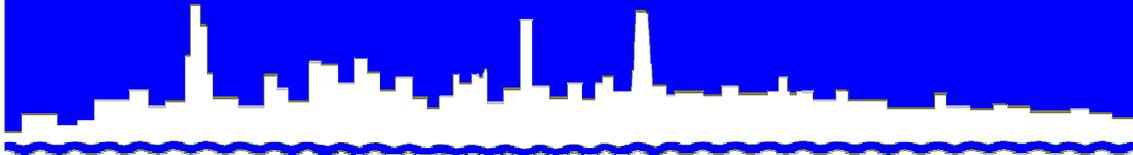


Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

***MONITORING AND RESEARCH
DEPARTMENT***

REPORT NO. 11-11

HANOVER PARK WATER RECLAMATION PLANT

FISCHER FARM MONITORING REPORT FOR

FOURTH QUARTER 2010

MARCH 2011

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March 7, 2011

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. 2007-SC-2951-1, Monitoring Report for October, November, and December 2010

The attached report includes five tables of the monitoring results for the Hanover Park Fischer Farm site for the fourth quarter of 2010.

Very truly yours,

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

TCG:PL:kq
Enclosures
cc: Mr. Jay Patel, Manager, IEPA Region II - Des Plaines
Mr. Valdis Aistars, USEPA Region 5
Mr. Ash Sajjad, USEPA Region 5
O'Connor

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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. 2007-SC-2951-1 for the fourth quarter of 2010.

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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, Supervisory 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 2010

During October, November, and December 2010, 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. 2007-SC-2951-1. Fields and water monitoring locations are presented in Figure 1.

Analytical data for 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 0.225, 2.57, and 1.94 million gallons in October, November, and December, respectively. The analytical data for the lagoon supernatant applied to Fischer Farm fields during the quarter are presented in Table 4. The volumes and dry weights applied are reported in Table 5.

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

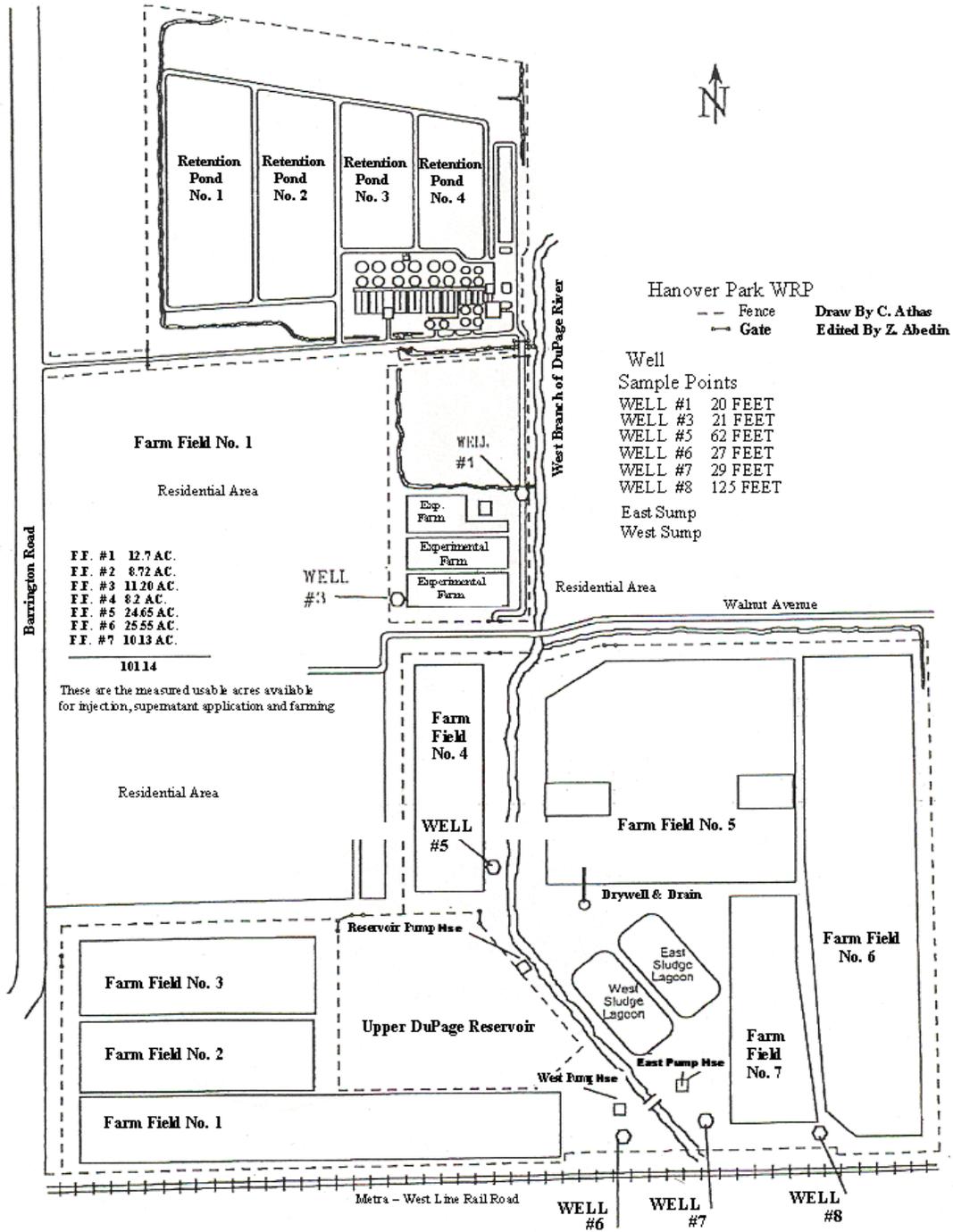


TABLE 1: ANALYSIS OF WATER FROM MONITORING WELL W-7
 AT THE HANOVER PARK FISCHER FARM SITE
 SAMPLED DURING OCTOBER AND NOVEMBER 2010

