

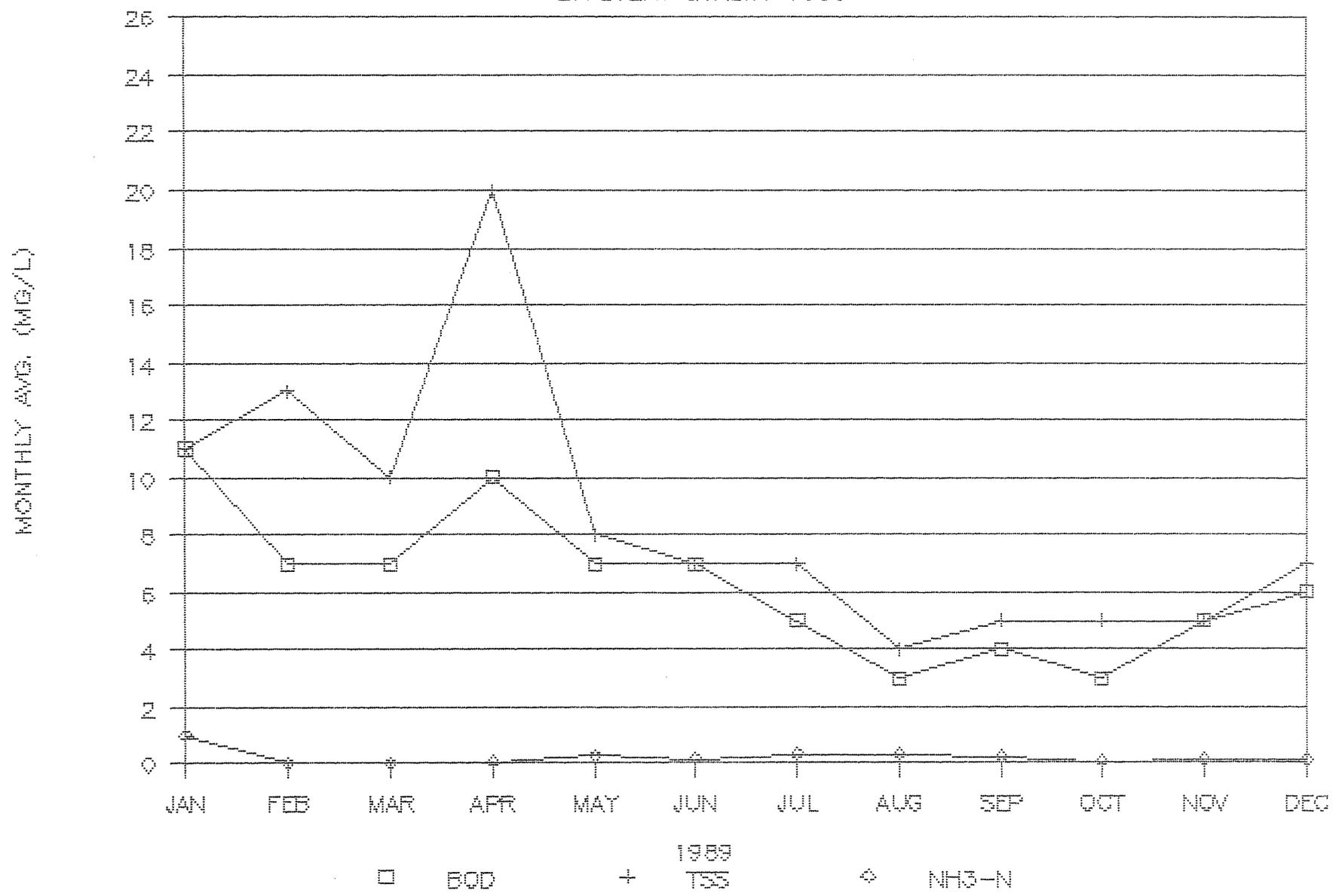
APPENDIX II

MT. HOPE SEWAGE TREATMENT PLANT
 MONTHLY AVERAGE EFFLUENT QUALITY 1989

	FLOW (MGD)	BOD (MG/L)	TSS (MG/L)	NH3-N (MG/L)
JAN	0.0064	11.00	11.00	1.0000
FEB	0.0061	7.00	13.00	<0.1
MAR	0.0060	7.00	10.00	<0.1
APR	0.0061	10.00	20.00	0.0630
MAY	0.0055	7.00	8.00	0.2570
JUN	0.0055	7.00	7.00	0.1600
JUL	0.0042	5.00	7.00	0.3100
AUG	0.0062	3.00	4.00	0.3100
SEP	0.0063	4.00	5.00	0.2300
OCT	0.0067	3.00	5.00	0.0800
NOV	0.0060	5.00	5.00	0.1200
DEC	0.0082	6.00	7.00	0.1100

MT. HOPE WWTP

EFFLUENT QUALITY 1989



APPENDIX III

Mount Hope Sewage Treatment Plant
Grant County

October 11, 1976

Little Grant River

Surface area = 26.91 acres, Length = 14.8 miles, Gradient = 23 ft./mile.

