



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

BRUCE RAUNER, GOVERNOR

ALEC MESSINA, DIRECTOR

217/782-0610

April 27, 2017

MAY 1 AM 10:55

Municipal Clerk
432 West Nebraska Street
Frankfort, Illinois 60423-1424

Re: Village of Frankfort
Village of Frankfort - Regional WWTP
NPDES Permit No. IL0072192
Public Notice of Permit

Municipal Clerk:

In accordance with the requirements of the Illinois Pollution Control Board regulations of 35 Ill. Adm. Code 309.109(a)(2)(A), the attached National Pollutant Discharge Elimination System Public Notice is sent to a municipality in the vicinity of the applicant. The Agency understands that the applicant may not be associated with the municipality to which it is sent.

Please post the attached National Pollutant Discharge Elimination System Public Notice for a period of 30 days. In addition, please complete and return the enclosed postcard indicating the date of posting. Should you choose not to post the attached notice, please indicate so on the postcard and return.

Thank you for your cooperation.

Sincerely,

A handwritten signature in black ink that reads "Amy L. Dragovich".

Amy L. Dragovich, P.E.
Manager, Northern Municipal Unit, Permit Section
Division of Water Pollution Control

ALD:16081601 IL0072192 Frankfort Mod.docx

Attachments: Public Notice/Fact Sheet, Post Card

cc: Records Unit

NPDES Permit No. IL0072192
Notice No. JMC:16081601 IL0072192 Frankfort Mod.docx

Public Notice Beginning Date: **April 27, 2017**

Public Notice Ending Date: **May 29, 2017**

National Pollutant Discharge Elimination System (NPDES)
Permit Program

PUBLIC NOTICE/FACT SHEET
of
Draft Modified 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 Discharger:

Village of Frankfort
432 West Nebraska Street
Frankfort, Illinois 60423

Name and Address of Facility:

Village of Frankfort - Regional WWTP
20538 South LaGrange Road
Frankfort, Illinois
(Will 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 discharger. 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 Jamie Cowles 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 portions of Frankfort, the Timber Ridge Mobile Home Park and Gateway Mobile Home Park.

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, Hickory Creek, is 1.1 cfs.

The current design average flow (DAF) for the facility is 3.0 million gallons per day (MGD) and the design maximum flow (DMF) for the facility is 9.0 MGD. The design average flow (DAF) for the proposed facility for Phase 1 is 4.67 million gallons per day (MGD) and the design maximum flow (DMF) for the proposed facility is 14.0 MGD. The design average flow (DAF) for the proposed facility for Phase 2 is 5.65 million gallons per day (MGD) and the design maximum flow (DMF) for the proposed facility is 17.0 MGD. Treatment consists of screening, grit removal, activated sludge, phosphorus removal, sedimentation, filtration, post aeration and ultraviolet disinfection.

The Village of Frankfort intends to consolidate its wastewater treatment at the Regional Wastewater Treatment Plant (WWTP). The improvements will be constructed in two Phases.

In Phase 1, the Village will consolidate all of its treatment at the Regional WWTP. The Village's other two WWTPs, the North WWTP and the West WWTP, will be closed and all of their flow will be pumped to the Regional WWTP. The North and West WWTP will be demolished.

Phase 2 will be constructed when the DAF of the Regional WWTP reaches 90% of DAF capacity or when the population growth dictates the need for increased capacity.

The IEPA will accept comments on the following draft modifications to the Permit:

1. The DAF and DMF at the Regional WWTP will increase to 4.67 MGD and 14.0 MGD respectively in Phase 1.
2. The DAF and DMF at the Regional WWTP will increase to 5.65 MGD and 17.0 MGD respectively in Phase 2.
3. Special Conditions have been added requiring the Permittee to monitor the impact the discharge has on the receiving stream and to develop a Nutrient Implementation Plan.

This modified NPDES Permit does increase the facility's DAF, DMF, concentration limits, and/or load limits.

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

Outfall	Receiving Stream	Latitude	Longitude	Stream Classification	Integrity Rating
001	Hickory Creek	41° 31' 09" North	87° 51' 27" West	General Use	D

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

The stream segment(s) (Waterbody Segment GG-06) 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
Total phosphorus, arsenic, pH, and chloride	aquatic life

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APR 25 2017

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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 STP Outfall (Existing Facility)

Load limits computed based on a design average flow (DAF) of 3.0 MGD (design maximum flow (DMF) of 9.0 MGD).