Parameter	Unit	Date Sampled			
		10/12/10	10/19/10	11/02/10	11/09/10
pH ¹		7.1	7.1	7.2	7.1
EC	mS/m	165	173	149	148
Cl ⁻	mg/L	50	52	50	51
SO ₄ ⁼	"	235	236	247	223
Alkalinity as CaCO ₃	"	730	724	732	732
TKN	"	24	24	27	26
NH ₃ -N	"	24	24	25	26
NO ₂ + NO ₃ -N	"	< 0.135	< 0.135	< 0.135	< 0.135
Total P	"	< 0.1	< 0.1	< 0.1	< 0.1
Cd	"	< 0.001	< 0.001	< 0.001	< 0.001
Cr	"	< 0.01	< 0.01	< 0.01	< 0.01
Cu	"	< 0.004	< 0.004	0.012	0.015
Fe	"	5.7	5.3	5.5	5.6
Mn	"	0.06	0.05	0.05	0.06
Ni	"	< 0.004	< 0.004	< 0.004	< 0.004
Zn	"	0.09	0.05	0.07	0.04
Fecal coliform	MPN ²	< 1	< 1	< 1	< 1

¹pH analyzed beyond recommended holding time of 15 minutes.

²Most probable number/100 mL.

TABLE 2: ANALYSIS OF WATER FROM MONITORING WELLS W-3
THROUGH W-8 AT THE HANOVER PARK FISCHER FARM SITE
SAMPLED ON NOVEMBER 9, 2010

Parameter	Unit	Monitoring Well No.			
		W-3	W-5	W-6	W-8
pH ¹			7.6	7.5	8.3
EC	mS/m		70	86	60
Cl ⁻	mg/L		15	44	8
SO ₄ ⁼	"		95	137	50
Alkalinity as CaCO ₃	"	W	315	317	273
TKN	"	E	< 0.3	0.4	0.5
		L			
NH ₃ -N	"	L	0.48	0.41	0.42
NO ₂ + NO ₃ -N	"		< 0.135	< 0.135	< 0.135
Total P	"	F	< 0.1	< 0.1	< 0.1
Cd	"	R	< 0.001	< 0.001	< 0.001
Cr	"	O	< 0.01	< 0.01	< 0.01
		Z			
Cu	"	E	0.027	0.057	0.022
Fe	"	N	2.5	7.4	0.58
Mn	"		< 0.03	0.07	< 0.03
Ni	"		< 0.004	< 0.004	< 0.004
Zn	"		< 0.01	< 0.01	< 0.01
Fecal coliform	MPN ²		< 1	< 1	< 1

¹pH analyzed beyond recommended holding time of 15 minutes.

²Most probable number/100 mL.

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 2010

Date	Sump	NH ₃ -N	TSS ¹	BOD ₅
	 mg/L		
10/12/10	East	70	468	12
10/12/10	West	32	36	16
10/19/10	East	88	31	24
10/19/10	West	27	17	18
11/02/10	East	8.0	108	52
11/02/10	West	87	9	24
11/09/10	East	46	49	39
11/09/10	West	6.3	8	25
12/14/10	East	285	106	111
12/14/10	West	96	61	60
12/21/10	East	480	162	185
12/21/10	West	316	146	140

¹Total suspended solids.

TABLE 4: ANALYSIS OF LAGOON SUPERNATANT APPLIED TO FIELDS
AT THE HANOVER PARK FISCHER FARM SITE
DURING NOVEMBER 2010

Parameter	Unit	Concentration ¹
pH		8.0
Total Solids	%	0.13
Total Volatile Solids ²	"	53.3
Volatile Acids ³	mg/kg	2,024
TKN	"	252,729
NH ₃ -N	"	227,652
Total P	"	28,152
As	"	22
Cd	"	< 2
Cr	"	8
Cu	"	40
Hg	"	< 0.25
Mn	"	165
Mo	"	4
Ni	"	19
Pb	"	15
Se	"	9
Zn	"	57

¹Values are the means of two samples.

²Total volatile solids as a percentage of total solids.

³As acetic acid.

TABLE 5: VOLUMES AND DRY WEIGHTS OF LAGOON SUPERNATANT
 APPLIED TO FIELDS AT THE HANOVER PARK FISCHER FARM SITE
 DURING NOVEMBER 2010

Field	Date	Biosolids Type	Volume (Gallons)	Dry Weight (Tons)
2	11/10/10	Supernatant	170,000	0.78
5	11/10/10	”	540,000	2.48
Total			710,000	3.26