A seepage and spring-fed stream beginning just south of Mount Hope and flowing southeast to enter the Grant River five miles west of Lancaster. This stream has a fairly large watershed; therefore, rapid runoff and bank erosion are major problems. The stream is characterized by large pools and long riffles. Algae growth is abundant in the wide, slow-flowing portions of the stream. The central three miles of this stream, which is more commonly known as "Milner Branch", is considered good trout water. Brown and rainbow trout are common in this section while forage fish are abundant throughout the stream. Smallmouth bass also provide a limited fishery in the lower one-half of the stream. A spring entering from the northwest six miles above the mouth is the nucleus of the "Milner Branch" trout resource. Some natural reproduction occurs here. This spring was impounded and used as a trout rearing pond by the Bloomington Sportsman's Club prior to 1955.

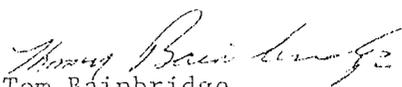
Recommendations

From the Mount Hope Lagoon outfall downstream to the west boundary of Section 10, T5N, R4W, the classification should be noncontinuous surface waters not supporting a balanced aquatic community. From this point and for the remainder of Little ~~Plate~~ River the classification should be continuous fish and aquatic life. *Grant*

The above recommendations represent a concurrence of opinion of the stream classification team who are as follows:

Dennis Iverson, District Engineer
Gene Van Dyck, Area Fish Manager
Tom Bainbridge, District Biologist
Roger Schlessler, Natural Resources Technician

Respectfully submitted,


Tom Bainbridge
Stream Classification Coordinator

TB:cb

Mount Hope

Little Grant River

The Q₇10 of the Little Grant River at the discharge site is .03 cfs.

Presently trout water does not start until a town road located in Section 15, T5N, R4W. At this site several springs enter the stream which adds substantial flow to the stream. Fish management has shocked approximately two miles above this town road and no trout were found. This section is out of the influence of the sewage treatment plant, and if a balanced aquatic community were present, trout would have been found.

There are several farms located on the upper end of the Little Grant River. One in particular has led to severe bank erosion and siltation of the stream.

The Fish and Aquatic Life Section should be moved up to Hwy. J, Section 5, T5N, R4W to protect any trout which may move up from the town road in Section 15.

Due to low flows and wide spread nonpoint source problems existing above Hwy. J, this section should remain classified as intermediate fish and aquatic life.

APPENDIX IV

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting until June 30, 1989, the permittee is authorized to discharge from outfall serial number 001.

Samples taken in compliance with the monitoring requirements specified below shall be taken at a representative location.

There shall be no discharge of visible or floating solids in other than trace amounts.

During any 30 consecutive days, the average effluent concentrations of BOD₅ and of total suspended solids shall not exceed 15% of the average influent concentrations, respectively.

EFFLUENT PARAMETERS	EFFLUENT LIMITATIONS					MONITORING REQUIREMENTS	
	Quantity-kg/day(lbs/day)		Other Limitations (Specify Units)			Sample Frequency	Sample Type
	Average	Maximum	Minimum	Average	Maximum		
Flow	-	-	-	-	-	Daily	Total Daily
BOD ₅ (monthly) ¹	2.3 (5.0) ¹	-	-	15 mg/l	-	3xWeekly	24 hr. Comp. ²
BOD ₅ (daily) ¹	-	4.5 (10.0) ¹	-	-	30 mg/l	3xWeekly	24 hr. Comp. ²
Suspended Solids (monthly)	3.0 (6.7) ¹	-	-	20 mg/l	-	3xWeekly	24 hr. Comp. ²
Suspended Solids (daily)	-	4.5 (10.0) ¹	-	-	30 mg/l	3xWeekly	24 hr. Comp. ²
Total Residual Chlorine ^{3,4}	-	-	-	-	0.5 mg/l	Daily	Grab
Fecal Coliform ^{3,4}	-	-	-	#/100 ml	-	1xWeekly	Grab
pH (daily)	-	-	6.0 s.u.	-	9.0 s.u.	Daily	Grab
Dissolved Oxygen (daily)	-	-	4.0 mg/l	-	-	Daily	Grab
Ammonia Nitrogen ¹							
(May-Oct) (weekly)	0.45 (1.0) ¹	-	-	3.0 mg/l	-	3xWeekly	24 hr. Comp. ²
Ammonia Nitrogen ¹							
(Nov-Apr) (weekly)	0.9 (2.0) ¹	-	-	6.0 mg/l	-	3xWeekly	24 hr. Comp. ²

¹Based on a design flow of 0.040 MGD.

