

Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

*MONITORING AND RESEARCH
DEPARTMENT*

REPORT NO. 15-01

CONTROLLED SOLIDS DISTRIBUTION REPORT

FOR FOURTH QUARTER 2014

January 2015

Protecting Our Water Environment

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January 26, 2015

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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: Metropolitan Water Reclamation District of Greater Chicago – Controlled Solids Distribution Program Illinois Environmental Protection Agency Permit No. 2010-SC-0200, Fourth Quarter (October – December 2014)

This letter transmits information and data for the Metropolitan Water Reclamation District of Greater Chicago – Controlled Solids Distribution Program for the fourth quarter (October - December 2014), as required by Illinois Environmental Protection Agency Permit Nos. 2010-SC-0200 and 2010-SC-0200-2.

Sludge flow schematic diagrams for solids processed during October – December 2014 are shown in Figure 1 – John E. Egan Water Reclamation Plant (WRP), Figure 2 – Calumet WRP, and Figure 3 – Stickney WRP.

Biosolids were distributed to six sites during the fourth quarter of 2014. The user information report for these sites is presented in Table 1, and the analysis of biosolids delivered to these sites is presented in Table 2.

Very truly yours,

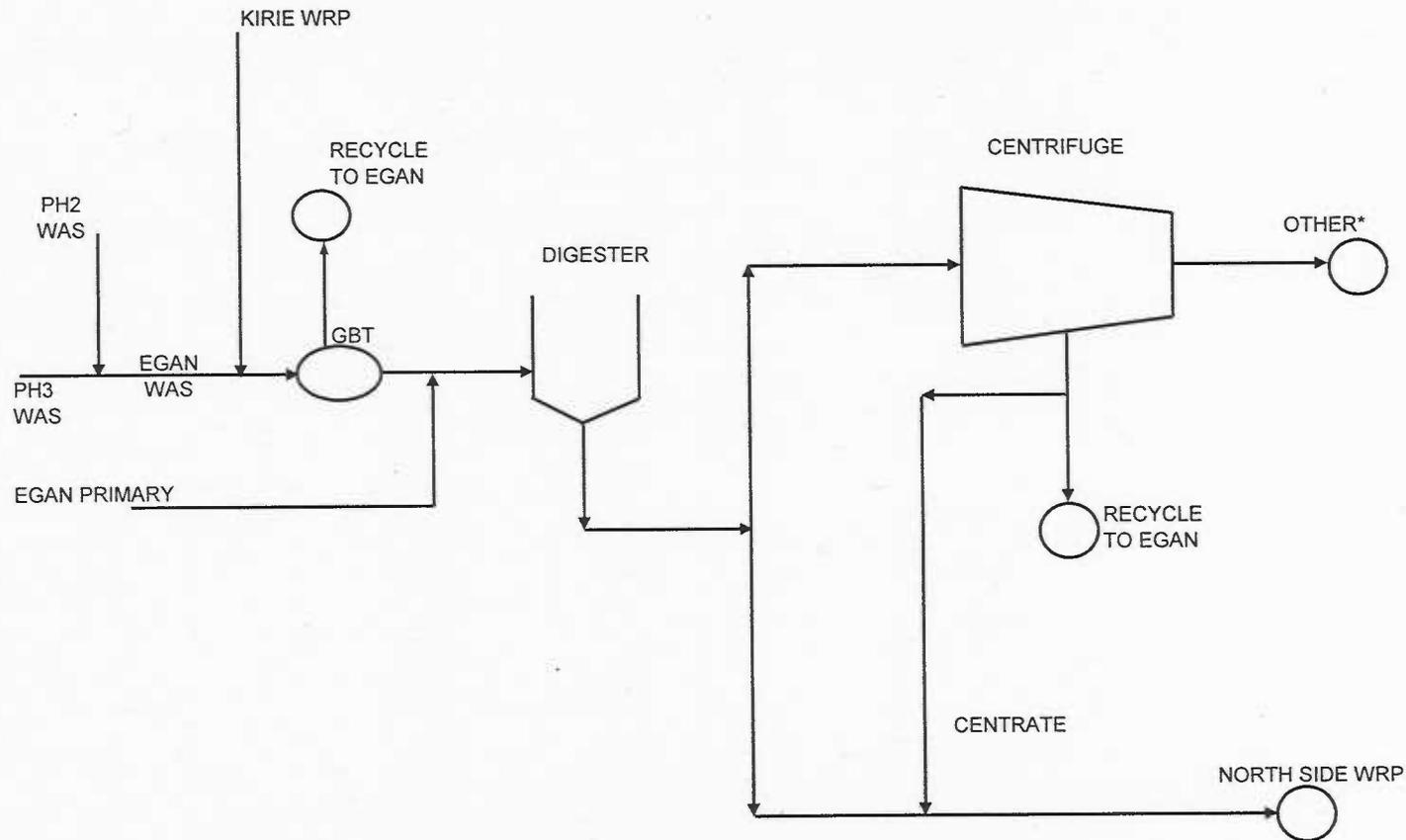
Thomas C. Granato, Ph.D., BCES
Director
Monitoring and Research

TCG:OO:cm

Attachments

cc: Mr. V. Aistars (USEPA)
Mr. J. Patel (IEPA)

FIGURE 1: JOHN E. EGAN WATER RECLAMATION PLANT OPERATIONAL FLOW CHART FOR FOURTH QUARTER 2014



*Sent to either Stickney or Calumet drying sites for further processing or storage prior to farmland application.

