	<0.00005	5E-05	<0.00005	5E-05	<0.00005	5E-05	(<0.00005)
Dissolved Titanium (Ti)	NV	NV	0.005	<0.005	0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	<0.005	0.005	-
Dissolved Tungsten (W)	NV	NV	0.001	-		-	-	-	0.001	-	-		-	0.001	-		-	0.001	(<0.001)
Dissolved Uranium (U)	0.005	0.02	0.0001	**0.014**	0.0001	**0.0092**	**0.0088**	**0.016**	0.0001	**0.0058**	0.0003	0.0001	**0.011**	0.0001	0.0003	0.0001	0.0036	0.0001	(0.0015)
Dissolved Vanadium (V)	0.006	NV	0.001	<0.001	0.001	0.002	0.002	0.002	0.001	<0.001	0.002	0.001	<0.005	0.001	<0.001	0.001	<0.001	0.001	(0.003)
Dissolved Zinc (Zn)	0.03	5	0.005	<0.005	0.005	**0.22**	**0.2**	**4.4**	0.005	0.006	0.007	0.005	**0.31**	0.005	<0.005	0.005	**0.038**	0.005	**(0.032)**
Dissolved Zirconium (Zr)	NV	NV	0.001	-		-	-	-	0.001	-	-		-	0.001	-		-	0.001	(0.001)

All units in mg/L, unless otherwise stated

NV: No Value

PWQO:Water Management, Policies, Guidelines, Provincial Water Quality Objectives, Ministry of Environment and Energy, July 1994, revised February 1999, Appendix A, Table 2 - Table of PWQOs and Interim PWQOs

ODWS: Technical Support Document for Ontario Drinking Water; Standards, Objectives and Guidelines, June 2003, Table 2 - Chemical Standards and Table 4 - Chemical/Physical Objectives and Guidelines

(0.01) Total Calcium

100	Exceeds PWQO
100	Exceeds ODWS
100	Exceeds ODWS and PWQO

Table WQ-2
Summary of Water Quality Results
Inorganic Parameters
Oakville, Ontario

Parameter	PWQO	ODWS	Units	RDL	**MMM09-4**	RDL	**MMM09-17**	**FD-1 (MMM09-17)**	**MMM09-19S**	RDL	**MMM09-11**	**MMM09-10S**	RDL	**MMM09-15S**	RDL	**MMM09-10D**	RDL	**MMM09-15D**	RDL	**SG-1**
Date Sampled -->					**24-Sept-2009**		**24-Jan-2010**	**24-Jan-2010**	**24-Jan-2010**		**24-Sept-2009**	**24-Sept-2009**		**24-Jan-2010**		**24-Sept-2009**		**24-Jan-2010**		**24-Sept-2009**
Anion Sum	NV	NV	me/L	N/A	40.5	N/A	35.8	36	43.1	N/A	11.9	24.5	N/A	72.2	N/A	24	N/A	8.69	N/A	-
Bicarb. Alkalinity (calc. as CaCO3)	NV	NV	mg/L	1	347	1	367	368	326	1	347	385	1	453	1	358	1	129	1	272
Carb. Alkalinity (calc. as CaCO3)	NV	NV	mg/L	1	1	1	2	2	1	1	2	2	1	1	1	2	1	1	1	2
Total Alkalinity (as CaCO3)	NV	30-500	mg/L	1	348	1	369	370	328	1	349	387	1	454	1	359	1	130	1	274
Cation Sum	NV	NV	me/L	N/A	36.8	N/A	32.8	32.6	39	N/A	10.5	22.2	N/A	69.8	N/A	22.5	N/A	24	N/A	-
Hardness (CaCO3)	NV	80-100	mg/L	1	**1600**	1	**1300**	**1300**	**1800**	1	**490**	**660**	1	**1900**	1	**750**	1	**640**	1	**400**
Ion Balance (% Difference)	NV	NV	%	N/A	4.79	N/A	4.28	4.87	4.95	N/A	6.28	5.07	N/A	1.66	N/A	3.17	N/A	46.8	N/A	-
Langelier Index (@ 20C)	NV	NV	N/A	N/A	0.898		0.959	0.962	0.834	N/A	0.842	0.85		1.02	N/A	0.852		0.856	N/A	0.852
Langelier Index (@ 4C)	NV	NV	N/A	N/A	0.656		0.716	0.718	0.592	N/A	0.595	0.605		0.783	N/A	0.607		0.61	N/A	0.605
Saturation pH (@ 20C)	NV	NV	N/A	N/A	6.76		6.79	6.79	6.72	N/A	6.88	6.84		6.44	N/A	6.87		7.2	N/A	6.98
Saturation pH (@ 4C)	NV	NV	N/A	N/A	7		7.03	7.04	6.96	N/A	7.13	7.08		6.68	N/A	7.11		7.45	N/A	7.22
Total Ammonia-N	NV	NV	mg/L	0.05	0.32	0.05	0.33	0.48	0.33	0.05	0.07	1.3	0.05	0.42	0.05	2	0.05	0.82	0.05	0.29
- Unionized Ammonia - Calculated	0.02	NV	mg/L	N/A	0.003		0.003	0.005	0.002	N/A	0.001	0.011		0.002	N/A	0.017		0.017	N/A	0.003
Calculated TDS	NV	500	mg/L	1	**2410**	1	**2110**	**2120**	**2490**	1	**665**	**1380**	1	**3930**	1	**1400**	1	**805**	1	-
Conductivity	NV	NV	umho/cm	1	3070	1	2870	2860	3430	1	1030	2310	1	7520	1	2230	1	918	1	937
Dissolved Organic Carbon	NV	5	mg/L	0.2	**5.9**	0.2	**5.9**	**5.9**	**10.9**	0.2	3.7	1.2	0.2	3.6	0.2	1.3	0.2	2.5	0.2	-
Total Organic Carbon (TOC)	NV	NV	mg/L	0.2	-	-	-	-	-	0.2	-	-	-	-	0.2	-	-	-	0.2	9.5
Orthophosphate (P)	NV	NV	mg/L	0.01	<0.01	0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	0.01	<0.01	0.01	<0.01
pH	6.5 - 8.5	6.5-8.5	pH	pH	7.7	pH	7.7	7.8	7.6	pH	7.7	7.7	pH	7.5	pH	7.7	pH	8.1	pH	7.8
Dissolved Sulphate (SO4)	NV	500	mg/L	10	**1500**	10	**1200**	**1200**	**1300**	10	120	380	10	75	10	**570**	10	74	10	27
Dissolved Chloride (Cl)	NV	250	mg/L	1	95	1	140	140	**300**	1	21	**310**	1	**2200**	1	180	1	160	1	120
Nitrite (N)	NV	1	mg/L	0.01	<0.01	0.01	<0.01	<0.01	0.02	0.01	0.08	<0.01	0.01	<0.01	0.01	<0.01	0.01	<0.01	0.01	<0.01
Nitrate (N)	NV	10	mg/L	0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1	**25**	<0.1	0.1	<0.1	0.1	<0.1	0.1	0.4	0.1	<0.1

Notes:
All units in mg/L, unless otherwise stated
NV: No Value

Unionized Ammonia: The percentages of un-ionized ammonia (NH3) in aqueous ammonia solution is different for different temperature and pH conditions listed in a table within the PWQO that lists the percentage contribution of un-ionized ammonia relative to total ammonia. For example, at a pH of 8.0 and at a temperature of 11C, un-ionized ammonia will comprise approximately 2.0% of the total ammonia concentration.

PWQO:Water Management, Policies, Guidelines, Provincial Water Quality Objectives, Ministry of Environment and Energy, July 1994, revised February 1999, Appendix A, Table 2 - Table of PWQOs and Interim PWQOs
ODWS: Technical Support Document for Ontario Drinking Water; Standards, Objectives and Guidelines, June 2003, Table 2 - Chemical Standards and Table 4 - Chemical/Physical Objectives and Guidelines

100	Exceeds PWQO
100	Exceeds ODWS
100	Exceeds ODWS and PWQO

Your Project #: 14-09222-001-HG1
Site: 407 WEST AREA , OAKVILLE
Your C.O.C. #: 16404601, 164046-0

Attention: Annette Blazeiko
MMM GROUP LIMITED
100 Commerce Valley Dr W
Thornhill, ON
CANADA L3T 0A1

Report Date: 2009/10/02

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9C6886
Received: 2009/09/24, 17:40

Sample Matrix: Water
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Alkalinity	5	N/A	2009/09/30	CAM SOP-00448	SM 2320B
Carbonate, Bicarbonate and Hydroxide	5	N/A	2009/10/01		
Chloride by Automated Colourimetry	5	N/A	2009/10/01	CAM SOP-00463	SM 4500 Cl E
Conductivity	5	N/A	2009/09/30	CAM SOP-00448	SM 2510
Dissolved Organic Carbon (DOC)	4	N/A	2009/09/30	CAM SOP-00446	SM 5310 B
Hardness (calculated as CaCO3)	1	N/A	2009/09/30	CAM SOP 0102	SM 2340 B
Hardness (calculated as CaCO3)	3	N/A	2009/10/01	CAM SOP 0102	SM 2340 B
Hardness (calculated as CaCO3)	1	N/A	2009/10/02	CAM SOP 0102	SM 2340 B
Lab Filtered Metals Analysis by ICP	1	2009/10/01	2009/10/01	CAM SOP-00408	EPA 6010
Dissolved Metals by ICPMS	1	N/A	2009/09/29	CAM SOP-00447	EPA 6020
Dissolved Metals by ICPMS	3	N/A	2009/10/01	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	1	N/A	2009/10/01	CAM SOP-00447	EPA 6020
Ion Balance (% Difference)	4	N/A	2009/10/01		
Anion and Cation Sum	4	N/A	2009/10/01		
Ammonia-N	5	N/A	2009/10/01	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (1)	5	N/A	2009/09/29	CAM SOP-00440	SM 4500 NO3I/NO2B
pH	5	N/A	2009/09/30	CAM SOP-00448	SM 4500H
Orthophosphate	5	N/A	2009/10/01	CAM SOP-00461	SM 4500 P-F
Sat. pH and Langelier Index (@ 20C)	4	N/A	2009/10/01		
Sat. pH and Langelier Index (@ 20C)	1	N/A	2009/10/02		
Sat. pH and Langelier Index (@ 4C)	4	N/A	2009/10/01		
Sat. pH and Langelier Index (@ 4C)	1	N/A	2009/10/02		
Sulphate by Automated Colourimetry	5	N/A	2009/10/01	CAM SOP-00464	EPA 375.4
Total Dissolved Solids (TDS calc)	4	N/A	2009/10/01		
Total Dissolved Solids (TDS calc)	1	N/A	2009/10/02		
Total Organic Carbon (TOC)	1	N/A	2009/10/01	CAM SOP-00446	EPA 415.1 modified
Total Phosphorus (Colourimetric)	1	2009/09/30	2009/10/02	CAM SOP-00407	APHA 4500 P,B,F
Turbidity	1	N/A	2009/09/28	CAM SOP-00417	APHA 2130

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
* Results relate only to the items tested.

(1) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

../2

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: A9C6886
Report Date: 2009/10/02

MMM GROUP LIMITED
Client Project #: 14-09222-001-HG1
Project name: 407 WEST AREA , OAKVILLE

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

SEAN CONACHER, Project Manager
Email: Sean.Conacher@maxxamanalytics.com
Phone# (905) 817-5700 Ext:5806

==========
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For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 2

Maxxam Job #: A9C6886
Report Date: 2009/10/02

MMM GROUP LIMITED
Client Project #: 14-09222-001-HG1
Project name: 407 WEST AREA , OAKVILLE

RCAP - COMPREHENSIVE (WATER)

Maxxam ID		DU9940			DU9941			DU9942		DU9943	DU9943		
Sampling Date		2009/09/24			2009/09/24			2009/09/24		2009/09/24	2009/09/24		
	Units	**MMM09-10D**	**RDL**	**QC Batch**	**MMM09-10S**	**RDL**	**QC Batch**	**MMM09-11**	**RDL**	**MMM09-4**	**MMM09-4 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters													
Anion Sum	me/L	24.0	N/A	1950921	24.5	N/A	1950921	11.9	N/A	40.5		N/A	1950921
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	358	1	1950917	385	1	1950917	347	1	347		1	1950917
Calculated TDS	mg/L	1400	1	1950926	1380	1	1950926	665	1	2410		1	1950926
Carb. Alkalinity (calc. as CaCO3)	mg/L	2	1	1950917	2	1	1950917	2	1	1		1	1950917
Cation Sum	me/L	22.5	N/A	1950921	22.2	N/A	1950921	10.5	N/A	36.8		N/A	1950921
Hardness (CaCO3)	mg/L	750	1	1950919	660	1	1950919	490	1	1600		1	1950919
Ion Balance (% Difference)	%	3.17	N/A	1950920	5.07	N/A	1950920	6.28	N/A	4.79		N/A	1950920
Langelier Index (@ 20C)	N/A	0.852		1950923	0.850		1950923	0.842		0.898			1950923
Langelier Index (@ 4C)	N/A	0.607		1950924	0.605		1950924	0.595		0.656			1950924
Saturation pH (@ 20C)	N/A	6.87		1950923	6.84		1950923	6.88		6.76			1950923
Saturation pH (@ 4C)	N/A	7.11		1950924	7.08		1950924	7.13		7.00			1950924
Inorganics													
Total Ammonia-N	mg/L	2.0	0.05	1955758	1.3	0.05	1955758	0.07	0.05	0.32		0.05	1955758
Conductivity	umho/cm	2230	1	1956461	2310	1	1956461	1030	1	3070	3070	1	1956461
Dissolved Organic Carbon	mg/L	1.3	0.2	1955991	1.2	0.2	1955991	3.7	0.2	5.9		0.2	1955991
Orthophosphate (P)	mg/L	<0.01	0.01	1956603	<0.01	0.01	1956603	<0.01	0.01	<0.01		0.01	1956603
pH	pH	7.7		1956460	7.7		1956460	7.7		7.7	7.7		1956460
Dissolved Sulphate (SO4)	mg/L	570	5	1956605	380	1	1956605	120	1	1500		10	1956605
Alkalinity (Total as CaCO3)	mg/L	359	1	1956459	387	1	1956459	349	1	348	345	1	1956459
Dissolved Chloride (Cl)	mg/L	180	2	1956600	310	5	1956600	21	1	95		1	1956600
Nitrite (N)	mg/L	<0.01	0.01	1953404	<0.01	0.01	1953404	0.08	0.01	<0.01		0.01	1953404
Nitrate (N)	mg/L	<0.1	0.1	1953404	<0.1	0.1	1953404	25	1	<0.1		0.1	1953404
p-Alkalinity	mg/L	<1	1	1956459	<1	1	1956459	<1	1	<1	<1	1	1956459
Nitrate + Nitrite	mg/L	<0.1	0.1	1953404	<0.1	0.1	1953404	25	1	<0.1		0.1	1953404

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A9C6886
Report Date: 2009/10/02

MMM GROUP LIMITED
Client Project #: 14-09222-001-HG1
Project name: 407 WEST AREA , OAKVILLE

RCAP - COMPREHENSIVE (WATER)

Maxxam ID		DU9940			DU9941			DU9942		DU9943	DU9943		
Sampling Date		2009/09/24			2009/09/24			2009/09/24		2009/09/24	2009/09/24		
	Units	**MMM09-10D**	**RDL**	**QC Batch**	**MMM09-10S**	**RDL**	**QC Batch**	**MMM09-11**	**RDL**	**MMM09-4**	**MMM09-4 Lab-Dup**	**RDL**	**QC Batch**
Metals													
Dissolved Aluminum (Al)	ug/L	<5	5	1956731	<5	5	1954827	6	5	12		5	1956731
Dissolved Antimony (Sb)	ug/L	<0.5	0.5	1956731	<0.5	0.5	1954827	<0.5	0.5	0.6		0.5	1956731
Dissolved Arsenic (As)	ug/L	1	1	1956731	3	1	1954827	<1	1	3		1	1956731
Dissolved Barium (Ba)	ug/L	15	5	1956731	23	5	1954827	36	5	7		5	1956731
Dissolved Beryllium (Be)	ug/L	<0.5	0.5	1956731	<0.5	0.5	1954827	<0.5	0.5	<0.5		0.5	1956731
Dissolved Bismuth (Bi)	ug/L	<1	1	1956731	<1	1	1954827	<1	1	<1		1	1956731
Dissolved Boron (B)	ug/L	2200	10	1956731	2600	10	1954827	63	10	290		10	1956731
Dissolved Cadmium (Cd)	ug/L	<0.1	0.1	1956731	<0.1	0.1	1954827	<0.1	0.1	<0.1		0.1	1956731
Dissolved Calcium (Ca)	ug/L	150000	200	1956731	150000	200	1954827	120000	200	240000		200	1956731
Dissolved Chromium (Cr)	ug/L	<5	5	1956731	<5	5	1954827	<5	5	<5		5	1956731
Dissolved Cobalt (Co)	ug/L	<0.5	0.5	1956731	<0.5	0.5	1954827	<0.5	0.5	1.8		0.5	1956731
Dissolved Copper (Cu)	ug/L	<1	1	1956731	2	1	1954827	3	1	<1		1	1956731
Dissolved Iron (Fe)	ug/L	1700	100	1956731	1200	100	1954827	<100	100	2600		100	1956731
Dissolved Lead (Pb)	ug/L	<0.5	0.5	1956731	<0.5	0.5	1954827	<0.5	0.5	<0.5		0.5	1956731
Dissolved Magnesium (Mg)	ug/L	91000	50	1956731	72000	50	1954827	46000	50	240000		50	1956731
Dissolved Manganese (Mn)	ug/L	29	2	1956731	55	2	1954827	66	2	330		2	1956731
Dissolved Molybdenum (Mo)	ug/L	2	1	1956731	2	1	1954827	5	1	16		1	1956731
Dissolved Nickel (Ni)	ug/L	2	1	1956731	<1	1	1954827	<1	1	6		1	1956731
Dissolved Phosphorus (P)	ug/L	<100	100	1956731	<100	100	1954827	<100	100	<100		100	1956731
Dissolved Potassium (K)	ug/L	21000	200	1956731	21000	200	1954827	7000	200	18000		200	1956731
Dissolved Selenium (Se)	ug/L	<2	2	1956731	<2	2	1954827	<2	2	<2		2	1956731
Dissolved Silicon (Si)	ug/L	5600	50	1956731	6300	50	1954827	7400	50	6900		50	1956731
Dissolved Silver (Ag)	ug/L	<0.1	0.1	1956731	0.2	0.1	1954827	<0.1	0.1	<0.1		0.1	1956731
Dissolved Sodium (Na)	ug/L	160000	100	1956731	190000	100	1954827	13000	100	110000		100	1956731
Dissolved Strontium (Sr)	ug/L	25000	1	1956731	23000	1	1954827	1900	1	7000		1	1956731
Dissolved Thallium (Tl)	ug/L	<0.05	0.05	1956731	0.05	0.05	1954827	<0.05	0.05	0.06		0.05	1956731
Dissolved Titanium (Ti)	ug/L	<5	5	1956731	<5	5	1954827	<5	5	<5		5	1956731
Dissolved Uranium (U)	ug/L	0.3	0.1	1956731	0.3	0.1	1954827	5.8	0.1	14		0.1	1956731
Dissolved Vanadium (V)	ug/L	<1	1	1956731	2	1	1954827	<1	1	1		1	1956731
Dissolved Zinc (Zn)	ug/L	<5	5	1956731	7	5	1954827	6	5	<5		5	1956731

RDL = Reportable Detection Limit
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Maxxam Job #: A9C6886
Report Date: 2009/10/02

MMM GROUP LIMITED
Client Project #: 14-09222-001-HG1
Project name: 407 WEST AREA , OAKVILLE

RCAP - SURFACE WATER (WATER)

Maxxam ID		DU9939	DU9939		
Sampling Date		2009/09/24	2009/09/24		
	Units	**SG1**	**SG1 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	272		1	1950917
Carb. Alkalinity (calc. as CaCO3)	mg/L	2		1	1950917
Hardness (CaCO3)	mg/L	400		1	1950919
Langelier Index (@ 20C)	N/A	0.852			1950923
Langelier Index (@ 4C)	N/A	0.605			1950924
Saturation pH (@ 20C)	N/A	6.98			1950923
Saturation pH (@ 4C)	N/A	7.22			1950924
Inorganics					
Total Ammonia-N	mg/L	0.29		0.05	1955758
Conductivity	umho/cm	937		1	1956461
Total Organic Carbon (TOC)	mg/L	9.5		0.2	1955919
Orthophosphate (P)	mg/L	<0.01		0.01	1956603
pH	pH	7.8			1956460
Total Phosphorus	mg/L	0.16		0.002	1956010
Dissolved Sulphate (SO4)	mg/L	27		1	1956605
Turbidity	NTU	48		0.1	1951932
Alkalinity (Total as CaCO3)	mg/L	274		1	1956459
Dissolved Chloride (Cl)	mg/L	120		1	1956600
Nitrite (N)	mg/L	<0.01		0.01	1953404
Nitrate (N)	mg/L	<0.1		0.1	1953404

N/A = Not Applicable
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MMM GROUP LIMITED
Client Project #: 14-09222-001-HG1
Project name: 407 WEST AREA , OAKVILLE

RCAP - SURFACE WATER (WATER)

Maxxam ID		DU9939	DU9939		
Sampling Date		2009/09/24	2009/09/24		
	Units	**SG1**	**SG1 Lab-Dup**	**RDL**	**QC Batch**
Metals					
Dissolved Calcium (Ca)	mg/L	115	115	0.05	1957621
Dissolved Magnesium (Mg)	mg/L	28.2	28.0	0.05	1957621
Dissolved Potassium (K)	mg/L	4	4	1	1957621
Dissolved Sodium (Na)	mg/L	61.2	61.7	0.5	1957621
Total Aluminum (Al)	ug/L	1600		5	1957498
Total Antimony (Sb)	ug/L	<0.5		0.5	1957498
Total Arsenic (As)	ug/L	2		1	1957498
Total Barium (Ba)	ug/L	95		5	1957498
Total Beryllium (Be)	ug/L	<0.5		0.5	1957498
Total Boron (B)	ug/L	140		10	1957498
Total Cadmium (Cd)	ug/L	<0.1		0.1	1957498
Total Calcium (Ca)	ug/L	95000		200	1957498
Total Chromium (Cr)	ug/L	<5		5	1957498
Total Cobalt (Co)	ug/L	1.0		0.5	1957498
Total Copper (Cu)	ug/L	6		1	1957498
Total Iron (Fe)	ug/L	2000		100	1957498
Total Lead (Pb)	ug/L	1.1		0.5	1957498
Total Magnesium (Mg)	ug/L	25000		50	1957498
Total Manganese (Mn)	ug/L	1800		2	1957498
Total Molybdenum (Mo)	ug/L	1		1	1957498
Total Nickel (Ni)	ug/L	2		1	1957498
Total Potassium (K)	ug/L	4000		200	1957498
Total Selenium (Se)	ug/L	<2		2	1957498
Total Silicon (Si)	ug/L	6100		50	1957498
Total Silver (Ag)	ug/L	<0.1		0.1	1957498
Total Sodium (Na)	ug/L	50000		100	1957498
Total Thallium (Tl)	ug/L	<0.05		0.05	1957498
Total Tungsten (W)	ug/L	<1		1	1957498
Total Uranium (U)	ug/L	1.5		0.1	1957498
Total Vanadium (V)	ug/L	3		1	1957498
Total Zinc (Zn)	ug/L	32		5	1957498
Total Zirconium (Zr)	ug/L	1		1	1957498

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MMM GROUP LIMITED
Client Project #: 14-09222-001-HG1
Project name: 407 WEST AREA , OAKVILLE

RESULTS OF ANALYSES OF WATER

Maxxam ID		DU9939		
Sampling Date		2009/09/24		
	Units	**SG1**	**RDL**	**QC Batch**
Calculated Parameters				
Calculated TDS	mg/L	534	1	1950926

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
1951932	Turbidity	2009/09/28					<0.1	NTU	NC	25	99	85 - 115
1953404	Nitrite (N)	2009/09/29	97	75 - 125	105	80 - 120	<0.01	mg/L	NC	25		
1953404	Nitrate (N)	2009/09/29	95	75 - 125	99	80 - 120	<0.1	mg/L	NC	25		
1953404	Nitrate + Nitrite	2009/09/29					<0.1	mg/L	NC	25		
1954827	Dissolved Aluminum (Al)	2009/09/29	95	80 - 120	98	90 - 110	<5	ug/L				
1954827	Dissolved Antimony (Sb)	2009/09/29	103	80 - 120	102	90 - 110	<0.5	ug/L				
1954827	Dissolved Arsenic (As)	2009/09/29	104	80 - 120	101	90 - 110	<1	ug/L				
1954827	Dissolved Barium (Ba)	2009/09/29	NC	80 - 120	101	90 - 110	<5	ug/L				
1954827	Dissolved Beryllium (Be)	2009/09/29	96	80 - 120	100	90 - 110	<0.5	ug/L				
1954827	Dissolved Bismuth (Bi)	2009/09/29	87	80 - 120	101	90 - 110	<1	ug/L				
1954827	Dissolved Boron (B)	2009/09/29	97	80 - 120	97	90 - 110	<10	ug/L				
1954827	Dissolved Cadmium (Cd)	2009/09/29	94	80 - 120	100	90 - 110	<0.1	ug/L				
1954827	Dissolved Calcium (Ca)	2009/09/29	NC	80 - 120	99	90 - 110	<200	ug/L				
1954827	Dissolved Chromium (Cr)	2009/09/29	101	80 - 120	102	90 - 110	<5	ug/L				
1954827	Dissolved Cobalt (Co)	2009/09/29	96	80 - 120	99	90 - 110	<0.5	ug/L				
1954827	Dissolved Copper (Cu)	2009/09/29	91	80 - 120	99	90 - 110	<1	ug/L				
1954827	Dissolved Iron (Fe)	2009/09/29	99	80 - 120	102	90 - 110	<100	ug/L				
1954827	Dissolved Lead (Pb)	2009/09/29	92	80 - 120	102	90 - 110	<0.5	ug/L	NC	25		
1954827	Dissolved Magnesium (Mg)	2009/09/29	NC	80 - 120	98	90 - 110	<50	ug/L				
1954827	Dissolved Manganese (Mn)	2009/09/29	NC	80 - 120	100	90 - 110	<2	ug/L				
1954827	Dissolved Molybdenum (Mo)	2009/09/29	107	80 - 120	100	90 - 110	<1	ug/L				
1954827	Dissolved Nickel (Ni)	2009/09/29	94	80 - 120	99	90 - 110	<1	ug/L				
1954827	Dissolved Phosphorus (P)	2009/09/29	107	80 - 120	95	90 - 110	<100	ug/L				
1954827	Dissolved Potassium (K)	2009/09/29	101	80 - 120	96	90 - 110	<200	ug/L				
1954827	Dissolved Selenium (Se)	2009/09/29	94	80 - 120	99	90 - 110	<2	ug/L				
1954827	Dissolved Silicon (Si)	2009/09/29	102	80 - 120	100	90 - 110	<50	ug/L				
1954827	Dissolved Silver (Ag)	2009/09/29	85	80 - 120	100	90 - 110	<0.1	ug/L				
1954827	Dissolved Sodium (Na)	2009/09/29	NC	80 - 120	99	90 - 110	<100	ug/L				
1954827	Dissolved Strontium (Sr)	2009/09/29	NC	80 - 120	102	90 - 110	<1	ug/L				
1954827	Dissolved Thallium (Tl)	2009/09/29	91	80 - 120	101	90 - 110	<0.05	ug/L				
1954827	Dissolved Titanium (Ti)	2009/09/29	106	80 - 120	100	90 - 110	<5	ug/L				
1954827	Dissolved Uranium (U)	2009/09/29	97	80 - 120	101	90 - 110	<0.1	ug/L				
1954827	Dissolved Vanadium (V)	2009/09/29	105	80 - 120	101	90 - 110	<1	ug/L				
1954827	Dissolved Zinc (Zn)	2009/09/29	86	80 - 120	99	90 - 110	<5	ug/L				
1955758	Total Ammonia-N	2009/10/01	103	80 - 120	102	80 - 120	<0.05	mg/L	NC	25		
1955919	Total Organic Carbon (TOC)	2009/10/01	NC	75 - 125	101	75 - 125	<0.2	mg/L	1.7	20		
1955991	Dissolved Organic Carbon	2009/10/01	NC	75 - 125	105	75 - 125	<0.2	mg/L	2.0	20		
1956010	Total Phosphorus	2009/10/02	105	75 - 125	110	75 - 125	<0.002	mg/L	NC	25	108	85 - 115
1956459	Alkalinity (Total as CaCO3)	2009/09/30					<1	mg/L	0.9	25	97	85 - 115
1956459	p-Alkalinity	2009/09/30					<1	mg/L	NC	25	97	85 - 115

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Maxxam Job #: A9C6886
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MMM GROUP LIMITED
Client Project #: 14-09222-001-HG1
Project name: 407 WEST AREA , OAKVILLE

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
1956461	Conductivity	2009/09/30					<1	umho/cm	0	25	100	85 - 115
1956600	Dissolved Chloride (Cl)	2009/10/01	NC	75 - 125	102	80 - 120	<1	mg/L	1	20		
1956603	Orthophosphate (P)	2009/10/01	104	75 - 125	101	80 - 120	<0.01	mg/L	NC	25		
1956605	Dissolved Sulphate (SO4)	2009/10/01	NC	75 - 125	100	80 - 120	<1	mg/L	0.4	25		
1956731	Dissolved Aluminum (Al)	2009/10/01	84	80 - 120	99	90 - 110	<5	ug/L	NC	25		
1956731	Dissolved Antimony (Sb)	2009/10/01	102	80 - 120	100	90 - 110	<0.5	ug/L	NC	25		
1956731	Dissolved Arsenic (As)	2009/10/01	101	80 - 120	101	90 - 110	<1	ug/L	NC	25		
1956731	Dissolved Barium (Ba)	2009/10/01	95	80 - 120	99	90 - 110	<5	ug/L	NC	25		
1956731	Dissolved Beryllium (Be)	2009/10/01	93	80 - 120	97	90 - 110	<0.5	ug/L	NC	25		
1956731	Dissolved Bismuth (Bi)	2009/10/01	77(1)	80 - 120	94	90 - 110	<1	ug/L	NC	25		
1956731	Dissolved Boron (B)	2009/10/01	NC	80 - 120	99	90 - 110	<10	ug/L	1.4	25		
1956731	Dissolved Cadmium (Cd)	2009/10/01	99	80 - 120	101	90 - 110	<0.1	ug/L	NC	25		
1956731	Dissolved Calcium (Ca)	2009/10/01	NC	80 - 120	102	90 - 110	<200	ug/L	1.1	25		
1956731	Dissolved Chromium (Cr)	2009/10/01	89	80 - 120	98	90 - 110	<5	ug/L	NC	25		
1956731	Dissolved Cobalt (Co)	2009/10/01	94	80 - 120	101	90 - 110	<0.5	ug/L	NC	25		
1956731	Dissolved Copper (Cu)	2009/10/01	89	80 - 120	99	90 - 110	<1	ug/L	NC	25		
1956731	Dissolved Iron (Fe)	2009/10/01	95	80 - 120	103	90 - 110	<100	ug/L	NC	25		
1956731	Dissolved Lead (Pb)	2009/10/01	93	80 - 120	96	90 - 110	<0.5	ug/L	NC	25		
1956731	Dissolved Magnesium (Mg)	2009/10/01	NC	80 - 120	102	90 - 110	<50	ug/L	0.5	25		
1956731	Dissolved Manganese (Mn)	2009/10/01	91	80 - 120	102	90 - 110	<2	ug/L	NC(2)	25		
1956731	Dissolved Molybdenum (Mo)	2009/10/01	102	80 - 120	98	90 - 110	<1	ug/L	NC	25		
1956731	Dissolved Nickel (Ni)	2009/10/01	91	80 - 120	98	90 - 110	<1	ug/L	NC	25		
1956731	Dissolved Phosphorus (P)	2009/10/01	96	80 - 120	90	90 - 110	<100	ug/L	NC	25		
1956731	Dissolved Potassium (K)	2009/10/01	92	80 - 120	101	90 - 110	<200	ug/L	1.3	25		
1956731	Dissolved Selenium (Se)	2009/10/01	103	80 - 120	99	90 - 110	<2	ug/L	NC	25		
1956731	Dissolved Silicon (Si)	2009/10/01	92	80 - 120	101	90 - 110	<50	ug/L	1.2	25		
1956731	Dissolved Silver (Ag)	2009/10/01	84	80 - 120	91	90 - 110	<0.1	ug/L	NC	25		
1956731	Dissolved Sodium (Na)	2009/10/01	NC	80 - 120	104	90 - 110	<100	ug/L	2.8	25		
1956731	Dissolved Strontium (Sr)	2009/10/01	NC	80 - 120	99	90 - 110	<1	ug/L	2.6	25		
1956731	Dissolved Thallium (Tl)	2009/10/01	93	80 - 120	97	90 - 110	<0.05	ug/L	NC	25		
1956731	Dissolved Titanium (Ti)	2009/10/01	95	80 - 120	104	90 - 110	<5	ug/L	NC	25		
1956731	Dissolved Uranium (U)	2009/10/01	95	80 - 120	95	90 - 110	<0.1	ug/L	NC	25		
1956731	Dissolved Vanadium (V)	2009/10/01	92	80 - 120	99	90 - 110	<1	ug/L	NC	25		
1956731	Dissolved Zinc (Zn)	2009/10/01	92	80 - 120	98	90 - 110	<5	ug/L	NC	25		
1957498	Total Aluminum (Al)	2009/10/01	93	80 - 120	97	80 - 120	5, RDL=5	ug/L	4.8	25		
1957498	Total Antimony (Sb)	2009/10/01	105	80 - 120	103	82 - 120	<0.5	ug/L	NC	25		
1957498	Total Arsenic (As)	2009/10/01	100	80 - 120	100	86 - 119	<1	ug/L	NC	25		
1957498	Total Barium (Ba)	2009/10/01	96	80 - 120	96	83 - 115	<5	ug/L	3.3	25		
1957498	Total Beryllium (Be)	2009/10/01	95	75 - 125	96	85 - 132	<0.5	ug/L	NC	25		
1957498	Total Boron (B)	2009/10/01	96	75 - 125	97	78 - 133	<10	ug/L	NC	25		

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Maxxam Job #: A9C6886
Report Date: 2009/10/02

MMM GROUP LIMITED
Client Project #: 14-09222-001-HG1
Project name: 407 WEST AREA , OAKVILLE

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
1957498	Total Cadmium (Cd)	2009/10/01	98	80 - 120	96	85 - 116	<0.1	ug/L	NC	25		
1957498	Total Calcium (Ca)	2009/10/01	NC	75 - 125	101	75 - 125	240, RDL=200	ug/L	5.2	25		
1957498	Total Chromium (Cr)	2009/10/01	96	80 - 120	97	80 - 120	<5	ug/L	NC	25		
1957498	Total Cobalt (Co)	2009/10/01	95	80 - 120	97	82 - 117	<0.5	ug/L	NC	25		
1957498	Total Copper (Cu)	2009/10/01	94	80 - 120	97	80 - 117	<1	ug/L	5.7	25		
1957498	Total Iron (Fe)	2009/10/01	97	80 - 120	96	80 - 120	<100	ug/L	NC	25		
1957498	Total Lead (Pb)	2009/10/01	95	80 - 120	96	80 - 120	<0.5	ug/L	NC	25		
1957498	Total Magnesium (Mg)	2009/10/01	93	80 - 120	97	80 - 120	85, RDL=50	ug/L	6.8	25		
1957498	Total Manganese (Mn)	2009/10/01	95	80 - 120	97	80 - 120	<2	ug/L	4.2	25		
1957498	Total Molybdenum (Mo)	2009/10/01	101	80 - 120	100	82 - 117	<1	ug/L	NC	25		
1957498	Total Nickel (Ni)	2009/10/01	95	80 - 120	96	81 - 117	<1	ug/L	NC	25		
1957498	Total Potassium (K)	2009/10/01	97	75 - 125	101	75 - 125	<200	ug/L	7.6	25		
1957498	Total Selenium (Se)	2009/10/01	97	75 - 125	97	82 - 118	<2	ug/L	NC	25		
1957498	Total Silicon (Si)	2009/10/01	93	75 - 125	98	67 - 140	<50	ug/L	6.4	25		
1957498	Total Silver (Ag)	2009/10/01	94	80 - 120	95	80 - 120	<0.1	ug/L	NC	25		
1957498	Total Sodium (Na)	2009/10/01	NC	75 - 125	101	75 - 125	<100	ug/L	5.7	25		
1957498	Total Thallium (Tl)	2009/10/01	95	80 - 120	96	80 - 129	<0.05	ug/L	NC	25		
1957498	Total Tungsten (W)	2009/10/01	102	75 - 125	102	81 - 123	<1	ug/L	NC	25		
1957498	Total Uranium (U)	2009/10/01	99	80 - 120	98	82 - 120	<0.1	ug/L	NC	25		
1957498	Total Vanadium (V)	2009/10/01	96	80 - 120	97	82 - 118	<1	ug/L	NC	25		
1957498	Total Zinc (Zn)	2009/10/01	95	80 - 120	96	80 - 120	<5	ug/L	NC	25		
1957498	Total Zirconium (Zr)	2009/10/01	100	75 - 125	100	84 - 118	<1	ug/L	NC	25		
1957621	Dissolved Calcium (Ca)	2009/10/01	NC	85 - 115	101	85 - 115	<0.05	mg/L	0.3	25		
1957621	Dissolved Magnesium (Mg)	2009/10/01	NC	85 - 115	98	85 - 115	<0.05	mg/L	0.7	25		
1957621	Dissolved Potassium (K)	2009/10/01	103	85 - 115	94	85 - 115	<1	mg/L	NC	25		
1957621	Dissolved Sodium (Na)	2009/10/01	NC	85 - 115	102	85 - 115	<0.5	mg/L	0.8	25		

N/A = Not Applicable
RDL = Reportable Detection Limit
RPD = Relative Percent Difference
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.
(1) - Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.
(2) - Detection Limit was raised due to matrix interferences.

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Validation Signature Page

Maxxam Job #: A9C6886

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

TROY CARRIERE, B.Sc., C.Chem, Scientific Specialist

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

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Your Project #: 14-09222-001-HG1/407 WEST
Site: OAKVILLE
Your C.O.C. #: OO616891

Attention: Annette Blazeiko
MMM GROUP LIMITED
100 Commerce Valley Dr W
Thornhill, ON
CANADA L3T 0A1

Report Date: 2010/02/03
This report supersedes all previous reports with the same Maxxam job number

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B008307
Received: 2010/01/22, 13:57

Sample Matrix: Water
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Alkalinity	6	N/A	2010/01/26	CAM SOP-00448	SM 2320B
Carbonate, Bicarbonate and Hydroxide	6	N/A	2010/01/27		
Chloride by Automated Colourimetry	6	N/A	2010/01/27	CAM SOP-00463	SM 4500 Cl E
Conductivity	6	N/A	2010/01/26	CAM SOP-00448	SM 2510
Dissolved Organic Carbon (DOC)	6	N/A	2010/01/26	CAM SOP-00446	SM 5310 B
Hardness (calculated as CaCO3)	5	N/A	2010/01/26	CAM SOP 00102	SM 2340 B
Hardness (calculated as CaCO3)	1	N/A	2010/01/27	CAM SOP 00102	SM 2340 B
Lab Filtered Metals by ICPMS	1	2010/01/26	2010/01/27	CAM SOP-00447	EPA 6020
Dissolved Metals by ICPMS	4	N/A	2010/01/26	CAM SOP-00447	EPA 6020
Dissolved Metals by ICPMS	1	N/A	2010/02/02	CAM SOP-00447	EPA 6020
Ion Balance (% Difference)	6	N/A	2010/01/28		
Anion and Cation Sum	6	N/A	2010/01/27		
Ammonia-N	6	N/A	2010/01/28	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (1)	6	N/A	2010/01/27	CAM SOP-00440	SM 4500 NO3I/NO2B
pH	6	N/A	2010/01/26	CAM SOP-00448	SM 4500H
Orthophosphate	6	N/A	2010/01/27	CAM SOP-00461	SM 4500 P-F
Sat. pH and Langelier Index (@ 20C)	6	N/A	2010/01/28		
Sat. pH and Langelier Index (@ 4C)	6	N/A	2010/01/28		
Sulphate by Automated Colourimetry	6	N/A	2010/01/27	CAM SOP-00464	EPA 375.4
Total Dissolved Solids (TDS calc)	6	N/A	2010/01/28		

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
* Results relate only to the items tested.