²Samples shall be composited on a flow proportional basis.

³At such time as effluent limitations for fecal coliform and residual chlorine are established in the Grant-Platte River Basin Plan or by special study, this permit may be modified to incorporate either the final limitations or interim limitations and a compliance schedule to achieve the final limitations. In the interim, continuous disinfection shall be provided from May 1 through September 30 of each year.

⁴Monitoring shall be conducted during the operating months of May 1 through September 30 of each year. Monitoring shall not be required during the non-operating season.

APPENDIX V

Chapter NR 104

INTRASTATE WATERS — USES AND
DESIGNATED STANDARDS

NR 104.01	General (p. 33)	NR 104.07	Variations and additions applicable in the Lake Michigan district (p. 44)
NR 104.02	Surface water classifications and effluent limitations (p. 34)	NR 104.08	Variations and additions applicable in the north central district (p. 48)
NR 104.03	Classification of surface waters and antidegradation (p. 37)	NR 104.09	Variations and additions applicable in the west central district (p. 49)
NR 104.04	Provision for changes (p. 38)	NR 104.10	Variations and additions applicable in the northwest district (p. 52)
NR 104.05	Variations and additions applicable in the southern district (p. 38)		
NR 104.06	Variations and additions applicable in the southeast district (p. 41)		

Note: Chapter NR 104 as it existed on September 30, 1976 was repealed and a new chapter NR 104 was created effective October 1, 1976.

NR 104.01 General. (1) "It is . . . the goal of the state of Wisconsin that, wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish and wildlife and provides for recreation in and on the water be achieved by 1983. . . ." s. 147.01(1)(b), Stats. The long-range goal of Wisconsin water quality standards is, therefore, to permit the use of water resources for all lawful purposes. Surface waters which because of natural conditions are not conducive to the establishment and support of the complete hierarchy of aquatic organisms shall not be degraded below present levels, but shall be upgraded as necessary to support assigned uses. Most surface waters within the state of Wisconsin already meet or exceed the goals specified above. However, certain waters of the state may not meet these goals for the following reasons:

- (a) The presence of in-place pollutants,
- (b) Low natural streamflow,
- (c) Natural background conditions, and
- (d) Irretrievable cultural alterations.

(1m) Where it is determined that one or more of these factors may interfere with the attainment of the statutory objectives, a variance from the criteria necessary to achieve those objectives is provided.

(2) Surface waters within the boundaries of the state shall meet the standards for fish and aquatic life and recreational use with the variations and additions listed below in ss. NR 104.05 to 104.10. A system is provided within which small streams and other surface waters which cannot support high quality uses are granted a variance from the high quality criteria.

(3) Effluent limitations specified in this chapter shall be achieved by industrial, private and municipal dischargers by July 1, 1983 unless an earlier date is otherwise provided in a permit issued under s. 147.02, Stats. Municipal dischargers eligible for state or federal grant-in-aid

shall achieve the specified effluent limitations upon completion of construction or modification of facilities approved by the department of natural resources subsequent to adoption of this chapter unless otherwise provided in a permit issued under s. 147.02, Stats.

History: Cr. Register, September, 1976, No. 249, eff. 10-1-76; am. (1), Register, December, 1977, No. 264, eff. 1-1-78.

NR 104.02 Surface water classifications and effluent limitations. (1) HYDROLOGIC CLASSIFICATION. "Surface waters" as defined in s. NR 102.01(7), may be classified according to their hydraulic or hydrologic characteristics. For purposes of this chapter, surface waters will be classified by the department into one of the following categories:

(a) *Lakes or flowages*. This classification includes bodies of water whose current is more or less stagnant or which lacks a unidirectional current.

(b) *Diffused surface waters*. This classification includes any water from rains, intermittent springs or melting snow which flows on the land surface, through ravines, etc., which are usually dry except in times of runoff. This category does not include waters at the land surface in the vicinity of agricultural or wastewater irrigation disposal systems.

(c) *Wellands*. This classification includes areas where water is at, near, or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which have soils indicative of wet conditions.

(d) *Wastewater effluent channels*. This classification includes discharge conveyances constructed primarily for the purpose of transporting wastes from a facility to a point of discharge. Drainage ditches (including those established under ch. 88, Stats.) constructed primarily for the purposes of relieving excess waters on agricultural lands shall not be construed as effluent channels. Modifications made to natural watercourses receiving wastewater effluents for the purpose of increasing or enhancing the natural flow characteristics of the stream shall not be classified as effluent channels.

