

NPDES Permit No. IL0030244

Notice No. FRB:13040801.bah

Public Notice Beginning Date: **April 23, 2015**

Public Notice Ending Date: **May 23, 2015**

National Pollutant Discharge Elimination System (NPDES)
Permit Program

PUBLIC NOTICE/FACT SHEET
of
Draft Reissued NPDES Permit to Discharge into Waters of the State

Public Notice/Fact Sheet Issued By:

Illinois EPA
Division of Water Pollution Control
Permit Section
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276
217/782-0610

Name and Address of Permittee:

North Shore Water Reclamation District
P.O. Box 750
Wm. Koepsel Drive
Gurnee, Illinois 60031

Name and Address of Facility:

NSWRD Waukegan Water Reclamation Facility
Dahringer Road
Waukegan, Illinois 60085
(Lake County)

The Illinois Environmental Protection Agency (IEPA) has made a tentative determination to issue a NPDES Permit to discharge into the waters of the state and has prepared a draft Permit and associated fact sheet for the above named Permittee. The Public Notice period will begin and end on the dates indicated in the heading of this Public Notice/Fact Sheet. All comments on the draft Permit and requests for hearing must be received by the IEPA by U.S. Mail, carrier mail or hand delivered by the Public Notice Ending Date. Interested persons are invited to submit written comments on the draft Permit to the IEPA at the above address. Commentors shall provide his or her name and address and the nature of the issues proposed to be raised and the evidence proposed to be presented with regards to those issues. Commentors may include a request for public hearing. Persons submitting comments and/or requests for public hearing shall also send a copy of such comments or requests to the Permit applicant. The NPDES Permit and notice numbers must appear on each comment page.

The application, engineer's review notes including load limit calculations, Public Notice/Fact Sheet, draft Permit, comments received, and other documents are available for inspection and may be copied at the IEPA between 9:30 a.m. and 3:30 p.m. Monday through Friday when scheduled by the interested person.

If written comments or requests indicate a significant degree of public interest in the draft Permit, the permitting authority may, at its discretion, hold a public hearing. Public notice will be given 45 days before any public hearing. Response to comments will be provided when the final Permit is issued. For further information, please call Francis Burba at 217/782-0610.

The following water quality and effluent standards and limitations were applied to the discharge:

Title 35: Environmental Protection, Subtitle C: Water Pollution, Chapter I: Pollution Control Board and the Clean Water Act were applied in determining the applicable standards, limitations and conditions contained in the draft Permit.

The applicant is engaged in treating domestic wastewater for Waukegan, Winthrop Harbor, Zion, Beach Park and other unincorporated areas.

The length of the Permit is approximately 5 years.

The main discharge number is 001. The seven day once in ten year low flow (7Q10) of the receiving stream Des Plaines River is 0.5 cfs.

The design average flow (DAF) for the facility is 22.0 million gallons per day (MGD) and the design maximum flow (DMF) for the facility is 44.0 MGD. Treatment consists of screening, grit removal, excess flow treatment, Imhoff tanks, primary settling, two-stage activated sludge, phosphorus removal (discharge to Waukegan North Ditch), rapid sand filters, and UV disinfection. Sludge treatment includes gravity belt thickening, belt press dewatering, drying and landfill disposal/land application.

North Shore Water Reclamation District is a member of the Des Plaines River Watershed Workgroup.

In accordance with Consent Order No. 99 Ch 1070, 19th Judicial Court, Lake County, IL, preventive testing is performed annually on the Waukegan Force Main and the entire force main is tested every five years. During this force main testing, replacement and repair program, wastewater is discharged to the Waukegan North Ditch (Outfall B02). Flows in excess of 30,536 gpm at the treatment plant are diverted to the excess flow retention basins for storage. After plant influent flows subside to less than design maximum flow, the sewage in the basins is returned to the plant for treatment. Flows in excess of the 38 MG capacity of the excess flow facilities is discharged through the Excess Flow Outfall (A02) to the Waukegan North Ditch after screening, sedimentation and disinfection.

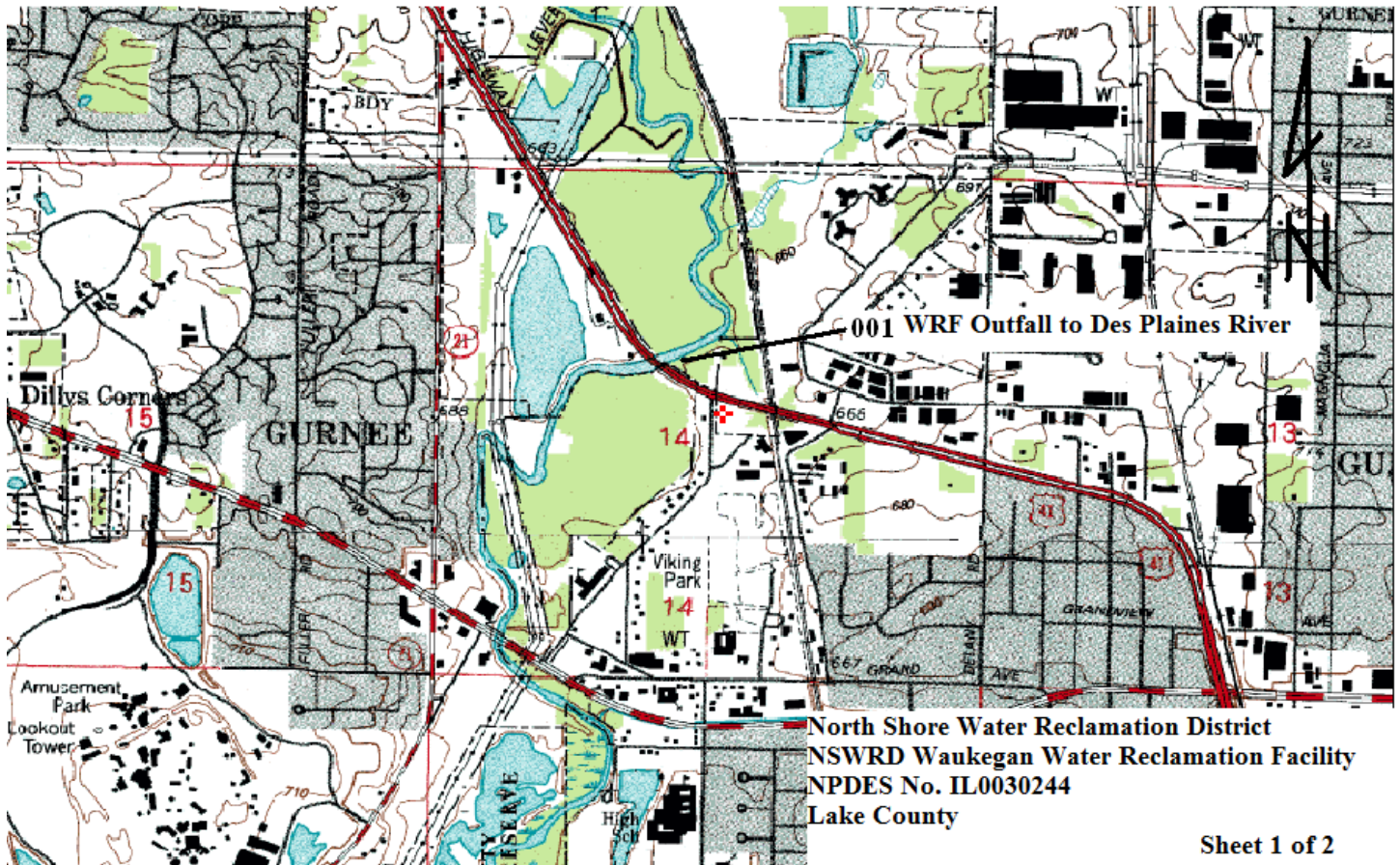
This treatment works has an approved pretreatment program. There are 3.0 noncategorical SIUs and 3.0 CIUs.