(1) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

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Maxxam Job #: B008307
Report Date: 2010/02/03

MMM GROUP LIMITED
Client Project #: 14-09222-001-HG1/407 WEST
Project name: OAKVILLE

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

SEAN CONACHER, Project Manager
Email: Sean.Conacher@maxxamanalytics.com
Phone# (905) 817-5700 Ext:5806

==========
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 2

Maxxam Job #: B008307
Report Date: 2010/02/03

MMM GROUP LIMITED
Client Project #: 14-09222-001-HG1/407 WEST
Project name: OAKVILLE

RCAP - COMPREHENSIVE (WATER)

Maxxam ID		EX4639		EX4640		
Sampling Date		2010/01/21		2010/01/21		
	Units	**FD-1**	**RDL**	**MMM09-19S**	**RDL**	**QC Batch**
Calculated Parameters						
Anion Sum	me/L	36.0	N/A	43.1	N/A	2062861
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	368	1	326	1	2062859
Calculated TDS	mg/L	2120	1	2490	1	2062864
Carb. Alkalinity (calc. as CaCO3)	mg/L	2	1	1	1	2062859
Cation Sum	me/L	32.6	N/A	39.0	N/A	2062861
Hardness (CaCO3)	mg/L	1300	1	1800	1	2062769
Ion Balance (% Difference)	%	4.87	N/A	4.95	N/A	2062860
Langelier Index (@ 20C)	N/A	0.962		0.834		2062862
Langelier Index (@ 4C)	N/A	0.718		0.592		2062863
Saturation pH (@ 20C)	N/A	6.79		6.72		2062862
Saturation pH (@ 4C)	N/A	7.04		6.96		2062863
Inorganics						
Total Ammonia-N	mg/L	0.48	0.05	0.33	0.05	2065528
Conductivity	umho/cm	2860	1	3430	1	2064280
Dissolved Organic Carbon	mg/L	5.9	0.2	10.9	0.2	2063611
Orthophosphate (P)	mg/L	<0.01	0.01	<0.01	0.01	2064525
pH	pH	7.8		7.6		2064278
Dissolved Sulphate (SO4)	mg/L	1200	10	1300	5	2064526
Alkalinity (Total as CaCO3)	mg/L	370	1	328	1	2064277
Dissolved Chloride (Cl)	mg/L	140	1	300	2	2064522
Nitrite (N)	mg/L	<0.01	0.01	0.02	0.01	2064410
Nitrate (N)	mg/L	<0.1	0.1	<0.1	0.1	2064410
p-Alkalinity	mg/L	<1	1	<1	1	2064277
Nitrate + Nitrite	mg/L	<0.1	0.1	<0.1	0.1	2064410

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B008307
Report Date: 2010/02/03

MMM GROUP LIMITED
Client Project #: 14-09222-001-HG1/407 WEST
Project name: OAKVILLE

RCAP - COMPREHENSIVE (WATER)

Maxxam ID		EX4639		EX4640		
Sampling Date		2010/01/21		2010/01/21		
	Units	**FD-1**	**RDL**	**MMM09-19S**	**RDL**	**QC Batch**
Metals						
Dissolved Aluminum (Al)	ug/L	6	5	6	5	2063962
Dissolved Antimony (Sb)	ug/L	<0.5	0.5	<0.5	0.5	2063962
Dissolved Arsenic (As)	ug/L	6	1	1	1	2063962
Dissolved Barium (Ba)	ug/L	27	5	5	5	2063962
Dissolved Beryllium (Be)	ug/L	<0.5	0.5	<0.5	0.5	2063962
Dissolved Bismuth (Bi)	ug/L	<1	1	<1	1	2063962
Dissolved Boron (B)	ug/L	2600	10	220	10	2063962
Dissolved Cadmium (Cd)	ug/L	<0.1	0.1	0.2	0.1	2063962
Dissolved Calcium (Ca)	ug/L	200000	200	280000	200	2063962
Dissolved Chromium (Cr)	ug/L	<5	5	<5	5	2063962
Dissolved Cobalt (Co)	ug/L	1.6	0.5	11	0.5	2063962
Dissolved Copper (Cu)	ug/L	<1	1	2	1	2063962
Dissolved Iron (Fe)	ug/L	12000	100	3000	100	2063962
Dissolved Lead (Pb)	ug/L	<0.5	0.5	<0.5	0.5	2063962
Dissolved Magnesium (Mg)	ug/L	190000	50	260000	50	2063962
Dissolved Manganese (Mn)	ug/L	540	2	1100	2	2063962
Dissolved Molybdenum (Mo)	ug/L	11	1	8	1	2063962
Dissolved Nickel (Ni)	ug/L	5	1	12	1	2063962
Dissolved Phosphorus (P)	ug/L	<100	100	<100	100	2063962
Dissolved Potassium (K)	ug/L	18000	200	18000	200	2063962
Dissolved Selenium (Se)	ug/L	<2	2	5	2	2063962
Dissolved Silicon (Si)	ug/L	7400	50	6700	50	2063962
Dissolved Silver (Ag)	ug/L	<0.1	0.1	<0.1	0.1	2063962
Dissolved Sodium (Na)	ug/L	140000	100	74000	100	2063962
Dissolved Strontium (Sr)	ug/L	5800	1	1900	1	2063962
Dissolved Thallium (Tl)	ug/L	<0.05	0.05	0.07	0.05	2063962
Dissolved Titanium (Ti)	ug/L	<5	5	<5	5	2063962
Dissolved Uranium (U)	ug/L	8.8	0.1	16	0.1	2063962
Dissolved Vanadium (V)	ug/L	2	1	2	1	2063962
Dissolved Zinc (Zn)	ug/L	200	5	4400	5	2063962

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B008307
Report Date: 2010/02/03

MMM GROUP LIMITED
Client Project #: 14-09222-001-HG1/407 WEST
Project name: OAKVILLE

RCAP - COMPREHENSIVE (WATER)

Maxxam ID		EX4641		EX4642			EX4643		
Sampling Date		2010/01/21		2010/01/22			2010/01/22		
	Units	**MMM09-17**	**RDL**	**MMM09-15S**	**RDL**	**QC Batch**	**MMM09-15D**	**RDL**	**QC Batch**
Calculated Parameters									
Anion Sum	me/L	35.8	N/A	72.2	N/A	2062861	8.69	N/A	2062861
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	367	1	453	1	2062859	129	1	2062859
Calculated TDS	mg/L	2110	1	3930	1	2062864	805	1	2062864
Carb. Alkalinity (calc. as CaCO3)	mg/L	2	1	1	1	2062859	1	1	2062859
Cation Sum	me/L	32.8	N/A	69.8	N/A	2062861	24.0	N/A	2062861
Hardness (CaCO3)	mg/L	1300	1	1900	1	2062769	640	1	2062769
Ion Balance (% Difference)	%	4.28	N/A	1.66	N/A	2062860	46.8	N/A	2062860
Langelier Index (@ 20C)	N/A	0.959		1.02		2062862	0.856		2062862
Langelier Index (@ 4C)	N/A	0.716		0.783		2062863	0.610		2062863
Saturation pH (@ 20C)	N/A	6.79		6.44		2062862	7.20		2062862
Saturation pH (@ 4C)	N/A	7.03		6.68		2062863	7.45		2062863
Inorganics									
Total Ammonia-N	mg/L	0.33	0.05	0.42	0.05	2065528	0.82	0.05	2065528
Conductivity	umho/cm	2870	1	7520	1	2064280	918	1	2064280
Dissolved Organic Carbon	mg/L	5.9	0.2	3.6	0.2	2063611	2.5	0.2	2063611
Orthophosphate (P)	mg/L	<0.01	0.01	<0.01	0.01	2064525	<0.01	0.01	2064525
pH	pH	7.7		7.5		2064278	8.1		2064278
Dissolved Sulphate (SO4)	mg/L	1200	10	75	1	2064526	74	1	2064526
Alkalinity (Total as CaCO3)	mg/L	369	1	454	1	2064277	130	1	2064277
Dissolved Chloride (Cl)	mg/L	140	1	2200	30	2064522	160	1	2064522
Nitrite (N)	mg/L	<0.01	0.01	<0.01	0.01	2064410	<0.01	0.01	2064410
Nitrate (N)	mg/L	<0.1	0.1	<0.1	0.1	2064410	0.4	0.1	2064410
p-Alkalinity	mg/L	<1	1	<1	1	2064277	<1	1	2064277
Nitrate + Nitrite	mg/L	<0.1	0.1	<0.1	0.1	2064410	0.4	0.1	2064410

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B008307
Report Date: 2010/02/03

MMM GROUP LIMITED
Client Project #: 14-09222-001-HG1/407 WEST
Project name: OAKVILLE

RCAP - COMPREHENSIVE (WATER)

Maxxam ID		EX4641		EX4642			EX4643		
Sampling Date		2010/01/21		2010/01/22			2010/01/22		
	Units	**MMM09-17**	**RDL**	**MMM09-15S**	**RDL**	**QC Batch**	**MMM09-15D**	**RDL**	**QC Batch**
Metals									
Dissolved Aluminum (Al)	ug/L	9	5	5	5	2063962	7	5	2069058
Dissolved Antimony (Sb)	ug/L	<0.5	0.5	<0.5	0.5	2063962	<0.5	0.5	2069058
Dissolved Arsenic (As)	ug/L	6	1	6(1)	5	2063962	2	1	2069058
Dissolved Barium (Ba)	ug/L	27	5	240	5	2063962	170	5	2069058
Dissolved Beryllium (Be)	ug/L	<0.5	0.5	<0.5	0.5	2063962	<0.5	0.5	2069058
Dissolved Bismuth (Bi)	ug/L	<1	1	<1	1	2063962	<1	1	2069058
Dissolved Boron (B)	ug/L	2600	10	600	10	2063962	1400	10	2069058
Dissolved Cadmium (Cd)	ug/L	<0.1	0.1	<0.1	0.1	2063962	<0.1	0.1	2069058
Dissolved Calcium (Ca)	ug/L	200000	200	450000	200	2063962	160000	200	2069058
Dissolved Chromium (Cr)	ug/L	<5	5	<5	5	2063962	<5	5	2069058
Dissolved Cobalt (Co)	ug/L	1.6	0.5	2.6	0.5	2063962	0.8	0.5	2069058
Dissolved Copper (Cu)	ug/L	<1	1	2	1	2063962	<1	1	2069058
Dissolved Iron (Fe)	ug/L	12000	100	19000	100	2063962	3300	100	2069058
Dissolved Lead (Pb)	ug/L	<0.5	0.5	<0.5	0.5	2063962	<0.5	0.5	2069058
Dissolved Magnesium (Mg)	ug/L	190000	50	190000	50	2063962	57000	50	2069058
Dissolved Manganese (Mn)	ug/L	560	2	440	2	2063962	220	2	2069058
Dissolved Molybdenum (Mo)	ug/L	11	1	7	1	2063962	12	1	2069058
Dissolved Nickel (Ni)	ug/L	4	1	<5(1)	5	2063962	2	1	2069058
Dissolved Phosphorus (P)	ug/L	<100	100	<100	100	2063962	<100	100	2069058
Dissolved Potassium (K)	ug/L	18000	200	26000	200	2063962	14000	200	2069058
Dissolved Selenium (Se)	ug/L	<2	2	<2	2	2063962	<2	2	2069058
Dissolved Silicon (Si)	ug/L	7500	50	7500	50	2063962	3700	50	2069058
Dissolved Silver (Ag)	ug/L	<0.1	0.1	<0.1	0.1	2063962	<0.1	0.1	2069058
Dissolved Sodium (Na)	ug/L	140000	100	700000	1000	2063962	250000	100	2069058
Dissolved Strontium (Sr)	ug/L	5900	1	36000	1	2063962	9300	1	2069058
Dissolved Thallium (Tl)	ug/L	<0.05	0.05	<0.05	0.05	2063962	<0.05	0.05	2069058
Dissolved Titanium (Ti)	ug/L	<5	5	<5	5	2063962	<5	5	2069058
Dissolved Uranium (U)	ug/L	9.2	0.1	11	0.1	2063962	3.6	0.1	2069058
Dissolved Vanadium (V)	ug/L	2	1	<5(1)	5	2063962	<1	1	2069058
Dissolved Zinc (Zn)	ug/L	220	5	310	5	2063962	38	5	2069058

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) - Detection Limit was raised due to matrix interferences.

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Maxxam Job #: B008307
Report Date: 2010/02/03

MMM GROUP LIMITED
Client Project #: 14-09222-001-HG1/407 WEST
Project name: OAKVILLE

RCAP - COMPREHENSIVE (WATER)

Maxxam ID		EX4643		
Sampling Date		2010/01/22		
	Units	**MMM09-15D Lab-Dup**	**RDL**	**QC Batch**
Metals				
Dissolved Aluminum (Al)	ug/L	7	5	2069058
Dissolved Antimony (Sb)	ug/L	<0.5	0.5	2069058
Dissolved Arsenic (As)	ug/L	2	1	2069058
Dissolved Barium (Ba)	ug/L	170	5	2069058
Dissolved Beryllium (Be)	ug/L	<0.5	0.5	2069058
Dissolved Bismuth (Bi)	ug/L	<1	1	2069058
Dissolved Boron (B)	ug/L	1400	10	2069058
Dissolved Cadmium (Cd)	ug/L	<0.1	0.1	2069058
Dissolved Calcium (Ca)	ug/L	160000	200	2069058
Dissolved Chromium (Cr)	ug/L	<5	5	2069058
Dissolved Cobalt (Co)	ug/L	0.8	0.5	2069058
Dissolved Copper (Cu)	ug/L	1	1	2069058
Dissolved Iron (Fe)	ug/L	3300	100	2069058
Dissolved Lead (Pb)	ug/L	<0.5	0.5	2069058
Dissolved Magnesium (Mg)	ug/L	56000	50	2069058
Dissolved Manganese (Mn)	ug/L	220	2	2069058
Dissolved Molybdenum (Mo)	ug/L	12	1	2069058
Dissolved Nickel (Ni)	ug/L	2	1	2069058
Dissolved Phosphorus (P)	ug/L	<100	100	2069058
Dissolved Potassium (K)	ug/L	14000	200	2069058
Dissolved Selenium (Se)	ug/L	<2	2	2069058
Dissolved Silicon (Si)	ug/L	3700	50	2069058
Dissolved Silver (Ag)	ug/L	<0.1	0.1	2069058
Dissolved Sodium (Na)	ug/L	250000	100	2069058
Dissolved Strontium (Sr)	ug/L	9400	1	2069058
Dissolved Thallium (Tl)	ug/L	<0.05	0.05	2069058
Dissolved Titanium (Ti)	ug/L	<5	5	2069058
Dissolved Uranium (U)	ug/L	3.6	0.1	2069058
Dissolved Vanadium (V)	ug/L	<1	1	2069058
Dissolved Zinc (Zn)	ug/L	38	5	2069058

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B008307
Report Date: 2010/02/03

MMM GROUP LIMITED
Client Project #: 14-09222-001-HG1/407 WEST
Project name: OAKVILLE

RCAP - COMPREHENSIVE (LAB FILTERED)

Maxxam ID		EX4638		
Sampling Date		2010/01/21		
	Units	**MMM09-19D**	**RDL**	**QC Batch**
Calculated Parameters				
Anion Sum	me/L	12.3	N/A	2062861
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	241	1	2062859
Calculated TDS	mg/L	704	1	2062864
Carb. Alkalinity (calc. as CaCO3)	mg/L	2	1	2062859
Cation Sum	me/L	12.3	N/A	2062861
Hardness (CaCO3)	mg/L	420	1	2062769
Ion Balance (% Difference)	%	0.0300	N/A	2062860
Langelier Index (@ 20C)	N/A	0.568		2062862
Langelier Index (@ 4C)	N/A	0.321		2062863
Saturation pH (@ 20C)	N/A	7.45		2062862
Saturation pH (@ 4C)	N/A	7.69		2062863
Inorganics				
Total Ammonia-N	mg/L	0.47	0.05	2065528
Conductivity	umho/cm	1110	1	2064280
Dissolved Organic Carbon	mg/L	7.6	0.2	2063611
Orthophosphate (P)	mg/L	<0.01	0.01	2064525
pH	pH	8.0		2064278
Dissolved Sulphate (SO4)	mg/L	270	1	2064526
Alkalinity (Total as CaCO3)	mg/L	243	1	2064277
Dissolved Chloride (Cl)	mg/L	62	1	2064522
Nitrite (N)	mg/L	<0.01	0.01	2064410
Nitrate (N)	mg/L	<0.1	0.1	2064410

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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MMM GROUP LIMITED
Client Project #: 14-09222-001-HG1/407 WEST
Project name: OAKVILLE

RCAP - COMPREHENSIVE (LAB FILTERED)

Maxxam ID		EX4638		
Sampling Date		2010/01/21		
	Units	**MMM09-19D**	**RDL**	**QC Batch**
Metals				
Dissolved Aluminum (Al)	ug/L	6	5	2064316
Dissolved Antimony (Sb)	ug/L	0.6	0.5	2064316
Dissolved Arsenic (As)	ug/L	1	1	2064316
Dissolved Barium (Ba)	ug/L	23	5	2064316
Dissolved Beryllium (Be)	ug/L	<0.5	0.5	2064316
Dissolved Boron (B)	ug/L	670	10	2064316
Dissolved Cadmium (Cd)	ug/L	<0.1	0.1	2064316
Dissolved Calcium (Ca)	ug/L	47000	200	2064316
Dissolved Chromium (Cr)	ug/L	<5	5	2064316
Dissolved Cobalt (Co)	ug/L	0.8	0.5	2064316
Dissolved Copper (Cu)	ug/L	1	1	2064316
Dissolved Iron (Fe)	ug/L	<100	100	2064316
Dissolved Lead (Pb)	ug/L	<0.5	0.5	2064316
Dissolved Magnesium (Mg)	ug/L	74000	50	2064316
Dissolved Manganese (Mn)	ug/L	140	2	2064316
Dissolved Molybdenum (Mo)	ug/L	21	1	2064316
Dissolved Nickel (Ni)	ug/L	2	1	2064316
Dissolved Phosphorus (P)	ug/L	<100	100	2064316
Dissolved Potassium (K)	ug/L	7800	200	2064316
Dissolved Selenium (Se)	ug/L	<2	2	2064316
Dissolved Silicon (Si)	ug/L	3700	50	2064316
Dissolved Silver (Ag)	ug/L	<0.1	0.1	2064316
Dissolved Sodium (Na)	ug/L	84000	100	2064316
Dissolved Strontium (Sr)	ug/L	2500	1	2064316
Dissolved Thallium (Tl)	ug/L	0.10	0.05	2064316
Dissolved Titanium (Ti)	ug/L	<5	5	2064316
Dissolved Uranium (U)	ug/L	6.5	0.1	2064316
Dissolved Vanadium (V)	ug/L	<1	1	2064316
Dissolved Zinc (Zn)	ug/L	650	5	2064316

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B008307
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GENERAL COMMENTS

Sample EX4643-01: Elevated ion balance result was confirmed by re-analysis.

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MMM GROUP LIMITED
Client Project #: 14-09222-001-HG1/407 WEST
Project name: OAKVILLE

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
2063611	Dissolved Organic Carbon	2010/01/26	NC	75 - 125	103	75 - 125	<0.2	mg/L	1.2	20		
2063962	Dissolved Aluminum (Al)	2010/01/26	97	80 - 120	92	90 - 110	<5	ug/L				
2063962	Dissolved Antimony (Sb)	2010/01/26	107	80 - 120	101	90 - 110	<0.5	ug/L				
2063962	Dissolved Arsenic (As)	2010/01/26	107	80 - 120	99	90 - 110	<1	ug/L				
2063962	Dissolved Barium (Ba)	2010/01/26	99	80 - 120	96	90 - 110	<5	ug/L				
2063962	Dissolved Beryllium (Be)	2010/01/26	99	80 - 120	100	90 - 110	<0.5	ug/L				
2063962	Dissolved Bismuth (Bi)	2010/01/26	87	80 - 120	101	90 - 110	<1	ug/L				
2063962	Dissolved Boron (B)	2010/01/26	98	80 - 120	94	90 - 110	<10	ug/L				
2063962	Dissolved Cadmium (Cd)	2010/01/26	98	80 - 120	102	90 - 110	<0.1	ug/L				
2063962	Dissolved Calcium (Ca)	2010/01/26	NC	80 - 120	93	90 - 110	<200	ug/L				
2063962	Dissolved Chromium (Cr)	2010/01/26	102	80 - 120	96	90 - 110	<5	ug/L				
2063962	Dissolved Cobalt (Co)	2010/01/26	99	80 - 120	96	90 - 110	<0.5	ug/L				
2063962	Dissolved Copper (Cu)	2010/01/26	94	80 - 120	95	90 - 110	<1	ug/L				
2063962	Dissolved Iron (Fe)	2010/01/26	103	80 - 120	101	90 - 110	<100	ug/L				
2063962	Dissolved Lead (Pb)	2010/01/26	90	80 - 120	101	90 - 110	<0.5	ug/L	NC	25		
2063962	Dissolved Magnesium (Mg)	2010/01/26	NC	80 - 120	92	90 - 110	<50	ug/L				
2063962	Dissolved Manganese (Mn)	2010/01/26	NC	80 - 120	98	90 - 110	<2	ug/L				
2063962	Dissolved Molybdenum (Mo)	2010/01/26	113	80 - 120	101	90 - 110	<1	ug/L				
2063962	Dissolved Nickel (Ni)	2010/01/26	97	80 - 120	96	90 - 110	<1	ug/L				
2063962	Dissolved Phosphorus (P)	2010/01/26	110	80 - 120	86(1)	90 - 110	<100	ug/L				
2063962	Dissolved Potassium (K)	2010/01/26	NC	80 - 120	92	90 - 110	<200	ug/L				
2063962	Dissolved Selenium (Se)	2010/01/26	103	80 - 120	103	90 - 110	<2	ug/L				
2063962	Dissolved Silicon (Si)	2010/01/26	103	80 - 120	94	90 - 110	<50	ug/L				
2063962	Dissolved Silver (Ag)	2010/01/26	93	80 - 120	99	90 - 110	<0.1	ug/L				
2063962	Dissolved Sodium (Na)	2010/01/26	S	80 - 120	93	90 - 110	<100	ug/L				
2063962	Dissolved Strontium (Sr)	2010/01/26	NC	80 - 120	99	90 - 110	<1	ug/L				
2063962	Dissolved Thallium (Tl)	2010/01/26	90	80 - 120	101	90 - 110	<0.05	ug/L				
2063962	Dissolved Titanium (Ti)	2010/01/26	108	80 - 120	96	90 - 110	<5	ug/L				
2063962	Dissolved Uranium (U)	2010/01/26	94	80 - 120	103	90 - 110	<0.1	ug/L				
2063962	Dissolved Vanadium (V)	2010/01/26	105	80 - 120	96	90 - 110	<1	ug/L				
2063962	Dissolved Zinc (Zn)	2010/01/26	91	80 - 120	100	90 - 110	<5	ug/L				
2064277	Alkalinity (Total as CaCO3)	2010/01/26					2, RDL=1	mg/L	1.0	25	94	85 - 115
2064277	p-Alkalinity	2010/01/26					<1	mg/L			94	85 - 115
2064280	Conductivity	2010/01/26					<1	umho/cm	0.1	25	101	85 - 115
2064316	Dissolved Aluminum (Al)	2010/01/27	94	80 - 120	103	90 - 110	<5	ug/L				
2064316	Dissolved Antimony (Sb)	2010/01/27	116	80 - 120	102	90 - 110	<0.5	ug/L	NC	25		
2064316	Dissolved Arsenic (As)	2010/01/27	100	80 - 120	103	90 - 110	<1	ug/L	3.2	25		
2064316	Dissolved Barium (Ba)	2010/01/27	99	80 - 120	100	90 - 110	<5	ug/L	0.08	25		
2064316	Dissolved Beryllium (Be)	2010/01/27	96	80 - 120	99	90 - 110	<0.5	ug/L	NC	25		
2064316	Dissolved Boron (B)	2010/01/27	NC	80 - 120	99	90 - 110	<10	ug/L	7.1	25		

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MMM GROUP LIMITED
Client Project #: 14-09222-001-HG1/407 WEST
Project name: OAKVILLE

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
2064316	Dissolved Cadmium (Cd)	2010/01/27	101	80 - 120	103	90 - 110	<0.1	ug/L	NC	25		
2064316	Dissolved Calcium (Ca)	2010/01/27	NC	80 - 120	109	90 - 110	<200	ug/L				
2064316	Dissolved Chromium (Cr)	2010/01/27	100	80 - 120	103	90 - 110	<5	ug/L	NC	25		
2064316	Dissolved Cobalt (Co)	2010/01/27	99	80 - 120	100	90 - 110	<0.5	ug/L	NC	25		
2064316	Dissolved Copper (Cu)	2010/01/27	92	80 - 120	99	90 - 110	<1	ug/L	NC	25		
2064316	Dissolved Iron (Fe)	2010/01/27	102	80 - 120	106	90 - 110	<100	ug/L				
2064316	Dissolved Lead (Pb)	2010/01/27	99	80 - 120	103	90 - 110	<0.5	ug/L	NC	25		
2064316	Dissolved Magnesium (Mg)	2010/01/27	NC	80 - 120	102	90 - 110	<50	ug/L	1.7	25		
2064316	Dissolved Manganese (Mn)	2010/01/27	NC	80 - 120	104	90 - 110	<2	ug/L				
2064316	Dissolved Molybdenum (Mo)	2010/01/27	121(1)	80 - 120	102	90 - 110	<1	ug/L	NC	25		
2064316	Dissolved Nickel (Ni)	2010/01/27	93	80 - 120	97	90 - 110	<1	ug/L	NC	25		
2064316	Dissolved Phosphorus (P)	2010/01/27	108	80 - 120	103	90 - 110	<100	ug/L	NC	25		
2064316	Dissolved Potassium (K)	2010/01/27	NC	80 - 120	103	90 - 110	<200	ug/L	2.8	25		
2064316	Dissolved Selenium (Se)	2010/01/27	98	80 - 120	102	90 - 110	<2	ug/L	NC	25		
2064316	Dissolved Silicon (Si)	2010/01/27	107	80 - 120	105	90 - 110	<50	ug/L				
2064316	Dissolved Silver (Ag)	2010/01/27	89	80 - 120	102	90 - 110	<0.1	ug/L	NC	25		
2064316	Dissolved Sodium (Na)	2010/01/27	NC	80 - 120	104	90 - 110	<100	ug/L	0.2	25		
2064316	Dissolved Strontium (Sr)	2010/01/27	NC	80 - 120	101	90 - 110	<1	ug/L				
2064316	Dissolved Thallium (Tl)	2010/01/27	100	80 - 120	104	90 - 110	<0.05	ug/L	NC	25		
2064316	Dissolved Titanium (Ti)	2010/01/27	115	80 - 120	106	90 - 110	<5	ug/L				
2064316	Dissolved Uranium (U)	2010/01/27	102	80 - 120	102	90 - 110	<0.1	ug/L				
2064316	Dissolved Vanadium (V)	2010/01/27	102	80 - 120	105	90 - 110	<1	ug/L	NC	25		
2064316	Dissolved Zinc (Zn)	2010/01/27	92	80 - 120	99	90 - 110	<5	ug/L	NC	25		
2064410	Nitrite (N)	2010/01/27	NC	75 - 125	100	80 - 120	<0.01	mg/L	0.8	25		
2064410	Nitrate (N)	2010/01/27	NC	75 - 125	97	80 - 120	<0.1	mg/L	0.8	25		
2064410	Nitrate + Nitrite	2010/01/27					<0.1	mg/L	0.8	25		
2064522	Dissolved Chloride (Cl)	2010/01/27	NC	75 - 125	101	80 - 120	<1	mg/L	0.9	20		
2064525	Orthophosphate (P)	2010/01/27	104	75 - 125	99	80 - 120	<0.01	mg/L	NC	25		
2064526	Dissolved Sulphate (SO4)	2010/01/27	NC	75 - 125	102	80 - 120	<1	mg/L	0.4	25		
2065528	Total Ammonia-N	2010/01/28	100	80 - 120	100	80 - 120	<0.05	mg/L	NC	25		
2069058	Dissolved Aluminum (Al)	2010/02/02	100	80 - 120	100	90 - 110	<5	ug/L	NC	25		
2069058	Dissolved Antimony (Sb)	2010/02/02	106	80 - 120	101	90 - 110	<0.5	ug/L	NC	25		
2069058	Dissolved Arsenic (As)	2010/02/02	103	80 - 120	100	90 - 110	<1	ug/L	NC	25		
2069058	Dissolved Barium (Ba)	2010/02/02	101	80 - 120	100	90 - 110	<5	ug/L	0.6	25		
2069058	Dissolved Beryllium (Be)	2010/02/02	101	80 - 120	100	90 - 110	<0.5	ug/L	NC	25		
2069058	Dissolved Bismuth (Bi)	2010/02/02	95	80 - 120	96	90 - 110	<1	ug/L	NC	25		
2069058	Dissolved Boron (B)	2010/02/02	NC	80 - 120	106	90 - 110	<10	ug/L	0.4	25		
2069058	Dissolved Cadmium (Cd)	2010/02/02	101	80 - 120	102	90 - 110	<0.1	ug/L	NC	25		
2069058	Dissolved Calcium (Ca)	2010/02/02	NC	80 - 120	103	90 - 110	<200	ug/L	0.3	25		
2069058	Dissolved Chromium (Cr)	2010/02/02	98	80 - 120	100	90 - 110	<5	ug/L	NC	25		

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MMM GROUP LIMITED
Client Project #: 14-09222-001-HG1/407 WEST
Project name: OAKVILLE

QUALITY ASSURANCE REPORT

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
2069058	Dissolved Cobalt (Co)	2010/02/02	99	80 - 120	99	90 - 110	<0.5	ug/L	NC	25		
2069058	Dissolved Copper (Cu)	2010/02/02	95	80 - 120	97	90 - 110	<1	ug/L	NC	25		
2069058	Dissolved Iron (Fe)	2010/02/02	99	80 - 120	100	90 - 110	<100	ug/L	0.9	25		
2069058	Dissolved Lead (Pb)	2010/02/02	95	80 - 120	97	90 - 110	<0.5	ug/L	NC	25		
2069058	Dissolved Magnesium (Mg)	2010/02/02	NC	80 - 120	101	90 - 110	<50	ug/L	0.6	25		
2069058	Dissolved Manganese (Mn)	2010/02/02	98	80 - 120	100	90 - 110	<2	ug/L	1	25		
2069058	Dissolved Molybdenum (Mo)	2010/02/02	108	80 - 120	100	90 - 110	<1	ug/L	1.1	25		
2069058	Dissolved Nickel (Ni)	2010/02/02	95	80 - 120	98	90 - 110	<1	ug/L	NC	25		
2069058	Dissolved Phosphorus (P)	2010/02/02	103	80 - 120	100	90 - 110	<100	ug/L	NC	25		
2069058	Dissolved Potassium (K)	2010/02/02	NC	80 - 120	100	90 - 110	<200	ug/L	1	25		
2069058	Dissolved Selenium (Se)	2010/02/02	103	80 - 120	100	90 - 110	<2	ug/L	NC	25		
2069058	Dissolved Silicon (Si)	2010/02/02	102	80 - 120	101	90 - 110	<50	ug/L	0.7	25		
2069058	Dissolved Silver (Ag)	2010/02/02	73(1)	80 - 120	96	90 - 110	<0.1	ug/L	NC	25		
2069058	Dissolved Sodium (Na)	2010/02/02	NC	80 - 120	100	90 - 110	<100	ug/L	0.6	25		
2069058	Dissolved Strontium (Sr)	2010/02/02	NC	80 - 120	98	90 - 110	<1	ug/L	1.3	25		
2069058	Dissolved Thallium (Tl)	2010/02/02	94	80 - 120	95	90 - 110	<0.05	ug/L	NC	25		
2069058	Dissolved Titanium (Ti)	2010/02/02	102	80 - 120	101	90 - 110	<5	ug/L	NC	25		
2069058	Dissolved Uranium (U)	2010/02/02	96	80 - 120	94	90 - 110	<0.1	ug/L	0.8	25		
2069058	Dissolved Vanadium (V)	2010/02/02	102	80 - 120	98	90 - 110	<1	ug/L	NC	25		
2069058	Dissolved Zinc (Zn)	2010/02/02	97	80 - 120	101	90 - 110	<5	ug/L	0.6	25		

N/A = Not Applicable
RDL = Reportable Detection Limit
RPD = Relative Percent Difference
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.
(1) - Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

CRISTINA CARRIERE, Scientific Services

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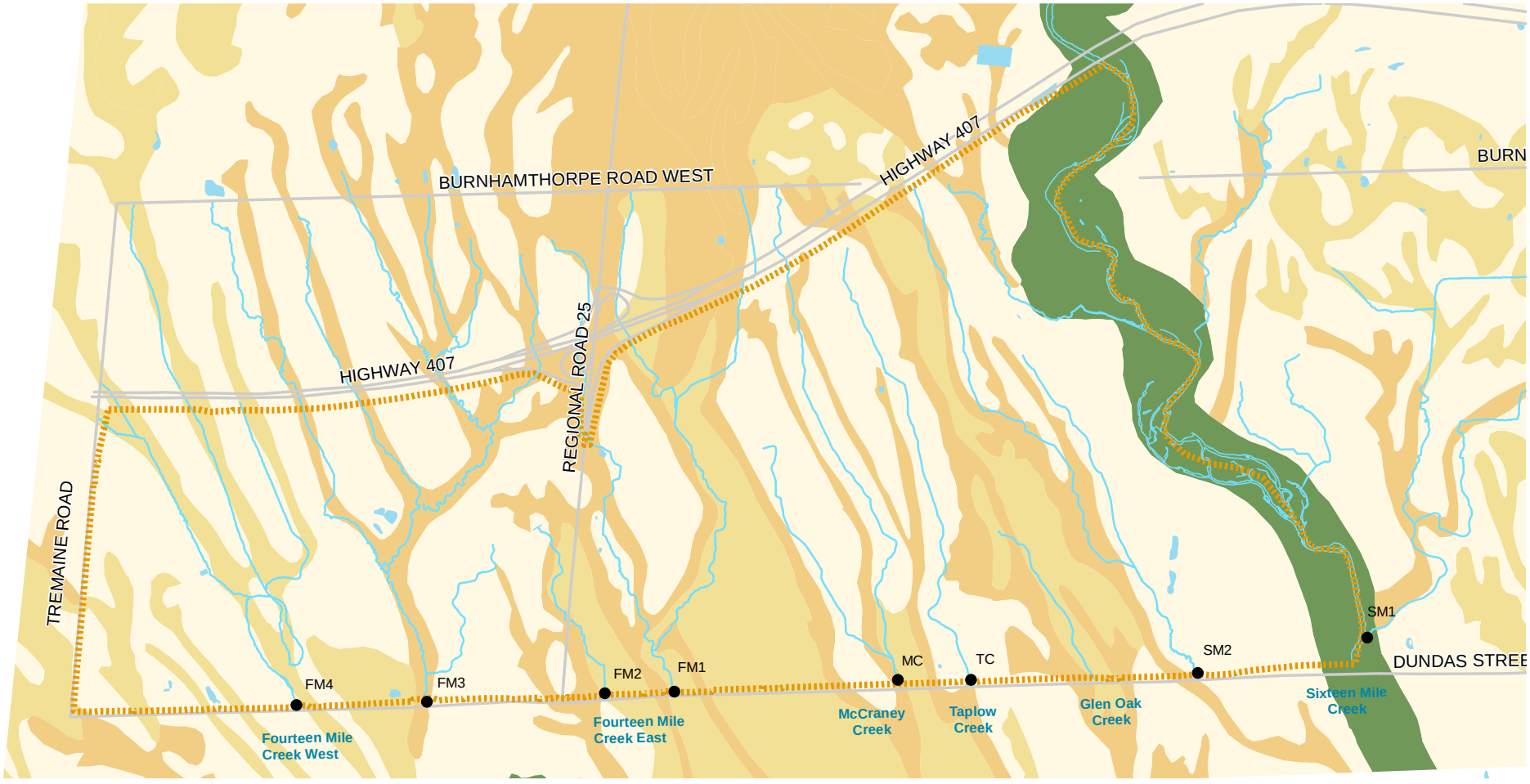
APPENDIX 4-7
Meteorological Information and Water Balance



NORTH OAKVILLE CREEKS SUBWATERSHED STUDY

VSH engineers architects planners
PARISH geomorphic
Natural Resource Solutions Inc.
Donald G. Weatherbe Associates
Morrison Environmental Limited
Environmental Water Resources Group Ltd.
OAKVILLE

August 2006

0 250 500
Meters

Legend

- West Study Area
- Road
- Watercourse
- Pond
- Flow Monitoring Station

Soil Type

- Bottom Land
- Brady (Sandy Loam)
- Chinguacousy (Rocky Phase)
- Chinguacousy Clay Loam
- Jeddo Clay Loam
- Lockport Clay
- Oneida (Rocky Phase)
- Onieda Clay Loam
- Trafalgar Clay

West Study Area

Soils and Flow Monitoring Locations

Figure 4W.6.1

Table WB-1: Pre and Post-Development Water Balance (mm Equivalents)

Weather Station Data: Gerard, ON (1990-2006) **Latitude: 43 degrees 26 minutes N**

Data Provided by Environment Canada - Atmospheric Environment Services - data may exhibit round off error