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

Parameter	LOAD LIMITS lbs/day*			CONCENTRATION LIMITS mg/L			Regulation	
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum		
CBOD ₅ **	200 (600)		400 (1201)	8		16	35 IAC 304.120 40 CFR 133.102	
Suspended Solids**	250 (751)		500 (1501)	10		20	35 IAC 304.120 40 CFR 133.102	
Dissolved Oxygen	Shall not be less than 7 mg/L						35 IAC 302.206	
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:								
March-May/Sept.-Oct.	38 (113)	----	88 (263)	1.5	----	3.5	35 IAC 355 and	
June-August	23 (68)	58 (173)	110 (330)	0.9	2.3	4.4	35 IAC 302	
Nov.-Feb.	65 (195)	----	83 (248)	2.6	----	3.3		
Total Phosphorus (as P)	25 (75)			1.0			35 IAC 304.123	
Total Nitrogen	Monitoring Only						35 IAC 309.146	
Dissolved Phosphorus	Monitoring Only						35 IAC 309.146	
Nitrate/Nitrite	Monitoring Only						35 IAC 309.146	
Total Kjeldahl Nitrogen (TKN)	Monitoring Only						35 IAC 309.146	
Specific Conductivity	Monitoring Only						35 IAC 309.146	
Temperature	Monitoring Only						35 IAC 309.146	
Chloride	Monitoring Only						35 IAC 309.146	
Copper				1.1 (3.2)			0.043	35 IAC 302.208

*Load Limits are calculated by using the formula: 8.34 x (Design Average and/or Maximum Flow in MGD) x (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.

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 STP Outfall (Proposed Facility – Phase 1)

Load limits computed based on a design average flow (DAF) of 4.67 MGD (design maximum flow (DMF) of 14.0 MGD).

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

Parameter	LOAD LIMITS lbs/day*			CONCENTRATION LIMITS mg/L			Regulation
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum	
CBOD ₅ **	312 (934)		623 (1868)	8		16	35 IAC 304.120 40 CFR 133.102
Suspended Solids**	389 (1168)		779 (2335)	10		20	35 IAC 304.120 40 CFR 133.102
Dissolved Oxygen	Shall not be less than 7 mg/L						35 IAC 302.206
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:							
March-May/Sept.-Oct.	58 (175)	----	136 (409)	1.5	----	3.5	35 IAC 355 and
June-August	35 (105)	90 (269)	171 (514)	0.9	2.3	4.4	35 IAC 302
Nov.-Feb.	86 (257)	----	125 (374)	2.2	----	3.2	
Total Phosphorus (as P)	39 (117)			1.0			35 IAC 304.123
Total Nitrogen	Monitoring Only						35 IAC 309.146
Dissolved Phosphorus	Monitoring Only						35 IAC 309.146
Nitrate/Nitrite	Monitoring Only						35 IAC 309.146
Total Kjeldahl Nitrogen (TKN)	Monitoring Only						35 IAC 309.146
Specific Conductivity	Monitoring Only						35 IAC 309.146
Temperature	Monitoring Only						35 IAC 309.146
Chloride	Monitoring Only						35 IAC 309.146
Copper			1.7 (5.0)			0.043	35 IAC 302.208

*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.

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APR 27 2017

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 STP Outfall (Proposed Facility – Phase 2)

PUBLIC NOTICE

Load limits computed based on a design average flow (DAF) of 5.65 MGD (design maximum flow (DMF) of 17.0 MGD).

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

Parameter	LOAD LIMITS lbs/day*			CONCENTRATION LIMITS mg/L			Regulation
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum	
CBOD ₅ **	377 (1134)		754 (2268)	8		16	35 IAC 304.120 40 CFR 133.102
Suspended Solids**	471 (1418)		942 (2836)	10		20	35 IAC 304.120 40 CFR 133.102
Dissolved Oxygen	Shall not be less than 7 mg/L						35 IAC 302.206
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:							
March-May/Sept.-Oct.	71 (213)	----	165 (496)	1.5	----	3.5	35 IAC 355 and
June-August	42 (128)	108 (326)	207 (624)	0.9	2.3	4.4	35 IAC 302
Nov.-Feb.	104 (312)	----	151 (454)	2.2	----	3.2	
Total Phosphorus (as P)	47 (142)			1.0			35 IAC 304.123
Total Nitrogen	Monitoring Only						35 IAC 309.146
Dissolved Phosphorus	Monitoring Only						35 IAC 309.146
Nitrate/Nitrite	Monitoring Only						35 IAC 309.146
Total Kjeldahl Nitrogen (TKN)	Monitoring Only						35 IAC 309.146
Specific Conductivity	Monitoring Only						35 IAC 309.146
Temperature	Monitoring Only						35 IAC 309.146
Chloride			23,561 (70,890)			500	35 IAC 309.146
Copper			2.0 (6.1)			0.043	35 IAC 302.208

*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.