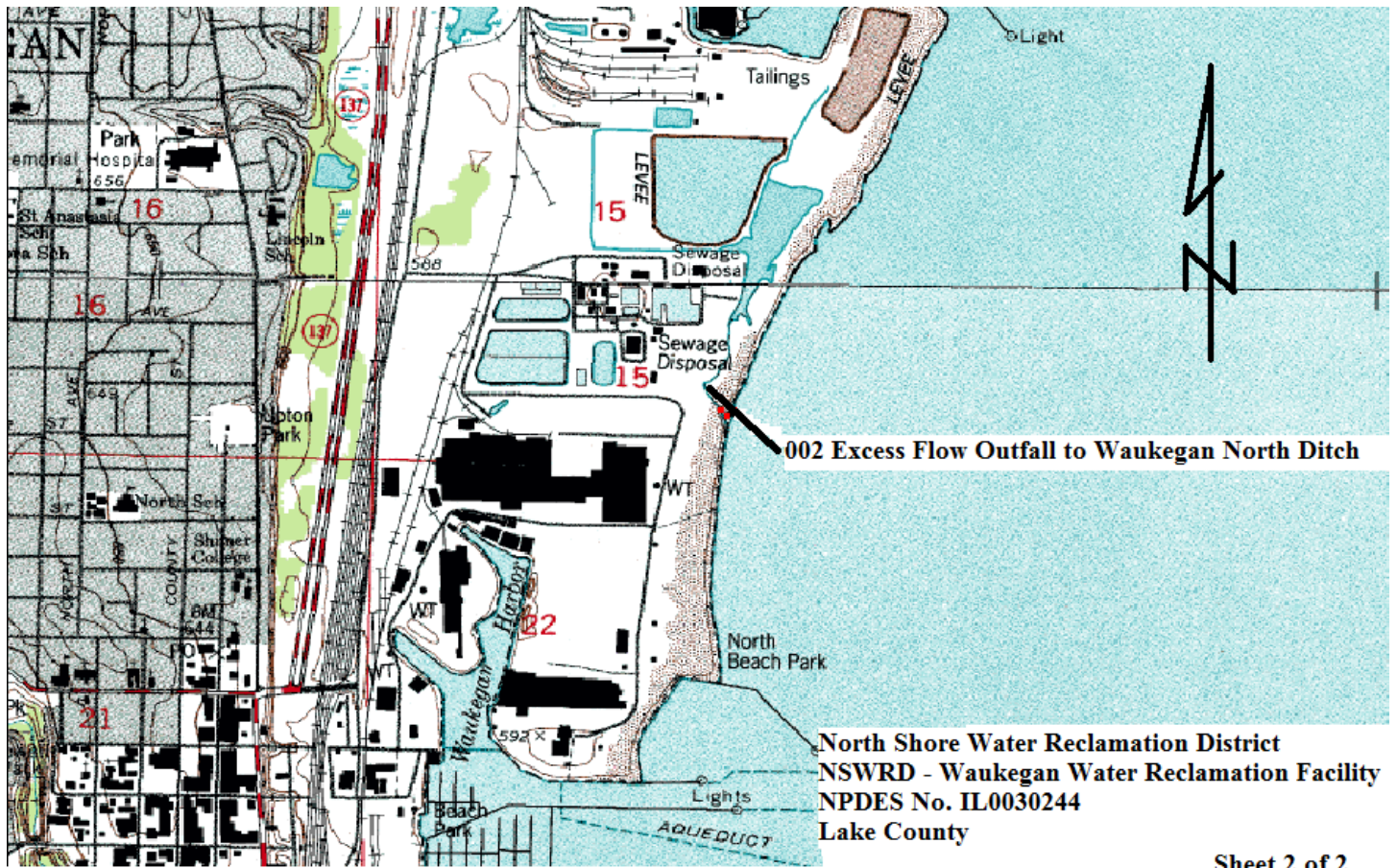
This Reissued Permit does not increase the facility's DAF, DMF, concentration limits, and/or load limits.

Application is made for the existing discharge(s) which are located in Lake County, Illinois. The following information identifies the discharge point, receiving stream and stream classifications:

| Discharge Number | Receiving Stream | Latitude | Longitude | Stream Classification | Integrity Rating |
|------------------------|----------------------|-------------------|------------------|-----------------------|------------------|
| 001 | Des Plaines River | 42° 22' 45" North | 87° 54' 53" West | General Use | Rated D |
| B02 (Internal Outfall) | Waukegan North Ditch | 42° 22' 20" North | 87° 48' 53" West | General Use | N/A |
| A02 (Excess Flow) | Waukegan North Ditch | 42° 22' 20" North | 87° 48' 53" West | General Use | N/A |
| 002 (Combined Flow) | Waukegan North Ditch | 42° 22' 20" North | 87° 48' 53" West | General Use | N/A |

To assist you further in identifying the location of the discharge(s) please see the attached map.





Sheet 2 of 2

The stream segment(s) (segment G-07) receiving the discharge from outfall(s) 001 is on the 303(d) list of impaired waters.

The following parameters have been identified as the pollutants causing impairment:

| Potential Causes | Uses Impaired |
|--|------------------|
| Alteration in stream-side vegetative cover (non-pollutant), arsenic, chloride and total phosphorus | Aquatic life |
| Mercury and PCBs | Fish consumption |
| Fecal coliform | Primary contact |

The Waukegan North Ditch receiving the discharge from outfall 002 is not on the 303(d) list of impaired waters. The next downstream waterbody, Lake Michigan, approximately 500 meters from the outfall is on the 303(d) list of impaired waters.

The following parameters have been identified as the pollutants causing impairment:

| Potential Causes | Uses Impaired |
|------------------|------------------|
| Mercury and PCBs | Fish consumption |

The discharge(s) from the facility is (are) proposed to be monitored and limited at all times as follows:

Discharge Number(s) and Name(s): 001 WRF Outfall

Load limits computed based on a design average flow (DAF) of 22.0 MGD (design maximum flow (DMF) of 44.0 MGD).

The effluent of the above discharge(s) shall be monitored and limited at all times as follows:

| Parameter | LOAD LIMITS lbs/day DAF (DMF)* | | | CONCENTRATION LIMITS mg/L | | | Regulation |
|------------------------------------|--|-------------------|------------------|----------------------------------|---------------------------------|------------------|----------------------------------|
| | Monthly Average | Weekly Average | Daily Maximum | Monthly Average | Weekly Average | Daily Maximum | |
| CBOD ₅ ** | 1835 (3670) | | 3670 (7339) | 10 | | 20 | 35 IAC 304.120 40 CFR 133.102 |
| Suspended Solids** | 2202 (4404) | | 4404 (8807) | 12 | | 24 | 35 IAC 304.120 40 CFR 133.102 |
| pH | Shall be in the range of 6 to 9 Standard Units | | | | | | 35 IAC 304.125 |
| Fecal Coliform | Daily Maximum shall not exceed 400 per 100 mL (May through October) | | | | | | 35 IAC 304.121 |
| Chlorine Residual | | | | | | 0.05 | 35 IAC 302.208 |
| Ammonia Nitrogen: April-October | 275 (550) | | 550 (1101) | 1.5 | | 3.0 | 35 IAC 355 and 35 IAC 302 |
| Nov.-Feb. | 514 (1027) | | 1358 (2716) | 2.8 | | 7.4 | |
| March | 275 (550) | 697 (1394) | 1266 (2532) | 1.5 | 3.8 | 6.9 | |
| Total Phosphorus (as P)*** | 183 (367) | | | 1.0 | | | 35 IAC 309.146 |
| Total Nitrogen | Monitor only | | | | | | 35 IAC 309.146 |
| Dissolved Phosphorus | Monitor only | | | | | | 35 IAC 309.146 |
| Nitrate/Nitrite | Monitor only | | | | | | 35 IAC 309.146 |
| Total Kjeldahl Nitrogen (TKN) | Monitor only | | | | | | 35 IAC 309.146 |
| Alkalinity | Monitor only | | | | | | 35 IAC 309.146 |
| Temperature | Monitor only | | | | | | 35 IAC 309.146 |
| Specific Conductivity | Monitor only | | | | | | 35 IAC 309.146 |
| | | | | Monthly Avg. not less than | Weekly Avg. not less than | Daily Minimum | |
| Dissolved Oxygen March-July | | | | N/A | 6.0 | 5.0 | 35 IAC 302.206 |
| August-February | | | | 5.5 | 4.0 | 3.5 | |

*Load Limits are calculated by using the formula: $8.34 \times (\text{Design Average and/or Maximum Flow in MGD}) \times (\text{Applicable Concentration in mg/L})$.

**BOD₅ and Suspended Solids (85% removal required): In accordance with 40 CFR 133, the 30-day average percent removal shall not be less than 85 percent except as provided in Sections 133.103 and 133.105.

***A compliance schedule to provide the facility additional time to comply with the phosphorus limit has been included in this draft permit. The existing permit did not include a phosphorus limit.

The discharge(s) from the facility is (are) proposed to be monitored and limited at all times as follows:

Discharge Number(s) and Name(s): B02 WRF Internal Outfall (001 Final Effluent thru B02)

Load limits computed based on a design average flow (DAF) of 22.0 MGD (design maximum flow (DMF) of 44.0 MGD).

The effluent of the above discharge(s) shall be monitored and limited at all times as follows:

| Parameter | LOAD LIMITS lbs/day DAF (DMF)* | | | CONCENTRATION LIMITS mg/L | | | Regulation |
|-------------------------|---|-------------------|-------------------|------------------------------|-------------------|-------------------|----------------------------------|
| | Monthly Average | Weekly Average | Daily Maximum | Monthly Average | Weekly Average | Daily Maximum | |
| CBOD ₅ ** | 734 (1468) | | 1468 (2936) | 4 | | 8 | 35 IAC 304.120 40 CFR 133.102 |
| Suspended Solids** | 917(1835) | | 1835 (3670) | 5 | | 10 | 35 IAC 304.120 40 CFR 133.102 |
| pH | Shall be in the range of 6.5 to 9 Standard Units | | | | | | 35 IAC 302.503 |
| Fecal Coliform | The monthly geometric mean shall not exceed 200 per 100 mL, nor shall more than 10% of the samples during any 30 day period exceed 400 per 100 mL | | | | | | 35 IAC 302.505 |
| Chlorine Residual | | | | | | 0.05 | 35 IAC 302.208 |
| Total Ammonia | | | 3.7 (7.3) | | | 0.02 | 35 IAC 302.535 |
| Copper | 2.2 (4.4) | | 3.5 (7.0) | 0.012 | | 0.019 | 35 IAC 302.504 |
| Total Phosphorus (as P) | | | 183 (367) | | | 1.0 | 35 IAC 304.123 |
| Total Nitrogen | Monitor only | | | | | | 35 IAC 309.146 |
| | | | Annual Average | | | Annual Average | |
| Mercury | | | .00024 (.00048) | | | .0000013 | 35 IAC 302.504 |
| Dissolved Oxygen | Shall not be less than 6.0 mg/L during at least 16 hours of any 24 hour period, nor less than 5.0 mg/L at any time. | | | | | | 35 IAC 302.502 |

*Load Limits are calculated by using the formula: $8.34 \times (\text{Design Average and/or Maximum Flow in MGD}) \times (\text{Applicable Concentration in mg/L})$

**BOD₅ and Suspended Solids (85% removal required): In accordance with 40 CFR 133, the 30-day average percent removal shall not be less than 85 percent except as provided in Sections 133.103 and 133.105.