FIGURE 2: CALUMET WATER RECLAMATION PLANT OPERATIONAL FLOW CHART FOR FOURTH QUARTER 2014

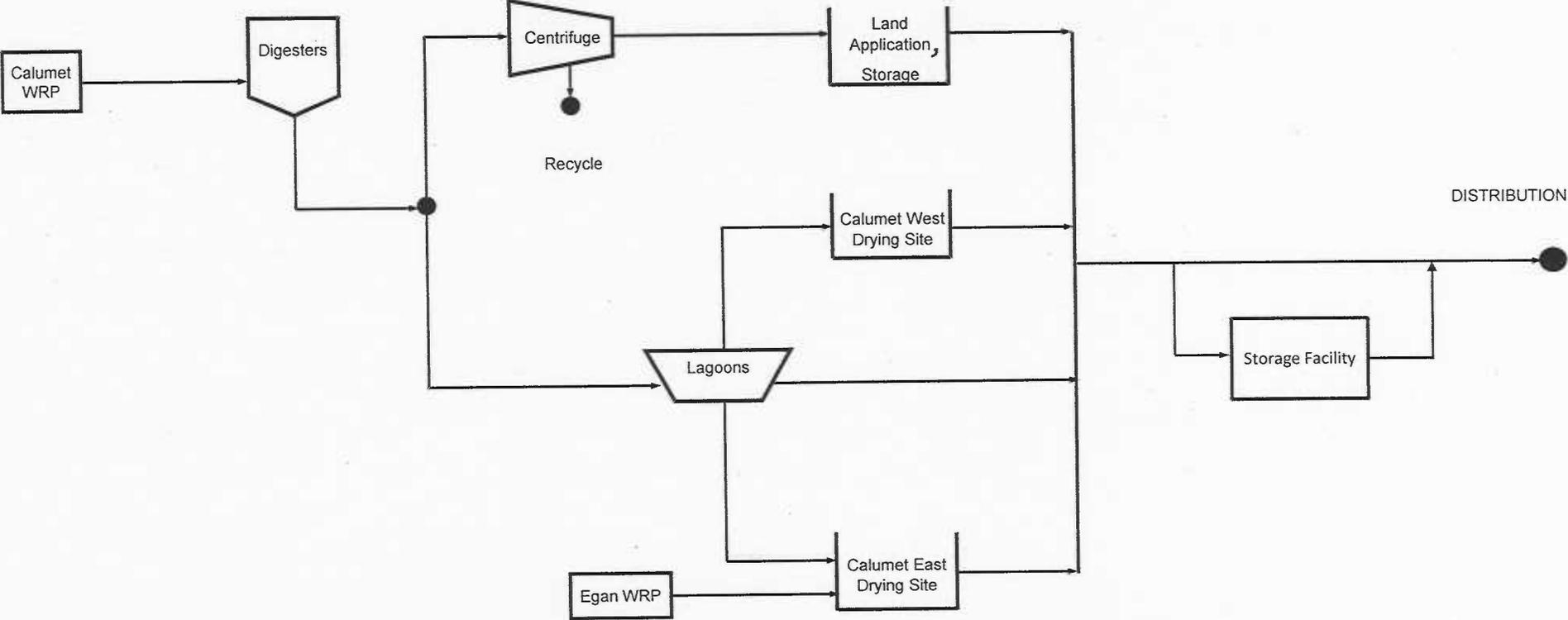


TABLE 1: USER INFORMATION FOR THE STICKNEY WATER RECLAMATION PLANT'S AIR-DRIED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE FOURTH QUARTER OF 2014

