Reference No. 012607



October 18, 2018

Ms. Tessy Jose City of Detroit Great Lakes Water Authority Industrial Waste Control Division 303 S. Livernois Avenue Detroit, Michigan 48209

Dear Ms. Jose:

Re: Modification of Groundwater Treatment System RACER Trust Eckles Road Site 12950 Eckles Road Site Livonia, Michigan 48150 Permit No.: SD6 94508

GHD Services Inc. (GHD) is submitting this request on behalf of RACER to modify the processes and technologies used in the Groundwater Treatment System associated with Special Discharge Permit SD6 94508 at the RACER Eckles Road Site located at 12950 Eckles Road, Livonia, Michigan.

Special Discharge Permit SD6 94508 was issued to RACER in June 2011, renewed in June 2015 and is effective through June 30, 2019.

As discussed in our October 9 meeting between GLWA, RACER, and GHD, RACER has implemented a USEPA-approved remedial alternative consisting of in-situ chemical reduction (ISCR) injections to reduce dissolved concentrations of chromium and nickel in groundwater, essentially treating the groundwater in the subsurface. Full-scale ISCR injections were conducted in 2016 with follow-up targeted ISCR injections conducted in 2017. ISCR performance groundwater monitoring and evaluation were conducted through 2017 with supplemental groundwater samples collected in 2018.

The Specific Pollutant Prohibitions provided in the general Great Lakes Water Authority (GLWA) Special Discharge Permit Application are 5.0 mg/L for nickel and 25.0 mgl/l for chromium. The current City of Detroit Water and Sewerage Department (DWSD) Special Discharge Permit effluent limits for the Eckles Road Site groundwater treatment plant (GWTP) are 3.98 mg/L for nickel and 2.77 mg/L for total chromium, which are more stringent than the general limits. It is noted that recent GWTP influent concentrations have been less than the permit effluent limits based on laboratory analysis performed weekly since January 2018. A summary of the GWTP influent sample results is provided in Table 1 and on Figure 1. Based on the weekly influent sample results, the GWTP influent concentrations have remained below Special Discharge Permit effluent limits due to the ISCR injections since January 2018 and, therefore, RACER is proposing to modify the existing GWTP operation to eliminate portions of the treatment process. The current treatment system schematic is presented on Figure 2.





Specifically, RACER proposes to eliminate the addition of sodium bisulfite and sulfuric acid in Tank T-3; eliminate the addition of recycled solids in Tank T-4; eliminate the addition of magnesium hydroxide in Tank T-5; and eliminate the addition of a flocculation aid polymer in the flash mixer tank. Groundwater will continue to flow from the French drain sump through a bag filter which will continue to be maintained, into the existing treatment/process tanks T-3, T-4, and T-5, through the flash mixer, flocculation tank and lamella clarifier, then through the polishing sand filter, which will continue to operate, prior to Tank T-12 and gravity discharge to the sanitary sewer. The current treatment capability will remain in place and can be restarted if effluent monitoring indicates treatment is required to meet Special Discharge Permit Effluent requirements. It is noted that the current treatment system did not lower PFAS concentrations detected in the influent so there is no negative impact from the proposed changes related to PFAS.

RACER plans to continue to implement dewatering activities until final portions of the remedial alternative can be implemented and approval to discontinue dewatering (and therefore discontinue discharge to the sanitary sewer system) can be obtained from USEPA. Discontinuing discharge will eliminate discharge of water containing PFAS and per our discussion more details will be provided to you on that matter. Effluent testing for chromium and nickel will continue with field test kits and laboratory analysis weekly. Other effluent testing will continue as required by the Special Discharge Permit. If approval to discontinue dewatering is received from USEPA in the future then no discharge will be necessary and the existing Special Discharge Permit can be terminated. The approximate schedule for receiving approval from USEPA to discontinue dewatering activities through the groundwater extraction system and hence the need for operating and discharging to the sanitary sewer system is in 2019.

Please contact me at (248) 893-3400 if you require further information or clarification.

Sincerely,

GHD

Christopher J. Meincke, P.E.

CJM/ds/17

Encl.

cc: Jose Belen, GLWA Greg Rudloff, USEPA RCRA Corrective Action Project Manager Richard Conforti, MDEQ OWMRP Dave Favero, RACER Grant Trigger, RACER

# Analytical Results of GWTP Influent Samples Eckles Road Site Livonia, Michigan

Sample Location: Sample Identification: Sample Date: Sample Type: Parameters	Units	GLWA Special Discharge Permit Effluent Limits	GWTP Influent WT-012607-122116-EE-002 12/21/2016	GWTP Influent WT-012607-011717-EE-002 1/17/2017	GWTP Influent WT-012607-021517-EE-001 2/15/2017	GWTP Influent WT-012607-030817-EE-002 3/8/2017	GWTP Influent WT-012607-041917-EE-002 4/19/2017	GWTP Influent WT-012607-052417-EE-002 5/24/2017
Metals	ma/l	2 77	5 40	4 80	5 40	5 10	4 40	3 50
Chromium VI (hexavalent) Nickel	mg/L mg/L	3.98	5.20 2.90	 3.30	4.40 3.60	4.20 3.90	3.80 2.90	3.30 2.70

Notes: U - Not detected at the associated reporting limit. H - Sample was prepped or analyzed beyond the specified holding time. "--" - Parameter was not analyzed for in specified sample