This Permit contains an authorization to treat and discharge excess flow as follows:

Discharge Number(s) and Name(s): A02 Excess Flow Outfall (Flows in excess of 30,536 gpm)

| <u>Parameter</u> | <u>CONCENTRATION LIMITS mg/L</u> | | <u>Regulation</u> |
|-------------------------|----------------------------------|-----------------------|-------------------|
| | <u>Monthly Average</u> | <u>Weekly Average</u> | |
| BOD ₅ | Monitor only | | 35 IAC 309.146 |
| Suspended Solids | Monitor only | | 35 IAC 309.146 |
| Ammonia Nitrogen (as N) | Monitor only | | 35 IAC 309.146 |
| Total Phosphorus (as P) | Monitor only | | 35 IAC 309.146 |

Discharge Number(s) and Name(s): 002 Combined Discharges from A02 and B02 Outfall to Waukegan North Ditch

| <u>Parameter</u> | <u>CONCENTRATION LIMITS mg/L</u> | | <u>Regulation</u> |
|-------------------------|---|-----------------------|---------------------------|
| | <u>Monthly Average</u> | <u>Weekly Average</u> | |
| BOD ₅ ** | 30 | 45 | 40 CFR 133.102 |
| Suspended Solids** | 30 | 45 | 40 CFR 133.102 |
| pH | Shall be in the range of 6.5 to 9 Standard Units | | 35 IAC 302.503 |
| Fecal Coliform | The monthly geometric mean shall not exceed 200 per 100 mL, nor shall more than 10% of the samples during any 30 day period exceed 400 per 100 mL | | 35 IAC 302.505 |
| Chlorine Residual | 0.75 | | 35 IAC 302.208 |
| Ammonia Nitrogen (as N) | Monitor only | | 35 IAC 355 and 35 IAC 302 |
| Total Phosphorus (as P) | Monitor only | | 35 IAC 309.146 |
| Dissolved Oxygen | Monitor only | | 35 IAC 309.146 |

**The 30-day average percent removal shall not be less than 85 percent.

This draft Permit also contains the following requirements as special conditions:

1. Reopening of this Permit to include different final effluent limitations.
2. Operation of the facility by or under the supervision of a certified operator.
3. Submission of the operational data in a specified form and at a required frequency at any time during the effective term of this Permit.
4. More frequent monitoring requirement without Public Notice in the event of operational, maintenance or other problems resulting in possible effluent deterioration.
5. Prohibition against causing or contributing to violations of water quality standards.
6. Recording the monitoring results on Discharge Monitoring Report Forms using one such form for each outfall each month and submitting the forms to IEPA each month.
7. The provisions of 40 CFR Section 122.41(m) & (n) are incorporated herein by reference.
8. Effluent sampling point location.
9. Controlling the sources of infiltration and inflow into the sewer system.
10. A requirement to monitor and a limit of 0.05 mg/L for residual chlorine when it is used.
11. Seasonal fecal coliform limits.
12. The Permittee implements and administers an industrial pretreatment program pursuant to 40 CFR §403.
13. Burden reduction.
14. Submission of annual fiscal data.
15. The Permittee is required to perform biomonitoring tests in the 18th, 15th, 12th and 9th months prior to the expiration date of the permit, and to submit the results of such tests to the IEPA within one week of receiving the results from the laboratory.
16. Submission of semi annual reports indicating the quantities of sludge generated and disposed.
17. Modeling or field studies may be used to demonstrate the availability of a mixing zone and ZID in Lake Michigan.
18. Optimization of existing treatment facilities.
19. Submission of phosphorus removal feasibility study.
20. Submission of Nutrient Implementation Plan.
21. Monitoring in the receiving stream upstream and downstream of the discharge.
22. Monitoring of the wastewater effluent for dissolved phosphorus, total phosphorus, dissolved oxygen, ammonia nitrogen, nitrate/nitrite, total kjeldahl nitrogen, pH, alkalinity, specific conductivity and temperature once a month.
23. Effluent limitations pursuant to an approved Total Maximum Daily Load (TMDL) Study or an approved Des Plaines River Watershed Study.
24. The provisions of 35 IAC Section 304.219 are incorporated herein by reference.
25. The requirements and conditions of Consent Order No. 99 Ch1070, 19th Judicial Court, Lake County, Illinois dated January 29, 2002.
26. Reasonable potential analysis and mixing study plan.
27. Capacity, Management, Operations and Maintenance (CMOM) requirements.
28. Compliance Schedule for Phosphorus.

NPDES Permit No. IL0030244

Illinois Environmental Protection Agency

Division of Water Pollution Control

1021 North Grand Avenue East

Post Office Box 19276

Springfield, Illinois 62794-9276

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Reissued (NPDES) Permit

Expiration Date:

Issue Date:

Effective Date:

Name and Address of Permittee:

North Shore Water Reclamation District
P.O. Box 750
Wm. Koepsel Drive
Gurnee, Illinois 60031

Facility Name and Address:

NSWRD Waukegan Water Reclamation Facility
Dahringer Road
Waukegan, Illinois 60085
(Lake County)

Receiving Waters: Des Plaines River (001) and Waukegan North Ditch (002)

In compliance with the provisions of the Illinois Environmental Protection Act, Title 35 of the Ill. Adm. Code, Subtitle C, Chapter I, and the Clean Water Act (CWA), the above-named Permittee is hereby authorized to discharge at the above location to the above-named receiving stream in accordance with the standard conditions and attachments herein.

Permittee is not authorized to discharge after the above expiration date. In order to receive authorization to discharge beyond the expiration date, the Permittee shall submit the proper application as required by the Illinois Environmental Protection Agency (IEPA) not later than 180 days prior to the expiration date.

Alan Keller, P.E.
Manager, Permit Section
Division of Water Pollution Control

SAK:FRB:13040801.bah

Effluent Limitations, Monitoring, and Reporting

FINAL

Discharge Number(s) and Name(s): 001 WRF Outfall

Load limits computed based on a design average flow (DAF) of 22.0 MGD (design maximum flow (DMF) of 44.0 MGD).

From the effective date of this Permit until the expiration date, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

| Parameter | LOAD LIMITS lbs/day DAF (DMF)* | | | CONCENTRATION LIMITS mg/L | | | Sample Frequency | Sample Type |
|--|--|-------------------|------------------|--|---------------------------------------|------------------|---------------------|----------------|
| | Monthly Average | Weekly Average | Daily Maximum | Monthly Average | Weekly Average | Daily Maximum | | |
| Flow (MGD) | | | | | | | Continuous | |
| CBOD ₅ ** ¹ | 1835 (3670) | | 3670 (7339) | 10 | | 20 | 2 Days/Week | Composite |
| Suspended Solids ¹ | 2202 (4404) | | 4404 (8807) | 12 | | 24 | 2 Days/Week | Composite |
| pH | Shall be in the range of 6 to 9 Standard Units | | | | | | 2 Days/Week | Grab |
| Fecal Coliform | Daily Maximum shall not exceed 400 per 100 mL (May through October) | | | | | | 2 Days/Week | Grab |
| Chlorine Residual*** | | | | | | 0.05 | *** | Grab |
| Ammonia Nitrogen: As (N) April-October | 275 (550) | | 550 (1101) | 1.5 | | 3.0 | 2 Days/Week | Composite |
| Nov.-Feb. | 514 (1027) | | 1358 (2716) | 2.8 | | 7.4 | 2 Days/Week | Composite |
| March | 275 (550) | 697(1394) | 1266 (2532) | 1.5 | 3.8 | 6.9 | 2 Days/Week | Composite |
| Total Phosphorus (as P)**** | 183 (367) | | | 1.0 | | | 1 Day/Week | Composite |
| Total Nitrogen | Monitor only | | | | | | 1 Day/Month | Composite |
| Dissolved Phosphorus | Monitor Only | | | | | | 1 Day/Month | Composite |
| Nitrate/Nitrite | Monitor Only | | | | | | 1 Day/Month | Composite |
| Total Kjeldahl Nitrogen (TKN) | Monitor Only | | | | | | 1 Day/Month | Composite |
| Alkalinity | Monitor Only | | | | | | 1 Day/Month | Grab |
| Temperature | Monitor Only | | | | | | 1 Day/Month | Grab |
| Specific Conductivity | Monitor Only | | | | | | 1 Day/Month | Grab |
| | | | | Monthly Average not less than | Weekly Average not less than | Daily Minimum | | |
| Dissolved Oxygen March-July | | | | N/A | 6.0 | 5.0 | 2 Days/Week | Grab |
| August-February | | | | 5.5 | 4.0 | 3.5 | 2 Days/Week | Grab |

*Load limits based on design maximum flow shall apply only when flow exceeds design average flow.