| Site No. | Name and Address of User | Dates | Quantity, Dry Ton | | Purpose | Application | |
|----------|---|---|-------------------|----------------------|--|-------------|-----------------|
| | | | 4th Quarter | Cumulative | | Area (acre) | Rate (ton/acre) |
| 1 | Chicago Park District Maggie Daley Park 337 E. Randolph St. Chicago, IL 60602 | 10/1, 10/7 - 10/9, 10/20 - 10/22, 10/24, 10/27, 10/29, 10/30, 11/3 | 795.3 | 1,811.1 ¹ | Soil amendment for turf and trees establishment | 27 | 67.1 |
| 2 | Hoffman Estate Park District Eisenhower Jr. High School 860 N. Roselle Rd. Hoffman Estates, IL 60169 | 10/1, 10/9 | 62.4 | 62.4 | Topdressing fertilizer for turf growth | 5 | 12.5 |
| 3 | Lake Street Supply Bloomingdale Trail N. Ridgeway Ave & N. Ashland Ave. Chicago, IL 60639 | 10/7 - 10/10, 10/13, 10/24, 10/27 - 10/30 | 370.6 | 446.5 | Soil amendment for grass and trees establishment | 10 | 44.7 |
| 4 | Cog Hill Golf Course 12294 Archer Ave. Lemont, IL 60169 | 10/23 | 52.8 | 52.8 | Topdressing fertilizer for turf growth | 4 | 13.2 |
| 5 | Gleneagles Golf Course Mid Iron Club 12680 Bell Rd. Lemont, IL 60439 | 10/23 | 101.5 | 101.5 | Topdressing fertilizer for turf growth | 7 | 14.5 |
| 6 | Village of Alsip New Park 4510 Mulberry Ln. Alsip, IL 60803 | 10/24 | 55.4 | 55.4 | Topdressing fertilizer for turf growth | 4 | 13.9 |

¹Includes biosolids applied during second and third quarter of 2014.

TABLE 2: ANALYSIS OF AIR-DRIED BIOSOLIDS APPLIED TO LAND FROM THE STICKNEY WATER RECLAMATION PLANT'S SOLIDS DRYING AREAS DURING THE FOURTH QUARTER OF 2014

| Sampling Date | | 30-Sep | 7-Oct | 10-Oct | 14-Oct | 20-Oct | 21-Oct | 27-Oct | 3-Nov |
|-------------------------------|-------------|--------|---------|--------|--------|--------|---------------|--------|--------|
| Site No. ¹ | | 1, 2 | 1, 2, 3 | 3 | 3 | 1 | 1, 3, 4, 5, 6 | 1, 3 | 1 |
| <u>Constituent</u> | <u>Unit</u> | | | | | | | | |
| pH | | 7.0 | 5.8 | 6.1 | 6.1 | 6.0 | 6.1 | 5.8 | 6.0 |
| Total Solids | % | 65.9 | 65.1 | 63.8 | 65.1 | 59.9 | 64.7 | 68.6 | 70.4 |
| Total Volatile Solids | " | 37.4 | 37.8 | 39.1 | 38.1 | 36.0 | 34.0 | 38.4 | 37.5 |
| Volatile Acids as Acetic Acid | mg/kg | 106 | 129 | 102 | 83 | 494 | 316 | 379 | 260 |
| Total Kjeldahl Nitrogen | " | 24,320 | 27,354 | 31,270 | 11,095 | 22,870 | 23,293 | 22,846 | 25,414 |
| NH ₃ -N | " | 4,888 | 390 | 1,418 | 908 | 697 | 1,028 | 885 | 1,276 |
| Total P | " | 21,002 | 27,333 | 27,475 | 11,523 | 21,740 | 24,119 | 25,679 | 25,214 |
| As | " | 10 | 9 | 7 | 7 | 8 | 9 | 9 | 7 |
| Cd | " | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Cr | " | 147 | 152 | 144 | 139 | 144 | 144 | 148 | 150 |
| Cu | " | 439 | 455 | 477 | 485 | 463 | 443 | 441 | 478 |
| Hg | " | 0.8 | 1.1 | 1.0 | 0.9 | 1.4 | 1.4 | 1.2 | 1.2 |
| K | " | 4,388 | 4,549 | 2,340 | 3,373 | 2,579 | 4,262 | 4,567 | 3,222 |
| Mn | " | 549 | 569 | 560 | 557 | 554 | 545 | 558 | 575 |

TABLE 2 (Continued): ANALYSIS OF AIR-DRIED BIOSOLIDS APPLIED TO LAND FROM THE STICKNEY WATER RECLAMATION PLANT'S SOLIDS DRYING AREAS DURING THE FOURTH QUARTER OF 2014

| Sampling Date | | 30-Sep | 7-Oct | 10-Oct | 14-Oct | 20-Oct | 21-Oct | 27-Oct | 3-Nov |
|-----------------------|-------------|--------|---------|--------|--------|--------|---------------|--------|-------|
| Site No. ¹ | | 1, 2 | 1, 2, 3 | 3 | 3 | 1 | 1, 3, 4, 5, 6 | 1, 3 | 1 |
| <u>Constituent</u> | <u>Unit</u> | | | | | | | | |
| Mo | mg/kg | 13 | 13 | 13 | 15 | 14 | 15 | 14 | 15 |
| Ni | " | 46 | 48 | 50 | 50 | 48 | 47 | 46 | 51 |
| Pb | " | 114 | 113 | 108 | 103 | 112 | 109 | 110 | 112 |
| Se | " | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| Zn | " | 817 | 850 | 848 | 821 | 837 | 805 | 822 | 855 |

¹Site information is provided in Table 1.