

August 2018

HYDROLOGICAL REVIEW SUMMARY

The form is to be completed by the Professional that prepared the Hydrological Review.
 Use of the form by the City of Toronto is not to be construed as verification of engineering/hydrological content.

Refer to the Terms of Reference, Hydrological Review:

[Link to Terms of Reference Hydrological Review](#)

For City Staff Use Only:	
Name of ECS Case Manager (Please print)	
Date Review Summary provided to to TW, EM&P	

**IF ANY OF THE REQUIREMENTS LISTED BELOW HAVE NOT BEEN INCLUDED IN THE HYDROLOGICAL REVIEW, THE REVIEW WILL BE CONSIDERED INCOMPLETE.
 THE GREY SHADED BOXES WILL REQUIRE A CONSISTANCY CHECK BY THE ECS CASE MANAGER.**

Summary of Key Information:

SITE INFORMATION		Page # & Section # of Review	Review Includes this Information City Staff (Check)
Site Address	3415 - 3499 Weston Rd, Toronto, ON	pg. 1, sec 1	
Postal Code	M9M 1T7	pg. 1, sec 1	
Property Owner (on request for comments memo)	Medallion Developments (Finch/Weston) Inc.	pg. 1, sec 1	
Proposed description of the project (if applicable) (point towers, number of podiums)	Two multi-storey residential/commercial buildings with up to two towers and two (2) levels of underground parking	pg. 1, sec 1	
Land Use (ex. commercial, residential, mixed, institutional, industrial)	mixed-use area	pg. 1, sec 1	
Number of below grade levels for the proposed structure	Two (2) underground parking levels	pg. 1, sec 1	
HYDROLOGICAL REVIEW INFORMATION			
Date Hydrological Review was prepared:	December 16, 2020		
Who Performed the Hydrological Review (Consulting Firm)	WSP Canada Group Limited		
Name of Author of Hydrological Review	Natalia Codoban		

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<p>Check the directories on the website for Professional Geoscientists and/or Professional Engineers of Ontario been checked to ensure that the Hydrological Report has been prepared by a qualified person who is a licensed Professional Geoscientist as set out in the Professional Geoscientist Act of Ontario or a Professional Engineer?</p> <p>PEO: Professional Engineers of Ontario APGO: Association of Professional Geoscientists of Ontario</p>	<p>P.Eng.</p>	<p>N/A</p>	
<p>Has the Hydrological Review been prepared in accordance with all the following:</p> <ul style="list-style-type: none"> • Ontario Water Resources Act • Ontario Regulation 387/04 • Toronto Municipal Code Chapter 681-Sewers 	<p>yes</p>	<p>pg. 2, sec 1.2</p>	
		Page # & Section # of every occurrence in the Review	Review Includes this Information City Staff (Check)

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SITE INFORMATION		Page # & Section # of Review	Review Includes this Information City Staff (Check)
Total Volume (L/day) Short Term Discharge of groundwater (construction dewatering) with safety factor included	17,300 L/day What safety factor was used? Safety factor of 2	pg. 15, sec 4.1.3 Appendix E	
Total Volume (L/day) Short Term Discharge of groundwater (construction dewatering) without safety factor included	8,600 L/day	pg. 15, sec 4.1.3 Appendix E	
Total Volume (L/day) Long Term drainage of groundwater (from foundation drainage, weeping tiles, sub slab drainage) with safety factor included If the development is part of a multiple tower complex, include total volume for each separate tower	2,900 L/day What safety factor was used? Safety factor of 2.0	pg. 16, sec 4.2 Appendix E	
List the nearest surface water (river, creek, lake)	Humber River	pg. 3, sec 2.1	

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SITE INFORMATION		Page # & Section # of Review	Review Includes this Information City Staff (Check)
Lowest basement elevation	139.90 masl	Appendix E	
Foundation elevation	141.90 masl	pg. 13 sec 4.1 Appendix E	
Ground elevation	150.95 masl	pg. 13 sec 4.1 Appendix E	
STUDY AREA MAP		Page # & Section # of every occurrence in the Review	Review Includes this Information City Staff (Check)
Study area map(s) have been included in the report.	<input checked="" type="checkbox"/> Yes		N/A
Study area map(s) been prepared according to the Hydrological Review Terms of Reference.	<input checked="" type="checkbox"/> Yes		N/A
WATER LEVEL AND WELLS		Page # & Section # of every occurrence	Review Includes this Information (City Staff Initial)

