

*Protecting Our Water Environment*



***Metropolitan Water Reclamation District of Greater Chicago***

*MONITORING AND RESEARCH  
DEPARTMENT*

***REPORT NO. 14-23***

***CONTROLLED SOLIDS DISTRIBUTION REPORT***

***FOR SECOND QUARTER 2014***

***August 2014***

## Protecting Our Water Environment

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August 13, 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: Metropolitan Water Reclamation District of Greater Chicago – Controlled Solids Distribution Program Illinois Environmental Protection Agency Permit No. 2010-SC-0200, Second Quarter (April – June 2014)

This letter transmits information and data for the Metropolitan Water Reclamation District of Greater Chicago – Controlled Solids Distribution Program for the second quarter (April – June 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 April – June 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 26 sites during the second quarter of 2014. The user information report for these sites is presented in Tables 1 and 2, and the analysis of biosolids delivered to these sites is presented in Tables 3 and 4.

Very truly yours,

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

TCG:OO:cm

Attachments

cc: Mr. V. Aistars (USEPA)

Mr. J. Patel (IEPA)

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

| Site No. | Name and Address of User   | Dates | Quantity, dry ton |            | Purpose                                | Application |                 |
|----------|--|-------|-------------------|------------|--|-------------|-----------------|
|          |  |       | 2nd Quarter       | Cumulative |  | Area (acre) | Rate (ton/acre) |
| 1        | Metropolitan Water Reclamation District of Greater Chicago<br>Meany Garden<br>6001 W. Pershing Rd.<br>Cicero, IL 60804 | 5/9   | 8.4               | 8.4        | Soil amendment for turf establishment  | 0.5         | 16.8            |
| 2        | Moe Javedi<br>6533 Blackhawk Trail<br>Indian Head Park, IL 60525   | 5/23  | 5.5               | 5.5        | Topdressing fertilizer for turf growth | 0.5         | 11.0            |
| 3        | Maywood Park District<br>Bosco Park<br>21 <sup>st</sup> & Railroad Ave.<br>Maywood, IL 60153                           | 6/17  | 14.1              | 14.1       | Topdressing fertilizer for turf growth | 1           | 14.1            |
| 4        | Maywood Park District<br>Burton Park<br>16th Ave. & Washington Blvd.<br>Maywood, IL 60153                              | 6/17  | 13.0              | 13.0       | Topdressing fertilizer for turf growth | 1           | 13.0            |
| 5        | Western Springs Park District<br>Northeast Park<br>114 W. 39 <sup>th</sup> St.<br>Western Springs, IL 60558            | 6/17  | 13.7              | 13.7       | Topdressing fertilizer for turf growth | 1           | 13.7            |

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

| Site No. | Name and Address of User  | Dates | Quantity, dry ton |            | Purpose                                   | Application |                 |
|----------|---|-------|-------------------|------------|---|-------------|-----------------|
|          |   |       | 2nd Quarter       | Cumulative |   | Area (acre) | Rate (ton/acre) |
| 6        | Western Springs Park District<br>Spring Rock Park<br>4400 Central Ave.<br>Western Springs, IL 60558 | 6/18  | 59.1              | 59.1       | Topdressing fertilizer<br>for turf growth | 3           | 19.7            |
| 7        | Fox Valley Park District<br>Stuart Park<br>2730 Jericho Rd.<br>Aurora, IL 60506                     | 6/27  | 150.8             | 150.8      | Topdressing fertilizer<br>for turf growth | 9           | 16.8            |

TABLE 2: USER INFORMATION FOR THE CALUMET WATER RECLAMATION PLANT'S AIR-DRIED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE SECOND QUARTER OF 2014