**Carbonaceous BOD₅ (CBOD₅) testing shall be in accordance with 40 CFR 136.

***See Special Condition 10.

****See Special Condition 28.

Effluent Limitations, Monitoring, and Reporting

FINAL

Discharge Number(s) and Name(s): 001 WRF Outfall (Continued)

¹ BOD₅ and Suspended Solids (85% removal required): In accordance with 40 CFR 133, the 30-day average percent removal shall not be less than 85 percent except as provided in Sections 133.103 and 133.105. The percent removal need not be reported to the IEPA on DMRs but influent and effluent data must be available, as required elsewhere in this permit, for IEPA inspection and review. For measuring compliance with this requirement, 5 mg/L shall be added to the effluent CBOD₅ concentration to determine the effluent BOD₅ concentration or laboratory analysis for the determination of BOD₅ may be used.

Percent removal is a percentage expression of the removal efficiency across a treatment plant for a given pollutant parameter, as determined from the 30-day average values of the raw wastewater influent concentrations to the facility and the 30-day average values of the effluent pollutant concentrations for a given time period.

Flow shall be reported on the Discharge Monitoring Report (DMR) as monthly average and daily maximum.

Fecal Coliform shall be reported on the DMR as a daily maximum value.

pH shall be reported on the DMR as minimum and maximum value.

Chlorine Residual shall be reported on DMR as daily maximum value.

Dissolved oxygen shall be reported on the DMR as a minimum value.

Total Phosphorus shall be reported on the DMR as a daily maximum and monthly average value.

Total Nitrogen shall be reported on the DMR as a daily maximum value

Effluent Limitations, Monitoring, and Reporting

FINAL

Discharge Number(s) and Name(s): B02 WRF Internal Outfall (001 Final Effluent thru B02)

Load limits computed based on a design average flow (DAF) of 22.0 MGD (design maximum flow (DMF) of 44.0 MGD).

From the effective date of this Permit until the expiration date, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

| Parameter | LOAD LIMITS lbs/day DAF (DMF)* | | | CONCENTRATION LIMITS mg/L | | | Sample Frequency | Sample Type |
|-------------------------------------|---|-------------------|--------------------|------------------------------|-------------------|-------------------|---------------------|----------------|
| | Monthly Average | Weekly Average | Daily Maximum | Monthly Average | Weekly Average | Daily Maximum | | |
| Flow (MGD) | | | | | | | Continuous | |
| CBOD ₅ ** ⁽¹⁾ | 734 (1468) | | 1468 (2936) | 4 | | 8 | 2 Days/Week | Composite |
| Suspended Solids ⁽¹⁾ | 917 (1835) | | 1835 (3670) | 5 | | 10 | 2 Days/Week | Composite |
| pH | Shall be in the range of 6.5 to 9 Standard Units | | | | | | 2 Days/Week | Grab |
| Fecal Coliform | The monthly geometric mean shall not exceed 200 per 100 mL, nor shall more than 10% of the samples during any 30 day period exceed 400 per 100 mL | | | | | | 2 Days/Week | Grab |
| Chlorine Residual*** | | | | | | 0.05 | *** | Grab |
| Total Ammonia | | | 3.7 (7.3) | | | 0.02 | 2 Days/Week | Composite |
| Copper | 2.2 (4.4) | | 3.5 (7.0) | 0.012 | | 0.019 | 1 Day/Month | Composite |
| Total Phosphorus (as P) | | | 183 (367) | | | 1.0 | 5 Days/Week | Composite |
| Total Nitrogen | Monitor only | | | | | | 1 Day/Month | Composite |
| | | | Annual Average | | | Annual Average | | |
| Mercury | | | .00024 (.00048) | | | .0000013 | 1 Day/Month | Composite |
| Dissolved Oxygen | Shall not be less than 6.0 mg/L during at least 16 hours of any 24 hour period, nor less than 5.0 mg/L at any time | | | | | | 2 Days/Week | Grab |

*Load limits based on design maximum flow shall apply only when flow exceeds design average flow.

**Carbonaceous BOD₅ (CBOD₅) testing shall be in accordance with 40 CFR 136.

***See Special Condition 10.

⁽¹⁾ BOD₅ and Suspended Solids (85% removal required): In accordance with 40 CFR 133, the 30-day average percent removal shall not be less than 85 percent except as provided in Sections 133.103 and 133.105. The percent removal need not be reported to the IEPA on DMRs but influent and effluent data must be available, as required elsewhere in this permit, for IEPA inspection and review. For measuring compliance with this requirement, 5 mg/L shall be added to the effluent CBOD₅ concentration to determine the effluent BOD₅ concentration or laboratory analysis for the determination of BOD₅ may be used.

Percent removal is a percentage expression of the removal efficiency across a treatment plant for a given pollutant parameter, as determined from the 30-day average values of the raw wastewater influent concentrations to the facility and the 30-day average values of the effluent pollutant concentrations for a given time period.

Flow shall be reported on the Discharge Monitoring Report (DMR) as monthly average and daily maximum.

Fecal Coliform shall be reported on the DMR as a monthly geometric mean and as a percentage of the samples exceeding 400 per 100 mL.

pH shall be reported on the DMR as minimum and maximum value.

Chlorine Residual shall be reported on DMR as daily maximum value.

Dissolved oxygen shall be reported on the DMR as a minimum value.

Total Phosphorus shall be reported on the DMR as a daily maximum value.

Total Nitrogen shall be reported on the DMR as a daily maximum value.

The rolling annual monthly average mercury values shall be computed monthly beginning 12 months after the effective date of the permit and shall include the previous 12 months of data. The rolling annual monthly average, monthly average and daily maximum values for total mercury shall be reported on the DMR. The rolling annual monthly average shall be calculated by adding the sum of the total mercury monitoring values from the previous 12 months of data expressed in milligrams/liter and divided by the number of samples collected.

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Effluent Limitations, Monitoring, and Reporting

FINAL

Discharge Number(s) and Name(s): A02 WRF Excess Flow Outfall (Flows in excess of 30,536 gpm)

These flow facilities shall not be utilized until the main treatment facility is receiving its design maximum flow (DMF) * (Flow in excess of 30,536 gpm) and the excess flow treatment facilities are full. Stored wastewater shall be returned to the main treatment facilities for complete treatment as soon as capacity is available.

From the effective date of this Permit until the expiration date, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

| <u>Parameter</u> | <u>CONCENTRATION LIMITS (mg/L)</u> | | <u>Sample Frequency</u> | <u>Sample Type</u> |
|-------------------------|------------------------------------|-----------------------|-------------------------|--------------------|
| | <u>Monthly Average</u> | <u>Weekly Average</u> | | |
| Total Flow (MG) | | | Daily When Discharging | Continuous |
| BOD ₅ | Monitor Only | | Daily When Discharging | Grab |
| Suspended Solids | Monitor Only | | Daily When Discharging | Grab |
| Ammonia Nitrogen (as N) | Monitor Only | | Daily When Discharging | Grab |
| Total Phosphorus (as P) | Monitor Only | | Daily When Discharging | Grab |

*An explanation shall be provided in the comment section of the DMR should these facilities be used when the main treatment facility is not receiving Design Maximum Flow (DMF). The explanation shall identify the reasons the main facility is at a diminished treatment capacity. Additionally, the Permittee shall comply with the provisions of Special Condition 7.

The duration of each A02 discharge and rainfall event (i.e., start and ending time) including rainfall intensity shall be provided in the comment section of the DMR.

Total flow in million gallons shall be reported on the Discharge Monitoring Report (DMR) in the quantity maximum column. The main treatment plant facility flow at the time that A02 Excess Flow Facilities are first utilized shall be reported in the comment section of the DMR in gallons per minute (gpm).

Report the number of days of discharge in the comments section of the DMR.

BOD₅ and Suspended Solids shall be reported on the DMR as a daily maximum value.

Ammonia Nitrogen shall be reported on the DMR as a daily maximum value.

Total Phosphorus shall be reported on the DMR as a daily maximum value.

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Effluent Limitations, Monitoring, and Reporting

FINAL

Discharge Number(s) and Name(s): 002 Combined Discharges from A02 and B02 Outfall to Waukegan North Ditch**

From the effective date of this Permit until the expiration date, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

| Parameter | CONCENTRATION LIMITS mg/L | | Sample Frequency | Sample Type |
|-----------------------------|--|----------------|-------------------------------|-------------|
| | Monthly Average | Weekly Average | | |
| Total Flow (MG) | | | Daily When A02 is Discharging | Continuous |
| BOD ₅ *** | 30 | 45 | Daily When A02 is Discharging | Grab |
| Suspended Solids*** | 30 | 45 | Daily When A02 is Discharging | Grab |
| pH | Shall be in the range of 6.5 to 9 Standard Units | | Daily When A02 is Discharging | Grab |
| Fecal Coliform | The monthly geometric mean shall not exceed 200 per 100 mL, nor shall more than 10% of the samples during any 30 day period exceed 400 per 100 mL. | | Daily When A02 is Discharging | Grab |
| Chlorine Residual | 0.75 | | Daily When A02 is Discharging | Grab |
| Ammonia Nitrogen (as N)**** | Monitor Only | | Daily When A02 is Discharging | Grab |
| Total Phosphorus (as P) | Monitor Only | | Daily When A02 is Discharging | Grab |
| Dissolved Oxygen | Monitor Only | | Daily When A02 is Discharging | Grab |

Total flow in million gallons shall be reported on the Discharge Monitoring Report (DMR) in the quantity maximum column.