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SITE INFORMATION		Page # & Section # of Review	Review Includes this Information City Staff (Check)
		in the Review	
The groundwater level has been monitored using all wells located on site (within property boundary).	yes	pg. 7-8, sec 3.4.1	
The static water level measurements have been monitored at all monitoring wells for a minimum of 3 months with samples taken every 2 weeks for a minimum of 6 samples. The intent is for the qualified professional to use professional judgement to estimate the seasonally high groundwater level.	yes, monitoring is ongoing	pg. 7-8, sec 3.4.1	
All water levels in the wells have been measured with respect to masl.	yes	pg. 7-8, sec 3.4.1	
A table of geology/soil stratigraphy for the property has been included.	yes	pg. 3-4, sec 2.4	
GEOLOGY AND PHYSICAL HYDROLOGY		Page # & Section # of every occurrence in the Review	Review Includes this Information (City Staff Initial)
The review has made reference to the soil materials including thickness, composition and texture, and bedrock environments.	yes	pg. 3-4, sec 2.4 Appendix A	
Key aquifers and the site's proximity to nearby surface water has been identified.	⊗ Yes	pg. 3, sec 2.1	N/A

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PUMP TEST/SLUG TEST/DRAWDOWN ANALYSIS		Page # & Section # of every occurrence in the Review	Review Includes this Information City Staff (Check)
A summary of the pumping test data and analysis is included in the review.	N/A		
The pump test been carried out for at least 24 hours if possible. If not, has a slug test been conducted?	N/A		
Have the monitoring well(s) have been monitored using digital devices? If yes how frequently?	yes, monitoring is ongoing. Dataloggers set to record at 1 hour interval		
If a slug or pump test has been conducted has the static groundwater level been monitored at all monitoring well(s) multiple times to measure recovery? -prior to the slug or pumping test(s)? -post slug or pumping test(s)?	<input checked="" type="checkbox"/> Yes		N/A
The above noted slug or pump tests have been included in the report.	<input checked="" type="checkbox"/> Yes	pg. 10-11, sec 3.5 Appendix D	
WATER QUALITY		Page # & Section # of every occurrence in the Review	Review Includes this Information City Staff (Check)

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<p>The report includes baseline water quality samples from a laboratory. The water quality must be analyzed for all parameters listed in Tables 1 and 2 of Chapter 681 Sewers of the Toronto Municipal Code (found in Appendix A) and the samples must have to be taken unfiltered within 9 months of the date of submission.</p>	<p>yes</p>	<p>pg. 11-12, sec 3.7 Appendix D</p>	
<p>The water quality data templates in Appendix A have been completed for each sample taken for both sanitary/combined and storm sewer limits.</p>	<p>For sanitary discharge- See the sanitary/combined sewer parameter limit template</p> <p>For storm discharge- See the storm sewer parameter limit template</p>		
<p>Qualified professional to list all sample parameters that have violated the Bylaw limits for each sample taken for the sanitary/combined Bylaw limits If there are any sample parameter Exceedances the groundwater can't be discharged as is.</p>	<p>yes</p>	<p>pg. 11-12, sec 3.7 Appendix D</p>	
<p>Qualified professional to list all sample parameters that have violated the Bylaw limits for each sample taken for the storm Bylaw limits. If there are any sample parameter exceedances the groundwater can't be discharged as is.</p>	<p>yes</p>	<p>pg. 11-12 sec 3.7 Appendix D</p>	
<p>The water quality samples have been analyzed by a Canadian laboratory accredited and licensed by Standards Council of Canada and/or Canadian Association for Laboratory Accreditation.</p>	<p>⊗ Yes</p>	<p>Appendix D</p>	<p>N/A</p>

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List of Canadian accredited laboratories: Standards Council of Canada			
A chain of custody record for the samples is included with the report.	yes	Appendix D	
Has the chain of custody reference any filtered sample? If yes, the report has to be amended and re-submitted to include only non-filtered samples.	no	Appendix D	
List any of the sample parameters that exceed the Bylaw limits with the reporting detection limit (RDL) included.	yes	Appendix D	
A true copy of the Certificate of Analysis report, is included with the report.	yes	Appendix D	
EVALUATION OF IMPACT		Page # & Section # of every occurrence in the Review	Review Includes this Information City Staff (Check)
Does the report recommend a back-up system or relief safety valve(s)?	<input type="radio"/> Yes <input checked="" type="radio"/> No		
Does the associated Geotechnical report recommend a back-up system or relief safety valve(s)?	<input type="radio"/> Yes <input checked="" type="radio"/> No		
The taking and discharging of groundwater on site has been analyzed to ensure that no negative	<input checked="" type="radio"/> Yes	pg.18, sec 5	N/A