| Site No. | Name and Address of User   | Dates     | Quantity, dry ton |            | Application                               |             |                 |
|----------|--|-----------|-------------------|------------|---|-------------|-----------------|
|          |  |           | 2nd Quarter       | Cumulative | Purpose                                   | Area (acre) | Rate (ton/acre) |
| 1        | Stony Creek Golf Course<br>5850 W 103 <sup>rd</sup> St.<br>Oak Lawn, IL 60453                          | 5/29, 6/5 | 37.3              | 37.3       | Topdressing fertilizer<br>for turf growth | 2           | 18.6            |
| 2        | Mokena Park District<br>Fox Ridge Park<br>19740 Teluride Ln.<br>Mokena, IL 60448                       | 6/2       | 32.1              | 32.1       | Topdressing fertilizer<br>for turf growth | 2           | 16.0            |
| 3        | Mokena Park District<br>McGovney Park<br>19345 Schoolhouse Rd.<br>Mokena, IL 60448                     | 6/3       | 12.8              | 12.8       | Topdressing fertilizer<br>for turf growth | 1           | 12.8            |
| 4        | Mokena Park District<br>Oak Recreation and Fitness<br>Center<br>10847 La Porte Rd.<br>Mokena, IL 60448 | 6/3       | 13.1              | 13.1       | Topdressing fertilizer<br>for turf growth | 1           | 13.1            |
| 5        | Mokena Park District<br>Main Park<br>10925 La Porte Rd.<br>Mokena, IL 60448                            | 6/3       | 70.3              | 70.3       | Topdressing fertilizer<br>for turf growth | 5           | 14.1            |
| 6        | Mokena Park District<br>Grasmere Park<br>10335 W. Lindsay Ln.<br>Mokena, IL 60448                      | 6/6       | 45.1              | 45.1       | Topdressing fertilizer<br>for turf growth | 3           | 15.0            |

TABLE 2 (Continued): USER INFORMATION FOR THE CALUMET WATER RECLAMATION PLANT'S AIR-DRIED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE SECOND QUARTER OF 2014

| Site No. | Name and Address of User  | Dates     | Quantity, dry ton |            | Purpose                                   | Application |                 |
|----------|---|-----------|-------------------|------------|---|-------------|-----------------|
|          |   |           | 2nd Quarter       | Cumulative |   | Area (acre) | Rate (ton/acre) |
| 7        | Mokena Park District<br>Green Meadow Park<br>10520 Williams Way<br>Mokena, IL 60448             | 6/6       | 31.2              | 31.2       | Topdressing fertilizer<br>for turf growth | 2           | 15.6            |
| 8        | Mokena Park District<br>Hecht Park<br>9310 Birch Ave.<br>Mokena, IL 60448                       | 6/6       | 45.0              | 45.0       | Topdressing fertilizer<br>for turf growth | 3           | 15.0            |
| 9        | Mokena Park District<br>Arbor Park<br>173 <sup>rd</sup> & Central Ave.<br>Mokena, IL 60448      | 6/9       | 56.0              | 56.0       | Topdressing fertilizer<br>for turf growth | 4           | 14.0            |
| 10       | Mokena Park District<br>Don Burns Park<br>169 <sup>th</sup> and Forest Ave.<br>Mokena, IL 60448 | 6/9, 6/10 | 41.2              | 41.2       | Topdressing fertilizer<br>for turf growth | 3           | 13.7            |
| 11       | Mokena Park District<br>Field Crest Park<br>4412 Henry St.<br>Mokena, IL 60448                  | 6/9       | 42.2              | 42.2       | Topdressing fertilizer<br>for turf growth | 3           | 14.1            |
| 12       | Mokena Park District<br>Friendly Oak Park<br>5400 163 <sup>rd</sup> St.<br>Mokena, IL 60448     | 6/10      | 26.2              | 26.2       | Topdressing fertilizer<br>for turf growth | 2           | 13.1            |

TABLE 2 (Continued): USER INFORMATION FOR THE CALUMET WATER RECLAMATION PLANT'S AIR-DRIED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE SECOND QUARTER OF 2014

| Site No. | Name and Address of User   | Dates     | Quantity, dry ton |            | Purpose                                   | Application |                 |
|----------|--|-----------|-------------------|------------|---|-------------|-----------------|
|          |  |           | 2nd Quarter       | Cumulative |   | Area (acre) | Rate (ton/acre) |
| 13       | Mokena Park District<br>Gene Leonard Park<br>14900 Laramie Ave.<br>Mokena, IL 60448    | 6/13      | 12.7              | 12.7       | Topdressing fertilizer<br>for turf growth | 1           | 12.7            |
| 14       | Mokena Park District<br>Jesk Park<br>15500 Ridgeland Ave.<br>Oak Forest, IL 60452      | 6/13      | 51.0              | 51.0       | Topdressing fertilizer<br>for turf growth | 3           | 17.0            |
| 15       | Mokena Park District<br>Tower Park<br>5922 Rob Roy Dr.<br>Oak Forest, IL 60452         | 6/13      | 37.8              | 37.8       | Topdressing fertilizer<br>for turf growth | 2           | 18.9            |
| 16       | Mokena Park District<br>Convent Park<br>14800 Menard Ave.<br>Oak Forest, IL 60452      | 6/16      | 31.3              | 31.3       | Topdressing fertilizer<br>for turf growth | 2           | 15.6            |
| 17       | Thornton Fractional South<br>High School<br>18500 S. Burnham Ave.<br>Lansing, IL 60438 | 6/9, 6/10 | 52.1              | 52.1       | Topdressing fertilizer<br>for turf growth | 3           | 17.4            |