(e) *Noncontinuous streams*. This classification includes watercourses which have a defined stream channel, but have a natural 7-day Q_{\cong} flow of less than 0.1 cfs and do not exhibit characteristics of being perpetually wet without wastewater discharges.

(f) *Continuous streams*. This classification includes watercourses which have a natural 7-day Q_{\cong} flow of greater than 0.1 cfs or which exhibit characteristics of a perpetually wet environment, are generally capable of supporting a diverse aquatic biota and flow in a defined stream channel.

Note: The application of this classification system is not dependent on the the navigability properties of the watercourse, but is dependent upon the quantity-quality relationships of the surface water.

(2) WATER QUALITY CLASSIFICATION. (a) Whenever the goals as specified in s. 147.01(1)(b), Stats., cannot be attained because of conditions enumerated in s. NR 104.01(1), a variance may provided. Variances from a specific water quality criteria may be given in s. NR 104.05 et. seq. or a variance under one of the categories provided in this chapter may be specified.

(b) Practices attributable to municipal, industrial, commercial, domestic, agricultural, land development, or other activities shall be controlled so that waters regardless of their hydrologic and water quality classifications meet the general aesthetic and acute toxicity conditions in s. NR 102.02(1).

(3) VARIANCE CATEGORIES. (a) Surface waters not supporting a balanced aquatic community (intermediate aquatic life):

1. Applicability. This category of variance may be applied to either the continuous or noncontinuous stream hydrologic classification.

2. Surface water criteria. The following water quality criteria shall be met in all surface waters included in this variance category:

a. Dissolved oxygen shall not be less than 3 mg/l.

b. Ammonia nitrogen (as N) at all points in the receiving water shall not be greater than 3 mg/l during warm temperature conditions nor greater than 6 mg/l during cold temperatures to minimize the zone of toxicity and to reduce dissolved oxygen depletion caused by oxidation of the ammonia.

c. The pH shall be within the range of 6.0 to 9.0.

d. Other substances may not exceed concentrations determined in accordance with s. NR 102.02(1).

3. Effluent criteria. a. The effluent limitations determined necessary to meet the surface water criteria listed above are enumerated in table 1.

Parameter	Table 1			
	Monthly Average (mg/l)	Daily Maximum (mg/ l)	Weekly Average (mg/l)	Other (mg/l)
BOD ₅	15	30	-	-
Total Suspended Solids	20	30	-	-
NH ₃ -N (May-October)	-	-	3	-
NH ₃ -N (November-April)	-	-	6	-
Dissolved Oxygen	-	-	-	4 (minimum)

b. Unless otherwise specified in table 1 above, effluent limitations for sewage treatment works shall be as adopted in ch. NR 210.

c. In addition to the effluent limitations enumerated in table 1 above, effluent limitations for these and any other substance necessary to protect assigned uses shall be met.

(b) Marginal surface waters: 1. Applicability. This variance category may be applied to the continuous or noncontinuous stream hydrologic classification, except that it shall be applied to all surface waters classified as effluent channel, wetland or diffuse surface water.

2. Surface water criteria. The following surface water quality criteria shall be met in all surface waters included in this variance category:

a. Dissolved oxygen shall not be less than 1 mg/l.

b. The pH shall be within the range of 6.0 to 9.0.

c. Other substances may not exceed concentrations determined in accordance with s. NR 102.02(1).

3. Effluent criteria. a. The effluent limitations determined necessary to meet the surface water criteria listed above are enumerated in table 2.

Parameter	Monthly Average (mg/1)	Weekly Average (mg/1)	Other (mg/1)
BOD ₅	20	30	-
Total Suspended Solids	20	30	-
Dissolved Oxygen	-	-	4 (minimum)

b. Unless otherwise specified in table 2 above, effluent limitations for sewage treatment works shall be as adopted in ch. NR 210.

c. In addition to the effluent limitations enumerated in table 2 above, effluent limitations for these and any other substance necessary to protect assigned uses shall be met.

(4) OTHER CLASSIFICATIONS AND EFFLUENT CRITERIA. (a) *Surface waters significant to the environmental integrity of the state or region.* Under all hydrologic categories, the department reserves the right to require other effluent limitations, including allocation of wasteloads for organic material, toxicants and chlorine residuals if it is determined that the specified surface water is important to the overall environmental integrity of the area. In waters identified as trout streams, located in scientific areas or wild and scenic areas, providing endangered species habitat or of high recreational potential, effluent criteria will be evaluated on a case-by-case basis.

(b) *Surface waters classified for fish and aquatic life.* 1. Streams. Where flowing streams or rivers are specified to achieve fish and aquatic life criteria, wasteload allocation for organic material, toxicants and chlorine residuals shall determine effluent criteria necessary to achieve that standard.