PARAMETER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Pre-Development													
Forested Areas													
Water Holding Capacity (WHC) 400 mm													
Average Temperature (C)	-3.6	-2.7	1.2	7.2	13.1	19.1	21.9	21.4	17.3	10.3	4.8	-0.4	**9.0**
Precipitation (P) (mm)	77	53	56	74	84	63	84	59	72	60	73	64	**819**
Rainfall (mm)	36	32	38	73	84	63	84	59	72	60	70	46	
Melt (mm)	21	32	35	1	0	0	0	0	0	0	3	10	
Potential Evapotranspiration (PET) (mm)	2	3	11	34	75	117	139	126	85	43	16	5	**656**
Actual Evapotranspiration (AET) (mm)	2	3	11	34	75	117	138	122	80	41	16	5	**644**
Deficit (mm)	0	0	0	0	0	0	-1	-4	-5	-2	0	0	
Surplus - available for infiltration/runoff (mm	15	26	53	35	15	1	0	0	0	2	6	13	**166**
Snowfall (mm)	28	18	0	0	0	0	0	0	0	0	0	8	
Soil Moisture (mm)	339	374	383	388	383	328	274	211	202	220	270	309	
Change in Soil Moisture Storage (mm)	30	35	9	5	-5	-55	-54	-63	-9	18	50	39	
Data for Use with Pre-Development Water Balance													
Precipitation (P) (mm)	77.0	53.0	56.0	74.0	84.0	63.0	84.0	59.0	72.0	60.0	73.0	64.0	**819.0**
Actual Evapotranspiration (AET) (mm)	2.0	3.0	11.0	34.0	75.0	117.0	138.0	122.0	80.0	41.0	16.0	5.0	**644.0**
Surplus - available for infiltration/runoff (mm	15.0	26.0	53.0	35.0	15.0	1.0	0.0	0.0	0.0	2.0	6.0	13.0	**166.0**
Infiltration (MOE Methodology) (m^3) **i = 0.43**	6.5	11.2	22.8	15.1	6.5	0.4	0.0	0.0	0.0	0.9	2.6	5.6	**71.4**
Runoff (MOE Methodology) (m^3)	8.6	14.8	30.2	20.0	8.6	0.6	0.0	0.0	0.0	1.1	3.4	7.4	**94.6**
Open/Cropped Areas													
Water Holding Capacity (WHC) 200 mm													
Average Temperature (C)	-3.6	-2.7	1.2	7.2	13.1	19.1	21.9	21.4	17.3	10.3	4.8	-0.4	**9.0**
Precipitation (P) (mm)	77	53	56	74	84	63	84	59	72	60	73	64	**819**
Rainfall (mm)	36	32	38	73	84	63	84	59	72	60	70	46	
Melt (mm)	21	32	35	1	0	0	0	0	0	0	3	10	
Potential Evapotranspiration (PET) (mm)	2	3	11	34	75	117	139	126	85	43	16	5	**656**
Actual Evapotranspiration (AET) (mm)	2	3	11	34	75	117	135	102	68	39	16	5	**607**
Deficit (mm)	0	0	0	0	0	0	-5	-23	-18	-5	0	0	
Surplus - available for infiltration/runoff (mm	22	42	61	43	18	1	0	0	0	2	7	14	**210**
Snowfall (mm)	28	18	0	0	0	0	0	0	0	0	0	8	
Soil Moisture (mm)	179	199	200	197	189	134	83	40	45	65	114	151	
Change in Soil Moisture Storage (mm)	28	20	1	-3	-8	-55	-51	-43	5	20	49	37	
Data for Use with Pre-Development Water Balance													
Precipitation (P) (mm)	77.0	53.0	56.0	74.0	84.0	63.0	84.0	59.0	72.0	60.0	73.0	64.0	**819.0**
Actual Evapotranspiration (AET) (mm)	2.0	3.0	11.0	34.0	75.0	117.0	135.0	102.0	68.0	39.0	16.0	5.0	**607.0**
Surplus - available for infiltration/runoff (mm	22.0	42.0	61.0	43.0	18.0	1.0	0.0	0.0	0.0	2.0	7.0	14.0	**210.0**
Infiltration (MOE Methodology) (m^3) **i = 0.33**	7.3	13.9	20.1	14.2	5.9	0.3	0.0	0.0	0.0	0.7	2.3	4.6	**69.3**
Runoff (MOE Methodology) (m^3)	14.7	28.1	40.9	28.8	12.1	0.7	0.0	0.0	0.0	1.3	4.7	9.4	**140.7**
Post-Development													
Development Lands Only - Landscaped/Grassed Areas													
Water Holding Capacity (WHC) 100 mm													
Average Temperature (C)	-3.6	-2.7	1.2	7.2	13.1	19.1	21.9	21.4	17.3	10.3	4.8	-0.4	**9.0**
Precipitation (P) (mm)	77	53	56	74	84	63	84	59	72	60	73	64	**819**
Rainfall (mm)	36	32	38	73	84	63	84	59	72	60	70	46	
Melt (mm)	21	32	35	1	0	0	0	0	0	0	3	10	
Potential Evapotranspiration (PET) (mm)	2	3	11	34	75	117	139	126	85	43	16	5	**656**
Actual Evapotranspiration (AET) (mm)	2	3	11	34	75	114	106	70	63	37	16	5	**536**
Deficit (mm)	0	0	0	0	0	-3	-33	-56	-22	-6	0	0	
Surplus - available for infiltration/runoff (mm	45	60	62	43	18	1	0	0	0	2	15	34	**280**
Snowfall (mm)	28	18	0	0	0	0	0	0	0	0	0	8	
Soil Moisture (mm)	100	100	100	97	89	37	15	5	13	34	75	92	
Change in Soil Moisture Storage (mm)	8	0	0	-3	-8	-52	-22	-10	8	21	41	17	
Data for Use with Post-Development Water Balance													
Precipitation (P) (mm)	77.0	53.0	56.0	74.0	84.0	63.0	84.0	59.0	72.0	60.0	73.0	64.0	**819.0**
Actual Evapotranspiration (AET) (mm)	2.0	3.0	11.0	34.0	75.0	114.0	106.0	70.0	63.0	37.0	16.0	5.0	**536.0**
Surplus - available for infiltration/runoff (mm	45.0	60.0	62.0	43.0	18.0	1.0	0.0	0.0	0.0	2.0	15.0	34.0	**280.0**
Infiltration (MOE Methodology) (m^3) **i = 0.35**	15.8	21.0	21.7	15.1	6.3	0.4	0.0	0.0	0.0	0.7	5.3	11.9	**98.0**
Runoff (MOE Methodology) (m^3)	29.3	39.0	40.3	28.0	11.7	0.7	0.0	0.0	0.0	1.3	9.8	22.1	**182.0**
Development Lands Only - Landscaped/Grassed Areas with Additional Topsoil													
Water Holding Capacity (WHC) 100 mm													
Average Temperature (C)	-3.6	-2.7	1.2	7.2	13.1	19.1	21.9	21.4	17.3	10.3	4.8	-0.4	**9.0**
Precipitation (P) (mm)	77	53	56	74	84	63	84	59	72	60	73	64	**819**
Rainfall (mm)	36	32	38	73	84	63	84	59	72	60	70	46	
Melt (mm)	21	32	35	1	0	0	0	0	0	0	3	10	
Potential Evapotranspiration (PET) (mm)	2	3	11	34	75	117	139	126	85	43	16	5	**656**
Actual Evapotranspiration (AET) (mm)	2	3	11	34	75	114	106	70	63	37	16	5	**536**
Deficit (mm)	0	0	0	0	0	-3	-33	-56	-22	-6	0	0	
Surplus - available for infiltration/runoff (mm	45	60	62	43	18	1	0	0	0	2	15	34	**280**
Snowfall (mm)	28	18	0	0	0	0	0	0	0	0	0	8	
Soil Moisture (mm)	100	100	100	97	89	37	15	5	13	34	75	92	
Change in Soil Moisture Storage (mm)	8	0	0	-3	-8	-52	-22	-10	8	21	41	17	
Data for Use with Post-Development Water Balance													
Precipitation (P) (mm)	77.0	53.0	56.0	74.0	84.0	63.0	84.0	59.0	72.0	60.0	73.0	64.0	**819.0**
Actual Evapotranspiration (AET) (mm)	2.0	3.0	11.0	34.0	75.0	114.0	106.0	70.0	63.0	37.0	16.0	5.0	**536.0**
Surplus - available for infiltration/runoff (mm	45.0	60.0	62.0	43.0	18.0	1.0	0.0	0.0	0.0	2.0	15.0	34.0	**280.0**
Infiltration (MOE Methodology) (m^3) **i = 0.40**	18.0	24.0	24.8	17.2	7.2	0.4	0.0	0.0	0.0	0.8	6.0	13.6	**112.0**
Runoff (MOE Methodology) (m^3)	27.0	36.0	37.2	25.8	10.8	0.6	0.0	0.0	0.0	1.2	9.0	20.4	**168.0**

Notes:

1. Monthly climate data, including soil deficits, soil moisture storage, evapotranspiration and water surplus were provided by Environment Canada, and modeled for different soil water holding capacities. In this ca water holding capacities of 400 mm and 200 mm (pre-development), and 100 mm (post-development) are used
2. Infiltration and Runoff volumes are calculated using the methodology described in the MOE Stormwater Design Manual (2003). Calculation of the infiltration factors used in the analyses is describe in the text and presented on Table 4.6 of the main report
3. Evaporative losses of 10% are modeled for impervious surfaces. This accounts for losses of water, such as water that collects in shallow depressions on these surfaces and does not reach the stormwater syste
4. There is minor round-off error within the Environment Canada data

Table WB-2-1001: Pre-Development Water Balance - Subwatershed FM1001 (Volumetric Calculations based on Pervious Area)

Weather Station Data: Gerard, ON (1990-2006) **Latitude: 43 degrees 26 minutes N**

Data Provided by Environment Canada - Atmospheric Environment Services - data may exhibit round off error

PARAMETER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Water Balance for Bentall Lands														
Pervious Area (Open/Agricultural) *59.64 ha*		WHC = 200 mm												
Precipitation (m^3)		45,923	31,609	33,398	44,134	50,098	37,573	50,098	35,188	42,941	35,784	43,537	38,170	**488,452**
Total AET (m^3)		1,193	1,789	6,560	20,278	44,730	69,779	80,514	60,833	40,555	23,260	9,542	2,982	**362,015**
Water Surplus (m^3)		13,121	25,049	36,380	25,645	10,735	596	0	0	0	1,193	4,175	8,350	**125,244**
Infiltration (MOE Methodology) (m^3)	**i = 0.33**	4,330	8,266	12,006	8,463	3,543	197	0	0	0	394	1,378	2,755	**41,331**
Runoff (MOE Methodology) (m^3)		8,791	16,783	24,375	17,182	7,193	400	0	0	0	799	2,797	5,594	**83,913**
Pervious Area (Forest) *0.80 ha*		WHC = 400 mm												
Precipitation (m^3)		616	424	448	592	672	504	672	472	576	480	584	512	**6,552**
Total AET (m^3)		16	24	88	272	600	936	1,104	976	640	328	128	40	**5,152**
Water Surplus (m^3)		120	208	424	280	120	8	0	0	0	16	48	104	**1,328**
Infiltration (MOE Methodology) (m^3)	**i = 0.43**	52	89	182	120	52	3	0	0	0	7	21	45	**571**
Runoff (MOE Methodology) (m^3)		68	119	242	160	68	5	0	0	0	9	27	59	**757**
Impervious Area (Ex. Roads, Industrial) *0.00 ha*														
Precipitation (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Evaporative Lossess at 10% Precipitation (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Summary Total	**60.44 ha**													
Precipitation (m^3)		46,539	32,033	33,846	44,726	50,770	38,077	50,770	35,660	43,517	36,264	44,121	38,682	**495,004**
Total AET (m^3)		1,209	1,813	6,648	20,550	45,330	70,715	81,618	61,809	41,195	23,588	9,670	3,022	**367,167**
Evaporative Lossess at 10% Precipitation (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)		4,381	8,356	12,188	8,583	3,594	200	0	0	0	401	1,398	2,800	**41,902**
Runoff (MOE Methodology) (m^3)		8,859	16,901	24,617	17,342	7,261	404	0	0	0	808	2,824	5,654	**84,670**
Water Balance for Future Development Lands owned by others														
Pervious Area (Open/Agricultural) *44.50 ha*		WHC = 200 mm												
Precipitation (m^3)		34,265	23,585	24,920	32,930	37,380	28,035	37,380	26,255	32,040	26,700	32,485	28,480	**364,455**
Total AET (m^3)		890	1,335	4,895	15,130	33,375	52,065	60,075	45,390	30,260	17,355	7,120	2,225	**270,115**
Water Surplus (m^3)		9,790	18,690	27,145	19,135	8,010	445	0	0	0	890	3,115	6,230	**93,450**
Infiltration (MOE Methodology) (m^3)	**i = 0.33**	3,231	6,168	8,958	6,315	2,643	147	0	0	0	294	1,028	2,056	**30,839**
Runoff (MOE Methodology) (m^3)		6,559	12,522	18,187	12,820	5,367	298	0	0	0	596	2,087	4,174	**62,612**
Pervious Area (Forest) *4.10 ha*		WHC = 400 mm												
Precipitation (m^3)		3,157	2,173	2,296	3,034	3,444	2,583	3,444	2,419	2,952	2,460	2,993	2,624	**33,579**
Total AET (m^3)		82	123	451	1,394	3,075	4,797	5,658	5,002	3,280	1,681	656	205	**26,404**
Water Surplus (m^3)		615	1,066	2,173	1,435	615	41	0	0	0	82	246	533	**6,806**
Infiltration (MOE Methodology) (m^3)	**i = 0.43**	264	458	934	617	264	18	0	0	0	35	106	229	**2,927**
Runoff (MOE Methodology) (m^3)		351	608	1,239	818	351	23	0	0	0	47	140	304	**3,879**
Impervious Area (Ex. Roads, Industrial) *0.40 ha*														
Precipitation (m^3)		308	212	224	296	336	252	336	236	288	240	292	256	**3,276**
Evaporative Lossess at 10% Precipitation (m^3)		31	21	22	30	34	25	34	24	29	24	29	26	**328**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		277	191	202	266	302	227	302	212	259	216	263	230	**2,948**
Summary Total	**49.00 ha**													
Precipitation (m^3)		37,730	25,970	27,440	36,260	41,160	30,870	41,160	28,910	35,280	29,400	35,770	31,360	**401,310**
Total AET (m^3)		972	1,458	5,346	16,524	36,450	56,862	65,733	50,392	33,540	19,036	7,776	2,430	**296,519**
Evaporative Lossess at 10% Precipitation (m^3)		31	21	22	30	34	25	34	24	29	24	29	26	**328**
Infiltration (MOE Methodology) (m^3)		3,495	6,626	9,892	6,932	2,908	164	0	0	0	329	1,134	2,285	**33,765**
Runoff (MOE Methodology) (m^3)		7,187	13,321	19,627	13,905	6,020	548	302	212	259	859	2,490	4,708	**69,439**

Table WB-2-1001: Pre-Development Water Balance - Subwatershed FM1001 (Volumetric Calculations based on Pervious Area)

Weather Station Data: Gerard, ON (1990-2006) **Latitude: 43 degrees 26 minutes N**

Data Provided by Environment Canada - Atmospheric Environment Services - data may exhibit round off error

PARAMETER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Water Balance for Lands North of 407 (Excluding Hanson Brick) - These Lands within Greenbelt and Other Designated Areas are not expected to change over time														
Pervious Area (Open/Agricultural) *218.16 ha*	WHC = 200 mm													
Precipitation (m^3)		167,983	115,625	122,170	161,438	183,254	137,441	183,254	128,714	157,075	130,896	159,257	139,622	**1,786,730**
Total AET (m^3)		4,363	6,545	23,998	74,174	163,620	255,247	294,516	222,523	148,349	85,082	34,906	10,908	**1,324,231**
Water Surplus (m^3)		47,995	91,627	133,078	93,809	39,269	2,182	0	0	0	4,363	15,271	30,542	**458,136**
Infiltration (MOE Methodology) (m^3)	**i = 0.33**	15,838	30,237	43,916	30,957	12,959	720	0	0	0	1,440	5,039	10,079	**151,185**
Runoff (MOE Methodology) (m^3)		32,157	61,390	89,162	62,852	26,310	1,462	0	0	0	2,923	10,232	20,463	**306,951**
Pervious Area (Forest) *21.00 ha*	WHC = 400 mm													
Precipitation (m^3)		16,170	11,130	11,760	15,540	17,640	13,230	17,640	12,390	15,120	12,600	15,330	13,440	**171,990**
Total AET (m^3)		420	630	2,310	7,140	15,750	24,570	28,980	25,620	16,800	8,610	3,360	1,050	**135,240**
Water Surplus (m^3)		3,150	5,460	11,130	7,350	3,150	210	0	0	0	420	1,260	2,730	**34,860**
Infiltration (MOE Methodology) (m^3)	**i = 0.43**	1,355	2,348	4,786	3,161	1,355	90	0	0	0	181	542	1,174	**14,990**
Runoff (MOE Methodology) (m^3)		1,796	3,112	6,344	4,190	1,796	120	0	0	0	239	718	1,556	**19,870**
Impervious Area (Ex. Roads, Industrial) *8.40 ha*														
Precipitation (m^3)		6,468	4,452	4,704	6,216	7,056	5,292	7,056	4,956	6,048	5,040	6,132	5,376	**68,796**
Evaporative Lossess at 10% Precipitation (m^3)		647	445	470	622	706	529	706	496	605	504	613	538	**6,880**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		5,821	4,007	4,234	5,594	6,350	4,763	6,350	4,460	5,443	4,536	5,519	4,838	**61,916**
Summary Total	**247.56 ha**													
Precipitation (m^3)		190,621	131,207	138,634	183,194	207,950	155,963	207,950	146,060	178,243	148,536	180,719	158,438	**2,027,516**
Total AET (m^3)		4,783	7,175	26,308	81,314	179,370	279,817	323,496	248,143	165,149	93,692	38,266	11,958	**1,459,471**
Evaporative Lossess at 10% Precipitation (m^3)		647	445	470	622	706	529	706	496	605	504	613	538	**6,880**
Infiltration (MOE Methodology) (m^3)		17,193	32,585	48,702	34,117	14,313	810	0	0	0	1,620	5,581	11,253	**166,175**
Runoff (MOE Methodology) (m^3)		39,773	68,509	99,740	72,636	34,456	6,344	6,350	4,460	5,443	7,699	16,469	26,858	**388,738**
Water Balance for Hanson Brick Property														
Pervious Area (Open/Agricultural) *27.20 ha*	WHC = 200 mm													
Precipitation (m^3)		20,944	14,416	15,232	20,128	22,848	17,136	22,848	16,048	19,584	16,320	19,856	17,408	**222,768**
Total AET (m^3)		544	816	2,992	9,248	20,400	31,824	36,720	27,744	18,496	10,608	4,352	1,360	**165,104**
Water Surplus (m^3)		5,984	11,424	16,592	11,696	4,896	272	0	0	0	544	1,904	3,808	**57,120**
Infiltration (MOE Methodology) (m^3)	**i = 0.33**	1,975	3,770	5,475	3,860	1,616	90	0	0	0	180	628	1,257	**18,850**
Runoff (MOE Methodology) (m^3)		4,009	7,654	11,117	7,836	3,280	182	0	0	0	364	1,276	2,551	**38,270**
Pervious Area (Forest) *4.00 ha*	WHC = 400 mm													
Precipitation (m^3)		3,080	2,120	2,240	2,960	3,360	2,520	3,360	2,360	2,880	2,400	2,920	2,560	**32,760**
Total AET (m^3)		80	120	440	1,360	3,000	4,680	5,520	4,880	3,200	1,640	640	200	**25,760**
Water Surplus (m^3)		600	1,040	2,120	1,400	600	40	0	0	0	80	240	520	**6,640**
Infiltration (MOE Methodology) (m^3)	**i = 0.43**	258	447	912	602	258	17	0	0	0	34	103	224	**2,855**
Runoff (MOE Methodology) (m^3)		342	593	1,208	798	342	23	0	0	0	46	137	296	**3,785**
Impervious Area (Ex. Roads, Industrial) *7.10 ha*														
Precipitation (m^3)		5,467	3,763	3,976	5,254	5,964	4,473	5,964	4,189	5,112	4,260	5,183	4,544	**58,149**
Evaporative Lossess at 10% Precipitation (m^3)		547	376	398	525	596	447	596	419	511	426	518	454	**5,815**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		4,920	3,387	3,578	4,729	5,368	4,026	5,368	3,770	4,601	3,834	4,665	4,090	**52,334**
Summary Total	**38.30 ha**													
Precipitation (m^3)		29,491	20,299	21,448	28,342	32,172	24,129	32,172	22,597	27,576	22,980	27,959	24,512	**313,677**
Total AET (m^3)		624	936	3,432	10,608	23,400	36,504	42,240	32,624	21,696	12,248	4,992	1,560	**190,864**
Evaporative Lossess at 10% Precipitation (m^3)		547	376	398	525	596	447	596	419	511	426	518	454	**5,815**
Infiltration (MOE Methodology) (m^3)		2,233	4,217	6,387	4,462	1,874	107	0	0	0	214	732	1,480	**21,705**
Runoff (MOE Methodology) (m^3)		9,272	11,634	15,903	13,363	8,990	4,231	5,368	3,770	4,601	4,244	6,077	6,937	**94,389**
Water Balance Totals for Subwatershed FM1001	**395.30 ha**													
Precipitation (m^3)		304,381	209,509	221,368	292,522	332,052	249,039	332,052	233,227	284,616	237,180	288,569	252,992	**3,237,507**
Total AET (m^3)		7,588	11,382	41,734	128,996	284,550	443,898	513,087	392,968	261,580	148,564	60,704	18,970	**2,314,021**
Evaporative Lossess at 10% Precipitation (m^3)		1,224	843	890	1,177	1,336	1,002	1,336	938	1,145	954	1,161	1,018	**13,022**
Infiltration (MOE Methodology) (m^3)		27,302	51,784	77,169	54,094	22,689	1,282	0	0	0	2,564	8,845	17,818	**263,546**
Runoff (MOE Methodology) (m^3)		65,091	110,365	159,887	117,245	56,727	11,527	12,020	8,443	10,303	13,610	27,860	44,157	**637,237**
Potential Stream Base Flows (LPM) - does not account for lag		550	1,156	1,556	1,127	457	27	0	0	0	52	184	359	

Notes:

1. Monthly climate data, including soil deficits, sol moisture storage, evapotranspiration and water surplus were provided by Environment Canada, and modeled for different soil water holding capacities. In this ca water holding capacities of 400 mm and 200 mm (pre-development), and 100 mm (post-development) are used
2. Infiltration and Runoff volumes are calculated using the methodology described in the MOE Stormwater Design Manual (2003). Calculation of the infiltration factors used in the analyses is describe in the text and presented on Table 4.6 of the main report
3. Evaporative losses of 10% are modeled for impervious surfaces (none under pre-development condition). This accounts for losses of water, such as water that collects in shallow depressions on these surfaces and does not reach the stormwater s
4. There is minor round-off error within the Environment Canada data

Table WB-3-1001: Post-Development Water Balance (No Mitigation) - Subwatershed FM1001 (Volumetric Calculations based on Pervious Area)

Weather Station Data: Gerard, ON (1990-2006) **Latitude: 43 degrees 26 minutes N**

Data Provided by Environment Canada - Atmospheric Environment Services - data may exhibit round off error

PARAMETER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Water Balance for Bentall Lands														
Pervious Area (Open/Agricultural) *15.02 ha*		WHC = 200 mm												
Precipitation (m^3)		11,565	7,961	8,411	11,115	12,617	9,463	12,617	8,862	10,814	9,012	10,965	9,613	**123,014**
Total AET (m^3)		300	451	1,652	5,107	11,265	17,573	20,277	15,320	10,214	5,858	2,403	751	**91,171**
Water Surplus (m^3)		3,304	6,308	9,162	6,459	2,704	150	0	0	0	300	1,051	2,103	**31,542**
Infiltration (MOE Methodology) (m^3)	**i = 0.33**	1,090	2,082	3,024	2,131	892	50	0	0	0	99	347	694	**10,409**
Runoff (MOE Methodology) (m^3)		2,214	4,227	6,139	4,327	1,811	101	0	0	0	201	704	1,409	**21,133**
Pervious Area (Forest) *0.00 ha*		WHC = 400 mm												
Precipitation (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	**i = 0.43**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pervious Area (Landscaped) *5.67 ha*		WHC = 100 mm												
Precipitation (m^3)		4,369	3,007	3,177	4,199	4,766	3,575	4,766	3,348	4,085	3,404	4,142	3,631	**46,470**
Total AET (m^3)		113	170	624	1,929	4,256	6,468	6,014	3,972	3,575	2,099	908	284	**30,413**
Water Surplus (m^3)		2,553	3,404	3,518	2,440	1,021	57	0	0	0	113	851	1,929	**15,887**
Infiltration (MOE Methodology) (m^3)	**i = 0.35**	894	1,192	1,231	854	357	20	0	0	0	40	298	675	**5,561**
Runoff (MOE Methodology) (m^3)		1,660	2,213	2,287	1,586	664	37	0	0	0	74	553	1,254	**10,327**
Impervious Area (Ex. Roads, Industrial) *39.75 ha*														
Precipitation (m^3)		30,604	21,065	22,258	29,412	33,387	25,040	33,387	23,450	28,617	23,848	29,015	25,437	**325,520**
Evaporative Lossess at 10% Precipitation (m^3)		3,060	2,107	2,226	2,941	3,339	2,504	3,339	2,345	2,862	2,385	2,901	2,544	**32,552**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		27,544	18,959	20,032	26,471	30,048	22,536	30,048	21,105	25,755	21,463	26,113	22,894	**292,968**
Summary Total	**60.44 ha**													
Precipitation (m^3)		46,539	32,033	33,846	44,726	50,770	38,077	50,770	35,660	43,517	36,264	44,121	38,682	**495,004**
Total AET (m^3)		414	621	2,276	7,036	15,521	24,042	26,291	19,292	13,788	7,957	3,311	1,035	**121,584**
Evaporative Lossess at 10% Precipitation (m^3)		3,060	2,107	2,226	2,941	3,339	2,504	3,339	2,345	2,862	2,385	2,901	2,544	**32,552**
Infiltration (MOE Methodology) (m^3)		1,984	3,273	4,255	2,985	1,250	69	0	0	0	139	645	1,369	**15,969**
Runoff (MOE Methodology) (m^3)		31,418	25,398	28,457	32,384	32,523	22,673	30,048	21,105	25,755	21,738	27,371	25,557	**324,428**
Water Balance for Future Development Lands owned by others														
Pervious Area (Open/Agricultural) *5.49 ha*		WHC = 200 mm												
Precipitation (m^3)		4,227	2,910	3,074	4,063	4,612	3,459	4,612	3,239	3,953	3,294	4,008	3,514	**44,963**
Total AET (m^3)		110	165	604	1,867	4,118	6,423	7,412	5,600	3,733	2,141	878	275	**33,324**
Water Surplus (m^3)		1,208	2,306	3,349	2,361	988	55	0	0	0	110	384	769	**11,529**
Infiltration (MOE Methodology) (m^3)	**i = 0.33**	399	761	1,105	779	326	18	0	0	0	36	127	254	**3,805**
Runoff (MOE Methodology) (m^3)		809	1,545	2,244	1,582	662	37	0	0	0	74	257	515	**7,724**
Pervious Area (Forest) *4.10 ha*		WHC = 400 mm												
Precipitation (m^3)		3,157	2,173	2,296	3,034	3,444	2,583	3,444	2,419	2,952	2,460	2,993	2,624	**33,579**
Total AET (m^3)		82	123	451	1,394	3,075	4,797	5,658	5,002	3,280	1,681	656	205	**26,404**
Water Surplus (m^3)		615	1,066	2,173	1,435	615	41	0	0	0	82	246	533	**6,806**
Infiltration (MOE Methodology) (m^3)	**i = 0.43**	264	458	934	617	264	18	0	0	0	35	106	229	**2,927**
Runoff (MOE Methodology) (m^3)		351	608	1,239	818	351	23	0	0	0	47	140	304	**3,879**
Pervious Area (Landscaped) *5.75 ha*		WHC = 100 mm												
Precipitation (m^3)		4,427	3,047	3,219	4,254	4,829	3,622	4,829	3,392	4,139	3,449	4,197	3,679	**47,083**
Total AET (m^3)		115	172	632	1,955	4,312	6,554	6,094	4,024	3,622	2,127	920	287	**30,814**
Water Surplus (m^3)		2,587	3,449	3,564	2,472	1,035	57	0	0	0	115	862	1,955	**16,097**
Infiltration (MOE Methodology) (m^3)	**i = 0.35**	905	1,207	1,247	865	362	20	0	0	0	40	302	684	**5,634**
Runoff (MOE Methodology) (m^3)		1,682	2,242	2,317	1,607	673	37	0	0	0	75	561	1,270	**10,463**
Impervious Area (Ex. Roads, Industrial) *33.66 ha*														
Precipitation (m^3)		25,919	17,840	18,850	24,909	28,275	21,207	28,275	19,860	24,236	20,197	24,573	21,543	**275,685**
Evaporative Lossess at 10% Precipitation (m^3)		2,592	1,784	1,885	2,491	2,828	2,121	2,828	1,986	2,424	2,020	2,457	2,154	**27,569**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		23,327	16,056	16,965	22,418	25,448	19,086	25,448	17,874	21,812	18,177	22,115	19,389	**248,117**
Summary Total	**49.00 ha**													
Precipitation (m^3)		37,730	25,970	27,440	36,260	41,160	30,870	41,160	28,910	35,280	29,400	35,770	31,360	**401,310**
Total AET (m^3)		307	460	1,687	5,215	11,504	17,774	19,163	14,626	10,635	5,949	2,454	767	**90,542**
Evaporative Lossess at 10% Precipitation (m^3)		2,592	1,784	1,885	2,491	2,828	2,121	2,828	1,986	2,424	2,020	2,457	2,154	**27,569**
Infiltration (MOE Methodology) (m^3)		1,568	2,427	3,287	2,261	953	56	0	0	0	112	534	1,167	**12,365**
Runoff (MOE Methodology) (m^3)		26,169	20,451	22,764	26,425	27,133	19,183	25,448	17,874	21,812	18,372	23,074	21,478	**270,183**

Table WB-3-1001: Post-Development Water Balance (No Mitigation) - Subwatershed FM1001 (Volumetric Calculations based on Pervious Area)

Weather Station Data: Gerard, ON (1990-2006) **Latitude: 43 degrees 26 minutes N**

Data Provided by Environment Canada - Atmospheric Environment Services - data may exhibit round off error

PARAMETER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Water Balance for Lands North of 407 (Excluding Hanson Brick) - These Lands within Greenbelt and Other Designated Areas are not expected to change over time													
Pervious Area (Open/Agricultural) *218.16 ha*	WHC = 200 mm												
Precipitation (m^3)	167,983	115,625	122,170	161,438	183,254	137,441	183,254	128,714	157,075	130,896	159,257	139,622	**1,786,730**
Total AET (m^3)	4,363	6,545	23,998	74,174	163,620	255,247	294,516	222,523	148,349	85,082	34,906	10,908	**1,324,231**
Water Surplus (m^3)	47,995	91,627	133,078	93,809	39,269	2,182	0	0	0	4,363	15,271	30,542	**458,136**
Infiltration (MOE Methodology) (m^3) **i = 0.33**	15,838	30,237	43,916	30,957	12,959	720	0	0	0	1,440	5,039	10,079	**151,185**
Runoff (MOE Methodology) (m^3)	32,157	61,390	89,162	62,852	26,310	1,462	0	0	0	2,923	10,232	20,463	**306,951**
Pervious Area (Forest) *21.00 ha*	WHC = 400 mm												
Precipitation (m^3)	16,170	11,130	11,760	15,540	17,640	13,230	17,640	12,390	15,120	12,600	15,330	13,440	**171,990**
Total AET (m^3)	420	630	2,310	7,140	15,750	24,570	28,980	25,620	16,800	8,610	3,360	1,050	**135,240**
Water Surplus (m^3)	3,150	5,460	11,130	7,350	3,150	210	0	0	0	420	1,260	2,730	**34,860**
Infiltration (MOE Methodology) (m^3) **i = 0.43**	1,355	2,348	4,786	3,161	1,355	90	0	0	0	181	542	1,174	**14,990**
Runoff (MOE Methodology) (m^3)	1,796	3,112	6,344	4,190	1,796	120	0	0	0	239	718	1,556	**19,870**
Impervious Area (Ex. Roads, Industrial) *8.40 ha*													
Precipitation (m^3)	6,468	4,452	4,704	6,216	7,056	5,292	7,056	4,956	6,048	5,040	6,132	5,376	**68,796**
Evaporative Lossess at 10% Precipitation (m^3)	647	445	470	622	706	529	706	496	605	504	613	538	**6,880**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	5,821	4,007	4,234	5,594	6,350	4,763	6,350	4,460	5,443	4,536	5,519	4,838	**61,916**
Summary Total **247.56 ha**													
Precipitation (m^3)	190,621	131,207	138,634	183,194	207,950	155,963	207,950	146,060	178,243	148,536	180,719	158,438	**2,027,516**
Total AET (m^3)	4,783	7,175	26,308	81,314	179,370	279,817	323,496	248,143	165,149	93,692	38,266	11,958	**1,459,471**
Evaporative Lossess at 10% Precipitation (m^3)	647	445	470	622	706	529	706	496	605	504	613	538	**6,880**
Infiltration (MOE Methodology) (m^3)	17,193	32,585	48,702	34,117	14,313	810	0	0	0	1,620	5,581	11,253	**166,175**
Runoff (MOE Methodology) (m^3)	39,773	68,509	99,740	72,636	34,456	6,344	6,350	4,460	5,443	7,699	16,469	26,858	**388,738**
Water Balance for Hanson Brick Property													
Pervious Area (Open/Agricultural) *19.30 ha*	WHC = 200 mm												
Precipitation (m^3)	14,861	10,229	10,808	14,282	16,212	12,159	16,212	11,387	13,896	11,580	14,089	12,352	**158,067**
Total AET (m^3)	386	579	2,123	6,562	14,475	22,581	26,055	19,686	13,124	7,527	3,088	965	**117,151**
Water Surplus (m^3)	4,246	8,106	11,773	8,299	3,474	193	0	0	0	386	1,351	2,702	**40,530**
Infiltration (MOE Methodology) (m^3) **i = 0.33**	1,401	2,675	3,885	2,739	1,146	64	0	0	0	127	446	892	**13,375**
Runoff (MOE Methodology) (m^3)	2,845	5,431	7,888	5,560	2,328	129	0	0	0	259	905	1,810	**27,155**
Pervious Area (Forest) *2.00 ha*	WHC = 400 mm												
Precipitation (m^3)	1,540	1,060	1,120	1,480	1,680	1,260	1,680	1,180	1,440	1,200	1,460	1,280	**16,380**
Total AET (m^3)	40	60	220	680	1,500	2,340	2,760	2,440	1,600	820	320	100	**12,880**
Water Surplus (m^3)	300	520	1,060	700	300	20	0	0	0	40	120	260	**3,320**
Infiltration (MOE Methodology) (m^3) **i = 0.43**	129	224	456	301	129	9	0	0	0	17	52	112	**1,428**
Runoff (MOE Methodology) (m^3)	171	296	604	399	171	11	0	0	0	23	68	148	**1,892**
Impervious Area (Ex. Roads, Industrial) *17.00 ha*													
Precipitation (m^3)	13,090	9,010	9,520	12,580	14,280	10,710	14,280	10,030	12,240	10,200	12,410	10,880	**139,230**
Evaporative Lossess at 10% Precipitation (m^3)	1,309	901	952	1,258	1,428	1,071	1,428	1,003	1,224	1,020	1,241	1,088	**13,923**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	11,781	8,109	8,568	11,322	12,852	9,639	12,852	9,027	11,016	9,180	11,169	9,792	**125,307**
Summary Total **38.30 ha**													
Precipitation (m^3)	29,491	20,299	21,448	28,342	32,172	24,129	32,172	22,597	27,576	22,980	27,959	24,512	**313,677**
Total AET (m^3)	426	639	2,343	7,242	15,975	24,921	28,815	22,126	14,724	8,347	3,408	1,065	**130,031**
Evaporative Lossess at 10% Precipitation (m^3)	1,309	901	952	1,258	1,428	1,071	1,428	1,003	1,224	1,020	1,241	1,088	**13,923**
Infiltration (MOE Methodology) (m^3)	1,530	2,899	4,341	3,040	1,275	72	0	0	0	145	497	1,003	**14,803**
Runoff (MOE Methodology) (m^3)	14,797	13,836	17,060	17,281	15,351	9,780	12,852	9,027	11,016	9,461	12,143	11,751	**154,355**
Water Balance Totals for Subwatershed FM1001 **395.30 ha**													
Precipitation (m^3)	304,381	209,509	221,368	292,522	332,052	249,039	332,052	233,227	284,616	237,180	288,569	252,992	**3,237,507**
Total AET (m^3)	5,930	8,895	32,614	100,808	222,370	346,554	397,766	304,187	204,296	115,946	47,439	14,825	**1,801,628**
Evaporative Lossess at 10% Precipitation (m^3)	7,608	5,237	5,533	7,312	8,300	6,225	8,300	5,830	7,114	5,928	7,213	6,324	**80,923**
Infiltration (MOE Methodology) (m^3)	22,276	41,183	60,584	42,404	17,791	1,008	0	0	0	2,016	7,258	14,792	**209,312**
Runoff (MOE Methodology) (m^3)	112,156	128,195	168,021	148,726	109,463	57,981	74,698	52,467	64,027	57,270	79,056	85,643	**1,137,703**
Potential Stream Base Flows (LPM) - does not account for lag	449	919	1,221	883	359	21	0	0	0	41	151	298	

Notes:

1. Monthly climate data, including soil deficits, sol moisture storage, evapotranspiration and water surplus were provided by Environment Canada, and modeled for different soil water holding capacities. In this ca water holding capacities of 400 mm and 200 mm (pre-development), and 100 mm (post-development) are used
2. Infiltration and Runoff volumes are calculated using the methodology described in the MOE Stormwater Design Manual (2003). Calculation of the infiltration factors used in the analyses is describe in the text and presented on Table 4.6 of the main report
3. Evaporative losses of 10% are modeled for impervious surfaces (none under pre-development condition). This accounts for losses of water, such as water that collects in shallow depressions on these surfaces and does not reach the stormwater s
4. There is minor round-off error within the Environment Canada data

Table WB-4-1001: Post-Development Water Balance (With Mitigation) - Subwatershed FM1001 (Volumetric Calculations based on Pervious Area)

Weather Station Data: Gerard, ON (1990-2006) **Latitude: 43 degrees 26 minutes N**

Data Provided by Environment Canada - Atmospheric Environment Services - data may exhibit round off error

PARAMETER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Water Balance for Bentall Lands														
Pervious Area (Open/Agricultural)	*15.02 ha*	WHC = 200 mm												
Precipitation (m^3)		11,565	7,961	8,411	11,115	12,617	9,463	12,617	8,862	10,814	9,012	10,965	9,613	**123,014**
Total AET (m^3)		300	451	1,652	5,107	11,265	17,573	20,277	15,320	10,214	5,858	2,403	751	**91,171**
Water Surplus (m^3)		3,304	6,308	9,162	6,459	2,704	150	0	0	0	300	1,051	2,103	**31,542**
Infiltration (MOE Methodology) (m^3)	**i = 0.33**	1,090	2,082	3,024	2,131	892	50	0	0	0	99	347	694	**10,409**
Runoff (MOE Methodology) (m^3)		2,214	4,227	6,139	4,327	1,811	101	0	0	0	201	704	1,409	**21,133**
Pervious Area (Forest)	*0.00 ha*	WHC = 400 mm												
Precipitation (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	**i = 0.43**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pervious Area (Landscaped)	*5.67 ha*	WHC = 100 mm												
Precipitation (m^3)		4,369	3,007	3,177	4,199	4,766	3,575	4,766	3,348	4,085	3,404	4,142	3,631	**46,470**
Total AET (m^3)		113	170	624	1,929	4,256	6,468	6,014	3,972	3,575	2,099	908	284	**30,413**
Water Surplus (m^3)		2,553	3,404	3,518	2,440	1,021	57	0	0	0	113	851	1,929	**15,887**
Infiltration (MOE Methodology) (m^3)	**i = 0.40**	1,021	1,362	1,407	976	409	23	0	0	0	45	340	772	**6,355**
Runoff (MOE Methodology) (m^3)		1,532	2,043	2,111	1,464	613	34	0	0	0	68	511	1,157	**9,532**
Impervious Area (Ex. Roads, Industrial)	*39.75 ha*													
Precipitation (m^3)		30,604	21,065	22,258	29,412	33,387	25,040	33,387	23,450	28,617	23,848	29,015	25,437	**325,520**
Evaporative Lossess at 10% Precipitation (m^3)		3,060	2,107	2,226	2,941	3,339	2,504	3,339	2,345	2,862	2,385	2,901	2,544	**32,552**
Roof Runoff diverted to Mitigation Measures (m^3)		2,815	1,938	2,047	2,705	3,071	2,303	3,071	2,157	2,632	2,193	2,669	2,340	**29,940**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		24,729	17,021	17,985	23,766	26,977	20,233	26,977	18,948	23,123	19,269	23,444	20,554	**263,028**
Mitigations Measures	*4.06 ha*	<-- Roof Area Required of the impervious area shown above to be directed to swales												
Infiltration Swales (length)	1,620 (m)													
Infiltration Flat Bottomed-Swales (length)	- (m)													
Available Volume of Roof Water directed to mitigation (m^3)		2,815	1,938	2,047	2,705	3,071	2,303	3,071	2,157	2,632	2,193	2,669	2,340	**29,940**
Subsurface Gravel Wetland (SGW) Area	- (m^2)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration Swales connected to SGW	- (m)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (m^3) daily capacity -->	69 m^3/d	2,145	1,938	2,047	2,076	2,145	2,076	2,145	2,145	2,076	2,145	2,076	2,145	**25,159**
Runoff (m^3)		670	0	0	629	926	227	926	12	556	48	593	195	**4,781**
Summary Total	**60.44 ha**													
Precipitation (m^3)		46,539	32,033	33,846	44,726	50,770	38,077	50,770	35,660	43,517	36,264	44,121	38,682	**495,004**
Total AET (m^3)		414	621	2,276	7,036	15,521	24,042	26,291	19,292	13,788	7,957	3,311	1,035	**121,584**
Evaporative Lossess at 10% Precipitation (m^3)		3,060	2,107	2,226	2,941	3,339	2,504	3,339	2,345	2,862	2,385	2,901	2,544	**32,552**
Infiltration (MOE Methodology) (m^3)		4,257	5,381	6,478	5,183	3,446	2,148	2,145	2,145	2,076	2,290	2,763	3,611	**41,923**
Runoff (MOE Methodology) (m^3)		29,145	23,291	26,234	30,186	30,327	20,595	27,903	18,960	23,679	19,587	25,252	23,315	**298,474**
Water Balance for Future Development Lands owned by others														
Pervious Area (Open/Agricultural)	*5.49 ha*	WHC = 200 mm												
Precipitation (m^3)		4,227	2,910	3,074	4,063	4,612	3,459	4,612	3,239	3,953	3,294	4,008	3,514	**44,963**
Total AET (m^3)		110	165	604	1,867	4,118	6,423	7,412	5,600	3,733	2,141	878	275	**33,324**
Water Surplus (m^3)		1,208	2,306	3,349	2,361	988	55	0	0	0	110	384	769	**11,529**
Infiltration (MOE Methodology) (m^3)	**i = 0.33**	399	761	1,105	779	326	18	0	0	0	36	127	254	**3,805**
Runoff (MOE Methodology) (m^3)		809	1,545	2,244	1,582	662	37	0	0	0	74	257	515	**7,724**
Pervious Area (Forest)	*4.10 ha*	WHC = 400 mm												
Precipitation (m^3)		3,157	2,173	2,296	3,034	3,444	2,583	3,444	2,419	2,952	2,460	2,993	2,624	**33,579**
Total AET (m^3)		82	123	451	1,394	3,075	4,797	5,658	5,002	3,280	1,681	656	205	**26,404**
Water Surplus (m^3)		615	1,066	2,173	1,435	615	41	0	0	0	82	246	533	**6,806**
Infiltration (MOE Methodology) (m^3)	**i = 0.43**	264	458	934	617	264	18	0	0	0	35	106	229	**2,927**
Runoff (MOE Methodology) (m^3)		351	608	1,239	818	351	23	0	0	0	47	140	304	**3,879**
Pervious Area (Landscaped)	*5.75 ha*	WHC = 100 mm												
Precipitation (m^3)		4,427	3,047	3,219	4,254	4,829	3,622	4,829	3,392	4,139	3,449	4,197	3,679	**47,083**
Total AET (m^3)		115	172	632	1,955	4,312	6,554	6,094	4,024	3,622	2,127	920	287	**30,814**
Water Surplus (m^3)		2,587	3,449	3,564	2,472	1,035	57	0	0	0	115	862	1,955	**16,097**
Infiltration (MOE Methodology) (m^3)	**i = 0.40**	1,035	1,380	1,426	989	414	23	0	0	0	46	345	782	**6,439**
Runoff (MOE Methodology) (m^3)		1,552	2,070	2,139	1,483	621	34	0	0	0	69	517	1,173	**9,658**
Impervious Area (Ex. Roads, Industrial)	*33.66 ha*													
Precipitation (m^3)		25,919	17,840	18,850	24,909	28,275	21,207	28,275	19,860	24,236	20,197	24,573	21,543	**275,685**
Evaporative Lossess at 10% Precipitation (m^3)		2,592	1,784	1,885	2,491	2,828	2,121	2,828	1,986	2,424	2,020	2,457	2,154	**27,569**
Roof Runoff diverted to Mitigation Measures (m^3)		1,750	1,204	1,272	1,681	1,909	1,432	1,909	1,341	1,636	1,363	1,659	1,454	**18,610**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		21,578	14,852	15,693	20,737	23,539	17,654	23,539	16,533	20,176	16,814	20,457	17,935	**229,507**
Mitigations Measures	*2.52 ha*	<-- Roof Area Required of the impervious area shown above												
Infiltration Swales (length)	1,190 m													
Infiltration Bio-Swales (length)	- m													
Available Volume of Water directed to mitigation (m^3)		1,750	1,204	1,272	1,681	1,909	1,432	1,909	1,341	1,636	1,363	1,659	1,454	**18,610**
Infiltration (m^3) daily capacity -->	43 m^3/d	1,333	1,204	1,272	1,290	1,333	1,290	1,333	1,333	1,290	1,333	1,290	1,333	**15,638**
Runoff (m^3)		416	0	0	391	575	141	575	7	346	30	368	121	**2,972**
Summary Total	**49.00 ha**													
Precipitation (m^3)		37,730	25,970	27,440	36,260	41,160	30,870	41,160	28,910	35,280	29,400	35,770	31,360	**401,310**
Total AET (m^3)		307	460	1,687	5,215	11,504	17,774	19,163	14,626	10,635	5,949	2,454	767	**90,542**
Evaporative Lossess at 10% Precipitation (m^3)		2,592	1,784	1,885	2,491	2,828	2,121	2,828	1,986	2,424	2,020	2,457	2,154	**27,569**
Infiltration (MOE Methodology) (m^3)		3,031	3,803	4,738	3,675	2,338	1,349	1,333	1,333	1,290	1,451	1,868	2,598	**28,808**
Runoff (MOE Methodology) (m^3)		24,706	19,074	21,314	25,011	25,748	17,890	24,115	16,541	20,522	17,033	21,740	20,047	**253,741**

