Metropolitan Water Reclamation District of Greater Chicago

MONITORING AND RESEARCH DEPARTMENT

REPORT NO. 14-09

HANOVER PARK WATER RECLAMATION PLANT

FISCHER FARM MONITORING REPORT FOR

FOURTH QUARTER 2013

February 2014

Protecting Our Water Environment

Metropolitan Water Reclamation District of Greater Chicago
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February 20, 2014

Mr. S. Alan Keller, P.E.
Manager, Permit Section
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794 - 9276

Dear Mr. Keller:

Subject: Hanover Park Water Reclamation Plant - Illinois Environmental Protection Agency Permit No. 2012-SC-2255, Monitoring Report for October, November, and December 2013

The attached report includes three tables of the monitoring results for the Hanover Park Fischer Farm site for the fourth quarter of 2013.

Very truly yours,

Thomas C. Granato, Ph.D.
Director
Monitoring and Research

TCG:PL:cm
Enclosures
cc: Mr. J. Patel, Manager, IEPA Region 2 - Des Plaines
Mr. V. Aistars, USEPA Region 5
Mr. P. Kuefler, USEPA Region 5

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FOREWORD

The data and information in this report fulfill the frequency of monitoring and the reporting requirements for the Hanover Park Fischer Farm Site as specified in the Illinois Environmental Protection Agency Permit No. 2012-SC-2255 for the fourth quarter of 2013.

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ACKNOWLEDGEMENT

The assistance given by Ms. Minaxi Patel, Assistant Environmental Chemist, of the Environmental Monitoring and Research Division, and Mr. John Chavich, Supervising Environmental Chemist, of the John E. Egan Analytical Laboratory Section, is greatly appreciated.

DISCLAIMER

Mention of proprietary equipment and chemicals in this report does not constitute endorsement by the Metropolitan Water Reclamation District of Greater Chicago.

HANOVER PARK WATER RECLAMATION PLANT FISCHER FARM REPORT FOR FOURTH QUARTER OF 2013

During October, November, and December 2013, activities at the Hanover Park Water Reclamation Plant (WRP) Fischer Farm included well and field drainage water sampling, and flow measurements. These monitoring activities are required by the Illinois Environmental Protection Agency Operating Permit No. 2012-SC-2255. Fields and water monitoring locations are presented in Figure 1.

Analytical data for well water samples collected during the quarter are presented in Tables 1 and 2.

Drainage water (combined surface and subsurface) returned to the Hanover Park WRP from the farm fields was sampled twice per month in October, November, and December. Analytical data for these samples are presented in Table 3. The volumes of drainage water returned to the WRP during the fourth quarter were estimated as 0.028, 1.66, and 1.33 million gallons in October, November, and December, respectively.

FIGURE 1: MAP OF FIELDS AND WELLS AT THE HANOVER PARK FISCHER FARM SITE OF THE METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