2. Lakes and flowages. Effluent characteristics for discharges to lakes or flowages shall be based upon an evaluation of water quality necessary to protect fish and aquatic life taking into account mixing zone and nutrient removal criteria.

3. Minimum effluent criteria. If it can be reasonably demonstrated that the quality of the surface water is independent of a wastewater discharge, effluent limitations established under ss. 147.04 and 147.06, Stats., shall apply.

(c) *Wastewater treatment lagoons.* Effluents from fill-and-draw wastewater treatment lagoons or domestic waste stabilization ponds discharging to waters receiving a variance in this chapter may be permitted to vary from the limitations specified in table 1 or 2 provided the following conditions are met:

1. The discharge occurs only during the spring and fall of the year when the flow in the receiving water is normally high, and the temperature is low. The rate of discharge shall not exceed that specified in a permit under s. 147.02, Stats., or where no rate is indicated, the allowable discharge quantities shall be determined by the department based upon current evaluation of the receiving water.

2. In lieu of the previous conditions, the discharge from a fill-and-draw lagoon may occur at any time provided the rate does not exceed the assimilative capacity of the receiving water as specified in a permit under s. 147.02, Stats.

3. The dissolved oxygen in the effluent is maintained at a level greater than or equal to 4 mg/l, and the permitted rate of discharge shall be such that the dissolved oxygen and ammonia nitrogen criteria necessary to sustain fish and aquatic life are maintained in the stream during the period of discharge.

4. The effluent limitations do not exceed those established under ss. 147.04 and 147.06, Stats.

(5) CHANGES IN CLASSIFICATION. Surface waters which exhibit changing hydrologic and quality characteristics shall be classified accordingly. Effluent criteria for upstream discharges shall be based upon the most critical downstream classification and shall be specified by the department either on the basis of justified inference or by the application of a wasteload allocation analysis. Any subsequent changes in a stream's morphology or potential may necessitate the reevaluation of the classification.

History: Cr. Register, September, 1976, No. 249, eff. 10-1-76; am. Tables 1 and 2, (2), (3) (a) 2a and d, (3) (b) 2a and c, (4) (c), Register, December, 1977, No. 264, eff. 1-1-78; am. (3) (a) 2a, Register, June, 1978, No. 270, eff. 7-1-78; am. (1) (c), Register, June, 1984, No. 342, eff. 2-1-84; r. (3) (a) 2. b. to d., (b) 2. b. and c., renum. (3) (a) 2. e. to g. and (3) (b) 2. d. and e. to be (3) (a) 2. b. to d. and (3) (b) 2. b. and c. and am (3) (a) 2. g. and (3) (b) 2. c., am. (3) (a) 3. a. and (3) (b) 3. a., Register, October, 1986, No. 370, eff. 11-1-86.

NR 104.03 Classification of surface waters and antidegradation. In no case shall the effluent criteria specified herein cause degradation of surface water quality below present levels. Surface waters which, be reason of their hydrologic classification, are permitted to receive a new effluent of a quality specified in NR 104.02 shall not receive such effluent unless it has been affirmatively demonstrated to the department that such degradation is necessary to protect the public health or to maintain or restore the environmental integrity of a higher value resource. In no case shall a new effluent interfere with or become injurious to any assigned uses made of or presently possible in any surface water.

History: Cr. Register, September, 1976, No. 249, eff. 10-1-76; am. Register, December, 1977, No. 264, eff. 1-1-78.

NR 104.04 Provision for changes. The surface waters specified in this chapter are not intended to be an exclusive listing nor do the specified effluent criteria purport to meet the 1983 water quality goals set forth in ch. 147, Stats. Additions to or deletions from these listings may be made based upon the accumulation of information necessary to make such determination and in accordance with the requirements of ch. 227, Stats.

History: Cr. Register, September, 1976, No. 249, eff. 10-1-76.

NR 104.05 Variances and additions applicable in the southern district. Subject to the provision of NR 104.04, intrastate surface waters in the southern district counties of Columbia, Dane, Dodge, Grant, Green, Iowa, Jefferson, Lafayette, Richland, Rock and Sauk shall meet the criteria for fish and aquatic life and recreational use with exceptions and additions as follows:

Register, October, 1986, No. 370

(1) ADDITION. The public water supply standard shall be met on the Wisconsin river in section 8, township 10 north, range 7 east.

(2) VARIANCE. Surface waters in the southern district subject to a variance under NR 104.02(3) are listed in table 3.