Table WB-4-1001: Post-Development Water Balance (With Mitigation) - Subwatershed FM1001 (Volumetric Calculations based on Pervious Area)

Weather Station Data: Gerard, ON (1990-2006) **Latitude: 43 degrees 26 minutes N**

Data Provided by Environment Canada - Atmospheric Environment Services - data may exhibit round off error

PARAMETER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Water Balance for Lands North of 407 (Excluding Hanson Brick) - These Lands within Greenbelt and Other Designated Areas are not expected to change over time													
Pervious Area (Open/Agricultural) *218.16 ha* WHC = 200 mm													
Precipitation (m^3)	167,983	115,625	122,170	161,438	183,254	137,441	183,254	128,714	157,075	130,896	159,257	139,622	**1,786,730**
Total AET (m^3)	4,363	6,545	23,998	74,174	163,620	255,247	294,516	222,523	148,349	85,082	34,906	10,908	**1,324,231**
Water Surplus (m^3)	47,995	91,627	133,078	93,809	39,269	2,182	0	0	0	4,363	15,271	30,542	**458,136**
Infiltration (MOE Methodology) (m^3) **i = 0.33**	15,838	30,237	43,916	30,957	12,959	720	0	0	0	1,440	5,039	10,079	**151,185**
Runoff (MOE Methodology) (m^3)	32,157	61,390	89,162	62,852	26,310	1,462	0	0	0	2,923	10,232	20,463	**306,951**
Pervious Area (Forest) *21.00 ha* WHC = 400 mm													
Precipitation (m^3)	16,170	11,130	11,760	15,540	17,640	13,230	17,640	12,390	15,120	12,600	15,330	13,440	**171,990**
Total AET (m^3)	420	630	2,310	7,140	15,750	24,570	28,980	25,620	16,800	8,610	3,360	1,050	**135,240**
Water Surplus (m^3)	3,150	5,460	11,130	7,350	3,150	210	0	0	0	420	1,260	2,730	**34,860**
Infiltration (MOE Methodology) (m^3) **i = 0.43**	1,355	2,348	4,786	3,161	1,355	90	0	0	0	181	542	1,174	**14,990**
Runoff (MOE Methodology) (m^3)	1,796	3,112	6,344	4,190	1,796	120	0	0	0	239	718	1,556	**19,870**
Impervious Area (Ex. Roads, Industrial) *8.40 ha*													
Precipitation (m^3)	6,468	4,452	4,704	6,216	7,056	5,292	7,056	4,956	6,048	5,040	6,132	5,376	**68,796**
Evaporative Lossess at 10% Precipitation (m^3)	647	445	470	622	706	529	706	496	605	504	613	538	**6,880**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	5,821	4,007	4,234	5,594	6,350	4,763	6,350	4,460	5,443	4,536	5,519	4,838	**61,916**
Summary Total **247.56 ha**													
Precipitation (m^3)	190,621	131,207	138,634	183,194	207,950	155,963	207,950	146,060	178,243	148,536	180,719	158,438	**2,027,516**
Total AET (m^3)	4,783	7,175	26,308	81,314	179,370	279,817	323,496	248,143	165,149	93,692	38,266	11,958	**1,459,471**
Evaporative Lossess at 10% Precipitation (m^3)	647	445	470	622	706	529	706	496	605	504	613	538	**6,880**
Infiltration (MOE Methodology) (m^3)	17,193	32,585	48,702	34,117	14,313	810	0	0	0	1,620	5,581	11,253	**166,175**
Runoff (MOE Methodology) (m^3)	39,773	68,509	99,740	72,636	34,456	6,344	6,350	4,460	5,443	7,699	16,469	26,858	**388,738**
Water Balance for Hanson Brick Property													
Pervious Area (Open/Agricultural) *19.30 ha* WHC = 200 mm													
Precipitation (m^3)	14,861	10,229	10,808	14,282	16,212	12,159	16,212	11,387	13,896	11,580	14,089	12,352	**158,067**
Total AET (m^3)	386	579	2,123	6,562	14,475	22,581	26,055	19,686	13,124	7,527	3,088	965	**117,151**
Water Surplus (m^3)	4,246	8,106	11,773	8,299	3,474	193	0	0	0	386	1,351	2,702	**40,530**
Infiltration (MOE Methodology) (m^3) **i = 0.33**	1,401	2,675	3,885	2,739	1,146	64	0	0	0	127	446	892	**13,375**
Runoff (MOE Methodology) (m^3)	2,845	5,431	7,888	5,560	2,328	129	0	0	0	259	905	1,810	**27,155**
Pervious Area (Forest) *2.00 ha* WHC = 400 mm													
Precipitation (m^3)	1,540	1,060	1,120	1,480	1,680	1,260	1,680	1,180	1,440	1,200	1,460	1,280	**16,380**
Total AET (m^3)	40	60	220	680	1,500	2,340	2,760	2,440	1,600	820	320	100	**12,880**
Water Surplus (m^3)	300	520	1,060	700	300	20	0	0	0	40	120	260	**3,320**
Infiltration (MOE Methodology) (m^3) **i = 0.43**	129	224	456	301	129	9	0	0	0	17	52	112	**1,428**
Runoff (MOE Methodology) (m^3)	171	296	604	399	171	11	0	0	0	23	68	148	**1,892**
Impervious Area (Ex. Roads, Industrial) *17.00 ha*													
Precipitation (m^3)	13,090	9,010	9,520	12,580	14,280	10,710	14,280	10,030	12,240	10,200	12,410	10,880	**139,230**
Evaporative Lossess at 10% Precipitation (m^3)	1,309	901	952	1,258	1,428	1,071	1,428	1,003	1,224	1,020	1,241	1,088	**13,923**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	11,781	8,109	8,568	11,322	12,852	9,639	12,852	9,027	11,016	9,180	11,169	9,792	**125,307**
Summary Total **38.30 ha**													
Precipitation (m^3)	29,491	20,299	21,448	28,342	32,172	24,129	32,172	22,597	27,576	22,980	27,959	24,512	**313,677**
Total AET (m^3)	426	639	2,343	7,242	15,975	24,921	28,815	22,126	14,724	8,347	3,408	1,065	**130,031**
Evaporative Lossess at 10% Precipitation (m^3)	1,309	901	952	1,258	1,428	1,071	1,428	1,003	1,224	1,020	1,241	1,088	**13,923**
Infiltration (MOE Methodology) (m^3)	1,530	2,899	4,341	3,040	1,275	72	0	0	0	145	497	1,003	**14,803**
Runoff (MOE Methodology) (m^3)	14,797	13,836	17,060	17,281	15,351	9,780	12,852	9,027	11,016	9,461	12,143	11,751	**154,355**
Water Balance Totals for Subwatershed FM1001 **395.30 ha**													
Precipitation (m^3)	304,381	209,509	221,368	292,522	332,052	249,039	332,052	233,227	284,616	237,180	288,569	252,992	**3,237,507**
Total AET (m^3)	5,930	8,895	32,614	100,808	222,370	346,554	397,766	304,187	204,296	115,946	47,439	14,825	**1,801,628**
Evaporative Lossess at 10% Precipitation (m^3)	7,608	5,237	5,533	7,312	8,300	6,225	8,300	5,830	7,114	5,928	7,213	6,324	**80,923**
Infiltration (MOE Methodology) (m^3)	26,011	44,668	64,258	46,015	21,372	4,380	3,478	3,478	3,366	5,505	10,710	18,465	**251,708**
Runoff (MOE Methodology) (m^3)	108,421	124,710	164,348	145,114	105,882	54,609	71,220	48,988	60,661	53,780	75,604	81,970	**1,095,307**
Potential Stream Base Flows (LPM) - does not account for lag	524	997	1,296	959	431	91	70	70	70	111	223	372	

Notes:

1. Monthly climate data, including soil deficits, sol moisture storage, evapotranspiration and water surplus were provided by Environment Canada, and modeled for different soil water holding capacities. In this case water holding capacities of 400 mm and 200 mm (pre-development), and 100 mm (post-development) are used.
2. Infiltration and Runoff volumes are calculated using the methodology described in the MOE Stormwater Design Manual (2003). Calculation of the infiltration factors used in the analyses is described in the text and presented on Table 4.6 of the main report.
3. Evaporative losses of 10% are modeled for impervious surfaces (none under pre-development condition). This accounts for losses of water, such as water that collects in shallow depressions on these surfaces and does not reach the stormwater syst
4. There is minor round-off error within the Environment Canada data.

Table WB-2-1109: Pre-Development Water Balance - Subwatershed FM1109 (Volumetric Calculations based on Pervious Area)

Weather Station Data: Gerard, ON (1990-2006) **Latitude: 43 degrees 26 minutes N**

Data Provided by Environment Canada - Atmospheric Environment Services - data may exhibit round off error

PARAMETER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Water Balance for Bentall Lands														
Pervious Area (Open/Agricultural) *9.15 ha*	WHC = 200 mm													
Precipitation (m^3)		7,046	4,850	5,124	6,771	7,686	5,765	7,686	5,399	6,588	5,490	6,680	5,856	**74,939**
Total AET (m^3)		183	275	1,007	3,111	6,863	10,706	12,353	9,333	6,222	3,569	1,464	458	**55,541**
Water Surplus (m^3)		2,013	3,843	5,582	3,935	1,647	92	0	0	0	183	641	1,281	**19,215**
Infiltration (MOE Methodology) (m^3)	**i = 0.33**	664	1,268	1,842	1,298	544	30	0	0	0	60	211	423	**6,341**
Runoff (MOE Methodology) (m^3)		1,349	2,575	3,740	2,636	1,103	61	0	0	0	123	429	858	**12,874**
Pervious Area (Forest) *0.80 ha*	WHC = 400 mm													
Precipitation (m^3)		616	424	448	592	672	504	672	472	576	480	584	512	**6,552**
Total AET (m^3)		16	24	88	272	600	936	1,104	976	640	328	128	40	**5,152**
Water Surplus (m^3)		120	208	424	280	120	8	0	0	0	16	48	104	**1,328**
Infiltration (MOE Methodology) (m^3)	**i = 0.43**	52	89	182	120	52	3	0	0	0	7	21	45	**571**
Runoff (MOE Methodology) (m^3)		68	119	242	160	68	5	0	0	0	9	27	59	**757**
Impervious Area (Ex. Roads, Industrial) *0.00 ha*														
Precipitation (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Evaporative Lossess at 10% Precipitation (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Summary Total	**9.95 ha**													
Precipitation (m^3)		7,662	5,274	5,572	7,363	8,358	6,269	8,358	5,871	7,164	5,970	7,264	6,368	**81,491**
Total AET (m^3)		199	299	1,095	3,383	7,463	11,642	13,457	10,309	6,862	3,897	1,592	498	**60,693**
Evaporative Lossess at 10% Precipitation (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)		716	1,358	2,024	1,419	595	34	0	0	0	67	232	467	**6,912**
Runoff (MOE Methodology) (m^3)		1,417	2,693	3,981	2,796	1,172	66	0	0	0	132	456	918	**13,631**
Water Balance for Future Development Lands owned by others														
Pervious Area (Open/Agricultural) *78.02 ha*	WHC = 200 mm													
Precipitation (m^3)		60,075	41,351	43,691	57,735	65,537	49,153	65,537	46,032	56,174	46,812	56,955	49,933	**638,984**
Total AET (m^3)		1,560	2,341	8,582	26,527	58,515	91,283	105,327	79,580	53,054	30,428	12,483	3,901	**473,581**
Water Surplus (m^3)		17,164	32,768	47,592	33,549	14,044	780	0	0	0	1,560	5,461	10,923	**163,842**
Infiltration (MOE Methodology) (m^3)	**i = 0.33**	5,664	10,814	15,705	11,071	4,634	257	0	0	0	515	1,802	3,605	**54,068**
Runoff (MOE Methodology) (m^3)		11,500	21,955	31,887	22,478	9,409	523	0	0	0	1,045	3,659	7,318	**109,774**
Pervious Area (Forest) *16.00 ha*	WHC = 400 mm													
Precipitation (m^3)		12,320	8,480	8,960	11,840	13,440	10,080	13,440	9,440	11,520	9,600	11,680	10,240	**131,040**
Total AET (m^3)		320	480	1,760	5,440	12,000	18,720	22,080	19,520	12,800	6,560	2,560	800	**103,040**
Water Surplus (m^3)		2,400	4,160	8,480	5,600	2,400	160	0	0	0	320	960	2,080	**26,560**
Infiltration (MOE Methodology) (m^3)	**i = 0.43**	1,032	1,789	3,646	2,408	1,032	69	0	0	0	138	413	894	**11,421**
Runoff (MOE Methodology) (m^3)		1,368	2,371	4,834	3,192	1,368	91	0	0	0	182	547	1,186	**15,139**
Impervious Area (Ex. Roads, Industrial) *4.80 ha*														
Precipitation (m^3)		3,696	2,544	2,688	3,552	4,032	3,024	4,032	2,832	3,456	2,880	3,504	3,072	**39,312**
Evaporative Lossess at 10% Precipitation (m^3)		370	254	269	355	403	302	403	283	346	288	350	307	**3,931**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		3,326	2,290	2,419	3,197	3,629	2,722	3,629	2,549	3,110	2,592	3,154	2,765	**35,381**
Summary Total	**98.82 ha**													
Precipitation (m^3)		76,091	52,375	55,339	73,127	83,009	62,257	83,009	58,304	71,150	59,292	72,139	63,245	**809,336**
Total AET (m^3)		1,880	2,821	10,342	31,967	70,515	110,003	127,407	99,100	65,854	36,988	15,043	4,701	**576,621**
Evaporative Lossess at 10% Precipitation (m^3)		370	254	269	355	403	302	403	283	346	288	350	307	**3,931**
Infiltration (MOE Methodology) (m^3)		6,696	12,602	19,352	13,479	5,666	326	0	0	0	653	2,215	4,499	**65,489**
Runoff (MOE Methodology) (m^3)		16,195	26,616	39,140	28,866	14,406	3,336	3,629	2,549	3,110	3,820	7,360	11,269	**160,294**

Table WB-2-1109: Pre-Development Water Balance - Subwatershed FM1109 (Volumetric Calculations based on Pervious Area)

Weather Station Data: Gerard, ON (1990-2006) **Latitude: 43 degrees 26 minutes N**

Data Provided by Environment Canada - Atmospheric Environment Services - data may exhibit round off error

PARAMETER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Water Balance for Lands North of 407 (Excluding Hanson Brick) - These Lands within Greenbelt and Other Designated Areas are not expected to change over time													
Pervious Area (Open/Agricultural) *183.33 ha* WHC = 200 mm													
Precipitation (m^3)	141,164	97,165	102,665	135,664	153,997	115,498	153,997	108,165	131,998	109,998	133,831	117,331	**1,501,473**
Total AET (m^3)	3,667	5,500	20,166	62,332	137,498	214,496	247,496	186,997	124,664	71,499	29,333	9,167	**1,112,813**
Water Surplus (m^3)	40,333	76,999	111,831	78,832	32,999	1,833	0	0	0	3,667	12,833	25,666	**384,993**
Infiltration (MOE Methodology) (m^3) **i = 0.33**	13,310	25,410	36,904	26,015	10,890	605	0	0	0	1,210	4,235	8,470	**127,048**
Runoff (MOE Methodology) (m^3)	27,023	51,589	74,927	52,817	22,110	1,228	0	0	0	2,457	8,598	17,196	**257,945**
Pervious Area (Forest) *66.40 ha* WHC = 400 mm													
Precipitation (m^3)	51,128	35,192	37,184	49,136	55,776	41,832	55,776	39,176	47,808	39,840	48,472	42,496	**543,816**
Total AET (m^3)	1,328	1,992	7,304	22,576	49,800	77,688	91,632	81,008	53,120	27,224	10,624	3,320	**427,616**
Water Surplus (m^3)	9,960	17,264	35,192	23,240	9,960	664	0	0	0	1,328	3,984	8,632	**110,224**
Infiltration (MOE Methodology) (m^3) **i = 0.43**	4,283	7,424	15,133	9,993	4,283	286	0	0	0	571	1,713	3,712	**47,396**
Runoff (MOE Methodology) (m^3)	5,677	9,840	20,059	13,247	5,677	378	0	0	0	757	2,271	4,920	**62,828**
Impervious Area (Ex. Roads, Industrial) *6.50 ha*													
Precipitation (m^3)	5,005	3,445	3,640	4,810	5,460	4,095	5,460	3,835	4,680	3,900	4,745	4,160	**53,235**
Evaporative Lossess at 10% Precipitation (m^3)	501	345	364	481	546	410	546	384	468	390	475	416	**5,324**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	4,505	3,101	3,276	4,329	4,914	3,686	4,914	3,452	4,212	3,510	4,271	3,744	**47,912**
Summary Total **256.23 ha**													
Precipitation (m^3)	197,297	135,802	143,489	189,610	215,233	161,425	215,233	151,176	184,486	153,738	187,048	163,987	**2,098,524**
Total AET (m^3)	4,995	7,492	27,470	84,908	187,298	292,184	339,128	268,005	177,784	98,723	39,957	12,487	**1,540,429**
Evaporative Lossess at 10% Precipitation (m^3)	501	345	364	481	546	410	546	384	468	390	475	416	**5,324**
Infiltration (MOE Methodology) (m^3)	17,593	32,833	52,037	36,008	15,173	891	0	0	0	1,781	5,948	12,182	**174,444**
Runoff (MOE Methodology) (m^3)	37,205	64,530	98,262	70,393	32,701	5,292	4,914	3,452	4,212	6,724	15,140	25,861	**368,684**
Water Balance for Hanson Brick Property													
Pervious Area (Open/Agricultural) *0.00 ha* WHC = 200 mm													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3) **i = 0.33**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pervious Area (Forest) *0.00 ha* WHC = 400 mm													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3) **i = 0.43**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Impervious Area (Ex. Roads, Industrial) *0.00 ha*													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Evaporative Lossess at 10% Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Summary Total **0.00 ha**													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Evaporative Lossess at 10% Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Balance Totals for Subwatershed FM1109 **365.00 ha**													
Precipitation (m^3)	281,050	193,450	204,400	270,100	306,600	229,950	306,600	215,350	262,800	219,000	266,450	233,600	**2,989,350**
Total AET (m^3)	7,074	10,611	38,907	120,258	265,275	413,829	479,991	377,414	250,500	139,607	56,592	17,685	**2,177,743**
Evaporative Lossess at 10% Precipitation (m^3)	870	599	633	836	949	712	949	667	814	678	825	723	**9,255**
Infiltration (MOE Methodology) (m^3)	25,005	46,793	73,413	50,906	21,434	1,250	0	0	0	2,501	8,395	17,148	**246,845**
Runoff (MOE Methodology) (m^3)	54,816	93,839	141,383	102,055	48,279	8,694	8,543	6,000	7,322	10,675	22,956	38,047	**542,610**
Potential Stream Base Flows (LPM) - does not account for lag	504	1,044	1,480	1,061	432	26	0	0	0	50	175	346	

Notes:

1. Monthly climate data, including soil deficits, sol moisture storage, evapotranspiration and water surplus were provided by Environment Canada, and modeled for different soil water holding capacities. In this ca water holding capacities of 400 mm and 200 mm (pre-development), and 100 mm (post-development) are used
2. Infiltration and Runoff volumes are calculated using the methodology described in the MOE Stormwater Design Manual (2003). Calculation of the infiltration factors used in the analyses is describe in the text and presented on Table 4.6 of the main report
3. Evaporative losses of 10% are modeled for impervious surfaces (none under pre-development condition). This accounts for losses of water, such as water that collects in shallow depressions on these surfaces and does not reach the stormwater s
4. There is minor round-off error within the Environment Canada data

Table WB-3-1109: Post-Development Water Balance (No Mitigation) - Subwatershed FM1109 (Volumetric Calculations based on Pervious Area)

Weather Station Data: Gerard, ON (1990-2006) **Latitude: 43 degrees 26 minutes N**

Data Provided by Environment Canada - Atmospheric Environment Services - data may exhibit round off error

PARAMETER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Water Balance for Bentall Lands														
Pervious Area (Open/Agricultural) *2.63 ha*		WHC = 200 mm												
Precipitation (m^3)		2,025	1,394	1,473	1,946	2,209	1,657	2,209	1,552	1,894	1,578	1,920	1,683	**21,540**
Total AET (m^3)		53	79	289	894	1,973	3,077	3,551	2,683	1,788	1,026	421	132	**15,964**
Water Surplus (m^3)		579	1,105	1,604	1,131	473	26	0	0	0	53	184	368	**5,523**
Infiltration (MOE Methodology) (m^3)	**i = 0.33**	191	365	529	373	156	9	0	0	0	17	61	122	**1,823**
Runoff (MOE Methodology) (m^3)		388	740	1,075	758	317	18	0	0	0	35	123	247	**3,700**
Pervious Area (Forest) *0.50 ha*		WHC = 400 mm												
Precipitation (m^3)		385	265	280	370	420	315	420	295	360	300	365	320	**4,095**
Total AET (m^3)		10	15	55	170	375	585	690	610	400	205	80	25	**3,220**
Water Surplus (m^3)		75	130	265	175	75	5	0	0	0	10	30	65	**830**
Infiltration (MOE Methodology) (m^3)	**i = 0.43**	32	56	114	75	32	2	0	0	0	4	13	28	**357**
Runoff (MOE Methodology) (m^3)		43	74	151	100	43	3	0	0	0	6	17	37	**473**
Pervious Area (Landscaped) *1.07 ha*		WHC = 100 mm												
Precipitation (m^3)		824	567	599	792	899	674	899	631	770	642	781	685	**8,763**
Total AET (m^3)		21	32	118	364	802	1,220	1,134	749	674	396	171	54	**5,735**
Water Surplus (m^3)		482	642	663	460	193	11	0	0	0	21	161	364	**2,996**
Infiltration (MOE Methodology) (m^3)	**i = 0.35**	169	225	232	161	67	4	0	0	0	7	56	127	**1,049**
Runoff (MOE Methodology) (m^3)		313	417	431	299	125	7	0	0	0	14	104	236	**1,947**
Impervious Area (Ex. Roads, Industrial) *5.75 ha*														
Precipitation (m^3)		4,428	3,048	3,220	4,255	4,830	3,623	4,830	3,393	4,140	3,450	4,198	3,680	**47,093**
Evaporative Lossess at 10% Precipitation (m^3)		443	305	322	426	483	362	483	339	414	345	420	368	**4,709**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		3,985	2,743	2,898	3,830	4,347	3,260	4,347	3,053	3,726	3,105	3,778	3,312	**42,383**
Summary Total	**9.95 ha**													
Precipitation (m^3)		7,662	5,274	5,572	7,363	8,358	6,269	8,358	5,871	7,164	5,970	7,264	6,368	**81,491**
Total AET (m^3)		84	126	462	1,428	3,150	4,882	5,375	4,042	2,863	1,627	672	210	**24,919**
Evaporative Lossess at 10% Precipitation (m^3)		443	305	322	426	483	362	483	339	414	345	420	368	**4,709**
Infiltration (MOE Methodology) (m^3)		392	645	876	609	256	15	0	0	0	29	130	277	**3,228**
Runoff (MOE Methodology) (m^3)		4,728	3,974	4,555	4,986	4,832	3,288	4,347	3,053	3,726	3,160	4,023	3,832	**48,504**
Water Balance for Future Development Lands owned by others														
Pervious Area (Open/Agricultural) *26.40 ha*		WHC = 200 mm												
Precipitation (m^3)		20,328	13,992	14,784	19,536	22,176	16,632	22,176	15,576	19,008	15,840	19,272	16,896	**216,216**
Total AET (m^3)		528	792	2,904	8,976	19,800	30,888	35,640	26,928	17,952	10,296	4,224	1,320	**160,248**
Water Surplus (m^3)		5,808	11,088	16,104	11,352	4,752	264	0	0	0	528	1,848	3,696	**55,440**
Infiltration (MOE Methodology) (m^3)	**i = 0.33**	1,917	3,659	5,314	3,746	1,568	87	0	0	0	174	610	1,220	**18,295**
Runoff (MOE Methodology) (m^3)		3,891	7,429	10,790	7,606	3,184	177	0	0	0	354	1,238	2,476	**37,145**
Pervious Area (Forest) *16.00 ha*		WHC = 400 mm												
Precipitation (m^3)		12,320	8,480	8,960	11,840	13,440	10,080	13,440	9,440	11,520	9,600	11,680	10,240	**131,040**
Total AET (m^3)		320	480	1,760	5,440	12,000	18,720	22,080	19,520	12,800	6,560	2,560	800	**103,040**
Water Surplus (m^3)		2,400	4,160	8,480	5,600	2,400	160	0	0	0	320	960	2,080	**26,560**
Infiltration (MOE Methodology) (m^3)	**i = 0.43**	1,032	1,789	3,646	2,408	1,032	69	0	0	0	138	413	894	**11,421**
Runoff (MOE Methodology) (m^3)		1,368	2,371	4,834	3,192	1,368	91	0	0	0	182	547	1,186	**15,139**
Pervious Area (Landscaped) *7.43 ha*		WHC = 100 mm												
Precipitation (m^3)		5,723	3,939	4,162	5,500	6,243	4,682	6,243	4,385	5,351	4,459	5,425	4,756	**60,868**
Total AET (m^3)		149	223	818	2,527	5,574	8,472	7,878	5,202	4,682	2,750	1,189	372	**39,836**
Water Surplus (m^3)		3,344	4,459	4,608	3,196	1,338	74	0	0	0	149	1,115	2,527	**20,810**
Infiltration (MOE Methodology) (m^3)	**i = 0.35**	1,171	1,561	1,613	1,119	468	26	0	0	0	52	390	884	**7,283**
Runoff (MOE Methodology) (m^3)		2,174	2,898	2,995	2,077	870	48	0	0	0	97	725	1,642	**13,526**
Impervious Area (Ex. Roads, Industrial) *48.99 ha*														
Precipitation (m^3)		37,721	25,964	27,433	36,251	41,150	30,862	41,150	28,903	35,271	29,393	35,761	31,352	**401,212**
Evaporative Lossess at 10% Precipitation (m^3)		3,772	2,596	2,743	3,625	4,115	3,086	4,115	2,890	3,527	2,939	3,576	3,135	**40,121**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		33,949	23,367	24,690	32,626	37,035	27,776	37,035	26,013	31,744	26,454	32,185	28,217	**361,091**
Summary Total	**98.82 ha**													
Precipitation (m^3)		76,091	52,375	55,339	73,127	83,009	62,257	83,009	58,304	71,150	59,292	72,139	63,245	**809,336**
Total AET (m^3)		997	1,495	5,482	16,943	37,374	58,080	65,598	51,650	35,434	19,606	7,973	2,492	**303,124**
Evaporative Lossess at 10% Precipitation (m^3)		3,772	2,596	2,743	3,625	4,115	3,086	4,115	2,890	3,527	2,939	3,576	3,135	**40,121**
Infiltration (MOE Methodology) (m^3)		4,119	7,009	10,573	7,273	3,068	182	0	0	0	364	1,413	2,998	**36,999**
Runoff (MOE Methodology) (m^3)		41,382	36,066	43,308	45,501	42,456	28,093	37,035	26,013	31,744	27,086	34,695	33,521	**426,901**

Table WB-3-1109: Post-Development Water Balance (No Mitigation) - Subwatershed FM1109 (Volumetric Calculations based on Pervious Area)

Weather Station Data: Gerard, ON (1990-2006) **Latitude: 43 degrees 26 minutes N**

Data Provided by Environment Canada - Atmospheric Environment Services - data may exhibit round off error

PARAMETER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Water Balance for Lands North of 407 (Excluding Hanson Brick) - These Lands within Greenbelt and Other Designated Areas are not expected to change over time													
Pervious Area (Open/Agricultural) *183.33 ha* WHC = 200 mm													
Precipitation (m^3)	141,164	97,165	102,665	135,664	153,997	115,498	153,997	108,165	131,998	109,998	133,831	117,331	**1,501,473**
Total AET (m^3)	3,667	5,500	20,166	62,332	137,498	214,496	247,496	186,997	124,664	71,499	29,333	9,167	**1,112,813**
Water Surplus (m^3)	40,333	76,999	111,831	78,832	32,999	1,833	0	0	0	3,667	12,833	25,666	**384,993**
Infiltration (MOE Methodology) (m^3) **i = 0.33**	13,310	25,410	36,904	26,015	10,890	605	0	0	0	1,210	4,235	8,470	**127,048**
Runoff (MOE Methodology) (m^3)	27,023	51,589	74,927	52,817	22,110	1,228	0	0	0	2,457	8,598	17,196	**257,945**
Pervious Area (Forest) *66.40 ha* WHC = 400 mm													
Precipitation (m^3)	51,128	35,192	37,184	49,136	55,776	41,832	55,776	39,176	47,808	39,840	48,472	42,496	**543,816**
Total AET (m^3)	1,328	1,992	7,304	22,576	49,800	77,688	91,632	81,008	53,120	27,224	10,624	3,320	**427,616**
Water Surplus (m^3)	9,960	17,264	35,192	23,240	9,960	664	0	0	0	1,328	3,984	8,632	**110,224**
Infiltration (MOE Methodology) (m^3) **i = 0.43**	4,283	7,424	15,133	9,993	4,283	286	0	0	0	571	1,713	3,712	**47,396**
Runoff (MOE Methodology) (m^3)	5,677	9,840	20,059	13,247	5,677	378	0	0	0	757	2,271	4,920	**62,828**
Impervious Area (Ex. Roads, Industrial) *6.50 ha*													
Precipitation (m^3)	5,005	3,445	3,640	4,810	5,460	4,095	5,460	3,835	4,680	3,900	4,745	4,160	**53,235**
Evaporative Lossess at 10% Precipitation (m^3)	501	345	364	481	546	410	546	384	468	390	475	416	**5,324**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	4,505	3,101	3,276	4,329	4,914	3,686	4,914	3,452	4,212	3,510	4,271	3,744	**47,912**
Summary Total **256.23 ha**													
Precipitation (m^3)	197,297	135,802	143,489	189,610	215,233	161,425	215,233	151,176	184,486	153,738	187,048	163,987	**2,098,524**
Total AET (m^3)	4,995	7,492	27,470	84,908	187,298	292,184	339,128	268,005	177,784	98,723	39,957	12,487	**1,540,429**
Evaporative Lossess at 10% Precipitation (m^3)	501	345	364	481	546	410	546	384	468	390	475	416	**5,324**
Infiltration (MOE Methodology) (m^3)	17,593	32,833	52,037	36,008	15,173	891	0	0	0	1,781	5,948	12,182	**174,444**
Runoff (MOE Methodology) (m^3)	37,205	64,530	98,262	70,393	32,701	5,292	4,914	3,452	4,212	6,724	15,140	25,861	**368,684**
Water Balance for Hanson Brick Property													
Pervious Area (Open/Agricultural) *0.00 ha* WHC = 200 mm													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3) **i = 0.33**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pervious Area (Forest) *0.00 ha* WHC = 400 mm													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3) **i = 0.43**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Impervious Area (Ex. Roads, Industrial) *0.00 ha*													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Evaporative Lossess at 10% Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Summary Total **0.00 ha**													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Evaporative Lossess at 10% Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Balance Totals for Subwatershed FM1109 **365.00 ha**													
Precipitation (m^3)	281,050	193,450	204,400	270,100	306,600	229,950	306,600	215,350	262,800	219,000	266,450	233,600	**2,989,350**
Total AET (m^3)	6,075	9,113	33,414	103,279	227,822	355,146	410,100	323,697	216,081	119,955	48,602	15,188	**1,868,472**
Evaporative Lossess at 10% Precipitation (m^3)	4,715	3,246	3,429	4,532	5,144	3,858	5,144	3,613	4,409	3,674	4,470	3,919	**50,154**
Infiltration (MOE Methodology) (m^3)	22,103	40,487	63,486	43,890	18,497	1,087	0	0	0	2,174	7,491	15,457	**214,671**
Runoff (MOE Methodology) (m^3)	83,315	104,570	146,126	120,880	79,989	36,673	46,296	32,517	39,682	36,970	53,857	63,214	**844,089**
Potential Stream Base Flows (LPM) - does not account for lag	446	904	1,280	914	373	23	0	0	0	44	156	312	

Notes:

1. Monthly climate data, including soil deficits, sol moisture storage, evapotranspiration and water surplus were provided by Environment Canada, and modeled for different soil water holding capacities. In this ca water holding capacities of 400 mm and 200 mm (pre-development), and 100 mm (post-development) are used
2. Infiltration and Runoff volumes are calculated using the methodology described in the MOE Stormwater Design Manual (2003). Calculation of the infiltration factors used in the analyses is describe in the text and presented on Table 4.6 of the main report
3. Evaporative losses of 10% are modeled for impervious surfaces (none under pre-development condition). This accounts for losses of water, such as water that collects in shallow depressions on these surfaces and does not reach the stormwater s
4. There is minor round-off error within the Environment Canada data

Table WB-4-1109: Post-Development Water Balance (With Mitigation) - Subwatershed FM1109 (Volumetric Calculations based on Pervious Area)

Weather Station Data: Gerard, ON (1990-2006) **Latitude: 43 degrees 26 minutes N**

Data Provided by Environment Canada - Atmospheric Environment Services - data may exhibit round off error

PARAMETER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Water Balance for Bentall Lands														
Pervious Area (Open/Agricultural)	*2.63 ha*	WHC = 200 mm												
Precipitation (m^3)		2,025	1,394	1,473	1,946	2,209	1,657	2,209	1,552	1,894	1,578	1,920	1,683	**21,540**
Total AET (m^3)		53	79	289	894	1,973	3,077	3,551	2,683	1,788	1,026	421	132	**15,964**
Water Surplus (m^3)		579	1,105	1,604	1,131	473	26	0	0	0	53	184	368	**5,523**
Infiltration (MOE Methodology) (m^3)	**i = 0.33**	191	365	529	373	156	9	0	0	0	17	61	122	**1,823**
Runoff (MOE Methodology) (m^3)		388	740	1,075	758	317	18	0	0	0	35	123	247	**3,700**
Pervious Area (Forest)	*0.50 ha*	WHC = 400 mm												
Precipitation (m^3)		385	265	280	370	420	315	420	295	360	300	365	320	**4,095**
Total AET (m^3)		10	15	55	170	375	585	690	610	400	205	80	25	**3,220**
Water Surplus (m^3)		75	130	265	175	75	5	0	0	0	10	30	65	**830**
Infiltration (MOE Methodology) (m^3)	**i = 0.43**	32	56	114	75	32	2	0	0	0	4	13	28	**357**
Runoff (MOE Methodology) (m^3)		43	74	151	100	43	3	0	0	0	6	17	37	**473**
Pervious Area (Landscaped)	*1.07 ha*	WHC = 100 mm												
Precipitation (m^3)		824	567	599	792	899	674	899	631	770	642	781	685	**8,763**
Total AET (m^3)		21	32	118	364	802	1,220	1,134	749	674	396	171	54	**5,735**
Water Surplus (m^3)		482	642	663	460	193	11	0	0	0	21	161	364	**2,996**
Infiltration (MOE Methodology) (m^3)	**i = 0.40**	193	257	265	184	77	4	0	0	0	9	64	146	**1,198**
Runoff (MOE Methodology) (m^3)		289	385	398	276	116	6	0	0	0	13	96	218	**1,798**
Impervious Area (Ex. Roads, Industrial)	*5.75 ha*													
Precipitation (m^3)		4,428	3,048	3,220	4,255	4,830	3,623	4,830	3,393	4,140	3,450	4,198	3,680	**47,093**
Evaporative Lossess at 10% Precipitation (m^3)		443	305	322	426	483	362	483	339	414	345	420	368	**4,709**
Roof Runoff diverted to Mitigation Measures (m^3)		742	511	540	714	810	607	810	569	694	579	704	617	**7,897**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		3,242	2,232	2,358	3,116	3,537	2,653	3,537	2,484	3,032	2,526	3,074	2,695	**34,486**
Mitigations Measures	*1.07 ha*	<-- Roof Area Required of the impervious area shown above to be directed to swales												
Infiltration Swales (length)	505 (m)													
Infiltration Flat Bottomed-Swales (length)	- (m)													
Available Volume of Roof Water directed to mitigation (m^3)		742	511	540	714	810	607	810	569	694	579	704	617	**7,897**
Subsurface Gravel Wetland (SGW) Area	- (m^2)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration Swales connected to SGW	- (m)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (m^3) daily capacity -->	18 m^3/d	566	511	540	548	566	548	566	566	548	566	548	566	**6,636**
Runoff (m^3)		177	0	0	166	244	60	244	3	147	13	156	51	**1,261**
Summary Total	**9.95 ha**													
Precipitation (m^3)		7,662	5,274	5,572	7,363	8,358	6,269	8,358	5,871	7,164	5,970	7,264	6,368	**81,491**
Total AET (m^3)		84	126	462	1,428	3,150	4,882	5,375	4,042	2,863	1,627	672	210	**24,919**
Evaporative Lossess at 10% Precipitation (m^3)		443	305	322	426	483	362	483	339	414	345	420	368	**4,709**
Infiltration (MOE Methodology) (m^3)		982	1,188	1,449	1,180	831	563	566	566	548	596	685	861	**10,014**
Runoff (MOE Methodology) (m^3)		4,138	3,431	3,982	4,415	4,257	2,740	3,781	2,487	3,178	2,593	3,467	3,248	**41,718**
Water Balance for Future Development Lands owned by others														
Pervious Area (Open/Agricultural)	*26.40 ha*	WHC = 200 mm												
Precipitation (m^3)		20,328	13,992	14,784	19,536	22,176	16,632	22,176	15,576	19,008	15,840	19,272	16,896	**216,216**
Total AET (m^3)		528	792	2,904	8,976	19,800	30,888	35,640	26,928	17,952	10,296	4,224	1,320	**160,248**
Water Surplus (m^3)		5,808	11,088	16,104	11,352	4,752	264	0	0	0	528	1,848	3,696	**55,440**
Infiltration (MOE Methodology) (m^3)	**i = 0.33**	1,917	3,659	5,314	3,746	1,568	87	0	0	0	174	610	1,220	**18,295**
Runoff (MOE Methodology) (m^3)		3,891	7,429	10,790	7,606	3,184	177	0	0	0	354	1,238	2,476	**37,145**
Pervious Area (Forest)	*16.00 ha*	WHC = 400 mm												
Precipitation (m^3)		12,320	8,480	8,960	11,840	13,440	10,080	13,440	9,440	11,520	9,600	11,680	10,240	**131,040**
Total AET (m^3)		320	480	1,760	5,440	12,000	18,720	22,080	19,520	12,800	6,560	2,560	800	**103,040**
Water Surplus (m^3)		2,400	4,160	8,480	5,600	2,400	160	0	0	0	320	960	2,080	**26,560**
Infiltration (MOE Methodology) (m^3)	**i = 0.43**	1,032	1,789	3,646	2,408	1,032	69	0	0	0	138	413	894	**11,421**
Runoff (MOE Methodology) (m^3)		1,368	2,371	4,834	3,192	1,368	91	0	0	0	182	547	1,186	**15,139**
Pervious Area (Landscaped)	*7.43 ha*	WHC = 100 mm												
Precipitation (m^3)		5,723	3,939	4,162	5,500	6,243	4,682	6,243	4,385	5,351	4,459	5,425	4,756	**60,868**
Total AET (m^3)		149	223	818	2,527	5,574	8,472	7,878	5,202	4,682	2,750	1,189	372	**39,836**
Water Surplus (m^3)		3,344	4,459	4,608	3,196	1,338	74	0	0	0	149	1,115	2,527	**20,810**
Infiltration (MOE Methodology) (m^3)	**i = 0.40**	1,338	1,784	1,843	1,278	535	30	0	0	0	59	446	1,011	**8,324**
Runoff (MOE Methodology) (m^3)		2,007	2,676	2,765	1,917	803	45	0	0	0	89	669	1,516	**12,486**
Impervious Area (Ex. Roads, Industrial)	*48.99 ha*													
Precipitation (m^3)		37,721	25,964	27,433	36,251	41,150	30,862	41,150	28,903	35,271	29,393	35,761	31,352	**401,212**
Evaporative Lossess at 10% Precipitation (m^3)		3,772	2,596	2,743	3,625	4,115	3,086	4,115	2,890	3,527	2,939	3,576	3,135	**40,121**
Roof Runoff diverted to Mitigation Measures (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		33,949	23,367	24,690	32,626	37,035	27,776	37,035	26,013	31,744	26,454	32,185	28,217	**361,091**
Mitigations Measures	*0.00 ha*	<-- Roof Area Required of the impervious area shown above												
Infiltration Swales (length)	- m													
Infiltration Bio-Swales (length)	- m													
Available Volume of Water directed to mitigation (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (m^3) daily capacity -->	0 m^3/d	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Summary Total	**98.82 ha**													
Precipitation (m^3)		76,091	52,375	55,339	73,127	83,009	62,257	83,009	58,304	71,150	59,292	72,139	63,245	**809,336**
Total AET (m^3)		997	1,495	5,482	16,943	37,374	58,080	65,598	51,650	35,434	19,606	7,973	2,492	**303,124**
Evaporative Lossess at 10% Precipitation (m^3)		3,772	2,596	2,743	3,625	4,115	3,086	4,115	2,890	3,527	2,939	3,576	3,135	**40,121**
Infiltration (MOE Methodology) (m^3)		4,286	7,232	10,804	7,432	3,135	186	0	0	0	371	1,469	3,125	**38,040**
Runoff (MOE Methodology) (m^3)		41,215	35,843	43,078	45,341	42,389	28,089	37,035	26,013	31,744	27,079	34,639	33,395	**425,860**