Report the number of days of discharge in the comments section of the DMR.

Chlorine Residual shall be reported on the DMR as a monthly average concentration.

pH shall be reported on the DMR as a minimum and a maximum.

BOD₅ and Suspended Solids shall be reported on the DMR as a monthly and weekly average concentration.

Fecal Coliform shall be reported on the DMR as a monthly geometric mean and as a percentage of the samples exceeding 400 per 100 mL.

**An explanation shall be provided in the comment section of the DMR should these facilities be used when the main treatment facility is not receiving Design Maximum Flow (DMF). The explanation shall identify the reasons the main facility is at a diminished treatment capacity. Additionally, the Permittee shall comply with the provisions of Special Condition 7.

*** BOD₅ and Suspended Solids (85% removal required): In accordance with 40 CFR 133, the 30-day average percent removal shall not be less than 85 percent except as provided in Sections 133.103 and 133.105. The percent removal need not be reported to the IEPA on DMRs but influent and effluent data must be available, as required elsewhere in this permit, for IEPA inspection and review. For measuring compliance with this requirement, 5 mg/L shall be added to the effluent CBOD₅ concentration to determine the effluent BOD₅ concentration.

Percent removal is a percentage expression of the removal efficiency across a treatment plant for a given pollutant parameter, as determined from the 30-day average values of the raw wastewater influent concentrations to the facility and the 30-day average values of the effluent pollutant concentrations for a given time period.

****See Special Condition 26.

A monthly average value for ammonia shall be computed for each month that A02 discharges beginning one month after the effective date of the permit. A monthly average concentration shall be determined by combining data collected from 002 and B02 (only B02 data from days when A02 is not discharging) for the reporting period. These monitoring results shall be submitted to the Agency on the DMR. Ammonia Nitrogen shall also be reported on the DMR as a maximum value.

A monthly and weekly average value for Dissolved Oxygen (DO) shall be computed for each month that A02 discharges beginning one month after the effective date of the permit. The monthly and weekly average concentrations for 002 shall be determined by combining data collected from 002 and B02 (only B02 data from days when A02 is not discharging) for the reporting period. These monitoring results shall be submitted to the Agency on the DMR. DO shall also be reported on the DMR as a minimum value.

Total Phosphorus shall be reported on the DMR as a maximum value.

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Influent Monitoring, and Reporting

The influent to the plant shall be monitored as follows:

| <u>Parameter</u> | <u>Sample Frequency</u> | <u>Sample Type</u> |
|------------------|---|--------------------|
| Flow (MGD) | Continuous | |
| BOD ₅ | 2 Days/Week and Daily When Outfall A02 is Discharging | Composite |
| Suspended Solids | 2 Days/Week and Daily When Outfall A02 is Discharging | Composite |

Influent samples shall be taken at a point representative of the influent.

Flow (MGD) shall be reported on the Discharge Monitoring Report (DMR) as monthly average and daily maximum.

BOD₅ and Suspended Solids shall be reported on the DMR as a monthly average concentration.

Special Conditions

SPECIAL CONDITION 1. This Permit may be modified to include different final effluent limitations or requirements which are consistent with applicable laws and regulations. The IEPA will public notice the permit modification.

SPECIAL CONDITION 2. The use or operation of this facility shall be by or under the supervision of a Certified Class 1 operator.

SPECIAL CONDITION 3. The IEPA may request in writing submittal of operational information in a specified form and at a required frequency at any time during the effective period of this Permit.

SPECIAL CONDITION 4. The IEPA may request more frequent monitoring by permit modification pursuant to 40 CFR § 122.63 and Without Public Notice in the event of operational, maintenance or other problems resulting in possible effluent deterioration.

SPECIAL CONDITION 5. The effluent, alone or in combination with other sources, shall not cause a violation of any applicable water quality standard outlined in 35 Ill. Adm. Code 302.

SPECIAL CONDITION 6. The Permittee shall record monitoring results on Discharge Monitoring Report (DMR) Forms using one such form for each outfall each month.

In the event that an outfall does not discharge during a monthly reporting period, the DMR Form shall be submitted with no discharge indicated.

The Permittee may choose to submit electronic DMRs (NetDMRs) instead of mailing paper DMRs to the IEPA. More information, including registration information for the NetDMR program, can be obtained on the IEPA website, <http://www.epa.state.il.us/water/net-dmr/index.html>.

The completed Discharge Monitoring Report forms shall be submitted to IEPA no later than the 25th day of the following month, unless otherwise specified by the permitting authority.

Permittees not using NetDMRs shall mail Discharge Monitoring Reports with an original signature to the IEPA at the following address:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Attention: Compliance Assurance Section, Mail Code # 19
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

SPECIAL CONDITION 7. The provisions of 40 CFR Section 122.41(m) & (n) are incorporated herein by reference.

SPECIAL CONDITION 8.

- A. For Outfall Number 001: Samples for all effluent limitations and monitoring parameters applicable to Outfall 001 shall be taken at a point representative of the flows from Outfall 001 but prior to entry into the receiving stream.
- B. For Outfall Number B02: Samples for all effluent limitations and monitoring parameters applicable to Outfall B02 shall be taken at a point representative of the flows from Outfall B02 but prior to entry into the receiving stream. On days when there are discharges from Outfall A02, samples for all effluent limitations and monitoring parameters applicable to Outfall B02 shall be representative of discharges from B02 and shall be taken at a point prior to admixture with discharges from Outfall A02.
- C. For Outfall Number A02: Samples for all effluent limitations and monitoring parameters applicable to Outfall A02 shall be taken at a point representative of the discharge from Outfall A02 and shall be taken at a point prior to admixture with discharges from Outfall B02.
- D. For Outfall Number 002: Samples for all effluent limitations and monitoring parameters applicable to Outfall 002 shall be taken at a point representative of the discharge from Outfall 002 but prior to entry into the receiving stream and shall include all flow from Outfalls A02 and B02. On days when there are no discharges through Outfall A02, samples for discharges through Outfall 002 can be taken at the location of sampling for Outfall B02. When there are discharges from Outfall A02, samples for all effluent limitations and monitoring parameters applicable to Outfall 002 shall be representative of the discharge from Outfall 002 and shall be taken at a point after flows from Outfalls A02 and B02 are mixed.

SPECIAL CONDITION 9. This Permit may be modified to include requirements for the Permittee on a continuing basis to evaluate and detail its efforts to effectively control sources of infiltration and inflow into the sewer system and to submit reports to the IEPA if necessary.

Special Conditions

SPECIAL CONDITION 10. For Discharge No. 001 and B02 (001 Final effluent thru B02), any use of chlorine to control slime growths, odors or as an operational control, etc. shall not exceed the limit of 0.05 mg/L (daily maximum) total residual chlorine in the effluent. Sampling is required on a daily grab basis during the chlorination process. Reporting shall be submitted on the DMR's on a monthly basis.

SPECIAL CONDITION 11. Fecal Coliform limits for Discharge Number 001 are effective May thru October. Sampling of Fecal Coliform is only required during this time period.

SPECIAL CONDITION 12.A. Publicly Owned Treatment Works (POTW) Pretreatment Program General Provisions

1. The Permittee shall implement and enforce its approved Pretreatment Program which was approved on December 27, 1984 and all approved subsequent modifications thereto. The Permittee shall maintain legal authority adequate to fully implement the Pretreatment Program in compliance with Federal (40 CFR 403), State, and local laws and regulations. All definitions in this section unless specifically otherwise defined in this section, are those definitions listed in 40 CFR 403.3. USEPA Region 5 is the Approval Authority for the administration of pretreatment programs in Illinois. The Permittee shall:
 - a. Develop and implement procedures to ensure compliance with the requirements of a pretreatment program as specified in 40 CFR 403.8 (f)(2).
 - b. Carry out independent inspection and monitoring procedures at least once per year, which will determine whether each significant industrial user (SIU) is in compliance with applicable pretreatment standards
 - c. Evaluate whether each SIU needs a slug control plan or other action to control slug discharges. If needed, the SIU slug control plan shall include the items specified in 40 CFR 403.8(f)(2)(vi). For IUs identified as significant prior to November 14, 2005, this evaluation must have been conducted at least once by October 14, 2006; additional SIUs must be evaluated within 1 year of being designated an SIU;
 - d. Update its inventory of Industrial Users (IUs) at least annually and as needed to ensure that all SIUs are properly identified, characterized, and categorized;
 - e. Receive and review self monitoring and other IU reports to determine compliance with all pretreatment standards and requirements, and obtain appropriate remedies for noncompliance by any IU with any pretreatment standard and/or requirement;
 - f. Investigate instances of noncompliance, collect and analyze samples, and compile other information with sufficient care as to produce evidence admissible in enforcement proceedings, including judicial action;
 - g. Require development, as necessary, of compliance schedules by each industrial user to meet applicable pretreatment standards; and,
 - h. Maintain an adequate revenue structure and staffing levels for continued operation of the Pretreatment Program.
2. The Permittee shall issue/reissue permits or equivalent control mechanisms to all SIUs prior to expiration of existing permits or prior to commencement of discharge in the case of new discharges. The permits at a minimum shall include the elements listed in 40 CFR § 403.8(f)(1)(iii).
3. The Permittee shall develop, maintain, and enforce, as necessary, local limits to implement the general and specific prohibitions in 40 CFR § 403.5 which prohibit the introduction of any pollutant(s) which cause pass through or interference and the introduction of specific pollutants to the waste treatment system from any source of nondomestic discharge.
4. In addition to the general limitations expressed in Paragraph 3 above, applicable pretreatment standards must be met by all industrial users of the POTW. These limitations include specific standards for certain industrial categories as determined by Section 307(b) and (c) of the Clean Water Act, State limits, or local limits, whichever are more stringent.
5. The USEPA and IEPA individually retain the right to take legal action against any industrial user and/or the POTW for those cases where an industrial user has failed to meet an applicable pretreatment standard by the deadline date regardless of whether or not such failure has resulted in a permit violation.
6. The Permittee shall establish agreements with all contributing jurisdictions, as necessary, to enable it to fulfill its requirements with respect to all IUs discharging to its system.