TABLE 2 (Continued): USER INFORMATION FOR THE CALUMET WATER RECLAMATION PLANT'S AIR-DRIED BIOSOLIDS DISTRIBUTED UNDER THE CONTROLLED SOLIDS DISTRIBUTION PROGRAM DURING THE SECOND QUARTER OF 2014

| Site No. | Name and Address of User   | Dates            | Quantity, dry ton |            | Purpose                                   | Application |                 |
|----------|--|------------------|-------------------|------------|---|-------------|-----------------|
|          |  |                  | 2nd Quarter       | Cumulative |   | Area (acre) | Rate (ton/acre) |
| 18       | Reavis High School<br>6034 W. 77 <sup>th</sup> St.<br>Burbank, IL 60459                | 6/12, 6/16, 6/17 | 118.1             | 118.1      | Topdressing fertilizer<br>for turf growth | 7           | 16.9            |
| 19       | Chicago Park District<br>Maggie Daley Park<br>337 E. Randolph St.<br>Chicago, IL 60602 | 6/18, 6/26, 6/27 | 163.3             | 163.3      | Soil amendment for<br>turf establishment  | 3           | 54.4            |

TABLE 3: ANALYSIS OF AIR-DRIED BIOSOLIDS APPLIED TO LAND FROM THE STICKNEY WATER RECLAMATION PLANT'S SOLIDS DRYING AREAS DURING THE SECOND QUARTER OF 2014

| Sampling Date                 |             | 7-May  | 23-May | 17-June | 18-June | 27-June |
|-------------------------------|-------------|--------|--------|---------|---------|---------|
| Site No. <sup>1</sup>         |             | 1      | 2      | 3, 4, 5 | 6       | 7       |
| <u>Constituent</u>            | <u>Unit</u> |        |        |         |         |         |
| pH                            |             | 6.4    | 6.5    | 6.1     | 6.1     | 6.0     |
| Total Solids                  | %           | 55.1   | 54.4   | 60.6    | 67.8    | 80.1    |
| Total Volatile Solids         | "           | 45.3   | 51.9   | 37.7    | 39.7    | 37.3    |
| Volatile Acids as Acetic Acid | mg/kg       | 122    | 160    | 188     | 210     | 29      |
| Total Kjeldahl Nitrogen       | "           | 18,436 | 19,416 | 24,286  | 24,200  | 16,972  |
| NH <sub>3</sub> -N            | "           | 2,345  | 2,626  | 3,148   | 1,196   | 385     |
| Total P                       | "           | 14,908 | 15,861 | 24,274  | 23,524  | 17,365  |
| As                            | "           | <5.0   | <5.0   | 8.0     | 7.0     | 7.0     |
| Cd                            | "           | 2.0    | 1.0    | 3.0     | 3.0     | 3.0     |
| Cr                            | "           | 85     | 70     | 150     | 152     | 144     |
| Cu                            | "           | 489    | 415    | 412     | 461     | 454     |
| Hg                            | "           | 0.7    | 0.5    | 0.7     | 1.1     | 0.9     |
| K                             | "           | 3,173  | 2,840  | 5,477   | 2,988   | 1,669   |
| Mn                            | "           | 597    | 588    | 510     | 526     | 515     |
| Mo                            | "           | 5.0    | 5.0    | 9.0     | 12.0    | 9.0     |
| Ni                            | "           | 44     | 37     | 41      | 46      | 42      |
| Pb                            | "           | 59     | 45     | 110     | 118     | 119     |
| Se                            | "           | <5.0   | <5.0   | <5.0    | <5.0    | <5.0    |
| Zn                            | "           | 624    | 493    | 833     | 898     | 867     |

<sup>1</sup>Batches of biosolids applied to sites are listed in Table 1.