Table WB-4-1109: Post-Development Water Balance (With Mitigation) - Subwatershed FM1109 (Volumetric Calculations based on Pervious Area)

Weather Station Data: Gerard, ON (1990-2006) **Latitude: 43 degrees 26 minutes N**

Data Provided by Environment Canada - Atmospheric Environment Services - data may exhibit round off error

PARAMETER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Water Balance for Lands North of 407 (Excluding Hanson Brick) - These Lands within Greenbelt and Other Designated Areas are not expected to change over time													
Pervious Area (Open/Agricultural) *183.33 ha* WHC = 200 mm													
Precipitation (m^3)	141,164	97,165	102,665	135,664	153,997	115,498	153,997	108,165	131,998	109,998	133,831	117,331	**1,501,473**
Total AET (m^3)	3,667	5,500	20,166	62,332	137,498	214,496	247,496	186,997	124,664	71,499	29,333	9,167	**1,112,813**
Water Surplus (m^3)	40,333	76,999	111,831	78,832	32,999	1,833	0	0	0	3,667	12,833	25,666	**384,993**
Infiltration (MOE Methodology) (m^3) **i = 0.33**	13,310	25,410	36,904	26,015	10,890	605	0	0	0	1,210	4,235	8,470	**127,048**
Runoff (MOE Methodology) (m^3)	27,023	51,589	74,927	52,817	22,110	1,228	0	0	0	2,457	8,598	17,196	**257,945**
Pervious Area (Forest) *66.40 ha* WHC = 400 mm													
Precipitation (m^3)	51,128	35,192	37,184	49,136	55,776	41,832	55,776	39,176	47,808	39,840	48,472	42,496	**543,816**
Total AET (m^3)	1,328	1,992	7,304	22,576	49,800	77,688	91,632	81,008	53,120	27,224	10,624	3,320	**427,616**
Water Surplus (m^3)	9,960	17,264	35,192	23,240	9,960	664	0	0	0	1,328	3,984	8,632	**110,224**
Infiltration (MOE Methodology) (m^3) **i = 0.43**	4,283	7,424	15,133	9,993	4,283	286	0	0	0	571	1,713	3,712	**47,396**
Runoff (MOE Methodology) (m^3)	5,677	9,840	20,059	13,247	5,677	378	0	0	0	757	2,271	4,920	**62,828**
Impervious Area (Ex. Roads, Industrial) *6.50 ha*													
Precipitation (m^3)	5,005	3,445	3,640	4,810	5,460	4,095	5,460	3,835	4,680	3,900	4,745	4,160	**53,235**
Evaporative Lossess at 10% Precipitation (m^3)	501	345	364	481	546	410	546	384	468	390	475	416	**5,324**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	4,505	3,101	3,276	4,329	4,914	3,686	4,914	3,452	4,212	3,510	4,271	3,744	**47,912**
Summary Total **256.23 ha**													
Precipitation (m^3)	197,297	135,802	143,489	189,610	215,233	161,425	215,233	151,176	184,486	153,738	187,048	163,987	**2,098,524**
Total AET (m^3)	4,995	7,492	27,470	84,908	187,298	292,184	339,128	268,005	177,784	98,723	39,957	12,487	**1,540,429**
Evaporative Lossess at 10% Precipitation (m^3)	501	345	364	481	546	410	546	384	468	390	475	416	**5,324**
Infiltration (MOE Methodology) (m^3)	17,593	32,833	52,037	36,008	15,173	891	0	0	0	1,781	5,948	12,182	**174,444**
Runoff (MOE Methodology) (m^3)	37,205	64,530	98,262	70,393	32,701	5,292	4,914	3,452	4,212	6,724	15,140	25,861	**368,684**
Water Balance for Hanson Brick Property													
Pervious Area (Open/Agricultural) *0.00 ha* WHC = 200 mm													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3) **i = 0.33**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pervious Area (Forest) *0.00 ha* WHC = 400 mm													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3) **i = 0.43**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Impervious Area (Ex. Roads, Industrial) *0.00 ha*													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Evaporative Lossess at 10% Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Summary Total **0.00 ha**													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Evaporative Lossess at 10% Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Balance Totals for Subwatershed FM1109 **365.00 ha**													
Precipitation (m^3)	281,050	193,450	204,400	270,100	306,600	229,950	306,600	215,350	262,800	219,000	266,450	233,600	**2,989,350**
Total AET (m^3)	6,075	9,113	33,414	103,279	227,822	355,146	410,100	323,697	216,081	119,955	48,602	15,188	**1,868,472**
Evaporative Lossess at 10% Precipitation (m^3)	4,715	3,246	3,429	4,532	5,144	3,858	5,144	3,613	4,409	3,674	4,470	3,919	**50,154**
Infiltration (MOE Methodology) (m^3)	22,861	41,253	64,289	44,620	19,139	1,639	566	566	548	2,748	8,102	16,167	**222,498**
Runoff (MOE Methodology) (m^3)	82,557	103,804	145,322	120,150	79,347	36,121	45,730	31,952	39,135	36,395	53,246	62,504	**836,263**
Potential Stream Base Flows (LPM) - does not account for lag	461	921	1,296	930	386	34	11	11	11	55	169	326	

Notes:

1. Monthly climate data, including soil deficits, sol moisture storage, evapotranspiration and water surplus were provided by Environment Canada, and modeled for different soil water holding capacities. In this case water holding capacities of 400 mm and 200 mm (pre-development), and 100 mm (post-development) are used.
2. Infiltration and Runoff volumes are calculated using the methodology described in the MOE Stormwater Design Manual (2003). Calculation of the infiltration factors used in the analyses is described in the text and presented on Table 4.6 of the main report.
3. Evaporative losses of 10% are modeled for impervious surfaces (none under pre-development condition). This accounts for losses of water, such as water that collects in shallow depressions on these surfaces and does not reach the stormwater syst
4. There is minor round-off error within the Environment Canada data.

Table WB-2-1102: Pre-Development Water Balance - Subwatershed FM1102 (Volumetric Calculations based on Pervious Area)

Weather Station Data: Gerard, ON (1990-2006) **Latitude: 43 degrees 26 minutes N**

Data Provided by Environment Canada - Atmospheric Environment Services - data may exhibit round off error

PARAMETER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Water Balance for Bentall Lands														
Pervious Area (Open/Agricultural) *4.70 ha*	WHC = 200 mm													
Precipitation (m^3)		3,619	2,491	2,632	3,478	3,948	2,961	3,948	2,773	3,384	2,820	3,431	3,008	**38,493**
Total AET (m^3)		94	141	517	1,598	3,525	5,499	6,345	4,794	3,196	1,833	752	235	**28,529**
Water Surplus (m^3)		1,034	1,974	2,867	2,021	846	47	0	0	0	94	329	658	**9,870**
Infiltration (MOE Methodology) (m^3)	**i = 0.33**	341	651	946	667	279	16	0	0	0	31	109	217	**3,257**
Runoff (MOE Methodology) (m^3)		693	1,323	1,921	1,354	567	31	0	0	0	63	220	441	**6,613**
Pervious Area (Forest) *0.00 ha*	WHC = 400 mm													
Precipitation (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	**i = 0.43**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Impervious Area (Ex. Roads, Industrial) *0.00 ha*														
Precipitation (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Evaporative Lossess at 10% Precipitation (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Summary Total	**4.70 ha**													
Precipitation (m^3)		3,619	2,491	2,632	3,478	3,948	2,961	3,948	2,773	3,384	2,820	3,431	3,008	**38,493**
Total AET (m^3)		94	141	517	1,598	3,525	5,499	6,345	4,794	3,196	1,833	752	235	**28,529**
Evaporative Lossess at 10% Precipitation (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)		341	651	946	667	279	16	0	0	0	31	109	217	**3,257**
Runoff (MOE Methodology) (m^3)		693	1,323	1,921	1,354	567	31	0	0	0	63	220	441	**6,613**
Water Balance for Future Development Lands owned by others														
Pervious Area (Open/Agricultural) *34.55 ha*	WHC = 200 mm													
Precipitation (m^3)		26,604	18,312	19,348	25,567	29,022	21,767	29,022	20,385	24,876	20,730	25,222	22,112	**282,965**
Total AET (m^3)		691	1,037	3,801	11,747	25,913	40,424	46,643	35,241	23,494	13,475	5,528	1,728	**209,719**
Water Surplus (m^3)		7,601	14,511	21,076	14,857	6,219	346	0	0	0	691	2,419	4,837	**72,555**
Infiltration (MOE Methodology) (m^3)	**i = 0.33**	2,508	4,789	6,955	4,903	2,052	114	0	0	0	228	798	1,596	**23,943**
Runoff (MOE Methodology) (m^3)		5,093	9,722	14,121	9,954	4,167	231	0	0	0	463	1,620	3,241	**48,612**
Pervious Area (Forest) *3.90 ha*	WHC = 400 mm													
Precipitation (m^3)		3,003	2,067	2,184	2,886	3,276	2,457	3,276	2,301	2,808	2,340	2,847	2,496	**31,941**
Total AET (m^3)		78	117	429	1,326	2,925	4,563	5,382	4,758	3,120	1,599	624	195	**25,116**
Water Surplus (m^3)		585	1,014	2,067	1,365	585	39	0	0	0	78	234	507	**6,474**
Infiltration (MOE Methodology) (m^3)	**i = 0.43**	252	436	889	587	252	17	0	0	0	34	101	218	**2,784**
Runoff (MOE Methodology) (m^3)		333	578	1,178	778	333	22	0	0	0	44	133	289	**3,690**
Impervious Area (Ex. Roads, Industrial) *0.70 ha*														
Precipitation (m^3)		539	371	392	518	588	441	588	413	504	420	511	448	**5,733**
Evaporative Lossess at 10% Precipitation (m^3)		54	37	39	52	59	44	59	41	50	42	51	45	**573**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		485	334	353	466	529	397	529	372	454	378	460	403	**5,160**
Summary Total	**39.15 ha**													
Precipitation (m^3)		30,146	20,750	21,924	28,971	32,886	24,665	32,886	23,099	28,188	23,490	28,580	25,056	**320,639**
Total AET (m^3)		769	1,154	4,230	13,073	28,838	44,987	52,025	39,999	26,614	15,074	6,152	1,923	**234,835**
Evaporative Lossess at 10% Precipitation (m^3)		54	37	39	52	59	44	59	41	50	42	51	45	**573**
Infiltration (MOE Methodology) (m^3)		2,760	5,225	7,844	5,490	2,304	131	0	0	0	262	899	1,814	**26,727**
Runoff (MOE Methodology) (m^3)		5,911	10,634	15,652	11,198	5,029	651	529	372	454	885	2,214	3,933	**57,462**

Table WB-2-1102: Pre-Development Water Balance - Subwatershed FM1102 (Volumetric Calculations based on Pervious Area)

Weather Station Data: Gerard, ON (1990-2006) **Latitude: 43 degrees 26 minutes N**

Data Provided by Environment Canada - Atmospheric Environment Services - data may exhibit round off error

PARAMETER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Water Balance for Lands North of 407 (Excluding Hanson Brick) - These Lands within Greenbelt and Other Designated Areas are not expected to change over time													
Pervious Area (Open/Agricultural) *0.00 ha* WHC = 200 mm													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3) **i = 0.33**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pervious Area (Forest) *0.00 ha* WHC = 400 mm													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3) **i = 0.43**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Impervious Area (Ex. Roads, Industrial) *0.00 ha*													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Evaporative Lossess at 10% Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Summary Total **0.00 ha**													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Evaporative Lossess at 10% Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Balance for Hanson Brick Property													
Pervious Area (Open/Agricultural) *0.00 ha* WHC = 200 mm													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3) **i = 0.33**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pervious Area (Forest) *0.00 ha* WHC = 400 mm													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3) **i = 0.43**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Impervious Area (Ex. Roads, Industrial) *0.00 ha*													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Evaporative Lossess at 10% Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Summary Total **0.00 ha**													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Evaporative Lossess at 10% Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Balance Totals for Subwatershed FM1102 **43.85 ha**													
Precipitation (m^3)	33,765	23,241	24,556	32,449	36,834	27,626	36,834	25,872	31,572	26,310	32,011	28,064	**359,132**
Total AET (m^3)	863	1,295	4,747	14,671	32,363	50,486	58,370	44,793	29,810	16,907	6,904	2,158	**263,364**
Evaporative Lossess at 10% Precipitation (m^3)	54	37	39	52	59	44	59	41	50	42	51	45	**573**
Infiltration (MOE Methodology) (m^3)	3,101	5,876	8,790	6,157	2,583	146	0	0	0	293	1,007	2,031	**29,984**
Runoff (MOE Methodology) (m^3)	6,604	11,957	17,572	12,552	5,596	682	529	372	454	948	2,434	4,374	**64,075**
Potential Stream Base Flows (LPM) - does not account for lag	63	131	177	128	52	3	0	0	0	6	21	41	

Notes:

1. Monthly climate data, including soil deficits, sol moisture storage, evapotranspiration and water surplus were provided by Environment Canada, and modeled for different soil water holding capacities. In this ca water holding capacities of 400 mm and 200 mm (pre-development), and 100 mm (post-development) are used
2. Infiltration and Runoff volumes are calculated using the methodology described in the MOE Stormwater Design Manual (2003). Calculation of the infiltration factors used in the analyses is describe in the text and presented on Table 4.6 of the main report
3. Evaporative losses of 10% are modeled for impervious surfaces (none under pre-development condition). This accounts for losses of water, such as water that collects in shallow depressions on these surfaces and does not reach the stormwater s
4. There is minor round-off error within the Environment Canada data

Table WB-3-1102: Post-Development Water Balance (No Mitigation) - Subwatershed FM1102 (Volumetric Calculations based on Pervious Area)

Weather Station Data: Gerard, ON (1990-2006) **Latitude: 43 degrees 26 minutes N**

Data Provided by Environment Canada - Atmospheric Environment Services - data may exhibit round off error

PARAMETER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Water Balance for Bentall Lands														
Pervious Area (Open/Agricultural)	*0.00 ha*	WHC = 200 mm												
Precipitation (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	**i = 0.33**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pervious Area (Forest)	*0.00 ha*	WHC = 400 mm												
Precipitation (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	**i = 0.43**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pervious Area (Landscaped)	*0.68 ha*	WHC = 100 mm												
Precipitation (m^3)		522	359	380	502	570	427	570	400	488	407	495	434	**5,553**
Total AET (m^3)		14	20	75	231	509	773	719	475	427	251	108	34	**3,634**
Water Surplus (m^3)		305	407	420	292	122	7	0	0	0	14	102	231	**1,898**
Infiltration (MOE Methodology) (m^3)	**i = 0.35**	107	142	147	102	43	2	0	0	0	5	36	81	**664**
Runoff (MOE Methodology) (m^3)		198	264	273	190	79	4	0	0	0	9	66	150	**1,234**
Impervious Area (Ex. Roads, Industrial)	*4.02 ha*													
Precipitation (m^3)		3,097	2,132	2,252	2,976	3,378	2,534	3,378	2,373	2,896	2,413	2,936	2,574	**32,940**
Evaporative Lossess at 10% Precipitation (m^3)		310	213	225	298	338	253	338	237	290	241	294	257	**3,294**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		2,787	1,918	2,027	2,679	3,041	2,280	3,041	2,136	2,606	2,172	2,642	2,317	**29,646**
Summary Total	**4.70 ha**													
Precipitation (m^3)		3,619	2,491	2,632	3,478	3,948	2,961	3,948	2,773	3,384	2,820	3,431	3,008	**38,493**
Total AET (m^3)		14	20	75	231	509	773	719	475	427	251	108	34	**3,634**
Evaporative Lossess at 10% Precipitation (m^3)		310	213	225	298	338	253	338	237	290	241	294	257	**3,294**
Infiltration (MOE Methodology) (m^3)		107	142	147	102	43	2	0	0	0	5	36	81	**664**
Runoff (MOE Methodology) (m^3)		2,986	2,183	2,300	2,868	3,120	2,285	3,041	2,136	2,606	2,181	2,709	2,467	**30,880**
Water Balance for Future Development Lands owned by others														
Pervious Area (Open/Agricultural)	*0.00 ha*	WHC = 200 mm												
Precipitation (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	**i = 0.33**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pervious Area (Forest)	*3.90 ha*	WHC = 400 mm												
Precipitation (m^3)		3,003	2,067	2,184	2,886	3,276	2,457	3,276	2,301	2,808	2,340	2,847	2,496	**31,941**
Total AET (m^3)		78	117	429	1,326	2,925	4,563	5,382	4,758	3,120	1,599	624	195	**25,116**
Water Surplus (m^3)		585	1,014	2,067	1,365	585	39	0	0	0	78	234	507	**6,474**
Infiltration (MOE Methodology) (m^3)	**i = 0.43**	252	436	889	587	252	17	0	0	0	34	101	218	**2,784**
Runoff (MOE Methodology) (m^3)		333	578	1,178	778	333	22	0	0	0	44	133	289	**3,690**
Pervious Area (Landscaped)	*4.07 ha*	WHC = 100 mm												
Precipitation (m^3)		3,132	2,156	2,278	3,010	3,417	2,563	3,417	2,400	2,929	2,441	2,970	2,603	**33,316**
Total AET (m^3)		81	122	447	1,383	3,051	4,637	4,312	2,848	2,563	1,505	651	203	**21,804**
Water Surplus (m^3)		1,831	2,441	2,522	1,749	732	41	0	0	0	81	610	1,383	**11,390**
Infiltration (MOE Methodology) (m^3)	**i = 0.35**	641	854	883	612	256	14	0	0	0	28	214	484	**3,987**
Runoff (MOE Methodology) (m^3)		1,190	1,586	1,639	1,137	476	26	0	0	0	53	397	899	**7,404**
Impervious Area (Ex. Roads, Industrial)	*31.18 ha*													
Precipitation (m^3)		24,010	16,527	17,462	23,075	26,193	19,645	26,193	18,397	22,451	18,709	22,763	19,957	**255,382**
Evaporative Lossess at 10% Precipitation (m^3)		2,401	1,653	1,746	2,307	2,619	1,964	2,619	1,840	2,245	1,871	2,276	1,996	**25,538**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		21,609	14,874	15,716	20,767	23,574	17,680	23,574	16,558	20,206	16,838	20,487	17,961	**229,843**
Summary Total	**39.15 ha**													
Precipitation (m^3)		30,146	20,750	21,924	28,971	32,886	24,665	32,886	23,099	28,188	23,490	28,580	25,056	**320,639**
Total AET (m^3)		159	239	876	2,709	5,976	9,200	9,694	7,606	5,683	3,104	1,275	398	**46,920**
Evaporative Lossess at 10% Precipitation (m^3)		2,401	1,653	1,746	2,307	2,619	1,964	2,619	1,840	2,245	1,871	2,276	1,996	**25,538**
Infiltration (MOE Methodology) (m^3)		892	1,290	1,772	1,199	508	31	0	0	0	62	314	702	**6,770**
Runoff (MOE Methodology) (m^3)		23,133	17,038	18,533	22,682	24,383	17,729	23,574	16,558	20,206	16,936	21,017	19,149	**240,937**

Table WB-3-1102: Post-Development Water Balance (No Mitigation) - Subwatershed FM1102 (Volumetric Calculations based on Pervious Area)

Weather Station Data: Gerard, ON (1990-2006) **Latitude: 43 degrees 26 minutes N**

Data Provided by Environment Canada - Atmospheric Environment Services - data may exhibit round off error

PARAMETER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Water Balance for Lands North of 407 (Excluding Hanson Brick) - These Lands within Greenbelt and Other Designated Areas are not expected to change over time													
Pervious Area (Open/Agricultural) *0.00 ha* WHC = 200 mm													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3) **i = 0.33**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pervious Area (Forest) *0.00 ha* WHC = 400 mm													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3) **i = 0.43**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Impervious Area (Ex. Roads, Industrial) *0.00 ha*													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Evaporative Lossess at 10% Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Summary Total **0.00 ha**													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Evaporative Lossess at 10% Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Balance for Hanson Brick Property													
Pervious Area (Open/Agricultural) *0.00 ha* WHC = 200 mm													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3) **i = 0.33**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pervious Area (Forest) *0.00 ha* WHC = 400 mm													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3) **i = 0.43**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Impervious Area (Ex. Roads, Industrial) *0.00 ha*													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Evaporative Lossess at 10% Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Summary Total **0.00 ha**													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Evaporative Lossess at 10% Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Balance Totals for Subwatershed FM1102 **43.85 ha**													
Precipitation (m^3)	33,765	23,241	24,556	32,449	36,834	27,626	36,834	25,872	31,572	26,310	32,011	28,064	**359,132**
Total AET (m^3)	173	259	951	2,940	6,484	9,973	10,413	8,080	6,110	3,355	1,383	432	**50,554**
Evaporative Lossess at 10% Precipitation (m^3)	2,711	1,866	1,971	2,605	2,957	2,218	2,957	2,077	2,535	2,112	2,570	2,253	**28,832**
Infiltration (MOE Methodology) (m^3)	999	1,433	1,919	1,301	551	33	0	0	0	67	350	783	**7,435**
Runoff (MOE Methodology) (m^3)	26,118	19,221	20,834	25,550	27,503	20,014	26,614	18,693	22,812	19,116	23,725	21,615	**271,817**
Potential Stream Base Flows (LPM) - does not account for lag	20	32	39	27	11	1	0	0	0	1	7	16	

Notes:

1. Monthly climate data, including soil deficits, sol moisture storage, evapotranspiration and water surplus were provided by Environment Canada, and modeled for different soil water holding capacities. In this ca water holding capacities of 400 mm and 200 mm (pre-development), and 100 mm (post-development) are used
2. Infiltration and Runoff volumes are calculated using the methodology described in the MOE Stormwater Design Manual (2003). Calculation of the infiltration factors used in the analyses is describe in the text and presented on Table 4.6 of the main report
3. Evaporative losses of 10% are modeled for impervious surfaces (none under pre-development condition). This accounts for losses of water, such as water that collects in shallow depressions on these surfaces and does not reach the stormwater s
4. There is minor round-off error within the Environment Canada data

Table WB-4-1102: Post-Development Water Balance (With Mitigation) - Subwatershed FM1102 (Volumetric Calculations based on Pervious Area)

Weather Station Data: Gerard, ON (1990-2006) **Latitude: 43 degrees 26 minutes N**

Data Provided by Environment Canada - Atmospheric Environment Services - data may exhibit round off error

PARAMETER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Water Balance for Bentall Lands														
Pervious Area (Open/Agricultural)	*0.00 ha*	WHC = 200 mm												
Precipitation (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	**i = 0.33**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pervious Area (Forest)	*0.00 ha*	WHC = 400 mm												
Precipitation (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	**i = 0.43**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pervious Area (Landscaped)	*0.68 ha*	WHC = 100 mm												
Precipitation (m^3)		522	359	380	502	570	427	570	400	488	407	495	434	**5,553**
Total AET (m^3)		14	20	75	231	509	773	719	475	427	251	108	34	**3,634**
Water Surplus (m^3)		305	407	420	292	122	7	0	0	0	14	102	231	**1,898**
Infiltration (MOE Methodology) (m^3)	**i = 0.40**	122	163	168	117	49	3	0	0	0	5	41	92	**759**
Runoff (MOE Methodology) (m^3)		183	244	252	175	73	4	0	0	0	8	61	138	**1,139**
Impervious Area (Ex. Roads, Industrial)	*4.02 ha*													
Precipitation (m^3)		3,097	2,132	2,252	2,976	3,378	2,534	3,378	2,373	2,896	2,413	2,936	2,574	**32,940**
Evaporative Lossess at 10% Precipitation (m^3)		310	213	225	298	338	253	338	237	290	241	294	257	**3,294**
Roof Runoff diverted to Mitigation Measures (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		2,787	1,918	2,027	2,679	3,041	2,280	3,041	2,136	2,606	2,172	2,642	2,317	**29,646**
Mitigations Measures	*0.00 ha*	<-- Roof Area Required of the impervious area shown above to be directed to swales												
Infiltration Swales (length)	- (m)													
Infiltration Flat Bottomed-Swales (length)	- (m)													
Available Volume of Roof Water directed to mitigation (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Subsurface Gravel Wetland (SGW) Area	- (m^2)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration Swales connected to SGW	- (m)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (m^3) daily capacity -->	0 m^3/d	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Summary Total	**4.70 ha**													
Precipitation (m^3)		3,619	2,491	2,632	3,478	3,948	2,961	3,948	2,773	3,384	2,820	3,431	3,008	**38,493**
Total AET (m^3)		14	20	75	231	509	773	719	475	427	251	108	34	**3,634**
Evaporative Lossess at 10% Precipitation (m^3)		310	213	225	298	338	253	338	237	290	241	294	257	**3,294**
Infiltration (MOE Methodology) (m^3)		122	163	168	117	49	3	0	0	0	5	41	92	**759**
Runoff (MOE Methodology) (m^3)		2,970	2,163	2,279	2,854	3,114	2,285	3,041	2,136	2,606	2,180	2,703	2,455	**30,785**
Water Balance for Future Development Lands owned by others														
Pervious Area (Open/Agricultural)	*0.00 ha*	WHC = 200 mm												
Precipitation (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	**i = 0.33**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pervious Area (Forest)	*3.90 ha*	WHC = 400 mm												
Precipitation (m^3)		3,003	2,067	2,184	2,886	3,276	2,457	3,276	2,301	2,808	2,340	2,847	2,496	**31,941**
Total AET (m^3)		78	117	429	1,326	2,925	4,563	5,382	4,758	3,120	1,599	624	195	**25,116**
Water Surplus (m^3)		585	1,014	2,067	1,365	585	39	0	0	0	78	234	507	**6,474**
Infiltration (MOE Methodology) (m^3)	**i = 0.43**	252	436	889	587	252	17	0	0	0	34	101	218	**2,784**
Runoff (MOE Methodology) (m^3)		333	578	1,178	778	333	22	0	0	0	44	133	289	**3,690**
Pervious Area (Landscaped)	*4.07 ha*	WHC = 100 mm												
Precipitation (m^3)		3,132	2,156	2,278	3,010	3,417	2,563	3,417	2,400	2,929	2,441	2,970	2,603	**33,316**
Total AET (m^3)		81	122	447	1,383	3,051	4,637	4,312	2,848	2,563	1,505	651	203	**21,804**
Water Surplus (m^3)		1,831	2,441	2,522	1,749	732	41	0	0	0	81	610	1,383	**11,390**
Infiltration (MOE Methodology) (m^3)	**i = 0.40**	732	976	1,009	700	293	16	0	0	0	33	244	553	**4,556**
Runoff (MOE Methodology) (m^3)		1,098	1,464	1,513	1,050	439	24	0	0	0	49	366	830	**6,834**
Impervious Area (Ex. Roads, Industrial)	*31.18 ha*													
Precipitation (m^3)		24,010	16,527	17,462	23,075	26,193	19,645	26,193	18,397	22,451	18,709	22,763	19,957	**255,382**
Evaporative Lossess at 10% Precipitation (m^3)		2,401	1,653	1,746	2,307	2,619	1,964	2,619	1,840	2,245	1,871	2,276	1,996	**25,538**
Roof Runoff diverted to Mitigation Measures (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)		21,609	14,874	15,716	20,767	23,574	17,680	23,574	16,558	20,206	16,838	20,487	17,961	**229,843**
Mitigations Measures	*0.00 ha*	<-- Roof Area Required of the impervious area shown above												
Infiltration Swales (length)	- m													
Infiltration Bio-Swales (length)	- m													
Available Volume of Water directed to mitigation (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (m^3) daily capacity -->	0 m^3/d	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (m^3)		0	0	0	0	0	0	0	0	0	0	0	0	**0**
Summary Total	**39.15 ha**													
Precipitation (m^3)		30,146	20,750	21,924	28,971	32,886	24,665	32,886	23,099	28,188	23,490	28,580	25,056	**320,639**
Total AET (m^3)		2,560	1,892	2,623	5,017	8,595	11,165	12,313	9,445	7,928	4,975	3,551	2,394	**72,458**
Evaporative Lossess at 10% Precipitation (m^3)		2,416	3,455	4,589	3,114	1,317	80	0	0	0	159	844	1,890	**17,864**
Infiltration (MOE Methodology) (m^3)		984	1,412	1,898	1,287	544	33	0	0	0	66	345	771	**7,340**
Runoff (MOE Methodology) (m^3)		1,432	2,042	2,691	1,828	773	47	0	0	0	93	499	1,119	**10,524**

Table WB-4-1102: Post-Development Water Balance (With Mitigation) - Subwatershed FM1102 (Volumetric Calculations based on Pervious Area)

Weather Station Data: Gerard, ON (1990-2006) **Latitude: 43 degrees 26 minutes N**

Data Provided by Environment Canada - Atmospheric Environment Services - data may exhibit round off error

PARAMETER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Water Balance for Lands North of 407 (Excluding Hanson Brick) - These Lands within Greenbelt and Other Designated Areas are not expected to change over time													
Pervious Area (Open/Agricultural) *0.00 ha* WHC = 200 mm													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3) **i = 0.33**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pervious Area (Forest) *0.00 ha* WHC = 400 mm													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3) **i = 0.43**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Impervious Area (Ex. Roads, Industrial) *0.00 ha*													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Evaporative Lossess at 10% Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Summary Total **0.00 ha**													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Evaporative Lossess at 10% Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Balance for Hanson Brick Property													
Pervious Area (Open/Agricultural) *0.00 ha* WHC = 200 mm													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3) **i = 0.33**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Pervious Area (Forest) *0.00 ha* WHC = 400 mm													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3) **i = 0.43**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Impervious Area (Ex. Roads, Industrial) *0.00 ha*													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Evaporative Lossess at 10% Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Summary Total **0.00 ha**													
Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total AET (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Evaporative Lossess at 10% Precipitation (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Water Balance Totals for Subwatershed FM1102 **43.85 ha**													
Precipitation (m^3)	33,765	23,241	24,556	32,449	36,834	27,626	36,834	25,872	31,572	26,310	32,011	28,064	**359,132**
Total AET (m^3)	2,574	1,912	2,697	5,247	9,104	11,938	13,032	9,920	8,355	5,226	3,660	2,428	**76,092**
Evaporative Lossess at 10% Precipitation (m^3)	2,725	3,668	4,814	3,412	1,655	333	338	237	290	401	1,138	2,147	**21,158**
Infiltration (MOE Methodology) (m^3)	1,106	1,575	2,066	1,403	593	36	0	0	0	72	385	863	**8,099**
Runoff (MOE Methodology) (m^3)	4,402	4,205	4,971	4,681	3,887	2,331	3,041	2,136	2,606	2,273	3,203	3,574	**41,309**
Potential Stream Base Flows (LPM) - does not account for lag	22	35	42	29	12	1	0	0	0	1	8	17	

Notes:

1. Monthly climate data, including soil deficits, sol moisture storage, evapotranspiration and water surplus were provided by Environment Canada, and modeled for different soil water holding capacities. In this case water holding capacities of 400 mm and 200 mm (pre-development), and 100 mm (post-development) are used.
2. Infiltration and Runoff volumes are calculated using the methodology described in the MOE Stormwater Design Manual (2003). Calculation of the infiltration factors used in the analyses is described in the text and presented on Table 4.6 of the main report.
3. Evaporative losses of 10% are modeled for impervious surfaces (none under pre-development condition). This accounts for losses of water, such as water that collects in shallow depressions on these surfaces and does not reach the stormwater syst
4. There is minor round-off error within the Environment Canada data.