TABLE 3
SOUTHERN DISTRICT

Surface Water (Facility Affected)	Reach Description	Hydrologic Classification	Applicable Criteria (1)	Effluent Limitations (2)
1. Goose Lake Tributary (Arlington)	Tributary upstream from Goose Lake	Noncontinuous	II	Effluent limitations to be determined
2. Tributary - East Branch Pecatonica River (Barneveld)	From the Barneveld STP downstream to the East Branch Pecatonica River	Noncontinuous	II	B
3. Williams Creek (Blue Mounds)	From the Blue Mounds STP downstream to the east line of Sec. 14, T6N, R5E	Noncontinuous	I	A
4. Sanders Creek (Boscobel)	From the Boscobel STP downstream to the Wisconsin River	Continuous	I	A
5. Allen Creek (Brooklyn)	Upstream from Butts Corner Road	Continuous	I	A
6. Kummel Creek (Brownsville)	From Brownsville STP downstream to CTH "HH"	Noncontinuous	I	A
7. Spring Brook and Tributary (Clinton)	Tributary from the Clinton STP to Spring Brook	Effluent ditch	II	B
8. Tributary - Dead Creek (Clyman)	Spring Brook in Clinton Township	Continuous	II	NA
9. West Branch Pecatonica River (Cobb)	Tributary from Clyman STP downstream to Dead Creek	Noncontinuous	II	B
	From the Cobb STP downstream to confluence with an unnamed tributary NE¼, NW¼, Sec. 2, T5N, R1E.	Continuous	I	A
10. Door Creek (Cottage Grove)	Door Creek upstream from STH 12 & 18	Noncontinuous	I	A
	From STH 12 & 18 downstream to Lake Kegonsa	Continuous	I	NA
11. Coon Branch (Cuba City)	Upstream from westerly tributary approximately 1 mile above STH "11"	Noncontinuous	II	B
	Downstream from above tributary to confluence with Galena River	Continuous	I	NA
12. Mud Creek and Tributary (Deerfield)	Tributary from Deerfield STP to confluence with Mud Creek	Effluent ditch	II	B
	Mud Creek from above tributary downstream to confluence with Koshkonong Creek	Continuous	I	

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13. Indian Creek and Tributary (Dickeyville)	Tributary from Dickeyville STP to confluence with Indian Creek	Noncontinuous	II	NA
	Indian Creek from above tributary downstream to confluence with Platte River	Continuous	I	A
14. Dodge Branch (Dodgeville)	Upstream from a point approximately 3,500 feet downstream from STH "191"	Noncontinuous	I	A
15. Tributary - North Branch Crawfish River (Fall River)	Tributary from the Fall River STP downstream to the North Branch Crawfish River	Noncontinuous	II	Effluent limitations to be determined
16. Gregory Branch (Fennimore)	Upstream from STH "61"	Continuous	I	A
17. Tributary - Rock River (Hidden Meadows Mobile Home Park)	Tributary from the Hidden Meadows Mobile Park STP discharge downstream to the Rock River	Noncontinuous	II	B
18. Big Spring Branch (Highland)	Upstream from the North line of Sec. 19, T7N, R1E	Noncontinuous	I	A
19. Pedler Creek (Iowa Co. Nursing Home)	From the Iowa Co. Nursing Home STP downstream to the confluence with an unnamed tributary, SE¼, SE¼, Sec. 34, T6N, R2E	Noncontinuous	I	A
20. Tributary - Wildcat Creek (Iron Ridge)	From the Iron Ridge STP downstream to Wildcat Creek	Noncontinuous	II	B
21. Tributary & Rock River Tributary (Ixonian San. Dist.)	From the Ixonian San. Dist. STP downstream to the juncture with the Rock River Tributary	Noncontinuous	II	B
	Rock River Tributary from above tributary to confluence with Rock River	Continuous	II	NA
22. Tributary - Menominee River (Jamestown San. Dist. #2)	From Jamestown San. Dist. #2 STP to the Menominee River	Diffused surface water	II	B
23. Dead Creek (Juneau)	Upstream from CTH "M"	Effluent ditch	II	B
	From CHT "M" to St. Helena Rd.	Continuous	I	NA
24. Sinipee Creek (Kieler San. Dist. #1)	From Kieler lagoon outfall to Bluff Road	Continuous	I	A
25. Rock Creek (Lake Mills)	From the Lake Mills STP downstream to CTH "V"	Noncontinuous	I	A
	From CTH "V" to Harper's Mill Pond	Continuous	I	NA
26. Tributary - Pigeon Creek (Lancaster)	Tributary from Lancaster STP downstream to south line of section 10	Continuous	II	Effluent limitations to be determined
	Tributary from above point downstream to confluence with Pigeon Creek	Continuous	I	
27. Tributary - Baker Creek (Lebanon San. Dist.)	From Lebanon STP downstream to Baker Creek	Noncontinuous	II	B
28. Little Platte River (Livingston)	From Livingston STP downstream to New California Road	Noncontinuous	I	A
29. Tributary-East Branch Rock River (Lomira)	Tributary upstream from confluence with East Branch Rock River.	Noncontinuous	I	A
30. (Madison Metro Sewerage Commission)	From the STP outfall aerator to the Oregon Branch	Effluent ditch	II	Effluent limitations to be determined