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SITE INFORMATION	Page # & Section # of Review	Review Includes this Information City Staff (Check)
impacts will occur to: the City sewage works in terms of quality and quantity (including existing infrastructure), the natural environment, and settlement issues.		
Has it been determined that there will be a negative impact to the natural environment, City sewage works, or surrounding properties has the study identified the following: the extent of the negative impact, the detail of the precondition state of all the infrastructure, City sewage works, and natural environment within the effected zone and the proposed remediation and monitoring plan?	<input type="radio"/> Yes If yes, identify impact: <input checked="" type="radio"/> No	pg.18, sec 5 N/A

Summary of Additional Information and Key Items (if applicable):

HYDROLOGICAL REVIEW SUMMARY

Appendix A:

SANITARY/COMBINED

Sample Location: MW20-6 MW20-12

Inorganics		Sample Result		Sample Result with upper RDL included	
<u>Parameter</u>	<u>mg/L</u>	-			<u>ug/L</u>
BOD	300	>22	>22	2	300,000
Fluoride	10	0.17	0.20	0.05	10,000
TKN	100	4.00	2.00	0.10	100,000
pH	6.0 - 11.5	7.94	8.02		6.0 - 11.5
Phenolics 4AAP	1	0.004	0.003	0.001	1,000
TSS	350	459	539	10	350,000
Total Cyanide	2	<0.002	<0.002	0.002	2,000
Metals					
Chromium Hexavalent	2	<0.005	<0.005	0.005	2,000
Mercury	0.01	<0.0002	<0.0002	0.0002	10
Total Aluminum	50	3.05	3.81	0.010	50,000
Total Antimony	5	<0.020	<0.020	0.020	5,000
Total Arsenic	1	<0.015	<0.015	0.015	1,000
Total Cadmium	0.7	<0.005	<0.005	0.005	700
Total Chromium	4	<0.020	<0.020	0.020	4,000
Total Cobalt	5	<0.010	<0.010	0.010	5,000
Total Copper	2	<0.020	<0.020	0.020	2,000
Total Lead	1	<0.020	<0.020	0.020	1,000
Total Manganese	5	0.195	0.112	0.020	5,000
Total Molybdenum	5	<0.020	<0.020	0.020	5,000
Total Nickel	2	<0.003	<0.003	0.003	2,000
Total Phosphorus	10	0.12	0.06	0.02	10,000
Total Selenium	1	<0.020	<0.020	0.020	1,000
Total Silver	5	<0.020	<0.020	0.020	5,000
Total Tin	5	<0.020	<0.020	0.020	5,000
Total Titanium	5	0.075	0.103	0.020	5,000
Total Zinc	2	<0.020	<0.020	0.020	2,000
Petroleum Hydrocarbons					
Animal/Vegetable Oil & Grease	150	1.5	<0.5	0.5	150,000
Mineral/Synthetic Oil & Grease	15	<0.5	<0.5	0.5	15,000

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MW20-6 MW20-12

Volatile Organics		Sample Result		Sample Result with upper RDL included	
<u>Parameter</u>	<u>mg/L</u>	-			<u>ug/L</u>
Benzene	0.01	<0.0002	<0.0002	0.0002	10
Chloroform	0.04	0.0012	0.0008	0.0002	40
1,2-Dichlorobenzene	0.05	<0.0001	<0.0001	0.0001	50
1,4-Dichlorobenzene	0.08	<0.0001	<0.0001	0.0001	80
Cis-1,2-Dichloroethylene	4	<0.0002	<0.0002	0.0002	4,000
Trans-1,3-Dichloropropylene	0.14	<0.0003	<0.0003	0.0003	140
Ethyl Benzene	0.16	<0.0001	<0.0001	0.0001	160
Methylene Chloride	2	<0.0003	<0.0003	0.0003	2,000
1,1,2,2-Tetrachloroethane	1.4	<0.0001	<0.0001	0.0001	1,400
Tetrachloroethylene	1	<0.0001	<0.0001	0.0001	1,000
Toluene	0.016	<0.0002	<0.0002	0.0002	16
Trichloroethylene	0.4	<0.0002	<0.0002	0.0002	400
Total Xylenes	1.4	<0.0002	<0.0002	0.0002	1,400
Semi-Volatile Organics					
Di-n-butyl Phthalate	0.08	<0.0005	<0.0005	0.0005	80
Bis (2-ethylhexyl) Phthalate	0.012	<0.0005	<0.0005	0.0005	12
3,3'-Dichlorobenzidine	0.002	<0.0005	<0.0005	0.0005	2
Pentachlorophenol	0.005	<0.0001	<0.0001	0.0001	5
Total PAHs	0.005	<0.0003	<0.0003	0.0003	5
Misc Parameters					
Nonylphenols	0.02	<0.001	<0.001	0.001	20
Nonylphenol Ethoxylates	0.2	<0.001	<0.001	0.001	200