Table WB-2-14W-11A: Pre-Development Water Balance - Tributary 14W-11A on Bentall Site (Volumetric Calculations based on Pervious Area)

Weather Station Data: Gerard, ON (1990-2006) **Latitude: 43 degrees 26 minutes N**

Data Provided by Environment Canada - Atmospheric Environment Services - data may exhibit round off error

PARAMETER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Water Balance for the Tributary to FM1109 that passes through Northeast corner of Bentall Lands													
Pervious Area (Open/Agricultural) *18.40 ha* WHC = 200 mm													
Precipitation (m^3)	14,168	9,752	10,304	13,616	15,456	11,592	15,456	10,856	13,248	11,040	13,432	11,776	**150,696**
Total AET (m^3)	368	552	2,024	6,256	13,800	21,528	24,840	18,768	12,512	7,176	2,944	920	**111,688**
Water Surplus (m^3)	4,048	7,728	11,224	7,912	3,312	184	0	0	0	368	1,288	2,576	**38,640**
Infiltration (MOE Methodology) (m^3) **i = 0.33**	1,336	2,550	3,704	2,611	1,093	61	0	0	0	121	425	850	**12,751**
Runoff (MOE Methodology) (m^3)	2,712	5,178	7,520	5,301	2,219	123	0	0	0	247	863	1,726	**25,889**
Pervious Area (Forest) *16.90 ha* WHC = 400 mm													
Precipitation (m^3)	13,013	8,957	9,464	12,506	14,196	10,647	14,196	9,971	12,168	10,140	12,337	10,816	**138,411**
Total AET (m^3)	338	507	1,859	5,746	12,675	19,773	23,322	20,618	13,520	6,929	2,704	845	**108,836**
Water Surplus (m^3)	2,535	4,394	8,957	5,915	2,535	169	0	0	0	338	1,014	2,197	**28,054**
Infiltration (MOE Methodology) (m^3) **i = 0.43**	1,090	1,889	3,852	2,543	1,090	73	0	0	0	145	436	945	**12,063**
Runoff (MOE Methodology) (m^3)	1,445	2,505	5,105	3,372	1,445	96	0	0	0	193	578	1,252	**15,991**
Impervious Area (Ex. Roads, Industrial) *1.30 ha*													
Precipitation (m^3)	1,001	689	728	962	1,092	819	1,092	767	936	780	949	832	**10,647**
Evaporative Lossess at 10% Precipitation (m^3)	100	69	73	96	109	82	109	77	94	78	95	83	**1,065**
Water Surplus (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Infiltration (MOE Methodology) (m^3)	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Runoff (MOE Methodology) (m^3)	901	620	655	866	983	737	983	690	842	702	854	749	**9,582**
Summary Total **36.60 ha**													
Precipitation (m^3)	28,182	19,398	20,496	27,084	30,744	23,058	30,744	21,594	26,352	21,960	26,718	23,424	**299,754**
Total AET (m^3)	706	1,059	3,883	12,002	26,475	41,301	48,162	39,386	26,032	14,105	5,648	1,765	**220,524**
Evaporative Lossess at 10% Precipitation (m^3)	100	69	73	96	109	82	109	77	94	78	95	83	**1,065**
Infiltration (MOE Methodology) (m^3)	2,426	4,440	7,555	5,154	2,183	133	0	0	0	267	861	1,795	**24,814**
Runoff (MOE Methodology) (m^3)	5,058	8,302	13,281	9,538	4,647	957	983	690	842	1,141	2,295	3,727	**51,462**
Water Balance Totals for Tributary to Subwatershed FM1109 passing through Northeast Corner of Bentall Lands **36.60 ha**													
Precipitation (m^3)	28,182	19,398	20,496	27,084	30,744	23,058	30,744	21,594	26,352	21,960	26,718	23,424	**299,754**
Total AET (m^3)	706	1,059	3,883	12,002	26,475	41,301	48,162	39,386	26,032	14,105	5,648	1,765	**220,524**
Evaporative Lossess at 10% Precipitation (m^3)	100	69	73	96	109	82	109	77	94	78	95	83	**1,065**
Infiltration (MOE Methodology) (m^3)	2,426	4,440	7,555	5,154	2,183	133	0	0	0	267	861	1,795	**24,814**
Runoff (MOE Methodology) (m^3)	5,058	8,302	13,281	9,538	4,647	957	983	690	842	1,141	2,295	3,727	**51,462**
Potential Stream Base Flows (LPM) - does not account for lag	49	99	152	107	44	3	0	0	0	5	18	36	

Notes:

1. Monthly climate data, including soil deficits, sol moisture storage, evapotranspiration and water surplus were provided by Environment Canada, and modeled for different soil water holding capacities. In this ca water holding capacities of 400 mm and 200 mm (pre-development), and 100 mm (post-development) are used
2. Infiltration and Runoff volumes are calculated using the methodology described in the MOE Stormwater Design Manual (2003). Calculation of the infiltration factors used in the analyses is describe in the text and presented on Table 4.6 of the main report
3. Evaporative losses of 10% are modeled for impervious surfaces (none under pre-development condition). This accounts for losses of water, such as water that collects in shallow depressions on these surfaces and does not reach the stormwater s
4. There is minor round-off error within the Environment Canada data

WBNRMSD.400

Oakville Gerard, ON WATER BUDGET MEANS FOR THE PERIOD 1990-2006 DC20492

LAT.... 43.43 WATER HOLDING CAPACITY...400 MM HEAT INDEX... 42.62
LONG... 79.70 LOWER ZONE.....240 MM A..... 1.168

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-3.6	77	36	21	2	2	0	15	28	339	277
28- 2	-2.7	53	32	32	3	3	0	26	18	374	328
31- 3	1.2	56	38	35	11	11	0	53	0	383	386
30- 4	7.2	74	73	1	34	34	0	35	0	388	464
31- 5	13.1	84	84	0	75	75	0	15	0	383	546
30- 6	19.1	63	63	0	117	117	0	1	0	328	611
31- 7	21.9	84	84	0	139	138	-1	0	0	274	697
31- 8	21.4	59	59	0	126	122	-4	0	0	211	754
30- 9	17.3	72	72	0	85	80	-5	0	0	202	827
31-10	10.3	60	60	0	43	41	-2	2	0	220	59
30-11	4.8	73	70	3	16	16	0	6	0	270	132
31-12	-.4	64	46	10	5	5	0	13	8	309	193
AVE	9.0 TTL	821	717	102	656	644	-12	166			

Oakville Gerard, ON STANDARD DEVIATIONS FOR THE PERIOD 1990-2006 DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	41	31	17	2	2	0	30	29	69	59
28- 2	2.2	22	24	23	2	2	0	35	27	42	58
31- 3	1.7	27	22	29	5	5	0	47	0	32	68
30- 4	1.3	34	34	3	6	6	0	34	0	26	77
31- 5	1.7	37	37	0	12	12	0	22	0	33	79
30- 6	1.3	27	27	0	9	9	0	6	0	47	88
31- 7	1.5	40	40	0	11	10	5	0	0	69	104
31- 8	1.3	34	34	0	9	12	9	0	0	68	97
30- 9	1.5	36	36	0	8	9	10	0	0	84	113
31-10	1.0	35	35	0	5	6	6	8	0	88	35
30-11	1.5	25	26	6	5	5	0	24	0	88	52
31-12	2.2	33	32	10	3	3	0	27	20	85	53

WBNRMSD.200

Oakville Gerard, ON WATER BUDGET MEANS FOR THE PERIOD 1990-2006 DC20492

LAT.... 43.43 WATER HOLDING CAPACITY...200 MM HEAT INDEX... 42.62
LONG... 79.70 LOWER ZONE.....120 MM A..... 1.168

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-3.6	77	36	21	2	2	0	22	28	179	277
28- 2	-2.7	53	32	32	3	3	0	42	18	199	328
31- 3	1.2	56	38	35	11	11	0	61	0	200	386
30- 4	7.2	74	73	1	34	34	0	43	0	197	464
31- 5	13.1	84	84	0	75	75	0	18	0	189	546
30- 6	19.1	63	63	0	117	117	0	1	0	134	611
31- 7	21.9	84	84	0	139	135	-5	0	0	83	697
31- 8	21.4	59	59	0	126	102	-23	0	0	40	754
30- 9	17.3	72	72	0	85	68	-18	0	0	45	827
31-10	10.3	60	60	0	43	39	-5	2	0	65	59
30-11	4.8	73	70	3	16	16	0	7	0	114	132
31-12	-.4	64	46	10	5	5	0	14	8	151	193
AVE	9.0 TTL	821	717	102	656	607	-51	210			

Oakville Gerard, ON STANDARD DEVIATIONS FOR THE PERIOD 1990-2006 DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	41	31	17	2	2	0	31	29	30	59
28- 2	2.2	22	24	23	2	2	0	37	27	6	58
31- 3	1.7	27	22	29	5	5	0	40	0	0	68
30- 4	1.3	34	34	3	6	6	0	32	0	8	77
31- 5	1.7	37	37	0	12	12	0	25	0	17	79
30- 6	1.3	27	27	0	9	9	0	6	0	35	88
31- 7	1.5	40	40	0	11	11	11	0	0	52	104
31- 8	1.3	34	34	0	9	24	25	0	0	41	97
30- 9	1.5	36	36	0	8	19	22	0	0	52	113
31-10	1.0	35	35	0	5	9	10	8	0	56	35
30-11	1.5	25	26	6	5	5	0	24	0	53	52
31-12	2.2	33	32	10	3	3	0	27	20	49	53

WBNRMSD.100

Oakville Gerard, ON WATER BUDGET MEANS FOR THE PERIOD 1990-2006 DC20492

LAT.... 43.43 WATER HOLDING CAPACITY...100 MM HEAT INDEX... 42.62
LONG... 79.70 LOWER ZONE..... 60 MM A..... 1.168

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-3.6	77	36	21	2	2	0	45	28	100	277
28- 2	-2.7	53	32	32	3	3	0	60	18	100	328
31- 3	1.2	56	38	35	11	11	0	62	0	100	386
30- 4	7.2	74	73	1	34	34	0	43	0	97	464
31- 5	13.1	84	84	0	75	75	0	18	0	89	546
30- 6	19.1	63	63	0	117	114	-3	1	0	37	611
31- 7	21.9	84	84	0	139	106	-33	0	0	15	697
31- 8	21.4	59	59	0	126	70	-56	0	0	5	754
30- 9	17.3	72	72	0	85	63	-22	0	0	13	827
31-10	10.3	60	60	0	43	37	-6	2	0	34	59
30-11	4.8	73	70	3	16	16	0	15	0	75	132
31-12	-.4	64	46	10	5	5	0	34	8	92	193
AVE	9.0 TTL	821	717	102	656	536	-120	280			

Oakville Gerard, ON STANDARD DEVIATIONS FOR THE PERIOD 1990-2006 DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	41	31	17	2	2	0	38	29	2	59
28- 2	2.2	22	24	23	2	2	0	36	27	0	58
31- 3	1.7	27	22	29	5	5	0	39	0	0	68
30- 4	1.3	34	34	3	6	6	0	32	0	8	77
31- 5	1.7	37	37	0	12	12	0	25	0	17	79
30- 6	1.3	27	27	0	9	8	11	6	0	28	88
31- 7	1.5	40	40	0	11	33	37	0	0	24	104
31- 8	1.3	34	34	0	9	30	33	0	0	18	97
30- 9	1.5	36	36	0	8	23	25	0	0	28	113
31-10	1.0	35	35	0	5	10	12	8	0	37	35
30-11	1.5	25	26	6	5	5	0	35	0	26	52
31-12	2.2	33	32	10	3	3	0	36	20	16	53

Pearson Airport Daily Weather Data

Station Name	TORONTO LESTER B. PEARSON	Legend			
Province	ONTARIO	[Empty]	No Data Available	F	Accumulated and Estimated
Latitude	43.68	M	Missing	N	Temperature Missing but Known to be > 0
Longitude	-79.63	E	Estimated	Y	Temperature Missing but Known to be < 0
Elevation	173.4	A	Accumulated	S	More Than One Occurrence
Climate Identifier	6158733	C	Precipitation Occurred; Amount Uncertain	T	Trace
Date of Site Visits		L	Precipitation May or May Not Have Occurred	*	Data for this day has undergone only preliminary quality checking.

Date	Max Temp (°C)	Max Temp Flag	Min Temp (°C)	Min Temp Flag	Mean Temp (°C)	Total Rain (mm)	Total Rain Flag	Total Snow (cm)	Total Snow Flag	Total Precip (mm)	Total Precip Flag	Snow on Grnd (cm)
01/01/09	-3.8		-15.6		-9.7	0		0		0		2
01/02/09	0.7		-4.7		-2	0		1.2		0.6		2
01/03/09	-1.9		-11.8		-6.9	0		0		0		2
01/04/09	-0.7		-12.2		-6.5	0	T	0		0	T	2
01/05/09	0.6		-7.7		-3.6	0	T	0		0	T	1
01/06/09	-0.6		-10		-5.3	0	T	3.6		3.4		1
01/07/09	0.7		-2.8		-1.1	1		9		10		5
01/08/09	-2.8		-12		-7.4	0		0.2		0.2		11
01/09/09	-6		-12.2		-9.1	0		0	T	0	T	11
01/10/09	-6.8		-14.9		-10.9	0		3.8		3.4		11
01/11/09	-6.3		-12.8		-9.6	0		0.2		0.2		14
01/12/09	-3.5		-10.6		-7.1	0		0		0		14
01/13/09	1.1		-16.9		-7.9	0		4		4.6		15
01/14/09	-13.1		-22.1		-17.6	0		0.8		0.8		18
01/15/09	-10.8		-19.3		-15.1	0		0.6		0.6		18
01/16/09	-12.7		-18		-15.4	0		0		0		18
01/17/09	-6.9		-20		-13.5	0		4.8		4		18
01/18/09	-3		-8.6		-5.8	0		2.8		2.8		21
01/19/09	-5.6		-11.6		-8.6	0		0.8		0.8		24
01/20/09	-10.2		-17.5		-13.9	0		0	T	0	T	24
01/21/09	-5.5		-19		-12.3	0		0	T	0	T	24
01/22/09	-1.9		-6		-4	0		0	T	0	T	24
01/23/09	3.6		-6.8		-1.6	0		0	T	0	T	24
01/24/09	-6.7		-19.2		-13	0		0		0		21
01/25/09	-8.9		-15.6		-12.3	0		0		0		21
01/26/09	-8.8		-16.9		-12.9	0		0		0		21
01/27/09	-4		-13.8		-8.9	0		0	T	0	T	21
01/28/09	-3.4		-8.2		-5.8	0		13.4		12.6		23
01/29/09	-3.1		-10.2		-6.7	0		0.4		0.4		32
01/30/09	-3.2		-10.8		-7	0		0	T	0	T	32
01/31/09	-4.7		-16.7		-10.7	0		0.4		0	T	32
02/01/09	4.4		-4.8		-0.2	0		0		0		32
02/02/09	2		-7.9		-3	0		0		0		28
02/03/09	-3.8		-10.5		-7.2	0		7.4		6.2		27
02/04/09	-10.2		-18		-14.1	0		1.6		1		35
02/05/09	-9		-22.2		-15.6	0		0	T	0	T	35
02/06/09	-2		-11.8		-6.9	0		0		0		35
02/07/09	7.9		-8.3		-0.2	0		0		0		32
02/08/09	4		-4.8		-0.4	0		0		0		9
02/09/09	3.2		-6.2		-1.5	0		0		0		6
02/10/09	9.3		-0.1		4.6	0	T	0		0	T	3
02/11/09	8.9		6.5		7.7	25.8		0		25.8		1
02/12/09	7.8		-2.1		2.9	11.8		0	T	11.8		0
02/13/09	-0.9		-7.4		-4.2	0		0		0		0
02/14/09	-1.8		-8.2		-5	0		0		0		0
02/15/09	1.3		-8.9		-3.8	0		0		0		0
02/16/09	0.7		-7.5		-3.4	0		0		0		0
02/17/09	2.2		-6.8		-2.3	0		0		0		0
02/18/09	1		-0.8		0.1	0		8.2		12.4		0
02/19/09	1.3		-7.9		-3.3	0		0.4		0.4		3
02/20/09	-2.6		-8.8		-5.7	0		0	T	0	T	3
02/21/09	-0.5		-11.2		-5.9	0		4.6		3.6		2
02/22/09	-2		-8.3		-5.2	0		0	T	0	T	5
02/23/09	-6		-11.4		-8.7	0		0		0		4
02/24/09	-3.2		-15.1		-9.2	0		0		0		4
02/25/09	2.8		-6.9		-2.1	0.8		2.2		2.8		3
02/26/09	6.5		-0.5		3	3.8		0		3.8		1
02/27/09	9.4		-12		-1.3	5.8		0	T	5.8		0
02/28/09	-6.5		-16.4		-11.5	0		0		0		0
03/01/09	-4.2		-12.5		-8.4	0		0		0		0
03/02/09	-9.5		-15.4		-12.5	0		0		0		0
03/03/09	-3.9		-15.7		-9.8	0		0		0		0
03/04/09	1.6		-12.5		-5.5	0		0		0		0
03/05/09	5.6		-7.1		-0.8	0	T	0		0	T	0
03/06/09	18.9		1.3		10.1	0		0		0		0
03/07/09	4.6		-2		1.3	19.8		0		19.8		0
03/08/09	5.5		1.1		3.3	9.8		0	T	9.8		0
03/09/09	4.4		-0.5		2	1.4		0.6		2.2		0
03/10/09	3.7		0.2		2	6.4		0		6.4		0
03/11/09	9.5		-5.2		2.2	5.4		0	T	5.4		0
03/12/09	-2.1		-9.5		-5.8	0		0	T	0	T	0
03/13/09	-0.7		-10.3		-5.5	0		0		0		0
03/14/09	6.9		-6.1		0.4	0		0		0		0
03/15/09	9.6		-3.8		2.9	0		0		0		0
03/16/09	10		-2.4		3.8	0		0		0		0

Pearson Airport Daily Weather Data

Station Name	TORONTO LESTER B. PEARSON	Legend			
Province	ONTARIO	[Empty]	No Data Available	F	Accumulated and Estimated
Latitude	43.68	M	Missing	N	Temperature Missing but Known to be > 0
Longitude	-79.63	E	Estimated	Y	Temperature Missing but Known to be < 0
Elevation	173.4	A	Accumulated	S	More Than One Occurrence
Climate Identifier	6158733	C	Precipitation Occurred; Amount Uncertain	T	Trace
Date of Site Visits		L	Precipitation May or May Not Have Occurred	*	Data for this day has undergone only preliminary quality checking.

Date	Max Temp (°C)	Max Temp Flag	Min Temp (°C)	Min Temp Flag	Mean Temp (°C)	Total Rain (mm)	Total Rain Flag	Total Snow (cm)	Total Snow Flag	Total Precip (mm)	Total Precip Flag	Snow on Grnd (cm)
03/17/09	11.8		-1.8		5	0		0		0		0
03/18/09	15		2.5		8.8	0	T	0		0	T	0
03/19/09	4.3		-3.6		0.4	0		0		0		0
03/20/09	2.8		-6.4		-1.8	0		0		0		0
03/21/09	5.9		-5.7		0.1	0		0		0		0
03/22/09	5.8		-4.3		0.8	0		0		0		0
03/23/09	2.6		-6.4		-1.9	0		0		0		0
03/24/09	4		-2.9		0.6	0		0		0		0
03/25/09	8.6		1.9		5.3	2.6		0		2.6		0
03/26/09	10.4		2		6.2	0	T	0		0	T	0
03/27/09	12.3		-3		4.7	0		0		0		0
03/28/09	13.2		0.3		6.8	0		0		0		0
03/29/09	10.8		2.6		6.7	22.6		0		22.6		0
03/30/09	5.6		-2.7		1.5	0		0		0		0
03/31/09	5.6		-3.1		1.3	0	T	0		0	T	0
04/01/09	14		2.5		8.3	1.8		0		1.8		0
04/02/09	15.1		1.3		8.2	0.2		0		0.2		0
04/03/09	10		3.1		6.6	40.2		0		40.2		0
04/04/09	5.6		2.5		4.1	0	T	0		0	T	0
04/05/09	12.1		0.3		6.2	0.2		0		0.2		0
04/06/09	4.8		-3.3		0.8	13.8		3.8		17.8		0
04/07/09	-0.1		-3.9		-2	0		0	T	0	T	1
04/08/09	8.3		-1.7		3.3	0		0	T	0	T	0
04/09/09	11.7		-1.7		5	0		0		0		0
04/10/09	10.7		-0.6		5.1	0		0		0		0
04/11/09	8.9		-0.8		4.1	0		0		0		0
04/12/09	6.7		-2.5		2.1	0		0		0		0
04/13/09	6.8		-3.9		1.5	0		0		0		0
04/14/09	11.8		3.9		7.9	0		0		0		0
04/15/09	14.5		3.6		9.1	0		0		0		0
04/16/09	14.5		2.5		8.5	0		0		0		0
04/17/09	20.9		3.9		12.4	0		0		0		0
04/18/09	21.2		8		14.6	0		0		0		0
04/19/09	12.4		5.2		8.8	0	T	0		0	T	0
04/20/09	9.3		4.3		6.8	25.8		0		25.8		0
04/21/09	12		3.9		8	1		0		1		0
04/22/09	8		3.5		5.8	0	T	0		0	T	0
04/23/09	12		3.6		7.8	0	T	0		0	T	0
04/24/09	19.8		4.8		12.3	0		0		0		0
04/25/09	27.9		10.5		19.2	9.8		0		9.8		0
04/26/09	16.2		8.1		12.2	3		0		3		0
04/27/09	27.5		7		17.3	0		0		0		0
04/28/09	17.3		4.4		10.9	10.4		0		10.4		0
04/29/09	12.5		3.6		8.1	0		0		0		0
04/30/09	17.5		7.3		12.4	23.4		0		23.4		0
05/01/09	19.5		5.5		12.5	0.4		0		0.4		0
05/02/09	14.6		2.5		8.6	0.6		0		0.6		0
05/03/09	19.8		3.8		11.8	0		0		0		0
05/04/09	17.3		5.4		11.4	0		0		0	**Prev. 5 days**	0
05/05/09	18		5.1		11.6	0		0		0	24.4	0
05/06/09	17.6		7.4		12.5	2.6		0		2.6		0
05/07/09	19.4		11.9		15.7	2		0		2		0
05/08/09	24.9		12.2		18.6	0	T	0		0	T	0
05/09/09	19.8		8		13.9	10.8		0		10.8		0
05/10/09	12.7		3.3		8	0		0		0		0
05/11/09	13.9		1.4		7.7	0		0		0		0
05/12/09	16.5		3.3		9.9	0		0		0		0
05/13/09	20.1		5.6		12.9	0	T	0		0	T	0
05/14/09	21.7		8.6		15.2	2.4		0		2.4		0
05/15/09	16.9		7.4		12.2	0	T	0		0	T	0
05/16/09	20.3		4.2		12.3	5.2		0		5.2		0
05/17/09	12.5		1.5		7	0		0		0		0
05/18/09	14.7		0.3		7.5	0		0		0		0
05/19/09	22.6		5.7		14.2	0		0		0		0
05/20/09	27.6		13.3		20.5	0		0		0		0
05/21/09	29.1		14.4		21.8	0		0		0		0
05/22/09	21.1		11.7		16.4	0		0		0		0
05/23/09	20.1		9.1		14.6	0		0		0		0

Pearson Airport Daily Weather Data

Station Name	TORONTO LESTER B. PEARSON	Legend			
Province	ONTARIO	[Empty]	No Data Available	F	Accumulated and Estimated
Latitude	43.68	M	Missing	N	Temperature Missing but Known to be > 0
Longitude	-79.63	E	Estimated	Y	Temperature Missing but Known to be < 0
Elevation	173.4	A	Accumulated	S	More Than One Occurrence
Climate Identifier	6158733	C	Precipitation Occurred; Amount Uncertain	T	Trace
Date of Site Visits		L	Precipitation May or May Not Have Occurred	*	Data for this day has undergone only preliminary quality checking.

Date	Max Temp (°C)	Max Temp Flag	Min Temp (°C)	Min Temp Flag	Mean Temp (°C)	Total Rain (mm)	Total Rain Flag	Total Snow (cm)	Total Snow Flag	Total Precip (mm)	Total Precip Flag	Snow on Grnd (cm)
05/24/09	22.8		9.9		16.4	0.2		0		0.2		0
05/25/09	18.8		8.2		13.5	0		0		0		0
05/26/09	13.9		9.4		11.7	0.2		0		0.2		0
05/27/09	16		10.5		13.3	16.6		0		16.6		0
05/28/09	17.5		12.2		14.9	12.4		0		12.4	Prev. 5 days	0
05/29/09	23.4		10.4		16.9	3		0		3	32.4	0
05/30/09	20.3		7.5		13.9	4.4		0		4.4		0
05/31/09	12.7		4.6		8.7	0		0		0		0
06/01/09	17.5		8.3		12.9	0	T	0		0	T	0
06/02/09	16.8		8.4		12.6	0		0		0		0
06/03/09	19.5		7.5		13.5	0		0		0		0
06/04/09	18.2		6.8		12.5	0		0		0		0
06/05/09	21		6.9		14	0		0		0		0
06/06/09	23		10.9		17	0		0		0		0
06/07/09	17.8		9.9		13.9	0	T	0		0	T	0
06/08/09	16.3		11.6		14	9.4		0		9.4		0
06/09/09	18.8		10.3		14.6	0	T	0		0	T	0
06/10/09	19.4		8.6		14	0		0		0		0
06/11/09	20.4		10.5		15.5	2.8		0		2.8		0
06/12/09	23.8		11.7		17.8	0		0		0		0
06/13/09	22.8		13.2		18	0		0		0		0
06/14/09	24.3		11.3		17.8	0	T	0		0	T	0
06/15/09	23.6		13.2		18.4	0		0		0		0
06/16/09	24.3		12.3		18.3	0		0		0		0
06/17/09	20.7		14.1		17.4	10.8		0		10.8	Prev. 5 days	0
06/18/09	17.8		13.3		15.6	1.4		0		1.4	12.2	0
06/19/09	23.1		11.6		17.4	0		0		0		0
06/20/09	17.7		14.9		16.3	14.4		0		14.4		0
06/21/09	26.5		14.4		20.5	0		0		0		0
06/22/09	26.1		16.6		21.4	0		0		0		0
06/23/09	27.2		17		22.1	0		0		0		0
06/24/09	31.4		18.4		24.9	0		0		0		0
06/25/09	28.9		20.4		24.7	1.2		0		1.2		0
06/26/09	27.2		18.2		22.7	0		0		0		0
06/27/09	27.9		16.3		22.1	0		0		0		0
06/28/09	21.5		14.7		18.1	9		0		9		0
06/29/09	24		14		19	4.8		0		4.8		0
06/30/09	20.8		14.9		17.9	16.4		0		16.4		0
07/01/09	23.3		14.1		18.7	0	T	0		0	T	0
07/02/09	21.9		15.3		18.6	0.4		0		0.4		0
07/03/09	23.3		13.9		18.6	0		0		0		0
07/04/09	22.4		12		17.2	0		0		0		0
07/05/09	23.5		10.6		17.1	0		0		0		0
07/06/09	25.1		13.6		19.4	0	T	0		0	T	0
07/07/09	20.2		13.8		17	0.4		0		0.4		0
07/08/09	24.1		12.6		18.4	0		0		0		0
07/09/09	24.1		13.5		18.8	0		0		0		0
07/10/09	26.5		14.8		20.7	0		0		0		0
07/11/09	28.3		14.6		21.5	7.4		0		7.4		0
07/12/09	23.4		9.4		16.4	0		0		0		0
07/13/09	23.4		10.6		17	0		0		0		0
07/14/09	25.4		11.6		18.5	0		0		0		0
07/15/09	23.9		11.7		17.8	0.4		0		0.4		0
07/16/09	27.8		15.3		21.6	0		0		0		0
07/17/09	21.2		14.3		17.8	0.2		0		0.2		0
07/18/09	23.2		14.2		18.7	0	T	0		0	T	0
07/19/09	23		12		17.5	0		0		0		0
07/20/09	24.8		12.5		18.7	0		0		0		0
07/21/09	24.2		14.4		19.3	4.6		0		4.6		0
07/22/09	22.7		16		19.4	2.4		0		2.4		0
07/23/09	23.4		17.4		20.4	31.4		0		31.4		0
07/24/09	24.4		16.9		20.7	0	T	0		0	T	0
07/25/09	22.7		17.9		20.3	18		0		18		0
07/26/09	22.9		16.1		19.5	9		0		9		0
07/27/09	27.2		16.1		21.7	0		0		0		0
07/28/09	27.8		20.1		24	0	T	0		0	T	0
07/29/09	23.3		14.2		18.8	10.6		0		10.6		0
07/30/09	25.3		13.4		19.4	0		0		0		0
07/31/09	27.7		16.3		22	0	T	0		0	T	0
08/01/09	27.1		14.6		20.9	0		0		0		0
08/02/09	25.5		15.4		20.5	0	T	0		0	T	0
08/03/09	26.1		12.6		19.4	0	T	0		0	T	0
08/04/09	26.4		15		20.7	18		0		18		0
08/05/09	24.4		10.9		17.7	0		0		0		0
08/06/09	24.4		15		19.7	0		0		0		0

Pearson Airport Daily Weather Data

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Elevation	173.4	A	Accumulated	S	More Than One Occurrence
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Date of Site Visits		L	Precipitation May or May Not Have Occurred	*	Data for this day has undergone only preliminary quality checking.

Date	Max Temp (°C)	Max Temp Flag	Min Temp (°C)	Min Temp Flag	Mean Temp (°C)	Total Rain (mm)	Total Rain Flag	Total Snow (cm)	Total Snow Flag	Total Precip (mm)	Total Precip Flag	Snow on Grnd (cm)
08/07/09	22.9		14.1		18.5	0		0		0		0
08/08/09	22		12		17	2.2		0		2.2		0
08/09/09	29.5		18.5		24	40		0		40		0
08/10/09	30		18.8		24.4	1.2		0		1.2		0
08/11/09	26.1		16		21.1	28		0		28		0
08/12/09	25.4		17.5		21.5	2.6		0		2.6		0
08/13/09	28.1		16.8		22.5	0		0		0		0
08/14/09	28.4		17.1		22.8	0		0		0		0
08/15/09	29.6		18.4		24	0		0		0		0
08/16/09	29.3		19.5		24.4	0		0		0		0
08/17/09	31.4		23		27.2	0		0		0		0
08/18/09	29.5		20.9		25.2	0.4		0		0.4		0
08/19/09	26.1		17.3		21.7	0		0		0		0
08/20/09	28.6		20.8		24.7	25.2		0		25.2		0
08/21/09	27.2		19.8		23.5	0.2		0		0.2		0
08/22/09	24.4		16.8		20.6	1.2		0		1.2		0
08/23/09	22.1		14.7		18.4	0		0		0		0
08/24/09	24		13.5		18.8	0		0		0		0
08/25/09	25.8		13.5		19.7	0		0		0		0
08/26/09	23		13.7		18.4	2.8		0		2.8		0
08/27/09	21		11.4		16.2	0		0		0		0
08/28/09	19.7		13.4		16.6	10.8		0		10.8		0
08/29/09	22.3		14.4		18.4	11.4		0		11.4		0
08/30/09	18.5		11.4		15	0	T	0		0	T	0
08/31/09	20.9		10.5		15.7	0		0		0		0
09/01/09	22.5		10.5		16.5	0		0		0		0
09/02/09	23.6		12.2		17.9	0		0		0		0
09/03/09	24.4		12.9		18.7	0		0		0		0
09/04/09	24.8		14.1		19.5	0		0		0		0
09/05/09	23.9		14.8		19.4	0		0		0		0
09/06/09	23.2		13.9		18.6	0		0		0		0
09/07/09	24.2		15.3		19.8	0		0		0		0
09/08/09	25.2		16.7		21	0		0		0		0
09/09/09	24.5		15.3		19.9	0		0		0		0
09/10/09	24.3		12.7		18.5	0		0		0		0
09/11/09	20.4		12.8		16.6	0		0		0		0
09/12/09	24.1		12.7		18.4	0		0		0		0
09/13/09	24.7		12.4		18.6	0		0		0		0
09/14/09	25.8		12.2		19	0		0		0		0
09/15/09	23.5		11.1		17.3	0		0		0		0
09/16/09	18.7		8.8		13.8	0		0		0		0
09/17/09	20.5		10.2		15.4	0		0		0		0
09/18/09	20.8		8.2		14.5	0	T	0		0	T	0
09/19/09	18.8		4.8		11.8	0		0		0		0
09/20/09	21.2		5.5		13.4	0		0		0		0
09/21/09	22		13		17.5	2.2		0		2.2		0
09/22/09	24		19.6		21.8	0	T	0		0	T	0
09/23/09	27.8		15.6		21.7	2.2		0		2.2	Prev. 5 days	0
09/24/09	22.5		12.1		17.3	0		0		0	4.4	0
09/25/09	15.8		10.9		13.4	0		0		0		0
09/26/09	17.7		8.1		12.9	12.8		0		12.8		0
09/27/09	21.2		13.7		17.5	0	T	0		0	T	0
09/28/09	18		11.1		14.6	20.4		0		20.4		0
09/29/09	16.2		7.2		11.7	2.4		0		2.4		0
09/30/09	11.8		5.6		8.7	0.2		0		0.2		0
10/01/09	12		2.4		7.2	0		0		0		0
10/02/09	12.5		4.3		8.4	10.2		0		10.2		0
10/03/09	17.2		8.1		12.7	2.6		0		2.6		0
10/04/09	14		7.2		10.6	1		0		1		0
10/05/09	17		5.9		11.5	0		0		0		0
10/06/09	15		5.9		10.5	8.6		0		8.6		0
10/07/09	13.4		6.7		10.1	0.6		0		0.6		0
10/08/09	17.6		5.5		11.6	0.2		0		0.2		0
10/09/09	11.4		7.3		9.4	20		0		20		0
10/10/09	14.2		6.4		10.3	0	T	0		0	T	0
10/11/09	10.2		-0.2		5	0		0		0		0
10/12/09	6.7		-0.6		3.1	0	T	0		0	T	0
10/13/09	10.7		2.4		6.6	0.2		0		0.2		0
10/14/09	7.3		-1.2		3.1	0		0		0		0
10/15/09	4.5		-0.7		1.9	0		0		0		0
10/16/09	7.1		-0.7		3.2	0		0		0		0
10/17/09	8.6		0.3		4.5	0		0		0		0
10/18/09	9.8		-0.7		4.6	0		0		0		0
10/19/09	15.2		0.3		7.8	0		0		0		0
10/20/09	16.4		10.9		13.7	0		0		0		0

Pearson Airport Daily Weather Data

Station Name	TORONTO LESTER B. PEARSON	Legend			
Province	ONTARIO	[Empty]	No Data Available	F	Accumulated and Estimated
Latitude	43.68	M	Missing	N	Temperature Missing but Known to be > 0
Longitude	-79.63	E	Estimated	Y	Temperature Missing but Known to be < 0
Elevation	173.4	A	Accumulated	S	More Than One Occurrence
Climate Identifier	6158733	C	Precipitation Occurred; Amount Uncertain	T	Trace
Date of Site Visits		L	Precipitation May or May Not Have Occurred	*	Data for this day has undergone only preliminary quality checking.

Date	Max Temp (°C)	Max Temp Flag	Min Temp (°C)	Min Temp Flag	Mean Temp (°C)	Total Rain (mm)	Total Rain Flag	Total Snow (cm)	Total Snow Flag	Total Precip (mm)	Total Precip Flag	Snow on Grnd (cm)
10/21/09	14.4		9.5		12	2.8		0		2.8		0
10/22/09	16.5		3.8		10.2	0.6		0		0.6		0
10/23/09	11		2.9		7	14.8		0		14.8		0
10/24/09	13.5		6.2		9.9	0	T	0		0	T	0
10/25/09	13.2		4		8.6	0		0		0		0
10/26/09	11.8		5.8		8.8	0		0		0		0
10/27/09	16.3		8.2		12.3	1.2		0		1.2		0
10/28/09	13		9.6		11.3	2.2		0		2.2		0
10/29/09	11		9.2		10.1	0		0		0		0
10/30/09	15		9.7		12.4	2.6		0		2.6		0
10/31/09	16.7		6.9		11.8	3.4		0		3.4		0
11/01/09	10.7		4.1		7.4	0		0		0		0
11/02/09	10.4		1.1		5.8	1.6		0		1.6		0
11/03/09	8.9		0.9		4.9	0	T	0		0	T	0
11/04/09	6.2		-1.2		2.5	1.8		0		1.8		0
11/05/09	7.5		1.3		4.4	1.6		0		1.6		0
11/06/09	4.9		-1.1		1.9	0		0		0		0
11/07/09	16.1		4.5		10.3	0		0		0		0
11/08/09	18.1		4.7		11.4	0		0		0	Prev. 5 days	0
11/09/09	19.1		3.9		11.5	0		0		0	3.4	0
11/10/09	13.5		3.3		8.4	0		0		0		0
11/11/09	9		-0.5		4.3	0		0		0		0
11/12/09	9.6		-1.8		3.9	0		0		0		0
11/13/09	11.1		-1.5		4.8	0		0		0		0
11/14/09	15.8		3.6		9.7	0		0		0		0
11/15/09	13.5		2		7.8	0		0		0		0
11/16/09	8.8		-0.2		4.3	0		0		0		0
11/17/09	7.5		-2.3		2.6	0		0		0	Prev. 5 days	0
11/18/09	11.3		0.1		5.7	0		0		0	0	0
11/19/09	10.2		2		6.1	12.6		0		12.6	Prev. 5 days	0
11/20/09	10.4		3.7		7.1	1.2		0		1.2	13.8	0
11/21/09	11.7		3		7.4	0		0		0		0
11/22/09	11		2.8		6.9	0		0		0		0
11/23/09	9.8		2.4		6.1	0		0		0		0
11/24/09	7.8		6.2		7	1.2		0		1.2		0
11/25/09	10.6		7.5		9.1	6.2		0		6.2		0
11/26/09	9.5		1.3		5.4	0.4		0		0.4		0
11/27/09	7.1		1.4		4.3	0.4		0		0.4		0
11/28/09	6.5		0.2		3.4	0		0		0		0
11/29/09	6.9		-3		2	4.6		0		4.6		0
11/30/09	5.5		-0.7		2.4	0.6		0		0.6		0
12/01/09	7		0.3		3.7	0		0.2		0.2		0
12/02/09	10.2		0.2		5.2	15.6		0		15.6		0
12/03/09	7.6		-0.6		3.5	5		0		5		0
12/04/09	3.3		-3.8		-0.3	0		0		0		0
12/05/09	0.9		-5.7		-2.4	0		0		0		0
12/06/09	2.7		-3.8		-0.6	0		0	T	0	T	0
12/07/09	1.6		-2.7		-0.6	0		0	T	0	T	0
12/08/09	2.1		-4.5		-1.2	0		0	T	0	T	0
12/09/09	6.1		-0.9		2.6	10.2		9.6		26.2		5
12/10/09	-0.8		-9.5		-5.2	0		1.4		1		2
12/11/09	-6.4		-10.2		-8.3	0		0	T	0	T	2
12/12/09	1.7		-8.5		-3.4	0		0	T	0	T	1
12/13/09	3		-0.4		1.3	0.8		0	T	0.8		1
12/14/09	3.8		0.4		2.1	2.6		0		2.6		1
12/15/09	3		-5		-1	0		0.6		0.6		0
12/16/09	-3.6		-6.3		-5	0		0.6		0.4		0
12/17/09	-4.7		-11.7		-8.2	0		0	T	0	Prev. 5 days	0
12/18/09	-2.9		-7.1		-5	0		0	T	0	4.4	0
12/19/09	-3.3		-9.2		-6.3	0		0		0		0
12/20/09	1.1		-5.8		-2.4	0		0	T	0	T	0
12/21/09	-1.8		-6.7		-4.3	0		0	T	0	T	0
12/22/09	-5.7		-11.7		-8.7	0		0	T	0	T	0
12/23/09	-3.3		-9.9		-6.6	0		0	T	0	T	0
12/24/09	0.5		-7.3		-3.4	0		0.4		0.4		0
12/25/09	3.7		-0.1		1.8	15.6		0		15.6		0
12/26/09	4.4		-2.7		0.9	10.6		0		10.6		0
12/27/09	2		-2.2		-0.1	0		0	T	0	T	0
12/28/09	-1.6		-11.4		-6.5	0		1		0.6		0
12/29/09	-5.2		-15.7		-10.5	0		0.4		0.2		1
12/30/09	-1.2		-8.8		-5	0		0		0		1
12/31/09	2.7		-1.5		0.6	0.6		0	T	0.6		0
01/01/10	0.9		-10.4		-4.8	0		1.6		1.2		0
01/02/10	-10.2		-17.6		-13.9	0		0	T	0	T	1
01/03/10	-8.3		-15.5		-11.9	0		2		1.2		1

Pearson Airport Daily Weather Data

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Date	Max Temp (°C)	Max Temp Flag	Min Temp (°C)	Min Temp Flag	Mean Temp (°C)	Total Rain (mm)	Total Rain Flag	Total Snow (cm)	Total Snow Flag	Total Precip (mm)	Total Precip Flag	Snow on Grnd (cm)
01/04/10	-7.1		-12.7		-9.9	0		0.8		0.4		2
01/05/10	-3.6		-11.1		-7.4	0		3		2		2
01/06/10	-2.1		-10.3		-6.2	0		0	T	0	T	5
01/07/10	-3		-7.3		-5.2	0		0	T	0	T	5
01/08/10	-7.3		-11.7		-9.5	0		1.4		0.8		5
01/09/10	-8.7		-14.6		-11.7	0		0		0		5
01/10/10	-3.8		-15.6		-9.7	0		0	T	0	T	4
01/11/10	-4.7		-7.8		-6.3	0		1.4		1.2		3
01/12/10	-5.7		-9.1		-7.4	0		0		0		4
01/13/10	0.4		-6.1		-2.9	0		0		0		4
01/14/10	4.8		-6		-0.6	0		0		0		3
01/15/10	4.1		1		2.6	0	T	0		0	T	0
01/16/10	2		-3.2		-0.6	0		0		0		0
01/17/10	2.7		-1.6		0.6	0		0		0		0
01/18/10	1		-2.9		-1	0		0		0		0
01/19/10	2		-3.8		-0.9	0		0.2		0.2		0
01/20/10	-1.8		-7.7		-4.8	0		0		0	Prev. 5 days	0
01/21/10	0.9		-8.9		-4	0		0		0	0.2	0
01/22/10	3.1		-5.3		-1.1	0		0		0		0
01/23/10	1.5		-3.8		-1.2	0		0		0		0
01/24/10	6		-1.3		2.4	6.2		0		6.2		0
01/25/10	6.7		0.2		3.5	10.8		0		10.8		0
01/26/10	0.3		-1.9		-0.8	0		0.2		0.2		0
01/27/10	-1.9		-5.8		-3.9	0		0.2		0.2		0
01/28/10	-3.9		-13.7		-8.8	0		0	T	0	T	0
01/29/10	-9.5		-17.7		-13.6	0		0	T	0	T	0
01/30/10	-9.4		-19		-14.2	0		0		0		0
01/31/10	-4.1		-13.5		-8.8	0		0	T	0	T	0
02/01/10	-3.3		-10.9		-7.1	0		0	T	0	T	0
02/02/10	-1.2		-9.9		-5.6	0		2.6		2		0
02/03/10	0.6		-6.1		-2.8	0		0.4		0.4		2
02/04/10	0.4		-10		-4.8	0		0		0		2
02/05/10	0.1		-6.8		-3.4	0		0		0		1
02/06/10	-5.4		-12		-8.7	0		0		0		1
02/07/10	-2.2		-11.9		-7.1	0		0		0		0
02/08/10	0.9		-11.4		-5.3	0		0		0		0
02/09/10	-3.8		-8.7		-6.3	0		0.2		0.2		0
02/10/10	-3.2		-7.6		-5.4	0		4.4		3.2		3
02/11/10	-1.4		-9.7		-5.6	0		0		0		3
02/12/10	-0.5		-11.5		-6	0		0		0		2
02/13/10	-1.2		-9.6		-5.4	0		0.6		0.6		0
02/14/10	-1.1		-3.8		-2.5	0		0	T	0	T	1
02/15/10	-1.4		-4.1		-2.8	0		0	T	0	T	0
02/16/10	0.6		-4.6		-2	0		0.2		0.2		0
02/17/10	0.6		-3.6		-1.5	0		2.2		1.8		0
02/18/10	1.4		-2.4		-0.5	0		0		0		1
02/19/10	4.1		-2		1.1	0		0		0		0
02/20/10	4.1		-5.6		-0.8	0		0		0		0
02/21/10	4.9		-5.7		-0.4	0		0		0		0
02/22/10	0.6		-6.1		-2.8	0		5		5		0
02/23/10	0.7		-3.8		-1.6	0	T	0.6		0.6		5
02/24/10	0.9		-5.4		-2.3	0		0	T	0	T	5
02/25/10	-0.4		-7.5		-4	0		3		2.8		3
02/26/10	-0.1		-6.3		-3.2	0		6.4		6.2		7
02/27/10	2.2		-0.7		0.8	0		1.8		1.8		8
02/28/10	3.1		0.2		1.7	0		0	T	0	T	4
03/01/10	2.5		-1.3		0.6	0		0		0		1
03/02/10	3		-3.4		-0.2	0		0		0		1
03/03/10	4.4		-3.1		0.7	0		0		0		0
03/04/10	3.8		-4.3		-0.3	0		0		0		0
03/05/10	3.9		-4.1		-0.1	0		0		0		0
03/06/10	9		-4		2.5	0		0		0		0
03/07/10	11.3		-2.7		4.3	0		0		0		0
03/08/10	14.2		-0.2		7	0		0		0		0
03/09/10	13		-0.1		6.5	0		0		0		0
03/10/10	9		-1.9		3.6	0	T	0		0	T	0
03/11/10	12.2		5.1		8.7	0		0		0		0
03/12/10	7.5		5.1		6.3	21.6		0		21.6		0
03/13/10	6.7		4		5.4	20.6		0		20.6		0
03/14/10	5.8		3.3		4.6	4		0		4		0
03/15/10	13.2		3		8.1	0	T	0		0	T	0
03/16/10	16		0.9		8.5	0		0		0		0
03/17/10	17.7		3.5		10.6	0		0		0		0
03/18/10	18.7		3.2		11	0		0		0		0
03/19/10	19.1		3.1		11.1	0		0		0		0

Pearson Airport Daily Weather Data

Station Name	TORONTO LESTER B. PEARSON	Legend			
Province	ONTARIO	[Empty]	No Data Available	F	Accumulated and Estimated
Latitude	43.68	M	Missing	N	Temperature Missing but Known to be > 0
Longitude	-79.63	E	Estimated	Y	Temperature Missing but Known to be < 0
Elevation	173.4	A	Accumulated	S	More Than One Occurrence
Climate Identifier	6158733	C	Precipitation Occurred; Amount Uncertain	T	Trace
Date of Site Visits		L	Precipitation May or May Not Have Occurred	*	Data for this day has undergone only preliminary quality checking.