31. Brewery (Furnance) Creek (Mineral Point)	Brewery Creek upstream from confluence with Mineral Point Branch	Continuous	II	B (Note: the above limitation shall remain in effect until significant nonpoint source problems can be corrected)
32. Tributary - Blue River (Montfort)	From the Montfort STP downstream to the Blue River	Continuous	I	A
33. Little Grant River (Mount Hope)	From the Mt. Hope STP downstream to the west boundary of Sec. 10, T5N, R4W	Noncontinuous	I	A
34. West Branch Sugar River (Mt. Horeb)	From Mt. Horeb STP downstream to CTH "JG".	Continuous	I	A
35. Tributary - Austin Branch (Orchard Manor)	Drainage from Orchard Manor outfall to Austin Branch	Diffused surface waters	II	Effluent limitations to be determined
36. Oregon Branch - Badfish Creek (Oregon)	From the Oregon outfall downstream to juncture with the Madison Met effluent ditch	Noncontinuous	II	Effluent limitations to be determined
	From this point downstream to CTH "A"	Continuous	I	
37. Swan Creek and Tributary (Orfordville)	Tributary from Orfordville STP outfall to Swan Creek.	Effluent ditch	II	NA
	Swan Creek from confluence with above tributary to Dicky Road.	Noncontinuous	I	A
38. Tributary - Blake Fork (Patch Grove)	Tributary from the Patch Grove STP downstream to Blake Fork	Noncontinuous	I	A
39. Tributary - Honey Creek (Plain)	From the Plain STP downstream to Honey Creek	Continuous	I	Effluent limitations to be determined
40. Randolph Branch - Tributary	From the Randolph STP downstream to Beaver Creek Tributary	Noncontinuous	II	Effluent limitations to be determined
Beaver Creek (Randolph)	Tributary to Beaver Creek upstream from Beaver Creek	Noncontinuous	I	A
41. Tributary-Beaver Dam River (Reeseville)	Tributary from Reeseville STP to confluence with Beaver Dam River	Noncontinuous	I	A
42. Conley - Smith Creek (Ridgeway)	From the Ridgeway STP downstream to the south boundary of Sec. 14, T6N, R4E	Noncontinuous	I	Effluent limitations to be determined
43. Tributary - Rocky Run Creek (Rio)	From the Rio STP downstream to Rocky Run Creek	Noncontinuous	II	B
44. Tributary - Narrows Creek (Sauk Co. Health Care Center)	From the Sauk County Health Care Center STP downstream to Narrows Creek	Noncontinuous	I	A
45. Duck Creek and Tributary (Sullivan)	Tributary from the Sullivan STP to Duck Creek	Effluent channel	II	Effluent limitations to be determined
	Duck Creek from the effluent ditch downstream juncture with northerly drainage ditch in Sec. 5, T6N, R16E	Noncontinuous	I	
46. Koshkonong Creek (Sun Prairie)	Koshkonong Creek upstream from first bridge above Sun Prairie STP	Noncontinuous	II	Effluent limitations to be determined
	Koshkonong Creek from above location to CTH "T".	Continuous	II	
47. Badger Mill Creek (Verona)	Badger Mill Creek from road at Verona STP downstream to STH "69".	Continuous	I	A

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48. Tributary - Murphy Creek (Wisconsin Department of Health & Social Services - Oakwood State Camp)	Tributary from Oakwood State Camp STP downstream to Murphy Creek	Noncontinuous	II	B
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- (1) Criteria I requires the maintenance of surface water criteria specified in NR 104.02(3)(a)2.
 Criteria II requires the maintenance of surface water criteria specified in NR 104.02(3)(b)2.
- (2) Effluent limitation A requires those limits specified in NR 104.02(3)(a)3.
 Effluent limitation B requires those limits specified in NR 104.02(3)(b)3.
 NA—Not applicable

History: Cr. Register, September, 1976, No. 249, eff. 10-1-76; am. table 3, r. (3), Register, December, 1977, No. 264, eff. 1-1-78.

NR 104.06 Variances and additions applicable in the southeast district. Subject to the provisions of NR 104.04, intrastate surface waters in the southeast district counties of Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington and Waukesha shall meet the criteria for fish and aquatic life and recreational use with exceptions and additions as follows.

(1) VARIANCE. Surface waters in the southeast district subject to a variance under NR 104.02(3) are listed in table 4.