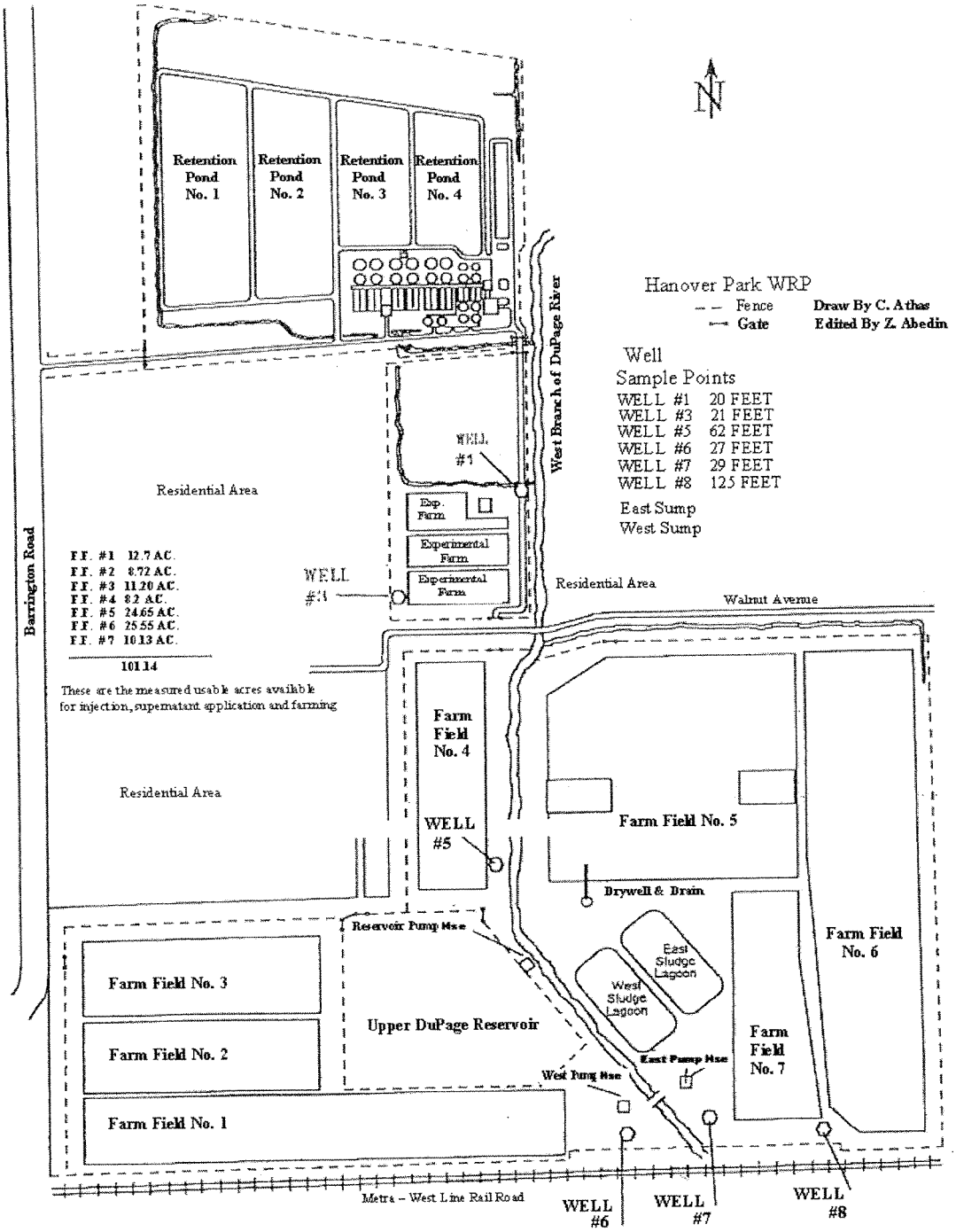

TABLE 1: ANALYSIS OF WATER FROM MONITORING WELL W-7
AT THE HANOVER PARK FISCHER FARM SITE
SAMPLED DURING OCTOBER, NOVEMBER, AND DECEMBER 2013

Parameter	Unit	Date Sampled		
		10/08/13	10/22/13	11/05/13
pH[1]		7.2	7.2	7.3
EC	mS/m	155	149	153
Cl^-	mg/L	55	55	55
$SO_4^=$	"	226	232	239
Alkalinity as $CaCO_3$	"	558	549	548
TKN	"	28	27	25
NH_3-N	"	27	25	24
$NO_2 + NO_3$-N	"	< 0.15	< 0.15	< 0.15
Total P	"	< 0.20	< 0.20	< 0.20
Cd	"	< 0.001	< 0.001	< 0.001
Cr	"	< 0.005	< 0.005	< 0.005
Cu	"	0.008	< 0.005	< 0.005
Fe	"	5	5	4
Mn	"	0.050	0.054	0.050
Ni	"	< 0.005	< 0.005	< 0.005
Zn	"	0.07	0.10	0.06

TABLE 1 (Continued): ANALYSIS OF WATER FROM MONITORING WELL W-7
AT THE HANOVER PARK FISCHER FARM SITE
SAMPLED DURING OCTOBER, NOVEMBER, AND DECEMBER 2013

Parameter	Unit	Date Sampled	
		11/19/13	12/03/13
pH[1]		7.3	7.2
EC	mS/m	133	123
Cl^-	mg/L	54	54
$SO_4^=$	"	235	241
Alkalinity as $CaCO_3$	"	544	556
TKN	"	24	24
NH_3-N	"	23	23
$NO_2 + NO_3$-N	"	< 0.15	< 0.15
Total P	"	< 0.20	< 0.20
Cd	"	< 0.001	< 0.001
Cr	"	< 0.005	< 0.005
Cu	"	< 0.005	0.019
Fe	"	5	5
Mn	"	0.054	0.054
Ni	"	< 0.005	< 0.005
Zn	"	0.09	0.07

[1]pH analyzed beyond recommended holding time of 15 minutes.

TABLE 2: ANALYSIS OF WATER FROM MONITORING WELLS
W-5, W-6 AND W-8 AT THE
HANOVER PARK FISCHER FARM SITE SAMPLED ON OCTOBER 8, 2013

Parameter[1]	Unit	Monitoring Well No.		
		W-5	W-6	W-8
pH[1]		7.6	7.5	8.1
EC	mS/m	78	87	64
Cl^-	mg/L	14	32	< 10
$SO_4^=$	"	94	121	64
Alkalinity as $CaCO_3$	"	309	295	281
TKN	"	< 1	< 1	< 1
NH_3-N	"	0.3	0.2	0.4
$NO_2 + NO_3$-N	"	< 0.15	< 0.15	< 0.15
Total P	"	< 0.20	< 0.20	< 0.20
Cd	"	< 0.001	< 0.001	< 0.001
Cr	"	< 0.005	< 0.005	< 0.005
Cu	"	0.009	0.016	0.012
Fe	"	2	3	0.8
Mn	"	0.020	0.040	0.033
Ni	"	< 0.005	< 0.005	< 0.005
Zn	"	< 0.01	< 0.01	< 0.01

[1]pH analyzed beyond recommended holding time of 15 minutes.

TABLE 3: ANALYSIS OF COMBINED SURFACE AND SUBSURFACE DRAINAGE FROM THE FISCHER FARM SITE RETURNED TO THE HANOVER PARK WATER RECLAMATION PLANT DURING OCTOBER, NOVEMBER, AND DECEMBER 2013

Date	Sump	NH_3-N	TSS[1]	BOD_5
		mg/L		
10/08/13	East	58	62	44
10/08/13	West	30	13	NA[2]
10/22/13	East	30	25	12
10/22/13	West	19	37	15
11/05/13	East	3	7	5
11/05/13	West	0.7	14	6
11/19/13	East	0.3	<4	<2
11/19/13	West	<0.1	5	2
12/03/13	East	2	4	6
12/03/13	West	<0.1	<4	<2
12/10/13	East	3	4	11
12/10/13	West	<0.1	5	<2

[1]Total suspended solids.
[2]No analysis; insufficient sample.