# Analytical Results of GWTP Influent Samples Eckles Road Site Livonia, Michigan

Sample Location: Sample Identification: Sample Date: Sample Type: Parameters Metals	Units	GLWA Special Discharge Permit Effluent Limits	GWTP Influent WT-012607-062817-EE-002 6/28/2017	GWTP Influent WT-012607-071217-EE-002 7/12/2017	GWTP Influent WT-012607-080217-EE-002 8/2/2017	GWTP Influent WT-012607-090617-EE-002 9/6/2017	GWTP Influent WT-012607-101117-EE-002 10/11/2017	GWTP Influent WT-012607-111517-EE-002 11/15/2017
Chromium Chromium VI (hexavalent) Nickel	mg/L mg/L mg/L	2.77 3.98	3.50 2.50 3.00	4.00 0.0050 U 3.00	3.10 2.10 2.90	2.80 2.7 H 2.60	3.30  3.40	4.50 4.10 2.80

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# Analytical Results of GWTP Influent Samples Eckles Road Site Livonia, Michigan

Sample Location: Sample Identification: Sample Date: Sample Type: Parameters Metals	Units	GLWA Special Discharge Permit Effluent Limits	GWTP Influent WT-012607-120617-EE-002 12/6/2017	GWTP Influent WT-012607-011018 1/10/2018	GWTP Influent WT-012607-012418-EE-002 1/24/2018	GWTP Influent WT-012607-013118-EE-002 1/31/2018	GWTP Influent WT-012607A-020718-EE-002 2/7/2018	GWTP Influent WT-012607-021418-EE-002 2/14/2018	GWTP Influent WT-012607-022818-EE-002 2/28/2018
Chromium Chromium VI (hexavalent) Nickel	mg/L mg/L mg/L	2.77 3.98	4.00 2.80 2.30	1.80 1.10 1.20	2.80 2.40 3.00	2.30 2.30 2.70	2.60 2.40 2.90	1.60  2.20	0.38 0.30 2.50

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Page 3 of 7

# Analytical Results of GWTP Influent Samples Eckles Road Site Livonia, Michigan

Sample Location: Sample Identification: Sample Date: Sample Type: Parameters Metals	Units	GLWA Special Discharge Permit Effluent Limits	GWTP Influent WT-012607-030718-EE-002 3/7/2018	GWTP Influent WT-012607-031418-EE-002 3/14/2018	GWTP Influent WT-012607-032118-EE-102 3/21/2018	GWTP Influent WT-012607-032818-EE-002 3/28/2018	GWTP Influent WT-012607-040418-EE-002 4/4/2018	GWTP Influent WT-012607-041118-EE-002 4/11/2018	GWTP Influent WT-012607-041818-EE-002 4/18/2018
Chromium	mg/L	2.77	2.2 0.038 H	2.6	2.6	2.4	2.1	2.6	1.1 0.76
Nickel	mg/L	3.98	2.8	2.6	2.4	2.5	2.4	1.8	1.0

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Page 4 of 7

# Analytical Results of GWTP Influent Samples Eckles Road Site Livonia, Michigan

Sample Location: Sample Identification: Sample Date: Sample Type: Parameters Metals	Units	GLWA Special Discharge Permit Effluent Limits	GWTP Influent WT-012607-042518-EE-002 4/25/2018	GWTP Influent WT-012607-050218-EE-002 5/2/2018	GWTP Influent WT-012607-050918-EE-002 5/9/2018	GWTP Influent WT-012607-051618-EE-002 5/16/2018	GWTP Influent WT-012607-052318-EE-002 5/23/2018	GWTP Influent WT-012607-060618-EE-002 6/6/2018	GWTP Influent W-012607-061318-EE-002 6/13/2018
Chromium Chromium VI (hexavalent) Nickel	mg/L mg/L mg/L	2.77 3.98	1.8 1.1 0.97	1.8 1.5 1.0	1.8 1.7 1.0	1.8 1.5 1.1	1.0 0.63 2.8	1.9 0.18 0.86	1.8 1.6 0.60

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Page 5 of 7

Sample Location: Sample Identification: Sample Date: Sample Type: Parameters Metals	Units	GLWA Special Discharge Permit Effluent Limits	GWTP Influent W-012607-062018-EE-002 6/20/2018	GWTP Influent W-012607-062718-EE-002 6/27/2018	GWTP Influent WT-012607-071118-EE-002 7/11/2018	GWTP Influent WT-012607-071818-EE-002 7/18/2018	GWTP Influent WT-012607-072518-EE-002 7/25/2018	GWTP Influent WT-012607-080118-EE-002 8/1/2018	GWTP Influent WT-012607-080818-EE-002 8/8/2018
Chromium Chromium VI (hexavalent) Nickel	mg/L mg/L mg/L	2.77 3.98	1.7 1.5 1.0	1.4 0.96 0.64	1.4 1.7 0.80	1.4 1.3 0.70	1.5 1.3 0.88	1.2 1.0 1.2	1.3 1.2 0.89

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Page 6 of 7

Page 7 of 7

Table 1

# Analytical Results of GWTP Influent Samples Eckles Road Site Livonia, Michigan

Sample Location: Sample Identification: Sample Date: Sample Type:		GLWA Special Discharge Permit Effluent Limits	GWTP Influent WW-012607-082218-EE-002 8/22/2018	GWTP Influent WW-012607-082918-EE-002 8/29/2018	GWTP Influent WW-012607-090518-EE-002 9/5/2018	GWTP Influent W-012607-091218-EE-002 9/12/2018	GWTP Influent W-012607-091918-EE-002 9/19/2018	
Parameters Metals	Units							
Chromium Chromium VI (hexavalent) Nickel	mg/L mg/L mg/L	2.77 3.98	1.4 1.2 0.65	1.3 0.23 0.59	1.2 0.12 0.70	1.2 0.76 0.77	1.1 1.1 0.67	

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012607-T01(JOSE017)GN-DE001 OCT 12, 2018