Date	Max Temp (°C)	Max Temp Flag	Min Temp (°C)	Min Temp Flag	Mean Temp (°C)	Total Rain (mm)	Total Rain Flag	Total Snow (cm)	Total Snow Flag	Total Precip (mm)	Total Precip Flag	Snow on Grnd (cm)
03/20/10	5.3		-1.2		2.1	0		0		0		0
03/21/10	5.3		-1.6		1.9	0		0	T	0	T	0
03/22/10	7.9		-0.8		3.6	4		0		4		0
03/23/10	3.7		0.2		2	3.6		0		3.6		0
03/24/10	15.4		-2		6.7	0		0		0		0
03/25/10	9		-3.1		3	0		0		0		0
03/26/10	0.9		-6.7		-2.9	0		0		0		0
03/27/10	4.6		-6.6		-1	0		0		0		0
03/28/10	6.9		0.9		3.9	7.8		0		7.8		0
03/29/10	8.8		-0.5		4.2	1		0		1		0
03/30/10	12.6		-2		5.3	0		0		0		0
03/31/10	14.7		0.3		7.5	0		0		0		0
04/01/10	19.3		6		12.7	0		0		0		0
04/02/10	24.3		7.6		16	0		0		0		0
04/03/10	21.9		7.2		14.6	0	T	0		0	T	0
04/04/10	18.1		5.8		12	0		0		0		0
04/05/10	23.1		9.9		16.5	0	T	0		0	T	0
04/06/10	13.3		8.7		11	7.2		0		7.2		0
04/07/10	17.2		8.4		12.8	14.4		0		14.4		0
04/08/10	11.6		3.7		7.7	10.8		0		10.8		0
04/09/10	4.1		1.3		2.7	0	T	0	T	0	T	0
04/10/10	13.3		-0.8		6.3	0	T	0		0	T	0
04/11/10	17.7		3.8		10.8	0		0		0		0
04/12/10	13.6		3.9		8.8	0		0		0	**Prev. 5 days**	0
04/13/10	14.9		4.1		9.5	0		0		0	10.8	0
04/14/10	16.5		2.2		9.4	0		0		0		0
04/15/10	19.9		5.6		12.8	0		0		0		0
04/16/10	21.6		4.6		13.1	0	T	0		0	T	0
04/17/10	7.9		3.2		5.6	0.2		0	T	0.2		0
04/18/10	14		3.9		9	0	T	0		0	T	0
04/19/10	16.2		3.4		9.8	0		0		0		0
04/20/10	18.2		4.4		11.3	0		0		0		0
04/21/10	19.1		3.4		11.3	0	T	0		0	T	0
04/22/10	12.6		1.7		7.2	0		0		0		0
04/23/10	15		0.9		8	0		0		0		0
04/24/10	18.1		3		10.6	0		0		0		0
04/25/10	12.7		9.3		11	3.6		0		3.6		0
04/26/10	17.5		5.3		11.4	0		0		0		0
04/27/10	10.6		2.8		6.7	0		0		0		0
04/28/10	14		4		9	0		0		0		0
04/29/10	19.5		3.5		11.5	0	T	0		0	T	0
04/30/10	20.9		10.6		15.8	0		0		0		0
05/01/10	23.2		12		17.6	1.8		0		1.8		0
05/02/10	24.4		15.2		19.8	1.2		0		1.2		0
05/03/10	24.8		14.9		19.9	1.6		0		1.6		0
05/04/10	21.2		12.6		16.9	0	T	0		0	T	0
05/05/10	27.2		11.8		19.5	5.4		0		5.4		0
05/06/10	15.5		7.2		11.4	0		0		0		0
05/07/10	13.1		5.7		9.4	26		0		26		0
05/08/10	12.5		2.2		7.4	3.2		0		3.2		0
05/09/10	10.6		0.7		5.7	0		0	T	0	T	0
05/10/10	13.7		0.9		7.3	0		0		0		0
05/11/10	10.8		2.2		6.5	3.8		0		3.8		0
05/12/10	11.6		4.6		8.1	0.8		0		0.8		0
05/13/10	12.2		3		7.6	5.8		0		5.8		0
05/14/10	20.9		7.2		14.1	0		0		0		0
05/15/10	14.5		7.6		11.1	0		0		0		0
05/16/10	19.5		6.4		13	0		0		0		0
05/17/10	20.9		6.5		13.7	0		0		0		0
05/18/10	20.1		10.2		15.2	0		0		0		0
05/19/10	24.4		8.1		16.3	0		0		0		0
05/20/10	28.7		12.5		20.6	0		0		0		0
05/21/10	21.3		12.5		16.9	0		0		0		0
05/22/10	20.1		15.6		17.9	0.4		0		0.4		0
05/23/10	24.1		14.2		19.2	0		0		0		0
05/24/10	27.2		13.8		20.5	0		0		0		0
05/25/10	28.8		15.9		22.4	0		0		0		0
05/26/10	31.7		18.1		24.9	0		0		0		0
05/27/10	30.9		17		24	0.4		0		0.4		0
05/28/10	26.7		17.6		22.2	0		0		0		0
05/29/10	26.3		16.6		21.5	0		0		0		0
05/30/10	30.7		14.8		22.8	0		0		0		0
05/31/10	27.9		16.8		22.4	0.6		0		0.6		0
06/01/10	27.9		15.3		21.6	5.4		0		5.4		0
06/02/10	27.2		14.5		20.9	33.2		0		33.2		0

Pearson Airport Daily Weather Data

Station Name	TORONTO LESTER B. PEARSON	Legend			
Province	ONTARIO	[Empty]	No Data Available	F	Accumulated and Estimated
Latitude	43.68	M	Missing	N	Temperature Missing but Known to be > 0
Longitude	-79.63	E	Estimated	Y	Temperature Missing but Known to be < 0
Elevation	173.4	A	Accumulated	S	More Than One Occurrence
Climate Identifier	6158733	C	Precipitation Occurred; Amount Uncertain	T	Trace
Date of Site Visits		L	Precipitation May or May Not Have Occurred	*	Data for this day has undergone only preliminary quality checking.

Date	Max Temp (°C)	Max Temp Flag	Min Temp (°C)	Min Temp Flag	Mean Temp (°C)	Total Rain (mm)	Total Rain Flag	Total Snow (cm)	Total Snow Flag	Total Precip (mm)	Total Precip Flag	Snow on Grnd (cm)
06/03/10	20.8		16.3		18.6	4.8		0		4.8		0
06/04/10	23.7		13.5		18.6	4.4		0		4.4		0
06/05/10	25.4		15.7		20.6	4		0		4		0
06/06/10	18.9		11.4		15.2	19		0		19		0
06/07/10	19.8		9.7		14.8	0		0		0		0
06/08/10	20.3		7.5		13.9	0		0		0		0
06/09/10	15.3		12.6		14	11.8		0		11.8		0
06/10/10	20.9		13.3		17.1	0	T	0		0	T	0
06/11/10	23.1		13.2		18.2	0		0		0		0
06/12/10	18.4		16.2		17.3	3.4		0		3.4		0
06/13/10	21		16.5		18.8	0.2		0		0.2		0
06/14/10	24.5		16.4		20.5	0	T	0		0	T	0
06/15/10	23		13.6		18.3	0		0		0		0
06/16/10	26.1		14.6		20.4	16.2		0		16.2		0
06/17/10	24.4		13.6		19	0		0		0		0
06/18/10	26.8		13.4		20.1	0		0		0		0
06/19/10	29.9		18.7		24.3	0	T	0		0	T	0
06/20/10	27		17.4		22.2	0		0		0		0
06/21/10	26.1		16.8		21.5	0		0		0		0
06/22/10	24.4		18.3		21.4	19.8		0		19.8		0
06/23/10	29.5		18.3		23.9	0		0		0		0
06/24/10	27.1		17.4		22.3	9		0		9		0
06/25/10	25.2		14.7		20	0		0		0		0
06/26/10	22.3		17.4		19.9	7.2		0		7.2		0
06/27/10	24.1		17		20.6	53.2		0		53.2		0
06/28/10	29.6		16.3		23	0		0		0		0
06/29/10	19.8		10.7		15.3	0		0		0		0
06/30/10	20.5		8.9		14.7	0		0		0		0
07/01/10	22		10.4		16.2	0		0		0		
07/02/10	24.8		11.4		18.1	0		0		0		
07/03/10	30.3		14.8		22.6	0		0		0		
07/04/10	31.7		16.1		23.9	0		0		0		
07/05/10	34.1		22.3		28.2	0		0		0		
07/06/10	33.7		23.3		28.5	0		0		0		
07/07/10	33.3		23		28.2	0	T	0		0	T	
07/08/10	33.3		23.6		28.5	0		0		0		
07/09/10	25		18.8		21.9	19.8		0		19.8		
07/10/10	27.8		16.7		22.3	0		0		0		
07/11/10	28		16.5		22.3	11.6		0		11.6		
07/12/10	25.2		19.8		22.5	0	T	0		0	T	
07/13/10	27.8		20.3		24.1	0		0		0		
07/14/10	27.1		20.1		23.6	0		0		0		
07/15/10	29.3		20.5		24.9	1		0		1		
07/16/10	29.7		22		25.9	0.2		0		0.2		
07/17/10	31.4		18.2		24.8	0.8		0		0.8		
07/18/10	28.6		15.2		21.9	0	T	0		0	T	
07/19/10	26.8		19.2		23	1.8		0		1.8		
07/20/10	27.8		18.3		23.1	0		0		0		
07/21/10	31		19.1		25.1	0		0		0		
07/22/10	29.2		17.6		23.4	0.6		0		0.6		
07/23/10	30.3		17.3		23.8	39		0		39		
07/24/10	27.5		19.8		23.7	11.4		0		11.4		
07/25/10	26		17.9		22	0		0		0		
07/26/10	29		16.3		22.7	0		0		0		
07/27/10	28.7		16.1		22.4	0		0		0		
07/28/10	31		18.7		24.9	3.2		0		3.2		
07/29/10	24.6		15.8		20.2	0		0		0		
07/30/10	23.3		15.6		19.5	0		0		0		
07/31/10	24.2		13.5		18.9	0.2		0		0.2		
08/01/10	25.8		17.7		21.8	0		0		0		0
08/02/10	28		17.4		22.7	0	T	0		0	T	0
08/03/10	31.9		20.7		26.3	0		0		0		0
08/04/10	31.9		20.7		26.3	0	T	0		0	Prev. 5 days	
08/05/10	31		18.9		25	0		0		0	0.2	0
08/06/10	24.4		13.1		18.8	0	T	0		0	T	0
08/07/10	25		10.6		17.8	0		0		0		0
08/08/10	27.7		18.2		23	0.2		0		0.2		0
08/09/10	28.6		20.2		24.4	9.8		0		9.8		0
08/10/10	30.5		20.6		25.6	0		0		0		0
08/11/10	28.7		19.9		24.3	0		0		0		0
08/12/10	27.3		21.5		24.4	0		0		0		0
08/13/10	27.4		19.1		23.3	0		0		0		0
08/14/10	27.1		19.7		23.4	0		0		0		0
08/15/10	30.9		21.8		26.4	1.6		0		1.6		0
08/16/10	27.6		16.7		22.2	0		0		0		0

Pearson Airport Daily Weather Data

Station Name	TORONTO LESTER B. PEARSON	Legend			
Province	ONTARIO	[Empty]	No Data Available	F	Accumulated and Estimated
Latitude	43.68	M	Missing	N	Temperature Missing but Known to be > 0
Longitude	-79.63	E	Estimated	Y	Temperature Missing but Known to be < 0
Elevation	173.4	A	Accumulated	S	More Than One Occurrence
Climate Identifier	6158733	C	Precipitation Occurred; Amount Uncertain	T	Trace
Date of Site Visits		L	Precipitation May or May Not Have Occurred	*	Data for this day has undergone only preliminary quality checking.

Date	Max Temp (°C)	Max Temp Flag	Min Temp (°C)	Min Temp Flag	Mean Temp (°C)	Total Rain (mm)	Total Rain Flag	Total Snow (cm)	Total Snow Flag	Total Precip (mm)	Total Precip Flag	Snow on Grnd (cm)
08/17/10	28.3		15.4		21.9	0		0		0		0
08/18/10	24		15.8		19.9	0		0		0		0
08/19/10	29.3		16		22.7	3		0		3		0
08/20/10	23.5		13.5		18.5	0		0		0		0
08/21/10	23.6		19.5		21.6	24		0		24		0
08/22/10	22.1		19.2		20.7	17.2		0		17.2		0
08/23/10	21.3		18.2		19.8	0	T	0		0	T	0
08/24/10	23.3		15.9		19.6	0		0		0		0
08/25/10	26.1		14.9		20.5	2.8		0		2.8		0
08/26/10	21.9		11.7		16.8	0		0		0		0
08/27/10	24.8		9.7		17.3	0		0		0		0
08/28/10	28.7		14.2		21.5	0		0		0		0
08/29/10	30.9		15.4		23.2	0		0		0		0
08/30/10	34.5		20		27.3	0		0		0		0
08/31/10	33.7		21.7		27.7	0		0		0		0
09/01/10	32.7		21.4		27.1	0		0		0		
09/02/10	30.4		22.6		26.5	4.2		0		4.2		
09/03/10	25.7		15.1		20.4	9.6		0		9.6		
09/04/10	17.2		10.8		14	0.4		0		0.4		
09/05/10	19.5		10		14.8	0		0		0		
09/06/10	22.7		11.5		17.1	1.4		0		1.4		
09/07/10	30.2		15.3		22.8	0		0		0		
09/08/10	19.3		14.2		16.8	0.2		0		0.2		
09/09/10	16.8		12.4		14.6	0	T	0		0	T	
09/10/10	20.7		11.8		16.3	0		0		0		
09/11/10	21		9.7		15.4	5.8		0		5.8		
09/12/10	22.1		13.6		17.9	0.4		0		0.4		
09/13/10	24.3		12.6		18.5	1.8		0		1.8		
09/14/10	20.5		9.7		15.1	0		0		0		
09/15/10	17.9		8.2		13.1	0		0		0		
09/16/10	14.4		11.4		12.9	27.2		0		27.2		
09/17/10	16.8		8.6		12.7	0		0		0		
09/18/10	21.9		10.7		16.3	0.6		0		0.6		
09/19/10	19		7.8		13.4	0		0		0		
09/20/10	18.4		6.9		12.7	0		0		0		
09/21/10	26.9		10.8		18.9	0	T	0		0	T	
09/22/10	22.8		11.6		17.2	6		0		6		
09/23/10	20.1		9.3		14.7	0		0		0		
09/24/10	30.8		15.8		23.3	0	T	0		0	T	
09/25/10	17.5		6.9		12.2	0	T	0		0	T	
09/26/10	15.7		6.3		11	0		0		0		
09/27/10	16		8.8		12.4	8		0		8		
09/28/10	18		11.8		14.9	23.2		0		23.2		
09/29/10	19.3		10		14.7	0		0		0		
09/30/10	18.5		12.6		15.6	0	T	0		0	T	
10/01/10	16.8		7.5		12.2	0		0		0		
10/02/10	11.6		6.1		8.9	1		0		1		
10/03/10	12.4		5.8		9.1	0		0		0		
10/04/10	12.4		4		8.2	1		0		1		
10/05/10	15.6		8.9		12.3	11.8		0		11.8		
10/06/10	17.1		9		13.1	0.4		0		0.4		
10/07/10	19.9		7.6		13.8	0		0		0		
10/08/10	23.6		7.5		15.6	0		0		0		
10/09/10	16.8		5.9		11.4	0		0		0		
10/10/10	22.6		3.9		13.3	0		0		0		
10/11/10	14.8		8.3		11.6	0		0		0		
10/12/10	13		4.1		8.6	0		0		0		
10/13/10	15.3		1.1		8.2	4.2		0		4.2		
10/14/10	11.5		4.4		8	12.4		0		12.4		
10/15/10	14		2.9		8.5	0		0		0		
10/16/10	15.6		4.6		10.1	0	T	0		0	T	
10/17/10	16.8		4.1		10.5	0		0		0		
10/18/10	12.5		2.7		7.6	0		0		0	**Prev. 5 days**	
10/19/10	14.2		2.6		8.4	0	T	0		0	12.4	
10/20/10	16.6		4.7		10.7	2.2		0		2.2		
10/21/10	8.2		2.2		5.2	0	T	0		0	T	
10/22/10	10.6		-0.2		5.2	0	T	0		0	T	
10/23/10	14.9		6.3		10.6	10.6		0		10.6		
10/24/10	11.4		8.3		9.9	5.4		0		5.4		
10/25/10	18.8		9.6		14.2	0		0		0		
10/26/10	20.6		12.5		16.6	7.8		0		7.8		
10/27/10	19.3		11.4		15.4	0		0		0		
10/28/10	14.5		6.9		10.7	0	T	0		0	T	
10/29/10	9.3		3.5		6.4	0.2		0		0.2		
10/30/10	14.1		5.2		9.7	0		0		0		

Pearson Airport Daily Weather Data

Station Name	TORONTO LESTER B. PEARSON	Legend			
Province	ONTARIO	[Empty]	No Data Available	F	Accumulated and Estimated
Latitude	43.68	M	Missing	N	Temperature Missing but Known to be > 0
Longitude	-79.63	E	Estimated	Y	Temperature Missing but Known to be < 0
Elevation	173.4	A	Accumulated	S	More Than One Occurrence
Climate Identifier	6158733	C	Precipitation Occurred; Amount Uncertain	T	Trace
Date of Site Visits		L	Precipitation May or May Not Have Occurred	*	Data for this day has undergone only preliminary quality checking.

Date	Max Temp (°C)	Max Temp Flag	Min Temp (°C)	Min Temp Flag	Mean Temp (°C)	Total Rain (mm)	Total Rain Flag	Total Snow (cm)	Total Snow Flag	Total Precip (mm)	Total Precip Flag	Snow on Grnd (cm)
10/31/10	6		-1.2		2.4	0		0.2		0.4		
11/01/10	7.1		-1.6		2.8	0		0		0		
11/02/10	8.2		-2.4		2.9	0		0		0		
11/03/10	10.4		-2.8		3.8	0.8		0		0.8		
11/04/10	8.9		4.8		6.9	1.8		0		1.8		
11/05/10	5.8		-0.2		2.8	2.8		0		2.8		
11/06/10	5.2		-1.6		1.8	0		0		0		
11/07/10	10.1		0.9		5.5	0		0		0		
11/08/10	10.3		-2		4.2	0		0		0		
11/09/10	9.7		0		4.9	0		0		0		
11/10/10	11.1		0.2		5.7	0		0		0		
11/11/10	10.9		0.2		5.6	0		0		0		
11/12/10	12.3		-1.1		5.6	0		0		0		
11/13/10	12.2		-1.7		5.3	0		0		0		
11/14/10	10.9		2.7		6.8	0.6		0		0.6		
11/15/10	12.1		2.1		7.1	0	T	0		0	T	
11/16/10	10.6		1.2		5.9	26.6		0		26.6		
11/17/10	10		2.4		6.2	1.2		0		1.2		
11/18/10	7.5		-1.2		3.2	0.8		0		0.8		
11/19/10	6.7		-1.9		2.4	0		0		0		
11/20/10	6.8		-0.4		3.2	0		0		0		
11/21/10	8.5		-1.6		3.5	0		0	T	0	T	
11/22/10	15.9		8.5		12.2	2		0		2		
11/23/10	16.5		0.9		8.7	5.8		0		5.8		
11/24/10	3.1		-1.2		1	0		0		0		
11/25/10	6.5		0.4		3.5	7.2		0		7.2		
11/26/10	6.8		-2.2		2.3	1.4		0	T	1.4		
11/27/10	4.1		-1.7		1.2	0		0	T	0	T	
11/28/10	2.3		-1.3		0.5	0		0		0		
11/29/10	6.3		-4		1.2	0		0		0		
11/30/10	11.7		4.2		8	15.2		0		15.2		
12/01/10	8.4		-0.9		3.8	10.4		0	T	10.4		
12/02/10	1.1		-1.3		-0.1	0		0	T	0	T	
12/03/10	4		-3.2		0.4	0		0		0		
12/04/10	-0.6		-6.1		-3.4	0		0	T	0	T	
12/05/10	1.2		-6.6		-2.7	0		0	T	0	T	
12/06/10	-2.8		-5.2		-4	0		1.8		1.8		0
12/07/10	-2.1		-6.8		-4.5	0		0	T	0	T	2
12/08/10	-2.8		-11.1		-7	0		0		0		1
12/09/10	-3.2		-13.8		-8.5	0		0		0		0
12/10/10	2.7		-3.3		-0.3	0.4		0	T	0.4		0
12/11/10	4.1		0.5		2.3	0		0		0		0
12/12/10	3.8		-8.5		-2.4	19		1		20		0
12/13/10	-8.3		-13.9		-11.1	0		0.8		0.8		1
12/14/10	-7.6		-11.6		-9.6	0		1.8		1.6		1
12/15/10	-4.3		-12.7		-8.5	0		1		0.8		2
12/16/10	-2.6		-7.2		-4.9	0		0	T	0	T	2
12/17/10	-0.6		-4.2		-2.4	0.2		0	T	0.2		1
12/18/10	-3.2		-7		-5.1	0		0	T	0	T	1
12/19/10	-3.7		-5.6		-4.7	0		0.6		0.6		1
12/20/10	-0.6		-6.7		-3.7	0		0	T	0	T	1
12/21/10	-3.4		-9.9		-6.7	0		0		0		
12/22/10	-2.9		-7.6		-5.3	0		0		0		1
12/23/10	-1.8		-6.1		-4	0		0	T	0	T	1
12/24/10	-2.8		-6.6		-4.7	0		0	T	0	T	1
12/25/10	-5		-7.2		-6.1	0		0		0		1
12/26/10	-5.4		-10.7		-8.1	0		0		0		1
12/27/10	-1.6		-10.8		-6.2	0		0		0		1
12/28/10	-0.2		-5.1		-2.7	0		0	T	0	T	0
12/29/10	-0.3		-5.7		-3	0		0	T	0	T	0
12/30/10	4.2		-7.9		-1.9	0	T	0		0	T	0
12/31/10	10		3.7		6.9	0.2		0		0.2		
01/01/11	12		-1.3		5.4	8.6		0		8.6		
01/02/11	-1.1		-5.5		-3.3	0		0	T	0	T	
01/03/11	0.1		-6.5		-3.2	0		0	T	0	T	
01/04/11	1.3		-3.2		-1	0.4		0		0.4		0
01/05/11	-1		-8.9		-5	0		0		0		0
01/06/11	-2.1		-9		-5.6	0		4.8		4.4		0
01/07/11	-4.3		-10.6		-7.5	0		4.2		1.6		4
01/08/11	-5.3		-10.5		-7.9	0		11.2		6.4		12
01/09/11	-4.4		-11.1		-7.8	0		0	T	0		17
01/10/11	-3.8		-13		-8.4	0		0		0		16
01/11/11	-4.7		-10		-7.4	0		2.8		2.4		16
01/12/11	-7		-11		-9	0		1.8		1.8		19
01/13/11	-5.7		-13		-9.4	0		0	T	0	T	19

Pearson Airport Daily Weather Data

Station Name	TORONTO LESTER B. PEARSON	Legend			
Province	ONTARIO	[Empty]	No Data Available	F	Accumulated and Estimated
Latitude	43.68	M	Missing	N	Temperature Missing but Known to be > 0
Longitude	-79.63	E	Estimated	Y	Temperature Missing but Known to be < 0
Elevation	173.4	A	Accumulated	S	More Than One Occurrence
Climate Identifier	6158733	C	Precipitation Occurred; Amount Uncertain	T	Trace
Date of Site Visits		L	Precipitation May or May Not Have Occurred	*	Data for this day has undergone only preliminary quality checking.

Date	Max Temp (°C)	Max Temp Flag	Min Temp (°C)	Min Temp Flag	Mean Temp (°C)	Total Rain (mm)	Total Rain Flag	Total Snow (cm)	Total Snow Flag	Total Precip (mm)	Total Precip Flag	Snow on Grnd (cm)
01/14/11	-2.2		-8.6		-5.4	0		0.2		0.2		18
01/15/11	-2.3		-8.3		-5.3	0		5.8		5.4		18
01/16/11	-5.7		-18.3		-12	0		0		0		21
01/17/11	-2.2		-21.2		-11.7	0		5.2		2.4		21
01/18/11	3.4		-2.6		0.4	2.8		0	T	2.8		21
01/19/11	-2.6		-11.6		-7.1	0		0.2		0.2		8
01/20/11	-5.6		-14.9		-10.3	0		1.8		1.6		8
01/21/11	-6.1		-15.3		-10.7	0		1		0.6		10
01/22/11	-9.1		-16.4		-12.8	0		0.8		0.8		10
01/23/11	-11.8		-20.2		-16	0		0.2		0.2		10
01/24/11	-5.3		-20.7		-13	1		1.6		2.2		10
01/25/11	-0.5		-6		-3.3	0		0	T	0	T	12
01/26/11	-1.3		-3.2		-2.3	0		0	T	0	T	12
01/27/11	-0.8		-4.6		-2.7	0		0	T	0	T	9
01/28/11	-1.3		-5.8		-3.6	0		0	T	0	T	8
01/29/11	-4.7		-10.2		-7.5	0		0	T	0	T	7
01/30/11	-4.4		-14.4		-9.4	0		0		0		7
01/31/11	-10.4		-18.6		-14.5	0		0		0		7
02/01/11	-7.1		-11.8		-9.5	0		1.6		1		7
02/02/11	-8.4		-14.9		-11.7	0		12.8		9.4		15
02/03/11	-3.8		-17.1		-10.5	0		0		0		21
02/04/11	-4.6		-10.2		-7.4	0		0		0		20
02/05/11	-0.9		-9.1		-5	0		11.6		9.8		20
02/06/11	0.6		-3.2		-1.3	0		2.6		1.4		17
02/07/11	0.4		-10.6		-5.1	0		1.2		0.7		17
02/08/11	-9.6		-16		-12.8	0		0	T	0	T	16
02/09/11	-6.3		-13.7		-10	0		0		0		17
02/10/11	-9.2		-15.3		-12.3	0		0		0		17
02/11/11	-4.4		-18		-11.2	0		0	T	0	T	16
02/12/11	-1.9		-7		-4.5	0		0.2		0	T	16
02/13/11	6.8		-6.1		0.4	0		0.2		0.2		16
02/14/11	6.8		-10.3		-1.8	0	T	0		0	T	12
02/15/11	-3.6		-13.6		-8.6	0		0		0		8
02/16/11	5.5		-6.3		-0.4	0		0	T	0	**Prev. 5 days**	5
02/17/11	**11.3**		-1		5.2	1.2		0		1.2	1.4	3
02/18/11	**10.8**		-1		4.9	0		0	T	0		0
02/19/11	-0.9		-6.7		-3.8	0		0	T	0	T	0
02/20/11	-3.3		-10.1		-6.7	0		4.6		4.2		0
02/21/11	-5.8		-11.8		-8.8	0		0	T	0	T	5
02/22/11	-3.7		-14.2		-9	0		0		0		2

Oakville Town Daily Weather Data

Station Name	OAKVILLE TWN	Legend			
Province	ONTARIO	[Empty]	No Data Available	F	Accumulated and Estimated
Latitude	43.51	M	Missing	N	Temperature Missing but Known to be > 0
Longitude	-79.69	E	Estimated	Y	Temperature Missing but Known to be < 0
Elevation	168	A	Accumulated	S	More Than One Occurrence
Climate Identifier	6155750	C	Precipitation Occurred; Amount Uncertain	T	Trace
Date of Site Visits		L	Precipitation May or May Not Have Occurred	*	Data for this day has undergone only preliminary quality checking.

Date	Max Temp (°C)	Max Temp Flag	Min Temp (°C)	Min Temp Flag	Mean Temp (°C)	Total Rain (mm)	Total Rain Flag	Total Snow (cm)	Total Snow Flag	Total Precip (mm)	Total Precip Flag	Snow on Grnd (cm)
01/01/09	-0.8		-16.2		-8.5	0		0		0		5
01/02/09	0.5		-5.5		-2.5	0		0	T	0	T	0
01/03/09	-2.5		-6		-4.3	0		0		0		0
01/04/09	1		-10.5		-4.8	0	T	0		0	T	0
01/05/09	-3		-5.5		-4.3	0		0		0		0
01/06/09	0.5		-8.2		-3.9	0		0		0		0
01/07/09	1		-5.5		-2.3	0		4		11.2		12
01/08/09	-4		-6.8		-5.4	0		0		0		13
01/09/09	-4		-12		-8	0		0.2		0.2		11
01/10/09	-6		-11		-8.5	0		11		11		13
01/11/09	-4.5		-15		-9.8	0		0		0		24
01/12/09	0		-12		-6	0		3		3		0
01/13/09	1		-7.5		-3.3	0		0		0		15
01/14/09	-12		-20.5		-16.3	0		6		6		14
01/15/09	-10		-17.5		-13.8	0		0		0		20
01/16/09	-11.8		-18.5		-15.2	0		0		0		20
01/17/09	-3		-21		-12	0		12		8.2		20
01/18/09	-3.5		-10.2		-6.9	0		3		1.2		29
01/19/09	-5.5		-8		-6.8	0		0	T	1		32
01/20/09	-8		-13		-10.5	0		0		0		26
01/21/09	-4		-19		-11.5	0		0		0		0
01/22/09	-1.5		-7		-4.3	0		0		0		24
01/23/09	4		-4		0	0		0		0		23
01/24/09	-10		-16.5		-13.3	0		0		0		0
01/25/09	-8		-15.5		-11.8	0		0		0		22
01/26/09	-8		-18		-13	0		0		0		22
01/27/09	-4		-14.4		-9.2	0		6.9		6.9		22
01/28/09	-3		-7.5		-5.3	0		10.1		10.1		24
01/29/09	-3		-11		-7	0		1		1		35
01/30/09	-4.5		-7		-5.8	0		0		0.5		34
01/31/09	1.5		-14.8		-6.7	0		0	T	0	T	34
02/01/09	5.5		-8.5		-1.5	0		0		0		34
02/02/09	3		-6		-1.5	0		0	T	0	T	28
02/03/09	-2.6		-11.2		-6.9	0		3		3		27
02/04/09	-10.8		-14		-12.4	0		0	T	0	T	30
02/05/09	-8.7		-22		-15.4	0		0		30.5		30
02/06/09	4.5		-12.5		-4	0		0		59.5		0
02/07/09	8.5		-9		-0.3	0		0		7		0
02/08/09	4		1		2.5	0		0		6		0
02/09/09	3		-5.5		-1.3	0.7		0		0.7		6
02/10/09	11		0		5.5	0	T	0		0	T	2
02/11/09	8.5		5		6.8	33.3		0		33.3		0
02/12/09	5		3		4	0		0		0		0
02/13/09	1		-6		-2.5	0		0		0		0
02/14/09	-0.6		-7.5		-4.1	0		0		0		0
02/15/09	2.9		-8.5		-2.8	0		0		0		0
02/16/09	2		-6.5		-2.3	0		0		0		0
02/17/09	2		-7		-2.5	0		1		1		0
02/18/09	1		-1		0	0.5		3		6.4		1
02/19/09	-3		-5.5		-4.3	0		0		0		2
02/20/09	-1.3		-7		-4.2	0		0	T	0	T	1
02/21/09	-0.8		-9.5		-5.2	0		5		5.4		0
02/22/09	-2		-5.1		-3.6	0		0		0		6
02/23/09	-4.8		-11		-7.9	0		0		0		5
02/24/09	-1.5		-15		-8.3	0		0		0		4
02/25/09	4		-6.5		-1.3	0.8		0.5		2.6		
02/26/09	9.5		1		5.3	9.2		0		9.2		
02/27/09	9.5		-5		2.3	4		0		4		0
02/28/09	-7.8		-16		-11.9	0		0		0		0
03/01/09	-4		-10.5		-7.3	0		0		0		0
03/02/09	-9		-15		-12	0		0		0		0
03/03/09	-3.5		-15.5		-9.5	0		0		0		0
03/04/09	1.2		-12		-5.4	0		0		0		0
03/05/09	12.5		-7.2		2.7	0		0		0		0
03/06/09	19		2		10.5	0		0		0		0
03/07/09	4.5		-1		1.8	16.2		0		16.2		0
03/08/09	4		1		2.5	11		0	T	22		0
03/09/09	5		0.2		2.6	0.2		0		0.2		0
03/10/09	10.5		0		5.3	13.1		0		13.1		0
03/11/09	6		0		3	0		0		0		0
03/12/09	-1.5		-7		-4.3	0		0		0		0
03/13/09	-0.5		-9.5		-5	0		0		0		0
03/14/09	7		-6		0.5	0		0		0		0
03/15/09	9.5		-3		3.3	0		0		0		0
03/16/09	8		-1.5		3.3	0		0		0		0

Oakville Town Daily Weather Data

Station Name	OAKVILLE TWN	Legend			
Province	ONTARIO	[Empty]	No Data Available	F	Accumulated and Estimated
Latitude	43.51	M	Missing	N	Temperature Missing but Known to be > 0
Longitude	-79.69	E	Estimated	Y	Temperature Missing but Known to be < 0
Elevation	168	A	Accumulated	S	More Than One Occurrence
Climate Identifier	6155750	C	Precipitation Occurred; Amount Uncertain	T	Trace
Date of Site Visits		L	Precipitation May or May Not Have Occurred	*	Data for this day has undergone only preliminary quality checking.

Date	Max Temp (°C)	Max Temp Flag	Min Temp (°C)	Min Temp Flag	Mean Temp (°C)	Total Rain (mm)	Total Rain Flag	Total Snow (cm)	Total Snow Flag	Total Precip (mm)	Total Precip Flag	Snow on Grnd (cm)
03/17/09	13.2		-0.5		6.4	0		0		0		0
03/18/09	16		8		12	0		0		0		0
03/19/09	5		0		2.5	0		0		0		0
03/20/09	2		-5.2		-1.6	0		0		0		0
03/21/09	6.2		-5.5		0.4	0		0		0		0
03/22/09	5.5		2.5		4	0		0		0		0
03/23/09	2.5		-5.8		-1.7	0		0		0		0
03/24/09	4		-3.5		0.3	0		0		0		0
03/25/09	6.5		0.5		3.5	1.9		0		1.9		0
03/26/09	10.5		3.5		7	0.2		0		0.2		0
03/27/09	12.5		0.5		6.5	0		0		0		0
03/28/09	12		1.5		6.8	0		0		0		0
03/29/09												
03/30/09	6		0.5		3.3	0		0		0		0
03/31/09	5.2		-3.2		1	0.4		0		0.4		0
04/01/09	14.5		-1.2		6.7	1.8		0		1.8		0
04/02/09	15		1		8	13.5		0		13.5		0
04/03/09	9		6		7.5	27.4		0		27.4		0
04/04/09	6.5		3		4.8	0		0		0		0
04/05/09	11		0.5		5.8	4.8		0	T	4.8		0
04/06/09	2		0		1	14		4		36		0
04/07/09	0.5		-4.5		-2	0		0		0		1
04/08/09	10		-3.5		3.3	0		0		0		0
04/09/09	12.5		0		6.3	0		0		0		0
04/10/09	7.8		-0.6		3.6	0		0		0		0
04/11/09	9.5		0.5		5	0		0		0		0
04/12/09	8		-1		3.5	0		0		0		0
04/13/09		M	-1.5			0		0		0		0
04/14/09	10		3		6.5	0		0		0		0
04/15/09	12		4		8	0		0		0		0
04/16/09	14		4.4		9.2	0		0		0		0
04/17/09	21.3		3		12.2	0		0		0		0
04/18/09	22		10		16	0		0		0		0
04/19/09	10		5		7.5	6.2		0		6.2		0
04/20/09	9.2		4		6.6	25.4		0		25.4		0
04/21/09	11.5		4		7.8	1.6		0		1.6		0
04/22/09	8		4		6	0		0		0		0
04/23/09	12.5		3		7.8	0		0		0		0
04/24/09	21		4.5		12.8	0		0		0		0
04/25/09	28		10		19	11.4		0		11.4		0
04/26/09	11		7		9	0.4		0		0.4		0
04/27/09	28		6.5		17.3	11.2		0		11.2		0
04/28/09	12		8.3		10.2	5		0		5		0
04/29/09	11		5		8	0		0		0		0
04/30/09	17.5		6.5		12	22.8		0		22.8		0
05/01/09	20.5		8		14.3	0.1		0		0.1		0
05/02/09	15.5		3		9.3	0.6		0		0.6		0
05/03/09	20		4.5		12.3	0		0		0		0
05/04/09	16.1		6.4		11.3	0		0		0	Prev. 5 days	0
05/05/09	15		7.5		11.3	0		0		0	23.5	0
05/06/09	16		7.5		11.8	4.4		0		4.4		0
05/07/09	20.5		12		16.3	0	T	0		0	T	0
05/08/09	25		12.5		18.8	0		0		0		0
05/09/09	20		9.5		14.8	8		0		8		0
05/10/09	12.5		5.5		9	0		0		0		0
05/11/09	14		1		7.5	0		0		0		0
05/12/09	16.8		4		10.4	0		0		0		0
05/13/09	17		6		11.5	0.6		0		0.6		0
05/14/09	22.5		12		17.3	0.2		0		0.2		0
05/15/09	16		7.1		11.6	6		0		6		0
05/16/09	20.5		9		14.8	2.4		0		2.4		0
05/17/09	13		1.5		7.3	0		0		0		0
05/18/09	15		1.5		8.3	0		0		0		0
05/19/09	22.5		5		13.8	0		0		0		0
05/20/09	27.8		13.2		20.5	0		0		0		0
05/21/09	29		14.5		21.8	0		0		0		0
05/22/09	23		15		19	0		0		0		0
05/23/09	17.4		12		14.7	0	T	0		0	T	0

Oakville Town Daily Weather Data

Station Name	OAKVILLE TWN	Legend			
Province	ONTARIO	[Empty]	No Data Available	F	Accumulated and Estimated
Latitude	43.51	M	Missing	N	Temperature Missing but Known to be > 0
Longitude	-79.69	E	Estimated	Y	Temperature Missing but Known to be < 0
Elevation	168	A	Accumulated	S	More Than One Occurrence
Climate Identifier	6155750	C	Precipitation Occurred; Amount Uncertain	T	Trace
Date of Site Visits		L	Precipitation May or May Not Have Occurred	*	Data for this day has undergone only preliminary quality checking.