Special Conditions

7. Unless already completed, the Permittee shall within six (6) months of the effective date of this Permit submit to USEPA and IEPA a proposal to modify and update its approved Pretreatment Program to incorporate Federal revisions to the general pretreatment regulations. The proposal shall include all changes to the approved program and the sewer use ordinance which are necessary to incorporate the revisions of the Pretreatment Streamlining Rule (which became effective on November 14, 2005), which are considered required changes, as described in the Pretreatment Streamlining Rule Fact Sheet 2.0: Required changes, available at: http://cfpub.epa.gov/npdes/whatsnew.cfm?program_id=3. This includes any necessary revisions to the Permittee's Enforcement Response Plan (ERP).
8. Within 12 months from the effective date of this permit, the Permittee shall conduct a technical re-evaluation of its local limitations consistent with U.S. EPA's Local Limits Development Guidance (July 2004), and submit the evaluation and any proposed revisions to its local limits to IEPA and U.S. EPA Region 5 for review and approval. USEPA Region 5 will request Permittee to submit the evaluation and any proposed revisions to its local limits on the spreadsheet found at <http://www.epa.gov/region5/water/npdestek/LocalLmt.XLS>. To demonstrate technical justification for new local industrial user limits or justification for retaining existing limits, the following information must be submitted to U.S. EPA:
- a. Total plant flow
 - b. Domestic/commercial pollutant contributions for pollutants of concern
 - c. Industrial pollutant contributions and flows
 - d. Current POTW pollutant loadings, including loadings of conventional pollutants
 - e. Actual treatment plant removal efficiencies, as a decimal (primary, secondary, across the wastewater treatment plant)
 - f. Safety factor to be applied
 - g. Identification of applicable criteria:
 - i. NPDES permit conditions
 - Specific NPDES effluent limitations
 - Water-quality criteria
 - Whole effluent toxicity requirements
 - Criteria and other conditions for sludge disposal
 - ii. Biological process inhibition
 - Nitrification
 - Sludge digester
 - iii. Collection system problems
 - h. The Permittee's sludge disposal methods (land application, surface disposal, incineration, landfill)
 - i. Sludge flow to digester
 - j. Sludge flow to disposal
 - k. % solids in sludge to disposal, not as a decimal
 - l. % solids in sludge to digester, not as a decimal
 - m. Plant removal efficiencies for conventional pollutants
 - n. If revised industrial user discharge limits are proposed, the method of allocating available pollutants loads to industrial users
 - o. A comparison of maximum allowable headworks loadings based on all applicable criteria listed in g, above
 - p. Pollutants that have caused:
 - i. Violations or operational problems at the POTW, including conventional pollutants
 - ii. Fires and explosions
 - iii. Corrosion
 - iv. Flow obstructions
 - v. Increased temperature in the sewer system
 - vi. Toxic gases, vapors or fumes that caused acute worker health and safety problems
 - vii. Toxicity found through Whole Effluent Toxicity testing
 - viii. Inhibition
 - q. Pollutants designated as "monitoring only" in the NPDES permit
 - r. Supporting data, assumptions, and methodologies used in establishing the information a through q above
9. The Permittee's Pretreatment Program has been modified to incorporate a Pretreatment Program Amendment approved by USEPA on July 10, 1995. The amendment became effective on the date of approval and is a fully enforceable provision of your Pretreatment Program.

Modifications of your Pretreatment Program shall be submitted in accordance with 40 CFR § 403.18, which established conditions for substantial and nonsubstantial modifications. All requests should be sent in electronic format to r5npdes@epa.gov, attention: NPDES Programs Branch.

Special Conditions**B. Reporting and Records Requirements**

1. The Permittee shall provide an annual report briefly describing the permittee's pretreatment program activities over the previous calendar year. Permittees who operate multiple plants may provide a single report providing all plant-specific reporting requirements are met. Such report shall be submitted no later than May 31 of each year to USEPA, Region 5, 77 West Jackson Blvd., Chicago, Illinois 60604, Attention: Water Enforcement and Compliance Assurance Branch, and shall be in the format set forth in IEPA's POTW Pretreatment Report Package which contains information regarding:
 - a. An updated listing of the Permittee's significant industrial users, indicating additions and deletions from the previous year, along with brief explanations for deletions. The list shall specify which categorical Pretreatment standards, if any, are applicable to each Industrial User.
 - b. A descriptive summary of the compliance activities including numbers of any major enforcement actions, (i.e., administrative orders, penalties, civil actions, etc.), and the outcome of those actions. This includes an assessment of the compliance status of the Permittee's industrial users and the effectiveness of the Permittee's Pretreatment Program in meeting its needs and objectives.
 - c. A description of all substantive changes made to the Permittee's Pretreatment Program. Changes which are "substantial modifications" as described in 40 CFR § 403.18(c) must receive prior approval from the USEPA.
 - d. Results of sampling and analysis of POTW influent, effluent, and sludge.
 - e. A summary of the findings from the priority pollutants sampling. As sufficient data becomes available the IEPA may modify this Permit to incorporate additional requirements relating to the evaluation, establishment, and enforcement of local limits for organic pollutants. Any permit modification is subject to formal due process procedures pursuant to State and Federal law and regulation. Upon a determination that an organic pollutant is present that causes interference or pass through, the Permittee shall establish local limits as required by 40 CFR § 403.5(c).
2. The Permittee shall maintain all pretreatment data and records for a minimum of three (3) years. This period shall be extended during the course of unresolved litigation or when requested by the IEPA or the Regional Administrator of USEPA. Records shall be available to USEPA and the IEPA upon request.
3. The Permittee shall establish public participation requirements of 40 CFR 25 in implementation of its Pretreatment Program. The Permittee shall at least annually, publish the names of all IU's which were in significant noncompliance (SNC), as defined by 40 CFR § 403.8(f)(2)(viii), in a newspaper of general circulation that provides meaningful public notice within the jurisdictions served by the Permittee or based on any more restrictive definition of SNC that the POTW may be using.
4. The Permittee shall provide written notification to the USEPA, Region 5, 77 West Jackson Blvd., Chicago Illinois 60604, Attention: NPDES Programs Branch and to the Deputy Counsel for the Division of Water Pollution Control, IEPA, 1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 within five (5) days of receiving notice that any Industrial User of its sewage treatment plant is appealing to the Circuit Court any condition imposed by the Permittee in any permit issued to the Industrial User by Permittee. A copy of the Industrial User's appeal and all other pleadings filed by all parties shall be mailed to the Deputy Counsel within five (5) days of the pleadings being filed in Circuit Court.

C. Monitoring Requirements

1. The Permittee shall monitor its influent, effluent and sludge and report concentrations of the following parameters on monitoring report forms provided by the IEPA and include them in its annual report. Samples shall be taken at semi-annually intervals at the indicated reporting limit or better and consist of a 24-hour composite unless otherwise specified below. Sludge samples shall be taken of final sludge and consist of a grab sample reported on a dry weight basis.

| <u>STORET CODE</u> | <u>PARAMETER</u> | <u>Minimum reporting limit</u> |
|------------------------|--|------------------------------------|
| 01097 | Antimony | 0.07 mg/L |
| 01002 | Arsenic | 0.05 mg/L |
| 01007 | Barium | 0.5 mg/L |
| 01012 | Beryllium | 0.005 mg/L |
| 01027 | Cadmium | 0.001 mg/L |
| 01032 | Chromium (hex) (grab not to exceed 24 hours)* | 0.01 mg/L |
| 01034 | Chromium (total) | 0.05 mg/L |
| 01042 | Copper | 0.005 mg/L |
| 00718 | Cyanide(grab)* (available**** or amenable to chlorination) | 5.0 ug/L |
| 00720 | Cyanide (total) (grab) | 5.0 ug/L |

Special Conditions

| | | |
|-------|--|------------|
| 00951 | Fluoride* | 0.1 mg/L |
| 01045 | Iron (total) | 0.5 mg/L |
| 01046 | Iron (Dissolved)* | 0.5 mg/L |
| 01051 | Lead | 0.05 mg/L |
| 01055 | Manganese | 0.5 mg/L |
| 71900 | Mercury (effluent grab)*** | 1.0 ng/L** |
| 01067 | Nickel | 0.005 mg/L |
| 00556 | Oil (hexane soluble or equivalent) (Grab Sample only)* | 5.0 mg/L |
| 32730 | Phenols (grab) | 0.005 mg/L |
| 01147 | Selenium | 0.005 mg/L |
| 01077 | Silver (total) | 0.003 mg/L |
| 01059 | Thallium | 0.3 mg/L |
| 01092 | Zinc | 0.025 mg/L |

Minimum reporting limits are defined as – (1) The minimum value below which data are documented as non-detects. (2) Three to ten times the method detection limit. (3) The minimum value of the calibration range.