TABLE 4: ANALYSIS OF AIR-DRIED BIOSOLIDS APPLIED TO LAND FROM THE CALUMET WATER RECLAMATION PLANT'S SOLIDS DRYING AREAS DURING THE SECOND QUARTER OF 2014

| Sampling Date                 |             | 29-May | 2-June                    | 9-June                                      | 16-June |
|-------------------------------|-------------|--------|---------------------------|---|---------|
| Site No. <sup>1</sup>         |             | 1      | 1, 2, 3, 4,<br>5, 6, 7, 8 | 9, 10, 11, 12,<br>13, 14, 15, 16,<br>17, 18 | 18, 19  |
| <u>Constituent</u>            | <u>Unit</u> |        |                           |   |         |
| pH                            |             | 7.0    | 6.7                       | 7.0   | 6.5     |
| Total Solids                  | %           | 53.7   | 74.6                      | 64.3  | 69.1    |
| Total Volatile Solids         | "           | 48.5   | 47.8                      | 47.4  | 47.7    |
| Volatile Acids as Acetic Acid | mg/kg       | 218    | 33                        | 169   | 43      |
| Total Kjeldahl Nitrogen       | "           | 29,962 | 35,543                    | 29,822                                      | 28,286  |
| NH <sub>3</sub> -N            | "           | 2,540  | 2,125                     | 4,443                                       | 1,132   |
| Total P                       | "           | 23,617 | 22,294                    | 23,534                                      | 23,587  |
| As                            | "           | 7.0    | 6.0                       | 6.0   | 6.0     |
| Cd                            | "           | 2.0    | 2.0                       | 2.0   | 2.0     |
| Cr                            | "           | 57     | 59                        | 58  | 60      |
| Cu                            | "           | 425    | 456                       | 445   | 422     |
| Hg                            | "           | 1.9    | 1.1                       | 0.8   | 1.0     |
| K                             | "           | 2,636  | 2,240                     | 2,488                                       | 2,807   |
| Mn                            | "           | 934    | 998                       | 984   | 980     |
| Mo                            | "           | 11     | 13                        | 13  | 10      |
| Ni                            | "           | 27     | 30                        | 29  | 28      |
| Pb                            | "           | 77     | 83                        | 83  | 80      |
| Se                            | "           | <5.0   | <5.0                      | <5.0  | <5.0    |
| Zn                            | "           | 1,366  | 1,466                     | 1,450                                       | 1,396   |

<sup>1</sup>Batches of biosolids applied to sites are listed in [Table 2](#).