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. Effluent sampling point location.
7. A requirement to monitor and a limit of 0.05 mg/L for residual chlorine when it is used.
8. Seasonal fecal coliform limits.
9. Monitoring for arsenic, barium, cadmium, hexavalent chromium, total chromium, copper, available cyanide, total cyanide, fluoride, dissolved iron, total iron, lead, manganese, mercury, nickel, oil, phenols, selenium, silver and zinc is required to be conducted semi-annually beginning 3 months from the effective date.
10. Submission of annual fiscal data.
11. 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.
12. Submission of semi annual reports indicating the quantities of sludge generated and disposed.
13. 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.
14. Hickory Creek Water Quality Study.
15. Optimization of existing treatment facilities.
16. Submission of phosphorus removal feasibility study.
17. The provisions of 40 CFR Section 122.41(m) & (n) are incorporated herein by reference.
18. Controlling the sources of infiltration and inflow into the sewer system.
19. Capacity, Management, Operations and Maintenance (CMOM) requirements.
20. Site specific metal translator.
21. Instream monitoring for pH and temperature.
22. Compliance schedule for copper.
23. Notify IEPA when treatment plant expansion has been completed.
24. Submission of Nutrient Implementation Plan.
25. Monitoring in the receiving stream upstream and downstream of the discharge.
26. Monitoring of the wastewater effluent for dissolved phosphorus, total phosphorus, dissolved oxygen, ammonia nitrogen, nitrate/nitrite, total kjeldahl nitrogen, pH, specific conductivity and temperature once a month.
27. 85% removal of BOD₅ and Suspended Solids required in accordance with 40 CFR 133.
28. Compliance with Total Nitrogen.
29. A requirement to participate in a Chloride Reduction Program.

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APR 27 2017

**Antidegradation Assessment Review Frankfort Regional STP
NPDES #IL0072192 (Will County)**

PUBLIC NOTICE

The Village of Frankfort currently operates three sewage treatment plants. The North Plant has a DAF of 1.35 MGD and discharges to Union Ditch, and the West Plant has a DAF of 1.3 MGD and discharges to an unnamed tributary of Hickory Creek. These two plants require upgrades to be compliant with permit limits. The Village proposes to close these plants and divert all flows to the Regional WWTP. Currently, the Regional Plant has a DAF of 3.0 MGD. In 2015 the average of the lowest three months of effluent flow was 1.39 MGD. The DAF of the Regional Plant after consolidation will be 5.65 MGD.

All of the treatment plants discharge to the Hickory Creek watershed. The alignment of the plants is such that after consolidation, there will be a 1.5 mile reach of Hickory Creek between the outfall of the Regional Plant and the confluence of the unnamed tributary that currently receives the flow of the West Plant that will have increased loading of all pollutants. Downstream of that confluence Hickory Creek will have the same or decreased loading depending on the pollutant. Hickory Creek upstream of the Regional Plant outfall, Union Ditch and the unnamed tributary receiving the West Plant discharge, will all have a decrease in pollutant loading of all pollutants because there will no longer be Frankfort effluents in these waters. Information regarding the antidegradation assessment was provided by the Village in a letter dated August 13, 2014, an Antidegradation Information Report dated April 22, 2016, additional antidegradation information dated May 16, 2016 and supplemental antidegradation information dated July 19, 2016.

Identification and Characterization of the Affected Water Body.

The subject facility discharges to Hickory Creek at a point where 1.1 cfs of flow exists upstream of the outfall during critical 7Q10 low-flow conditions. Upon consolidation of the Frankfort effluents, the 7Q10 of Hickory Creek will tend towards zero. Hickory Creek (segment GG-06) is a General Use water. Hickory Creek is listed on the draft 2016 Illinois Integrated Water Quality Report and Section 303(d) List as an impaired water body for aquatic life use. Potential causes of aquatic life use impairment are given as total phosphorus, pH, arsenic and chloride. Hickory Creek is not listed as a biologically significant stream in the 2008 Illinois Department of Natural Resources Publication *Integrating Multiple Taxa in a Biological Stream Rating System* at this locality; however, it is given an integrity rating of "D" in that report. Hickory Creek is designated as an enhanced water at this location pursuant to the dissolved oxygen water quality standard.

Identification of Proposed Pollutant Load Increases or Potential Impacts on Uses.

The expanded facility's discharge to Hickory Creek will result in an increase in pollutant loading for all parameters listed below in a 1.5 mile segment of the creek below the Regional plant outfall. Hickory Creek and Union Ditch upstream of the Regional Plant outfall will see a decrease in loading of these pollutants as the North Plant discharge will be eliminated. An unnamed tributary of Hickory Creek receiving the West Plant outfall will see a decrease in loading of these pollutants and Hickory Creek at the confluence of this unnamed tributary will see a decrease in all pollutants except for chloride, which will remain at existing loading until chloride reduction practices progress.