All sample containers, preservatives, holding times, analyses, method detection limit determinations and quality assurance/quality control requirements shall be in accordance with 40 CFR 136.

* Influent and effluent only

**1 ng/L = 1 part per trillion.

***Utilize USEPA Method 1631E and the digestion procedure described in Section 11.1.1.2 of 1631E, other approved methods may be used for influent (composite) and sludge.

****USEPA Method OIA – 1677.

Unless otherwise indicated, concentrations refer to the total amount of the constituent present in all phases, whether solid, suspended or dissolved, elemental or combined including all oxidation states. Where constituents are commonly measured as other than total, the phase is so indicated.

2. The Permittee shall conduct an analysis for the one hundred and ten (110) organic priority pollutants identified in 40 CFR 122 Appendix D, Table II as amended. This monitoring shall be done annually and reported on monitoring report forms provided by the IEPA and shall consist of the following:

- a. The influent and effluent shall be sampled and analyzed for the one hundred and ten (110) organic priority pollutants. The sampling shall be done during a day when industrial discharges are expected to be occurring at normal to maximum levels.

Samples for the analysis of acid and base/neutral extractable compounds shall be 24-hour composites.

Five (5) grab samples shall be collected each monitoring day to be analyzed for volatile organic compounds. A single analysis for volatile pollutants (Method 624) may be run for each monitoring day by compositing equal volumes of each grab sample directly in the GC purge and trap apparatus in the laboratory, with no less than one (1) mL of each grab included in the composite.

Wastewater samples must be handled, prepared, and analyzed by GC/MS in accordance with USEPA Methods 624 and 625 of 40 CFR 136 as amended.

- b. The sludge shall be sampled and analyzed for the one hundred and ten (110) organic priority pollutants. A sludge sample shall be collected concurrent with a wastewater sample and taken as final sludge.

Sampling and analysis shall conform to USEPA Methods 624 and 625 unless an alternate method has been approved by IEPA.

- c. Sample collection, preservation and storage shall conform to approved USEPA procedures and requirements.

3. In addition, the Permittee shall monitor any new toxic substances as defined by the Clean Water Act, as amended, following notification by the IEPA.

4. Permittee shall report any noncompliance with effluent or water quality standards in accordance with Standard Condition 12(f) of this Permit.

Special Conditions

5. Analytical detection limits shall be in accordance with 40 CFR 136. Minimum detection limits for sludge analyses shall be in accordance with 40 CFR 503.

D. Pretreatment Reporting

USEPA Region 5 is the Approval Authority for administering the pretreatment program in Illinois. All requests for modification of treatment program elements should be submitted in redline/strikeout electronic format and must be sent to USEPA at r5npdes@epa.gov.

Permittee shall upon notice from USEPA, modify any pretreatment program element found to be inconsistent with 40 CFR 403.

SPECIAL CONDITION 13. The Permittee has undergone a Monitoring Reduction review and the influent and effluent sample frequency has been reduced for BOD₅, CBOD₅, Suspended Solids, pH, Ammonia Nitrogen, and Fecal Coliform due to sustained compliance. The IEPA will require that the influent and effluent sampling frequency for these parameters be increased to 5 days/week if effluent deterioration occurs due to increased wasteload, operational, maintenance or other problems. The increased monitoring will be required Without Public Notice when a permit modification is received by the Permittee from the IEPA.

SPECIAL CONDITION 14. During January of each year the Permittee shall submit annual fiscal data regarding sewerage system operations to the Illinois Environmental Protection Agency/Division of Water Pollution Control/Compliance Assurance Section. The Permittee may use any fiscal year period provided the period ends within twelve (12) months of the submission date.

Submission shall be on forms provided by IEPA titled "Fiscal Report Form For NPDES Permittees".

SPECIAL CONDITION 15. The Permittee shall conduct biomonitoring of the effluent from Discharge Number(s) 001.

Biomonitoring

- A. Acute Toxicity - Standard definitive acute toxicity tests shall be run on at least two trophic levels of aquatic species (fish, invertebrate) representative of the aquatic community of the receiving stream. Testing must be consistent with Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (Fifth Ed.) EPA/821-R-02-012. Unless substitute tests are pre-approved; the following tests are required:
1. Fish - 96 hour static LC₅₀ Bioassay using fathead minnows (*Pimephales promelas*).
 2. Invertebrate 48-hour static LC₅₀ Bioassay using *Ceriodaphnia*.
- B. Testing Frequency - The above tests shall be conducted using 24-hour composite samples unless otherwise authorized by the IEPA. Samples must be collected in the 18th, 15th, 12th, and 9th month prior to the expiration date of this Permit.
- C. Reporting - Results shall be reported according to EPA/821-R-02-012, Section 12, Report Preparation, and shall be submitted to IEPA, Bureau of Water, Compliance Assurance Section within one week of receipt from the laboratory. Reports are due to the IEPA no later than the 16th, 13th, 10th, and 7th month prior to the expiration date of this Permit.
- D. Toxicity - Should a bioassay result in toxicity to >20% of organisms test in the 100% effluent treatment, the IEPA may require, upon notification, six (6) additional rounds of monthly testing on the affected organism(s) to be initiated within 30 days of the toxic bioassay. Results shall be submitted to IEPA within (1) week of becoming available to the Permittee. Should any of the additional bioassays result in toxicity to \geq 50% of organisms tested in the 100% effluent treatments, the Permittee shall immediately notify IEPA in writing of the test results.
- E. Toxicity Reduction Evaluation and Identification - Should the biomonitoring program identify toxicity and result in notification by IEPA, the permittee shall develop a plan for toxicity reduction evaluation and identification. The plan shall be developed and implemented in accordance with Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants, EPA/833B-99/002, and shall include an evaluation to determine which chemicals have a potential for being discharged in the plant wastewater, a monitoring program to determine their presence or absence and to identify other compounds which are not being removed by treatment, and other measures as appropriate. The Permittee shall submit to the IEPA its plan within ninety (90) days following notification by the IEPA. The Permittee shall implement the plan within ninety (90) days of notification of the permittee above or other such date as is received by letter from IEPA.

The IEPA may modify this Permit during its term to incorporate additional requirements or limitations based on the results of the biomonitoring. In addition, after review of the monitoring results and toxicity reduction evaluation, the IEPA may modify this Permit to include numerical limitations for specific toxic pollutants and additional whole effluent toxicity monitoring to confirm the results of the evaluation. Modifications under this condition shall follow public notice and opportunity for hearing.

Special Conditions

SPECIAL CONDITION 16. For the duration of this Permit, the Permittee shall determine the quantity of sludge produced by the treatment facility in dry tons or gallons with average percent total solids analysis. The Permittee shall maintain adequate records of the quantities of sludge produced and have said records available for IEPA inspection. The Permittee shall submit to the IEPA, at a minimum, a semi-annual summary report of the quantities of sludge generated and disposed of, in units of dry tons or gallons (average total percent solids) by different disposal methods including but not limited to application on farmland, application on reclamation land, landfilling, public distribution, dedicated land disposal, sod farms, storage lagoons or any other specified disposal method. Said reports shall be submitted to the IEPA by January 31 and July 31 of each year reporting the preceding January thru June and July thru December interval of sludge disposal operations.

Duty to Mitigate. The Permittee shall take all reasonable steps to minimize any sludge use or disposal in violation of this Permit.

Sludge monitoring must be conducted according to test procedures approved under 40 CFR 136 unless otherwise specified in 40 CFR 503, unless other test procedures have been specified in this Permit.

Planned Changes. The Permittee shall give notice to the IEPA on the semi-annual report of any changes in sludge use and disposal.

The Permittee shall retain records of all sludge monitoring, and reports required by the Sludge Permit as referenced in Standard Condition 25 for a period of at least five (5) years from the date of this Permit.

If the Permittee monitors any pollutant more frequently than required by the Sludge Permit, the results of this monitoring shall be included in the reporting of data submitted to the IEPA.

The Permittee shall comply with existing federal regulations governing sewage sludge use or disposal and shall comply with all existing applicable regulations in any jurisdiction in which the sewage sludge is actually used or disposed.

The Permittee shall comply with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish the standards for sewage sludge use or disposal even if the permit has not been modified to incorporate the requirement.

The Permittee shall ensure that the applicable requirements in 40 CFR Part 503 are met when the sewage sludge is applied to the land, placed on a surface disposal site, or fired in a sewage sludge incinerator.

Monitoring reports for sludge shall be reported on the form titled "Sludge Management Reports" to the following address:

Illinois Environmental Protection Agency
Bureau of Water
Compliance Assurance Section
Mail Code #19
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

SPECIAL CONDITION 17. Modeling or field studies may be used to demonstrate the availability of a mixing zone and zone of initial dilution (ZID). The purpose of these optional studies is to define the dilution ratio present in Lake Michigan. Any report submitted to the IEPA should show effluent concentrations at various distances lakeward from the effluent outfall, sufficient to demonstrate the areas of the mixing zone and ZID, during the observed or modeled conditions. The mixing regulations of 35 IAC 302.102 will then be used to determine if the conditions necessary for the Agency to grant a mixing zone and ZID are present. If the Permittee intends to pursue this option, a study plan outlining the methodologies proposed to be used must be submitted for IEPA approval. The IEPA will review the submitted sample data and may reopen and modify this Permit to eliminate or include revised effluent limitations based on the results of the collected data.