Date	Max Temp (°C)	Max Temp Flag	Min Temp (°C)	Min Temp Flag	Mean Temp (°C)	Total Rain (mm)	Total Rain Flag	Total Snow (cm)	Total Snow Flag	Total Precip (mm)	Total Precip Flag	Snow on Grnd (cm)
05/24/09	23		14.2		18.6	0		0		0		0
05/25/09	18.5		8.5		13.5	0		0		0		0
05/26/09	12		8.5		10.3	1		0		1		0
05/27/09	14.8		9		11.9	11.1		0		11.1		0
05/28/09	16		10.5		13.3	4		0		4	Prev. 5 days	0
05/29/09	23.5		11.5		17.5	4.1		0		4.1	20.2	0
05/30/09	20.5		6.5		13.5	0.6		0		0.6		0
05/31/09	13.5		4		8.8	0		0		0		0
06/01/09	18		8		13	0	T	0		0	T	0
06/02/09	16.5		9		12.8	0		0		0		0
06/03/09	20		7.5		13.8	0		0		0		0
06/04/09	18.5		6		12.3	0		0		0		0
06/05/09	19		9		14	0		0		0		0
06/06/09	24		11		17.5	0.2		0		0.2		0
06/07/09	17		12		14.5	0		0		0		0
06/08/09	16		11.5		13.8	9.2		0		9.2		0
06/09/09	18.5		10.5		14.5	0		0		0		0
06/10/09	19.5		8.9		14.2	0		0		0		0
06/11/09	20		10.9		15.5	1.7		0		1.7		0
06/12/09	23.5		13.5		18.5	0		0		0		0
06/13/09	23.9		13.5		18.7	0		0		0		0
06/14/09	25		10		17.5	0		0		0		0
06/15/09	24		13.5		18.8	0		0		0		0
06/16/09	22.7		14		18.4	0		0		0		0
06/17/09	18.5		16		17.3	14.7		0		14.7	Prev. 5 days	0
06/18/09	18		13		15.5	0.7		0		0.7	15.4	0
06/19/09	24		12.4		18.2	6.2		0		6.2		0
06/20/09	24		14.5		19.3	8.3		0		8.3		0
06/21/09	28		14.5		21.3	0		0		0		0
06/22/09	25.5		17		21.3	0		0		0		0
06/23/09	28.5		17.8		23.2	0		0		0		0
06/24/09	31.5		18		24.8	0		0		0		0
06/25/09	30		20.5		25.3	5		0		5		0
06/26/09	29		19		24	0		0		0		0
06/27/09	29		15.5		22.3	0	T	0		0	T	0
06/28/09	24		16.9		20.5	13.4		0		13.4		0
06/29/09	25.5		14.5		20	7.4		0		7.4		0
06/30/09	22		16		19	15.8		0		15.8		0
07/01/09	23		17.5		20.3	0	T	0		0	T	0
07/02/09	23		16.5		19.8	15		0		15		0
07/03/09	23.2		15		19.1	0		0		0		0
07/04/09	23		12		17.5	0		0		0		0
07/05/09	25		11.5		18.3	0		0		0		0
07/06/09	24		14		19	0		0		0		0
07/07/09	19.2		14		16.6	0		0		0		0
07/08/09	24		12		18	0		0		0		0
07/09/09	22.5		15		18.8	0		0		0		0
07/10/09	26		15		20.5	0		0		0		0
07/11/09	28		18		23	13		0		13		0
07/12/09	23.5		10		16.8	0		0		0		0
07/13/09	23.5		11		17.3	0		0		0		0
07/14/09	26		11		18.5	0		0		0		0
07/15/09	23.5		11.5		17.5	0.8		0		0.8		0
07/16/09	28		15.5		21.8	0		0		0		0
07/17/09	22		15.5		18.8	1		0		1		0
07/18/09	23		11.5		17.3	0		0		0		0
07/19/09	23		12.5		17.8	0		0		0		0
07/20/09	24.5		12.5		18.5	0		0		0		0
07/21/09	21		16		18.5	10.2		0		10.2		0
07/22/09												
07/23/09												
07/24/09	26		17		21.5	5.6		0		5.6		0
07/25/09	23		17.9		20.5	26.8		0		26.8		0
07/26/09	23.4		16.5		20	18.6		0		18.6		0
07/27/09	26.5		16		21.3	1		0		1		0
07/28/09	28		19.5		23.8	12		0		12		0
07/29/09	23		17.5		20.3	0.5		0		0.5		0
07/30/09												
07/31/09												
08/01/09	27.5		14		20.8	0		0		0		0
08/02/09	26		18.4		22.2	0		0		0		0
08/03/09	25.5		12.7		19.1	0		0		0		0
08/04/09	28		20.1		24.1	0		0		0		0
08/05/09	25.5		11		18.3	0		0		0		0
08/06/09	25		14.5		19.8	0		0		0		0

Oakville Town Daily Weather Data

Station Name	OAKVILLE TWN	Legend			
Province	ONTARIO	[Empty]	No Data Available	F	Accumulated and Estimated
Latitude	43.51	M	Missing	N	Temperature Missing but Known to be > 0
Longitude	-79.69	E	Estimated	Y	Temperature Missing but Known to be < 0
Elevation	168	A	Accumulated	S	More Than One Occurrence
Climate Identifier	6155750	C	Precipitation Occurred; Amount Uncertain	T	Trace
Date of Site Visits		L	Precipitation May or May Not Have Occurred	*	Data for this day has undergone only preliminary quality checking.

Date	Max Temp (°C)	Max Temp Flag	Min Temp (°C)	Min Temp Flag	Mean Temp (°C)	Total Rain (mm)	Total Rain Flag	Total Snow (cm)	Total Snow Flag	Total Precip (mm)	Total Precip Flag	Snow on Grnd (cm)
08/07/09	23		13		18	0		0		0		0
08/08/09												
08/09/09												
08/10/09	31		18		24.5	0		0		0		0
08/11/09	27		18.6		22.8	4.2		0		4.2		0
08/12/09	25.9		12.5		19.2	0		0		0		0
08/13/09	28		18		23	0		0		0		0
08/14/09	28.5		17.5		23	0		0		0		0
08/15/09	30.5		19		24.8	0		0		0		0
08/16/09	31		19		25	0		0		0		0
08/17/09												
08/18/09												
08/19/09												
08/20/09												
08/21/09	27.1		20.5		23.8	0.6		0		0.6		0
08/22/09												
08/23/09	23.5		16		19.8	0		0		0		0
08/24/09	25		14		19.5	0		0		0		0
08/25/09	26.5		14		20.3	3.6		0		3.6		0
08/26/09												
08/27/09												
08/28/09	18.8		15.4		17.1	28.4		0		28.4		0
08/29/09	22		16.1		19.1	0.4		0		0.4		0
08/30/09	19.5		14		16.8	0		0		0		0
08/31/09	21.8		10.2		16	0		0		0		0
09/01/09	22		10		16	0		0		0		0
09/02/09	23		11		17	0		0		0		0
09/03/09	24		12.5		18.3	0		0		0		0
09/04/09	26		14		20	0		0		0		0
09/05/09	23.4		13		18.2	0		0		0		0
09/06/09	23		16		19.5	0		0		0		0
09/07/09	23		17		20	0		0		0		0
09/08/09	23.5		17		20.3	0		0		0		0
09/09/09	23		16.5		19.8	0		0		0		0
09/10/09	23		15		19	0		0		0		0
09/11/09	20		14.5		17.3	0		0		0		0
09/12/09	23.8		13		18.4	0		0		0		0
09/13/09	26.6		12.5		19.6	0		0		0		0
09/14/09	26.2		12.7		19.5	0		0		0		0
09/15/09	24		16		20	0		0		0		0
09/16/09	18.8		9.8		14.3	0		0		0		0
09/17/09	20.3		11.5		15.9	0		0		0		0
09/18/09	21.5		9		15.3	0		0		0		0
09/19/09	17		6.5		11.8	0		0		0		0
09/20/09	20		7		13.5	0		0		0		0
09/21/09	22		15		18.5	3		0		3		0
09/22/09	23.9		19.2		21.6	0	T	0		0	T	0
09/23/09	27.5		18.8		23.2	0	T	0		0	Prev. 5 days	0
09/24/09	22		14		18	0		0		0	3	0
09/25/09	15.9		11		13.5	0		0		0		0
09/26/09												
09/27/09	21		14.5		17.8	8.2		0		8.2		0
09/28/09	18.4		12.8		15.6	3.2		0		3.2		0
09/29/09	17		11		14	0.3		0		0.3		0
09/30/09	12.5		6		9.3	0	T	0		0	T	0
10/01/09	13.7		5.6		9.7	0		0		0		0
10/02/09	12.1		6		9.1	14.9		0		14.9		0
10/03/09	17		7		12	3.2		0		3.2		0
10/04/09	14		7		10.5	1.2		0		1.2		0
10/05/09	16		7		11.5	0.3		0		0.3		0
10/06/09	15		5.1		10.1	7.4		0		7.4		0
10/07/09	13.5		9.5		11.5	0		0		0		0
10/08/09	18		5.5		11.8	4.8		0		4.8		0
10/09/09	11.5		9.5		10.5	19.2		0		19.2		0
10/10/09	14.9		6.5		10.7	0		0		0		0
10/11/09	9.7		0.5		5.1	0		0		0		0
10/12/09	6.5		-0.5		3	0.5		0		0.5		0
10/13/09	11.5		4.5		8	0		0		0		0
10/14/09	7.8		0.5		4.2	0		0		0		0
10/15/09	4.2		0.5		2.4	0		0		0		0
10/16/09	6.3		0.5		3.4	0		0		0		0
10/17/09	8		1		4.5	0		0		0		0
10/18/09	10.5		0		5.3	0		0		0		0
10/19/09	15.3		-1.2		7.1	0		0		0		0
10/20/09	18.8		9.1		14	0		0		0		0

Oakville Town Daily Weather Data

Station Name	OAKVILLE TWN	Legend			
Province	ONTARIO	[Empty]	No Data Available	F	Accumulated and Estimated
Latitude	43.51	M	Missing	N	Temperature Missing but Known to be > 0
Longitude	-79.69	E	Estimated	Y	Temperature Missing but Known to be < 0
Elevation	168	A	Accumulated	S	More Than One Occurrence
Climate Identifier	6155750	C	Precipitation Occurred; Amount Uncertain	T	Trace
Date of Site Visits		L	Precipitation May or May Not Have Occurred	*	Data for this day has undergone only preliminary quality checking.

Date	Max Temp (°C)	Max Temp Flag	Min Temp (°C)	Min Temp Flag	Mean Temp (°C)	Total Rain (mm)	Total Rain Flag	Total Snow (cm)	Total Snow Flag	Total Precip (mm)	Total Precip Flag	Snow on Grnd (cm)
10/21/09	15		10		12.5	1.4		0		1.4		0
10/22/09	17.5		9		13.3	3		0		3		0
10/23/09	12		3.5		7.8	21.1		0		21.1		0
10/24/09	13.5		6.8		10.2	0		0		0		0
10/25/09	14		4		9	0		0		0		0
10/26/09	10.5		5.5		8	0		0		0		0
10/27/09	16.5		7.5		12	1.5		0		1.5		0
10/28/09	11.8		9.5		10.7	1.6		0		1.6		0
10/29/09	11		9.1		10.1	0.2		0		0.2		0
10/30/09	17		8.5		12.8	8.1		0		8.1		0
10/31/09	12.5		10.5		11.5	0		0		0		0
11/01/09	10.5		5		7.8	0		0		0		0
11/02/09	11		0.5		5.8	1.6		0		1.6		0
11/03/09	10		3		6.5	0	T	0		0	T	0
11/04/09	6.5		-1		2.8	4		0		4		0
11/05/09	7		2.5		4.8	0	T	0		0	T	0
11/06/09	10.9		-1		5	0		0		0		0
11/07/09												
11/08/09											Prev. 5 days	
11/09/09	19.5		5.3		12.4	0		0		0	4	0
11/10/09	14		6		10	0		0		0		0
11/11/09	8		1		4.5	0		0		0		0
11/12/09	9.2		1		5.1	0		0		0		0
11/13/09	9.6		0.5		5.1	0		0		0		0
11/14/09	13		5		9	0		0		0		0
11/15/09	11.1		5.5		8.3	0		0		0		0
11/16/09	8.7		1		4.9	0		0		0		0
11/17/09	7.5		0		3.8	0		0		0	Prev. 5 days	0
11/18/09											0	
11/19/09											Prev. 5 days	
11/20/09											0	
11/21/09												
11/22/09	10		5.8		7.9	0		0		0		0
11/23/09	8.9		4.5		6.7	0	T	0		0	T	0
11/24/09												
11/25/09												
11/26/09	9.5		6		7.8	0.9		0		0.9		0
11/27/09	6.5		0.5		3.5	2.5		0		2.5		0
11/28/09												
11/29/09	7.5		-2		2.8	6.6		0		6.6		0
11/30/09	5.5		-3		1.3	0.5		0.5		1		0
12/01/09	8		0.5		4.3	0		0		0		0
12/02/09	10.5		1.5		6	26.2		0		26.2		0
12/03/09	7.3		6.1		6.7	0		0		0		0
12/04/09	4		-0.5		1.8	0		0		0		0
12/05/09												
12/06/09												
12/07/09												
12/08/09												
12/09/09	6.4		0		3.2	10.2		0		12.2		2
12/10/09												
12/11/09												
12/12/09												
12/13/09												
12/14/09												
12/15/09	2		-6		-2	0		0	T	0.6		0
12/16/09	-3		-6.5		-4.8	0		0.5		0.5		0
12/17/09	-4		-11		-7.5	0		0		0	Prev. 5 days	0
12/18/09	-2.5		-7.5		-5	0		0		0	1.1	0
12/19/09												
12/20/09												
12/21/09	-1.4		-4.9		-3.2	0		0		0		0
12/22/09	-4.4		-10.5		-7.5	0		0	T	0	T	0
12/23/09	-3		-11		-7	0		0		0		0
12/24/09	1.5		-7.5		-3	0		0	T	0	T	0
12/25/09	4		-1		1.5	22.6		0		22.6		0
12/26/09	3		1		2	1		0		1		0
12/27/09												
12/28/09												
12/29/09	-6.4		-14.8		-10.6	0		0		0		0
12/30/09	1		-9.1		-4.1	0		0		0		0
12/31/09	3		-3.5		-0.3	0.7		0	T	0.7		0
01/01/10	-1.5		-4		-2.8	0		0.5		0.8		0
01/02/10	-9.5		-16.5		-13	0		0	T	0.5		0
01/03/10	-7		-13		-10	0		4.6		3.1		0

Oakville Town Daily Weather Data

Station Name	OAKVILLE TWN	Legend			
Province	ONTARIO	[Empty]	No Data Available	F	Accumulated and Estimated
Latitude	43.51	M	Missing	N	Temperature Missing but Known to be > 0
Longitude	-79.69	E	Estimated	Y	Temperature Missing but Known to be < 0
Elevation	168	A	Accumulated	S	More Than One Occurrence
Climate Identifier	6155750	C	Precipitation Occurred; Amount Uncertain	T	Trace
Date of Site Visits		L	Precipitation May or May Not Have Occurred	*	Data for this day has undergone only preliminary quality checking.

Date	Max Temp (°C)	Max Temp Flag	Min Temp (°C)	Min Temp Flag	Mean Temp (°C)	Total Rain (mm)	Total Rain Flag	Total Snow (cm)	Total Snow Flag	Total Precip (mm)	Total Precip Flag	Snow on Grnd (cm)
01/04/10	-6		-12		-9	0		1		0.5		6
01/05/10	-4		-10		-7	0		1		1.6		6
01/06/10	-1.5		-8		-4.8	0		0	T	0	T	7
01/07/10	-1		-4.2		-2.6	0		2.2		1.6		6
01/08/10	-6.3		-10		-8.2	0		0	T	0	T	5
01/09/10	-6		-14.2		-10.1	0		0		0		4
01/10/10	-2.5		-15.5		-9	0		0		0		0
01/11/10	-4		-7.5		-5.8	0		0	T	0	T	2
01/12/10	-3		-8.5		-5.8	0		0		0		3
01/13/10	0.5		-8.5		-4	0		0		0		2
01/14/10	5.5		-6.5		-0.5	0		0		0		2
01/15/10	4.5		-16.5		-6	0		0		0		0
01/16/10	2		0		1	0		0		0		0
01/17/10	2.1		-1.5		0.3	0	T	0		0	T	0
01/18/10	1.6		-1		0.3	0		0		0		0
01/19/10	2		-4.5		-1.3	0		0	T	0	T	0
01/20/10	-1		-6		-3.5	0		0		0	Prev. 5 days	0
01/21/10	0.9		-8		-3.6	0		0		0	0	0
01/22/10	1.5		-1		0.3	0		0		0		0
01/23/10	3		-2.5		0.3	0		0		0		0
01/24/10	4.5		-0.5		2	19.4		0		19.4		0
01/25/10	6		1		3.5	0		0	T	0	T	0
01/26/10	0.6		-0.5		0.1	0		0	T	4.8		0
01/27/10	-3		-4		-3.5	0		0	T	0	T	0
01/28/10	-6		-10.5		-8.3	0		2		2		0
01/29/10	-9.5		-15		-12.3	0		0		0		1
01/30/10	-8		-19.2		-13.6	0		0	T	0	T	0
01/31/10	-2		-15.5		-8.8	0		0	T	0	T	1
02/01/10	-3		-5		-4	0		0		0		0
02/02/10	-2		-9		-5.5	0		0	T	0	T	0
02/03/10	1		-5.5		-2.3	0	T	0	T	0	T	0
02/04/10	0.9		-10		-4.6	0		0		0		0
02/05/10												
02/06/10												
02/07/10	-1.5		-11		-6.3	0		0		0		0
02/08/10	0		-11.3		-5.7	0		0		0		0
02/09/10	-3.5		-6		-4.8	0		4.5		4.5		0
02/10/10	-2		-5		-3.5	0		0	T	1		4
02/11/10	-0.5		-12		-6.3	0		0		0		4
02/12/10	0		-11		-5.5	0		0		0		0
02/13/10	-0.5		-8.1		-4.3	0		0.5		0.5		1
02/14/10	-0.5		-4		-2.3	0		0		0		1
02/15/10	-1		-3		-2	0		0	T	0	T	1
02/16/10	1		-5		-2	0		0	T	0	T	1
02/17/10	1		-4		-1.5	0		0	T	0	T	0
02/18/10	1.8		-3		-0.6	0		0		0		0
02/19/10	4		0		2	0		0		0		0
02/20/10	3		-4.8		-0.9	0		0		0		0
02/21/10	5.5		-6.5		-0.5	0		0		0		0
02/22/10	0.8		-4.5		-1.9	0.7		8.5		9.4		0
02/23/10	1.1		-0.5		0.3	0		0.5		0.5		8
02/24/10	2.5		-6		-1.8	0		0	T	0.2		9
02/25/10	-3.8		-5.5		-4.7	0		5		5		4
02/26/10	1		-7		-3	0		6		5		9
02/27/10	3		0.5		1.8	0		2.5		3.9		13
02/28/10	5		0.5		2.8	0	T	0	T	0	T	10
03/01/10	4.5		0		2.3	0		0		0		8
03/02/10	4		-2.5		0.8	0		0		0		4
03/03/10	4.8		-2		1.4	0		0		0		0
03/04/10	4.1		-3		0.6	0		0		0		0
03/05/10	4.5		-3		0.8	0		0		0		0
03/06/10	9		-4		2.5	0		0		0		0
03/07/10	11.5		-1		5.3	0		0		0		0
03/08/10	14.4		1		7.7	0		0		0		0
03/09/10	13.4		0.8		7.1	0		0		0		0
03/10/10	7		-1		3	0		0		0		0
03/11/10	9.2		4		6.6	0.4		0		0.4		0
03/12/10	6.1		4		5.1	28.2		0		28.2		0
03/13/10	5.1		4		4.6	34.1		0		34.1		0
03/14/10	6		2		4	3.4		0		3.4		0
03/15/10	11.5		2.5		7	0	T	0		0	T	0
03/16/10	15.5		1.5		8.5	0		0		0		0
03/17/10	18.5		3.5		11	0		0		0		0
03/18/10	19.2		3.5		11.4	0		0		0		0
03/19/10	19.2		3.5		11.4	0		0		0		0

Oakville Town Daily Weather Data

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Province	ONTARIO	[Empty]	No Data Available	F	Accumulated and Estimated
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Longitude	-79.69	E	Estimated	Y	Temperature Missing but Known to be < 0
Elevation	168	A	Accumulated	S	More Than One Occurrence
Climate Identifier	6155750	C	Precipitation Occurred; Amount Uncertain	T	Trace
Date of Site Visits		L	Precipitation May or May Not Have Occurred	*	Data for this day has undergone only preliminary quality checking.

Date	Max Temp (°C)	Max Temp Flag	Min Temp (°C)	Min Temp Flag	Mean Temp (°C)	Total Rain (mm)	Total Rain Flag	Total Snow (cm)	Total Snow Flag	Total Precip (mm)	Total Precip Flag	Snow on Grnd (cm)
03/20/10	4.5		2.5		3.5	0		0		0		0
03/21/10	5.4		0.5		3	0		0		0		0
03/22/10	6.1		1.1		3.6	5.7		0		5.7		0
03/23/10	5		3		4	0.5		0		0.5		0
03/24/10	15.5		-1		7.3	0		0		0		0
03/25/10	10		2.5		6.3	0		0		0		0
03/26/10	1		-6		-2.5	0		0		0		0
03/27/10	5.5		-6.5		-0.5	0		0		0		0
03/28/10												
03/29/10												
03/30/10	13		-0.4		6.3	0		0		0		0
03/31/10	15		0.6		7.8	0		0		0		0
04/01/10	15.5		4.5		10	0		0		0		0
04/02/10	27		7		17	0		0		0		0
04/03/10	21		8.5		14.8	0		0		0		0
04/04/10	19		7		13	0.3		0		0.3		0
04/05/10	23.5		8		15.8	9.5		0		9.5		0
04/06/10	16		8		12	2		0		2		0
04/07/10	17		8		12.5	25		0		25		0
04/08/10	12		7		9.5	4.8		0	T	4.8		0
04/09/10	4.1		1.5		2.8	0		0		0		0
04/10/10	13.5		-3		5.3	0		0		0		0
04/11/10	18		4		11	0		0		0		0
04/12/10	14		3		8.5	0		0		0	Prev. 5 days	0
04/13/10	14.5		6.5		10.5	0		0		0	4.8	0
04/14/10	16.5		3		9.8	0		0		0		0
04/15/10	19.5		6.5		13	0		0		0		0
04/16/10	22		8		15	0	T	0		0	T	0
04/17/10												
04/18/10	15		3		9	0		0		0		0
04/19/10	17		5		11	0		0		0		0
04/20/10	18		3		10.5	0		0		0		0
04/21/10	21		5		13	0	T	0		0	T	0
04/22/10	12.5		3.2		7.9	0		0		0		0
04/23/10	14.5		2.5		8.5	0		0		0		0
04/24/10	15.5		4.5		10	0		0		0		0
04/25/10	12		7		9.5	6.8		0		6.8		0
04/26/10	17		7.5		12.3	0		0		0		0
04/27/10	10.5		3.5		7	0		0		0		0
04/28/10	14.5		2.5		8.5	0		0		0		0
04/29/10	20.5		3.5		12	0		0		0		0
04/30/10	18.5		12.5		15.5	0		0		0		0
05/01/10	24		9		16.5	2.4		0		2.4		0
05/02/10	25.5		14.5		20	2.2		0		2.2		0
05/03/10	24.5		15.5		20	0		0		0		0
05/04/10	22		13		17.5	0		0		0		0
05/05/10												
05/06/10	15.5		11.5		13.5	0		0		0		0
05/07/10	12.5		5.5		9	24.6		0		24.6		0
05/08/10	13		5.5		9.3	0.4		0		0.4		0
05/09/10	10.5		1.5		6	0		0		0		0
05/10/10	14.5		1		7.8	0		0		0		0
05/11/10	9		2		5.5	4		0		4		0
05/12/10	11		4.5		7.8	0		0		0		0
05/13/10												
05/14/10	21.8		5.8		13.8	0		0		0		0
05/15/10												
05/16/10	21		7.5		14.3	0		0		0		0
05/17/10	18		9		13.5	0		0		0		0
05/18/10	19		12.2		15.6	0		0		0		0
05/19/10	26		8.5		17.3	0		0		0		0
05/20/10	28		12.5		20.3	0		0		0		0
05/21/10	21		14		17.5	0		0		0		0
05/22/10	19		14.5		16.8	2.3		0		2.3		0
05/23/10	24		13		18.5	0		0		0		0
05/24/10	26.3		13.9		20.1	0		0		0		0
05/25/10	29		14.5		21.8	0		0		0		0
05/26/10	31.5		18		24.8	0		0		0		0
05/27/10	31.5		16		23.8	1		0		1		0
05/28/10	25		18.5		21.8	0		0		0		0
05/29/10	28		16		22	0		0		0		0
05/30/10	29.5		14		21.8	0		0		0		0
05/31/10	24.5		16.5		20.5	14.4		0		14.4		0
06/01/10	27.9		18.5		23.2	0		0		0		0
06/02/10	26.5		14.9		20.7	27		0		27		0

Oakville Town Daily Weather Data

Station Name	OAKVILLE TWN	Legend			
Province	ONTARIO	[Empty]	No Data Available	F	Accumulated and Estimated
Latitude	43.51	M	Missing	N	Temperature Missing but Known to be > 0
Longitude	-79.69	E	Estimated	Y	Temperature Missing but Known to be < 0
Elevation	168	A	Accumulated	S	More Than One Occurrence
Climate Identifier	6155750	C	Precipitation Occurred; Amount Uncertain	T	Trace
Date of Site Visits		L	Precipitation May or May Not Have Occurred	*	Data for this day has undergone only preliminary quality checking.

Date	Max Temp (°C)	Max Temp Flag	Min Temp (°C)	Min Temp Flag	Mean Temp (°C)	Total Rain (mm)	Total Rain Flag	Total Snow (cm)	Total Snow Flag	Total Precip (mm)	Total Precip Flag	Snow on Grnd (cm)
06/03/10	21		16		18.5	5.4		0		5.4		0
06/04/10	23		15.5		19.3	12.6		0		12.6		0
06/05/10	26		16		21	30.2		0		30.2		0
06/06/10	19.5		11.5		15.5	0		0		0		0
06/07/10	20.2		11		15.6	0		0		0		0
06/08/10												
06/09/10												
06/10/10												
06/11/10	23.5		12.5		18	0		0		0		0
06/12/10	19		15		17	1.2		0		1.2		0
06/13/10	20.5		15.5		18	0.2		0		0.2		0
06/14/10	26.5		17.5		22	0		0		0		0
06/15/10	22.5		15		18.8	4		0		4		0
06/16/10	26.5		14.5		20.5	0	T	0		0	T	0
06/17/10	26		13.5		19.8	0		0		0		0
06/18/10	27		14		20.5	0		0		0		0
06/19/10	29.6		19.5		24.6	0		0		0		0
06/20/10	28.9		18		23.5	0		0		0		0
06/21/10	28		17		22.5	3		0		3		0
06/22/10	25.5		18.5		22	10.5		0		10.5		0
06/23/10	29.5		18		23.8	0.6		0		0.6		0
06/24/10	27.5		21		24.3	0		0		0		0
06/25/10	26		14		20	0		0		0		0
06/26/10	23		17.5		20.3	9.6		0		9.6		0
06/27/10	24.5		17.5		21	20.3		0		20.3		0
06/28/10	29.5		18		23.8	2.8		0		2.8		0
06/29/10	20.5		13.2		16.9	0		0		0		0
06/30/10												
07/01/10	23.5		9.5		16.5	0		0		0		0
07/02/10	25		11		18	0		0		0		0
07/03/10	30		13.5		21.8	0		0		0		0
07/04/10	32.1		17.5		24.8	0		0		0		0
07/05/10	35		22		28.5	0		0		0		0
07/06/10	34		23		28.5	0		0		0		0
07/07/10	33		22		27.5	0	T	0		0	T	0
07/08/10												
07/09/10	25.5		21.5		23.5	12.7		0		12.7		0
07/10/10	29		16		22.5	0		0		0		0
07/11/10	28		16		22	2.6		0		2.6		0
07/12/10												
07/13/10	28		20.5		24.3	0		0		0		0
07/14/10	27		21		24	0		0		0		0
07/15/10	30.5		18.5		24.5	0.3		0		0.3		0
07/16/10	30.5		21.6		26.1	0		0		0		0
07/17/10	30.5		22.5		26.5	5.8		0		5.8		0
07/18/10	28		15.5		21.8	4		0		4		0
07/19/10	28.5		21		24.8	0		0		0		0
07/20/10	27		17.5		22.3	0		0		0		0
07/21/10	30.5		18		24.3	0		0		0		0
07/22/10	29.5		17.5		23.5	37		0		37		0
07/23/10	30		18.5		24.3	0		0		0		0
07/24/10	28.5		23		25.8	34.3		0		34.3		0
07/25/10												
07/26/10												
07/27/10												
07/28/10	31		18		24.5	1.2		0		1.2		0
07/29/10	26		16		21	0		0		0		0
07/30/10	23		14.9		19	0		0		0		0
07/31/10	23.5		15		19.3	1		0		1		0
08/01/10												
08/02/10												
08/03/10	31.5		20		25.8	0		0		0		0
08/04/10	31.5		21		26.3	0		0		0	Prev. 5 days	0
08/05/10	31		22		26.5	0		0		0	1	0
08/06/10	23.5		17		20.3	0		0		0		0
08/07/10	23		10.5		16.8	0		0		0		0
08/08/10	27		18		22.5	0		0		0		0
08/09/10	28		21		24.5	4		0		4		0
08/10/10	31		21		26	0		0		0		0
08/11/10												
08/12/10	24.5		22.3		23.4	0		0		0		0
08/13/10	26		19.5		22.8	0		0		0		0
08/14/10	25		19.5		22.3	0		0		0		0
08/15/10	32.4		23		27.7	0		0		0		0
08/16/10	26.5		18.5		22.5	0		0		0		0

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Climate Identifier	6155750	C	Precipitation Occurred; Amount Uncertain	T	Trace
Date of Site Visits		L	Precipitation May or May Not Have Occurred	*	Data for this day has undergone only preliminary quality checking.

Date	Max Temp (°C)	Max Temp Flag	Min Temp (°C)	Min Temp Flag	Mean Temp (°C)	Total Rain (mm)	Total Rain Flag	Total Snow (cm)	Total Snow Flag	Total Precip (mm)	Total Precip Flag	Snow on Grnd (cm)
08/17/10	27		16		21.5	0		0		0		0
08/18/10												
08/19/10	29.5		16		22.8	0		0		0		0
08/20/10	22		15		18.5	0		0		0		0
08/21/10	21.9		19.5		20.7	0		0		0		0
08/22/10	21.5		19.5		20.5	0		0		0		0
08/23/10	19.5		18.5		19	0	T	0		0	T	0
08/24/10	22		16.7		19.4	0		0		0		0
08/25/10	25		15		20	0		0		0		0
08/26/10	23		13		18	0		0		0		0
08/27/10	25		10.5		17.8	0		0		0		0
08/28/10	29.5		13.5		21.5	0		0		0		0
08/29/10												
08/30/10												
08/31/10												
09/01/10	33		21		27	0		0		0		0
09/02/10												
09/03/10												
09/04/10	17		12		14.5	1.4		0		1.4		0
09/05/10	19.5		10		14.8	0	T	0		0	T	0
09/06/10	23		11		17	0	T	0		0	T	0
09/07/10	30.5		16		23.3	0		0		0		0
09/08/10	19.5		14.7		17.1	0	T	0		0	T	0
09/09/10												
09/10/10	20		13		16.5	0		0		0		0
09/11/10	16		9.5		12.8	5.2		0		5.2		0
09/12/10	22.3		13.5		17.9	4.6		0		4.6		0
09/13/10	24.5		12		18.3	0		0		0		0
09/14/10	21		9.5		15.3	0		0		0		0
09/15/10	19		8.5		13.8	0	T	0		0	T	0
09/16/10	14.5		11.5		13	34.2		0		34.2		0
09/17/10	16		9.5		12.8	0		0		0		0
09/18/10	22		10		16	0		0		0		0
09/19/10	18		10		14	0		0		0		0
09/20/10	17.5		8.5		13	0		0		0		0
09/21/10	26.5		9.5		18	0		0		0		0
09/22/10	23		17.5		20.3	0		0		0		0
09/23/10	25.5		10		17.8	0		0		0		0
09/24/10	23.5		15.5		19.5	0		0		0		0
09/25/10	17.4		10		13.7	0		0		0		0
09/26/10	15.3		6		10.7	0		0		0		0
09/27/10	15		9.6		12.3	10.2		0		10.2		0
09/28/10	18.5		13		15.8	26		0		26		0
09/29/10	19.7		10		14.9	0		0		0		0
09/30/10	18.1		11.5		14.8	0	T	0		0	T	0
10/01/10	17		10		13.5	0	T	0		0	T	0
10/02/10	11.5		6		8.8	2.2		0		2.2		0
10/03/10	11.5		6.2		8.9	0		0		0		0
10/04/10	12.2		4.5		8.4	4.6		0		4.6		0
10/05/10	13.8		6.3		10.1	18.7		0		18.7		0
10/06/10	17		8.5		12.8	0	T	0		0	T	0
10/07/10	20.5		9.2		14.9	0		0		0		0
10/08/10	24		7.5		15.8	0		0		0		0
10/09/10	16		11		13.5	0		0		0		0
10/10/10	23		3.5		13.3	0		0		0		0
10/11/10	13.6		12.5		13.1	0.2		0		0.2		0
10/12/10	13.8		6		9.9	0		0		0		0
10/13/10												
10/14/10												
10/15/10												
10/16/10	16		4.4		10.2	0		0		0	T	0
10/17/10	10.5		7.5		9	0		0		0		0
10/18/10	11		4.5		7.8	0		0		0	Prev. 5 days	0
10/19/10	15		3		9	0		0		0	0	0
10/20/10	17		4		10.5	3.5		0		3.5		0
10/21/10	10		5.5		7.8	0.4		0		0.4		0
10/22/10	11		0.6		5.8	0	T	0		0	T	0
10/23/10	13.8		3.5		8.7	15.7		0		15.7		0
10/24/10	11.2		8		9.6	1.7		0		1.7		0
10/25/10	21.1		7.9		14.5	6.2		0		6.2		0
10/26/10	20.8		12.3		16.6	7		0		7		0
10/27/10	19.3		11		15.2	0		0		0		0
10/28/10	12.5		10		11.3	0		0		0		0
10/29/10	9.5		4.5		7	0		0		0		0
10/30/10	14		3.5		8.8	0		0		0		0

Oakville Town Daily Weather Data

Station Name	OAKVILLE TWN	Legend			
Province	ONTARIO	[Empty]	No Data Available	F	Accumulated and Estimated
Latitude	43.51	M	Missing	N	Temperature Missing but Known to be > 0
Longitude	-79.69	E	Estimated	Y	Temperature Missing but Known to be < 0
Elevation	168	A	Accumulated	S	More Than One Occurrence
Climate Identifier	6155750	C	Precipitation Occurred; Amount Uncertain	T	Trace
Date of Site Visits		L	Precipitation May or May Not Have Occurred	*	Data for this day has undergone only preliminary quality checking.

Date	Max Temp (°C)	Max Temp Flag	Min Temp (°C)	Min Temp Flag	Mean Temp (°C)	Total Rain (mm)	Total Rain Flag	Total Snow (cm)	Total Snow Flag	Total Precip (mm)	Total Precip Flag	Snow on Grnd (cm)
10/31/10	7		1.5		4.3	0		0		0		0
11/01/10	7.5		-2.5		2.5	0		0		0		0
11/02/10	7.4		-1		3.2	0		0		0		0
11/03/10	10.5		-1		4.8	1.2		0		1.2		0
11/04/10	4.5		4		4.3	0.8		0		0.8		0
11/05/10	5		-1		2	0.8		0		0.8		0
11/06/10	6		-0.5		2.8	0		0		0		0
11/07/10	10.2		0		5.1	0		0		0		0
11/08/10	11		0.2		5.6	0		0		0		0
11/09/10	-3		1		-1	0		0	T	0	T	0
11/10/10	9.7		-10		-0.2	0		0		0		0
11/11/10	8.5		1.6		5.1	0		0		0		0
11/12/10	10.5		0		5.3	0		0		0		0
11/13/10	10.5		-1		4.8	1.2		0		1.2		0
11/14/10	10.7		6.5		8.6	1.4		0		1.4		0
11/15/10	12		0.5		6.3	0		0		0		0
11/16/10	10		1.5		5.8	38		0		38		0
11/17/10	9		6		7.5	0	T	0		0	T	0
11/18/10	8.4		2		5.2	0		0		0		0
11/19/10	6.9		-1.4		2.8	0		0		0		0
11/20/10	7		1.8		4.4	0		0		0		0
11/21/10	13		0.5		6.8	1.6		0		1.6		0
11/22/10	16.1		2		9.1	9.1		0		9.1		0
11/23/10	14		12		13	0	T	0		0	T	0
11/24/10	4		-0.5		1.8	0		0		0		0
11/25/10	7		-0.2		3.4	8		0	T	8		0
11/26/10												
11/27/10												
11/28/10	3.5		-1.3		1.1	0		0		0		0
11/29/10	12.5		-2.3		5.1	9.4		0		9.4		0
11/30/10												
12/01/10												
12/02/10												
12/03/10	3		-3		0	0		0		0		0
12/04/10	-0.8		-5		-2.9	0		2		2		0
12/05/10	0.6		-7.5		-3.5	0		0		0		2
12/06/10	0.6		-5.2		-2.3	0		0	T	0	T	0
12/07/10	-1		-5.2		-3.1	0		0		0		0
12/08/10	-2.5		-8.3		-5.4	0		0		0		0
12/09/10	0		-13		-6.5	0		0		0		0
12/10/10	2.5		-6		-1.8	0	T	0		0	T	0
12/11/10	3.5		-5		-0.8	6		0		6		0
12/12/10	3		1.5		2.3	10		4		26.4		0
12/13/10	-10		-12.5		-11.3	0		1		16.4		4
12/14/10	-6		-12.5		-9.3	0		0	T	0	T	6
12/15/10	-3.4		-11		-7.2	0		0		0		4
12/16/10	-1.6		-8.4		-5	0		0	T	0	T	2
12/17/10	0		-6.5		-3.3	0		0		0	T	2
12/18/10	-5		-8		-6.5	0		0	T	0	T	1
12/19/10	-2.5		-6		-4.3	0		0		0		1
12/20/10	0		-5.5		-2.8	0		0	T	0	T	1
12/21/10	-2		-9.5		-5.8	0		0	T	0	T	1
12/22/10	-2		-7		-4.5	0		0	T	0	T	1
12/23/10	-1		-6		-3.5	0		0	T	0	T	0
12/24/10	-1.8		-5		-3.4	0		0		0		0
12/25/10	-5		-7.2		-6.1	0		0		0		0
12/26/10	-5		-7.5		-6.3	0		0		0	T	0
12/27/10	-1.5		-10		-5.8	0		0		0		0
12/28/10	-0.5		-7		-3.8	0		0		0		0
12/29/10	-1		-5		-3	0		0		0		0
12/30/10	7		-7		0	0	T	0		0	T	0
12/31/10	11		-3.5		3.8	3.8		0		3.8		0
01/01/11	11.8		5.5		8.7	4		0	T	4		0
01/02/11	-4.1		-3.8		-4	0		0		0		0
01/03/11	1		-6.8		-2.9	0		1		1		0
01/04/11	1.6		-5.5		-2	0		0		0		1
01/05/11	-1		-5.5		-3.3	0		0		0		0
01/06/11	-2.5		-9		-5.8	0		0		0		0
01/07/11	-4.5		-9.5		-7	0		9		6.7		5
01/08/11	-5		-8		-6.5	0		6		4.8		14
01/09/11	-4		-13.5		-8.8	0		0		0		14
01/10/11	-2.3		-13		-7.7	0		0		0		12
01/11/11	-5.1		-9		-7.1	0		6.4		6.4		12
01/12/11	-6.7		-9.6		-8.2	0		0		0		18
01/13/11	-5		-12		-8.5	0		0	T	0	T	18

Oakville Town Daily Weather Data

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01/14/11	-1.5		-9.5		-5.5	0		6		6		18
01/15/11	-1		-10		-5.5	0		0		0		23
01/16/11	-9		-10		-9.5	0		6		1.5		18
01/17/11	1.5		-21.5		-10	0		0		0		24
01/18/11	2.2		-13.5		-5.7	2		0	T	2		20
01/19/11	-6.5		-7		-6.8	0		0	T	0	T	17
01/20/11	-5		-14.5		-9.8	0		2.8		2.8		14
01/21/11	-6.3		-11.3		-8.8	0		0		0		16
01/22/11	-9		-16.4		-12.7	0		0		1		16
01/23/11	-14		-18.5		-16.3	0		0	T	0	T	17
01/24/11	-1.6		-20		-10.8	0		6		3.8		17
01/25/11	-0.5		-19.4		-10	0	T	0		0	T	19
01/26/11	0		-2.5		-1.3	0		0		0		17
01/27/11	0		-6		-3	0		0	T	0	T	17
01/28/11	-1.2		-5.5		-3.4	0		0	T	0	T	17
01/29/11	-3.7		-8		-5.9	0		0		0		17
01/30/11	-3		-9.8		-6.4	0		0		0		17
01/31/11	-10.5		-17.3		-13.9	0		0		0		16
02/01/11	-6.5		-14		-10.3	0		8.4		8.4		16
02/02/11	-8		-11		-9.5	0		0		0		27
02/03/11	-3.5		-16		-9.8	0		0		0		24
02/04/11	-3		-10.5		-6.8	0		0		0		17
02/05/11	-0.5		-9		-4.8	0		7		5.5		17
02/06/11	1		-4.5		-1.8	0		1		8		24
02/07/11	1.5		-2		-0.3	0		0	T	0	T	25
02/08/11	-8.5		-13.5		-11	0		0		0		26
02/09/11	-5.5		-14		-9.8	0		0		0		25
02/10/11	-8		-17		-12.5	0		0		25		25
02/11/11	-3		-18		-10.5	0		1.8		18		0
02/12/11	0.5		-13.1		-6.3	0		0.5		0.6		24
02/13/11	7		-7.5		-0.3	0		0		0		24
02/14/11	4.5		0.5		2.5	0		0		0		15
02/15/11	-1		-13		-7	0		0		0		10
02/16/11	5.5		-9.5		-2	2		0		2	**Prev. 5 days**	12
02/17/11	**11.2**		-1.8		4.7	0		0		0	**2.6**	12
02/18/11	**10**		2.5		6.3	0		0.8		0		0
02/19/11	-1		-6		-3.5	0		0		0		1
02/20/11		M	-10									0