FIGURE 1: J.E. EGAN WATER RECLAMATION PLANT OPERATIONAL FLOW CHART FOR 2ND QUATER 2014

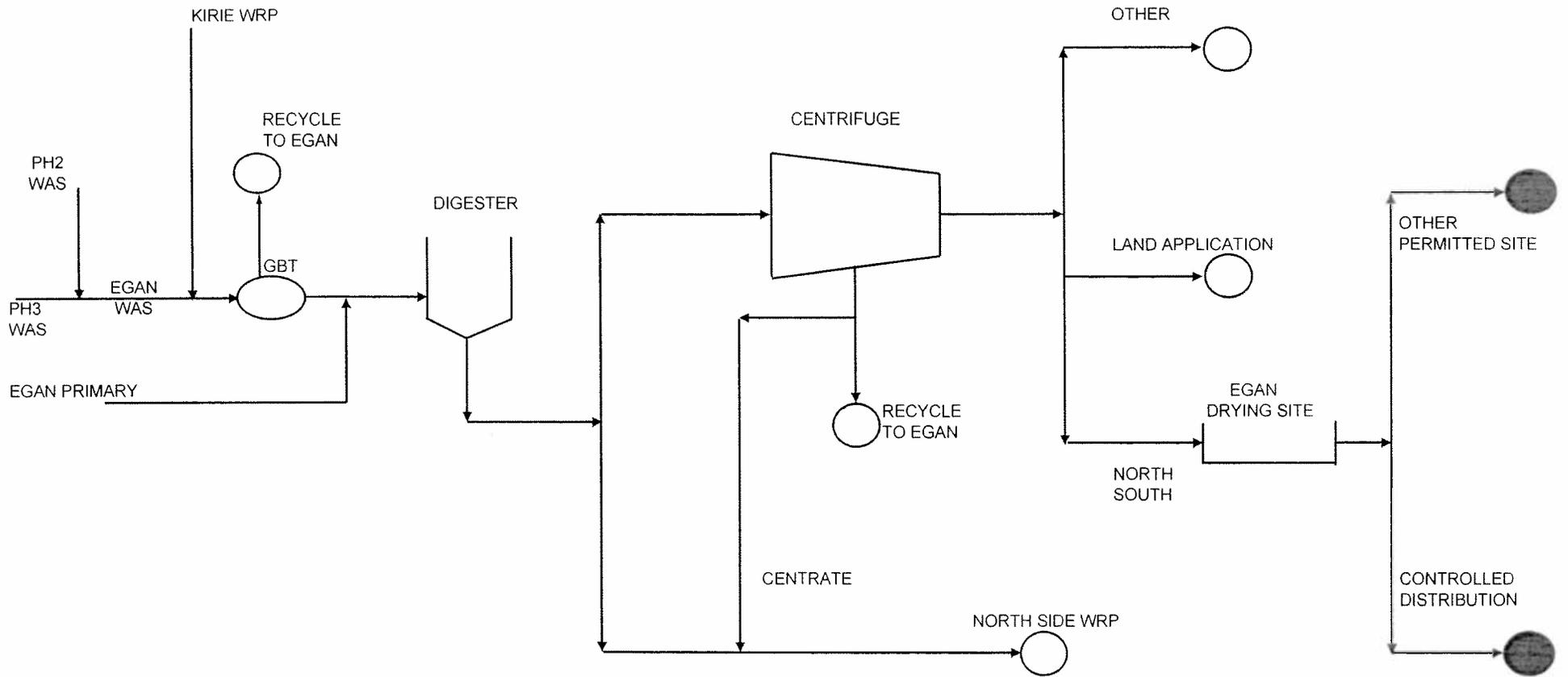


FIGURE 2: CALUMET WATER RECLAMATION PLANT OPERATIONAL FLOW CHART FOR 2ND QUATER 2014

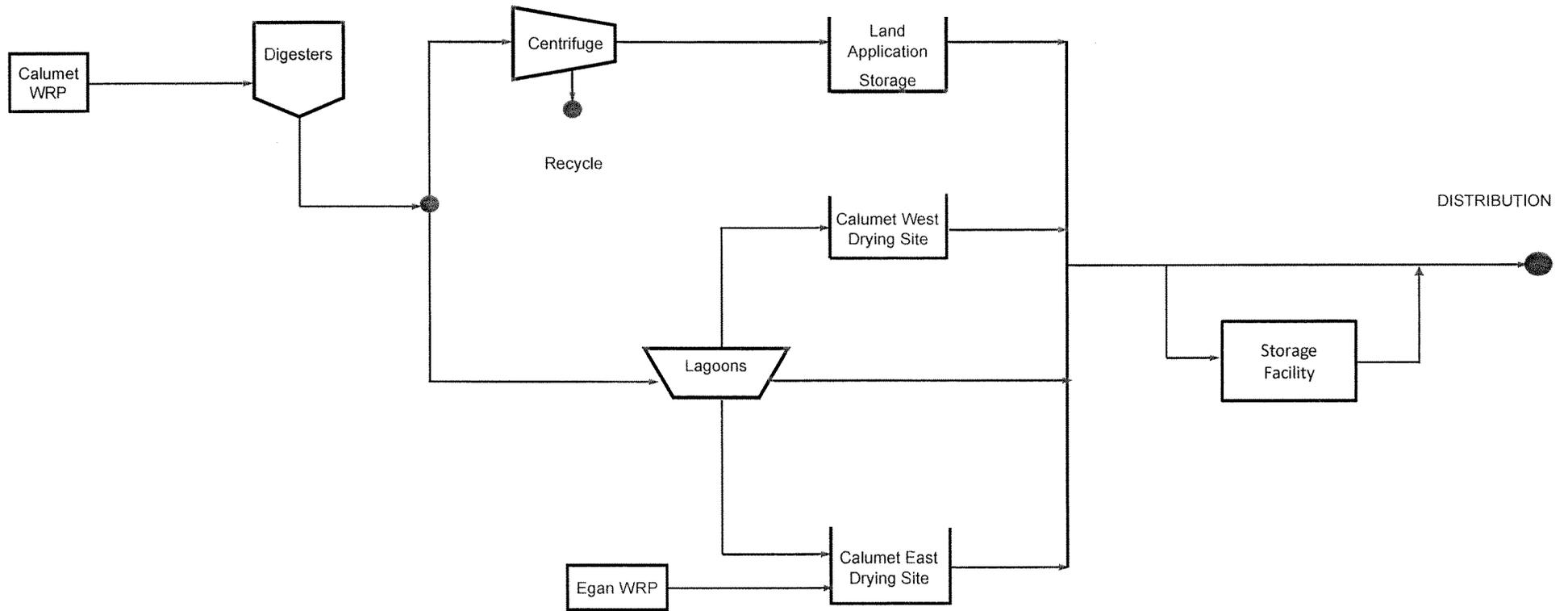


FIGURE 3: STICKNEY WATER RECLAMATION PLANT OPERATIONAL FLOW CHART FOR 2ND QUATER 2014