SPECIAL CONDITION 18. The Permittee shall optimize existing treatment facilities to include phosphorus removal, reduce phosphorus sources or explore other ways to prevent discharges that exceed the limit. An optimization study shall be submitted to the Agency within twelve (12) months of the effective date of this permit and identify interim measures that can be taken with existing equipment to reduce effluent phosphorus levels. The Permittee shall implement these interim measures within two (2) years of the effective date of this permit. Annual progress reports on the optimization of the existing treatment facilities shall be submitted to the Agency by March 31 of each year.

Special Conditions

SPECIAL CONDITION 19. The Permittee shall, within twelve (12) months of the permit effective date, prepare and submit to the Agency a feasibility study that identifies the method, timeframe, and costs of reducing phosphorus levels in its discharge to a level meeting a potential future effluent standard of 0.5 and 0.1 mg/L. The study shall evaluate the costs of the application of these limits on a monthly, seasonal, and annual average basis.

SPECIAL CONDITION 20. The Permittee shall submit a Nutrient Implementation Plan (NIP) for Agency approval with the NPDES renewal application. The NIP must identify phosphorus input reductions by point source discharges, non-point source discharges and other measures necessary to remove dissolved oxygen and offensive condition impairments in the Des Plaines River watershed. The Permittee shall implement the recommendations of the plan that are applicable to said Permittee per the schedule approved by the Agency. The Permittee may work cooperatively with the Des Plaines River Watershed Workgroup (DRWW) to prepare a single NIP that is common among DRWW permittees.

SPECIAL CONDITION 21. The Permittee shall conduct monthly water quality sampling in the receiving stream both upstream and downstream of the NPDES outfall for the following parameters: dissolved phosphorus, total phosphorus, total organic carbon, chlorophyll a, dissolved oxygen, total ammonia nitrogen, nitrate/nitrite, total kjeldahl nitrogen, pH, total suspended solids, volatile suspended solids and temperature. The results shall be submitted to the Agency by March 31 of each year. The Permittee may work cooperatively with the DRWW to conduct monitoring and prepare a single annual monitoring report that is common among DRWW permittees.

SPECIAL CONDITION 22. The Permittee shall monitor the wastewater effluent for dissolved phosphorus, total phosphorus, dissolved oxygen, ammonia nitrogen, nitrate/nitrite, total kjeldahl nitrogen, pH, alkalinity, specific conductivity and temperature at least once a month beginning on the effective date of this Permit. The results shall be submitted on NetDMRs to the Agency unless otherwise specified by the Agency.

SPECIAL CONDITION 23. This Permit may be modified to include alternative or additional final effluent limitations pursuant to either an approved Total maximum Daily Load (TMDL) Study or an approved Des Plaines River Watershed Study.

SPECIAL CONDITION 24. The applicable terms and conditions of Title 35, Subtitle C, Chapter 1, Section 304.219 are hereby incorporated by reference as if fully set forth herein.

SPECIAL CONDITION 25. The requirements and conditions of Consent Order No. 99 Ch. 1070, 19th Judicial Court, Lake County, Illinois dated January 29, 2002 are hereby incorporated by reference as if fully set forth herein.

SPECIAL CONDITION 26. The Agency shall consider all monitoring data submitted by the discharger in accordance with the monitoring requirements of this permit for all parameters, including but not limited to data pertaining to ammonia and dissolved oxygen for discharges from Discharge Number 002, to determine whether the discharges are at levels which cause, have the reasonable potential to cause or contribute to exceedances of water quality standards; and, if so, to develop appropriate water quality based effluent limitations. If the discharger wants the Agency to consider mixing when determining the need for and establishment of water quality based effluent limitations, the discharger shall submit a study plan on mixing to the Agency for the Agency's review and comment within two (2) months of the effective date of this Permit.

SPECIAL CONDITION 27. The Permittee shall work towards the goals of achieving no discharges from sanitary sewer overflows or basement back-ups and ensuring that overflows or back-ups, when they do occur do not cause or contribute to violations of applicable standards or cause impairment in any adjacent receiving water. Overflows from sanitary sewers are expressly prohibited by Ill. Adm. Code 306.304. In order to accomplish these goals, the Permittee shall develop, implement and submit to the IEPA a Capacity, Management, Operations, and Maintenance (CMOM) plan which includes an Asset Management strategy within twelve (12) months of the effective date of this Permit or review and revise any existing plan accordingly. The permittee shall modify the Plan to incorporate any comments that it receives from IEPA and shall implement the modified plan as soon as possible. The Permittee should work as appropriate, in consultation with affected authorities at the local, county, and/or state level to develop the plan components involving third party notification of overflow events. The Permittee may be required to construct additional sewage transport and/or treatment facilities in future permits or other enforceable documents should the implemented CMOM plan indicate that the Permittee's facilities are not capable of conveying and treating the flow for which they were designed.

The CMOM plan shall include the following elements:

A. Measures and Activities:

1. A complete map and system inventory for the collection system owned and operated by the Permittee;

Special Conditions

2. Organizational structure; budgeting; training of personnel; legal authorities; schedules for maintenance, sewer system cleaning, and preventative rehabilitation; checklists, and mechanisms to ensure that preventative maintenance is performed on equipment owned and operated by the Permittee;
 3. Documentation of unplanned maintenance;
 4. An assessment of the capacity of the collection and treatment system owned and operated by the Permittee at critical junctions and immediately upstream of locations where overflows and back-ups occur or are likely to occur; use flow monitoring as necessary;
 5. Identification and prioritization of structural deficiencies in the system owned and operated by the Permittee;
 6. Scheduled inspections and testing;
 7. The Permittee shall develop and implement an Asset Management strategy to ensure the long-term sustainability of the collection system. Asset management shall be used to assist the Permittee in making decisions on when it is most appropriate to repair, replace or rehabilitate particular assets and develop long-term funding strategies; and
 8. Asset management shall include but is not limited to the following elements:
 - a. Asset Inventory and State of the Asset;
 - b. Level of Service;
 - c. Critical Asset Identification;
 - d. Life Cycle Cost; and
 - e. Long-Term Funding Strategy.
- B. Design and Performance Provisions:
1. Monitor the effectiveness of CMOM;
 2. Upgrade the elements of the CMOM plan as necessary; and
 3. Maintain a summary of CMOM activities.
- C. Overflow Response Plan:
1. Know where overflows and back-ups within the facilities owned and operated by the Permittee occur;
 2. Respond to each overflow or back-up to determine additional actions such as clean up; and
 3. Locations where basement back-ups and/or sanitary sewer overflows occur shall be evaluated as soon as practicable for excessive inflow /infiltration, obstructions or other causes of overflows or back-ups as set forth in the System Evaluation Plan.
- D. System Evaluation Plan:
1. Summary of existing SSO and Excessive I/I areas in the system and sources of contribution;
 2. Evaluate plans to reduce I/I and eliminate SSOs;
 3. Special provisions for Pump Stations and force mains and other unique system components; and
 4. Construction plans and schedules for correction.
- E. Reporting and Monitoring Requirements:
1. Program for SSO detection and reporting; and
 2. Program for tracking and reporting basement back-ups, including general public complaints.
- F. Third Party Notice Plan:
1. Describes how, under various overflow scenarios, the public, as well as other entities, would be notified of overflows within the Permittee's system that may endanger public health, safety or welfare;
 2. Identifies overflows within the Permittee's system that would be reported, giving consideration to various types of events including events with potential widespread impacts;
 3. Identifies who shall receive the notification;
 4. Identifies the specific information that would be reported including actions that will be taken to respond to the overflow;
 5. Includes a description of the lines of communication; and
 6. Includes the identities and contact information of responsible POTW officials and local, county, and/or state level officials.

For additional information concerning USEPA CMOM guidance and Asset Management please refer to the following web site addresses.
http://www.epa.gov/npdes/pubs/cmom_guide_for_collection_systems.pdf and
http://water.epa.gov/type/watersheds/wastewater/upload/guide_smallsystems_assetmanagement_bestpractices.pdf

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SPECIAL CONDITION 28. A phosphorus limit of 1.0 mg/L (Monthly Average) shall become effective three and one-half (3 1/2) years from the effective date of this Permit.

In order for the Permittee to achieve the above limit, it will be necessary to modify existing treatment facilities to include biological phosphorus removal or chemical phosphorus removal, included in Construction Permit No. 2015-AB-59571 issued April 9, 2015 and in accordance with the following schedule:

- | | |
|---|--|
| A. Begin Construction | 6 months from the effective date of this Permit |
| B. Progress Report on Construction | 12 months from the effective date of this Permit |
| C. Progress Report on Construction | 18 months from the effective date of this Permit |
| D. Progress Report on Construction | 24 months from the effective date of this Permit |
| E. Progress Report on Construction | 30 months from the effective date of this Permit |
| F. Complete Construction | 36 months from the effective date of this Permit |
| G. Achieve Annual Concentration and Loading Effluent Limitations for Total Phosphorus | 42 months from the effective date of this Permit |

This Permit may be modified, with Public Notice, to include revised compliance dates.

REPORTING

The Permittee shall submit a report no later than fourteen (14) days following the completion dates indicated for each lettered item in the compliance schedule, indicating, a) the date the item was completed, or b) that the item was not completed, the reasons for non-completion and the anticipated completion date.