Parameter pounds/day	Existing Regional Plant Loading	Existing Load for all Plants	Future Consolidated Plant Loading
CBOD	200	421	377
Total Suspended Solids (TSS)	250	515	471
Ammonia	43.3 (average over the seasons)	74.8 (average over the seasons)	74.8 (average over the seasons)
Phosphorus	25	66	47
Total Nitrogen	375	825	471
Chloride	14537	23561	23561

Given that the new plant will consistently produce a high quality effluent, no adverse impacts are anticipated to Hickory Creek. Because of the higher level of treatment that will be provided, phosphorus, CBOD, TSS and total nitrogen loading in the expanded consolidated plant will decrease compared to the loading from the three existing plants.

A permit limit of 1.0 mg/L phosphorus as a monthly average is required. A total nitrogen goal of 10 mg/L will also be included. CBOD/TSS limits should be based on 8 mg/L and 10 mg/L respectively as these are the concentration limits for the existing Regional Plant.

Fate and Effect of Parameters Proposed for Increased Loading.

The ammonia in the effluent will continue to break down by natural processes after discharge. Concentrations of ammonia will be discharged at low concentrations that will not adversely impact aquatic life communities. Future ammonia water quality standards are likely to result in lower permit limits for this facility. No adverse impact to stream uses is anticipated.

Purpose and Anticipated Benefits of the Proposed Activity.

Frankfort has two plants that are aging and inefficient. Consolidation allows for these plants to be retired. The neighbors of these plants will benefit as odors and unsightly views will be eliminated. The community as a whole will benefit from improved overall sewage treatment.

Assessments of Alternatives for Less Increase in Loading or Minimal Environmental Degradation.

Land application was considered apart from the preferred alternative. A plant this size would require an extremely large storage lagoon to hold the effluent for half the year and allow irrigation during the growing season. The acreage for irrigation would also be very extensive and would be needed in a rapidly developing area that has fewer large parcels of farmland nearby. The nearest golf course is three miles away from the treatment plant (upstream). It was estimated that the force main required to pipe effluent to the golf course would cost \$5 million. It was determined that land application would not be feasible.

Chloride cannot be removed by the treatment process and the only option to reduce chloride concentrations is to reduce at the source. In Frankfort, the chloride comes largely from homeowners' water softeners. The Village has instituted best management practices to reduce chloride in the incoming wastewater. This includes a public education program called "Dial-It-Back" that encourages residents to adjust their home water softeners to not waste salt and thereby contribute chloride unnecessarily to the wastewater. Chloride from this source will undergo gradual reduction as homeowners replace older water softeners with more efficient new models.

The Village has investigated ways to reduce chloride stemming from the use of home water softeners in the service area. Softening the public water supply treated drinking water with either reverse osmosis or lime softening was considered and found to be too expensive as treatment systems would be required for multiple water wells that serve the community. Likewise, converting the water supply to Lake Michigan water was also deemed to be too expensive. The Village is participating in the Lower Des Plaines Chloride Workgroup and the Hickory Creek Watershed Planning Group to further attempt to reduce chloride in the Village.

The preferred alternative of closing two outmoded treatment plants and expanding the newer plant to be a biological nutrient removal plant is superior to other alternatives given the poor performance of the two plants being replaced. Loading of most pollutants will be reduced.

Summary Comments of the Illinois Department of Natural Resources, Regional Planning Commissions, Zoning Boards or Other Entities

An Eco-CAT endangered species consultation submitted to the Illinois Department of Natural Resources resulted in an initial determination that an endangered or threatened species resides in the area. Upon further review, IDNR has determined in a letter dated November 16, 2015 that no adverse impact to the endangered species was likely and that consultation was terminated.

Agency Conclusion.

This preliminary assessment was conducted pursuant to the Illinois Pollution Control Board regulation for Antidegradation found at 35 Ill. Adm. Code 302.105 (antidegradation standard) and was based on the information available to the Agency at the time the draft permit was written. We tentatively find that the proposed activity will result in the attainment of water quality standards; that all existing uses of the receiving stream will be maintained; that all technically and economically reasonable measures to avoid or minimize the extent of the proposed increase in pollutant loading have been incorporated into the proposed activity; and that this activity will benefit the community by providing sewage treatment capability at a consolidated plant that will allow two outdated plants to close. Comments received during the NPDES permit public notice period will be evaluated before a final decision is made by the Agency.

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