Sample Collected:
Temperature:

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STORM

Sample Location: MW20-6 MW20-12

Inorganics		Sample Result		Sample Result with upper RDL included	
<u>Parameter</u>	<u>mg/L</u>				<u>ug/L</u>
pH	6.0 - 9.5	7.94	8.02		
BOD	15	>22	>22	2	15,000
Phenolics 4AAP	0.008	0.004	0.003	0.001	8
TSS	15	459	539	10	15,000
Total Cyanide	0.02	<0.002	<0.002	0.002	20
Metals					
Total Arsenic	0.02	<0.015	<0.015	0.015	20
Total Cadmium	0.008	<0.005	<0.005	0.005	8
Total Chromium	0.08	<0.020	<0.020	0.020	80
Chromium Hexavalent	0.04	<0.005	<0.005	0.005	40
Total Copper	0.04	<0.020	<0.020	0.020	40
Total Lead	0.12	<0.020	<0.020	0.020	120
Total Manganese	0.05	0.195	0.112	0.020	50
Total Mercury	0.0004	<0.0002	<0.0002	0.0002	0.4
Total Nickel	0.08	<0.003	<0.003	0.003	80
Total Phosphorus	0.4	0.12	0.06	0.02	400
Total Selenium	0.02	<0.020	<0.020	0.020	20
Total Silver	0.12	<0.020	<0.020	0.020	120
Total Zinc	0.04	<0.020	<0.020	0.020	40
Microbiology					
E.coli	200	1	1	1	200,000
Volatile Organics					
<u>Parameter</u>	<u>mg/L</u>				<u>ug/L</u>
Benzene	0.002	<0.0002	<0.0002	0.0002	2
Chloroform	0.002	0.0012	0.0008	0.0002	2
1,2-Dichlorobenzene	0.0056	<0.0001	<0.0001	0.0001	6
1,4-Dichlorobenzene	0.0068	<0.0001	<0.0001	0.0001	7
Cis-1,2-Dichloroethylene	0.0056	<0.0002	<0.0002	0.0002	6
Trans-1,3-Dichloropropylene	0.0056	<0.0003	<0.0003	0.0003	6
Ethyl Benzene	0.002	<0.0001	<0.0001	0.0001	2
Methylene Chloride	0.0052	<0.0003	<0.0003	0.0003	5
1,1,2,2-Tetrachloroethane	0.017	<0.0001	<0.0001	0.0001	17
Tetrachloroethylene	0.0044	<0.0001	<0.0001	0.0001	4
Toluene	0.002	<0.0002	<0.0002	0.0002	2
Trichloroethylene	0.0076	<0.0002	<0.0002	0.0002	8
Total Xylenes	0.0044	<0.0002	<0.0002	0.0002	4

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Semi-Volatile Organics		Sample Result		Sample Result with upper RDL included	
Di-n-butyl Phthalate	0.015	<0.0005	<0.0005	0.0005	5
Bis (2-ethylhexyl) Phthalate	0.0088	<0.0005	<0.0005	0.0005	8.8
3,3'-Dichlorobenzidine	0.0008	<0.0005	<0.0005	0.0005	0.8
Pentachlorophenol	0.002	<0.0001	<0.0001	0.0001	2
Total PAHs	0.002	<0.0003	<0.0003	0.0003	2
PCBs	0.0004	<0.0002	<0.0002	0.0002	0.4
Misc Parameters					
Nonylphenols	0.001	<0.001	<0.001	0.001	1
Nonylphenol Ethoxylates	0.01	<0.001	<0.001	0.001	10

Sample Collected:
Temperature:

Consulting Firm that prepared Hydrological Report: WSP Canada Group Limited

Qualified Professional who completed the report summary: Natalia Codoban
Print Name

Qualified Professional who completed the report summary: _____
Signature Date & Stamp