(2) OTHER VARIANCES. (a) The following surface waters in the southeast district shall meet the standards for fish and aquatic life except that the dissolved oxygen shall not be lowered to less than 2 mg/l at any time, nor shall the membrane filter fecal coliform count exceed 1,000 per 100 ml as a monthly geometric mean based on not less than 5 samples per month nor exceed 2,000 per 100 ml in more than 10% of all samples during any month:

1. Underwood creek in Milwaukee and Waukesha counties below Juneau boulevard.
2. Barnes creek in Kenosha county.
3. Pike creek, a tributary of Pike river, in Kenosha county.
4. Pike river in Racine county.
5. Indian creek in Milwaukee county.
6. Honey creek in Milwaukee county.
7. Menomonee river in Milwaukee county below the confluence with Honey creek.
8. Kinnickinnic river in Milwaukee county.
9. Lincoln creek in Milwaukee county.

(b) The following surface waters in the southeast district shall meet the standards for fish and aquatic life except that the dissolved oxygen shall not be lowered to less than 2 mg/l at any time, nor shall the membrane filter fecal coliform count exceed 1,000 per 100 ml as a monthly geometric mean based on not less than 5 samples per month nor exceed 89DF at any time at the edge of the mixing zones established by the department under s. NR 102.03 (4):

Mount Hope Sewage Treatment Plant
Grant County

October 11, 1976

Little Grant River

Surface area = 26.91 acres, Length = 14.8 miles, Gradient = 23 ft./mile.

A seepage and spring-fed stream beginning just south of Mount Hope and flowing southeast to enter the Grant River five miles west of Lancaster. This stream has a fairly large watershed; therefore, rapid runoff and bank erosion are major problems. The stream is characterized by large pools and long riffles. Algae growth is abundant in the wide, slow-flowing portions of the stream. The central three miles of this stream, which is more commonly known as "Milner Branch", is considered good trout water. Brown and rainbow trout are common in this section while forage fish are abundant throughout the stream. Smallmouth bass also provide a limited fishery in the lower one-half of the stream. A spring entering from the northwest six miles above the mouth is the nucleus of the "Milner Branch" trout resource. Some natural reproduction occurs here. This spring was impounded and used as a trout rearing pond by the Bloomington Sportsman's Club prior to 1955.

Recommendations

From the Mount Hope Lagoon outfall downstream to the west boundary of Section 10, T5N, R4W, the classification should be noncontinuous surface waters not supporting a balanced aquatic community. From this point and for the remainder of Little Platte River the classification should be continuous fish and aquatic life.

The above recommendations represent a concurrence of opinion of the stream classification team who are as follows:

Dennis Iverson, District Engineer
Gene Van Dyck, Area Fish Manager
Tom Bainbridge, District Biologist
Roger Schlessler, Natural Resources Technician

Respectfully submitted,


Tom Bainbridge
Stream Classification Coordinator

TB:cb

PRAIRIE DU CHIEN 19 MI.
BRIDGEPORT 12 MI.

M O U N T H O P E

L I T T L E

R I V E R

Water Tank
Mount Hope

M I L L

Castle Cem.

Rose Vol.

27

26

4759

57°30"

4758

Quarry

River

Little
Grant

34

35

4757

T. 6 N.

T. 5 N.

W. 1/4 (W. 1/4 SECTION)





MOUNT HOPE 2.9 MI. (MOUNT HOPE) 2869 IV NE T. 5 N. T. 6 N. 4757 4758 5730' MOUNT HOPE 0.7 MI. 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

2869 IV NW
(BLOOMINGTON)

4755

4754

55'

4753

4752
330 000
FEET



L I T T L E G R A N T

Reclassification of the Little Grant River

The Little Grant River is a seepage and spring-fed stream beginning just south of Mount Hope. The stream has a fairly large watershed; therefore rapid runoff and bank erosion are major problems. The stream is characterized by large pools and long riffles. Algae growth is abundant in the wide, slow-flowing portions of the stream.

Presently trout waters do not start until a town road located in Section 15, T5N, R4W. Fish management has shocked approximately 2 miles above this town road and no trout were found. This section is out of the influence of the sewage treatment plant, and if a balanced aquatic life were present, trout would have been found.

The Fish and Aquatic Life Section should be moved up to Hwy. J, Section 5, T5N, R4W to protect any trout which may move up from the town road in Section 15. A large tributary joins the Little Grant River at this point (see attached map) which adds substantial flow to the stream.

DATE: _____
STREAM: Little Grant River

DISCHARGER: Mount Hope

COUNTY: Grant

CLASSIFICATION RECOMMENDATION

It is recommended that the Little Grant River be classified as follows:

- 1) Noncontinuous, intermediate: From the Mount Hope outfall downstream to ~~Section 5~~ Section 5, T.5N., R.4W.
- 2) Continuous, fish and aquatic life: From Section 5, T.5N., R.4W. ~~to~~ for the remainder of the stream

ADDITIONAL COMMENTS

ATTACHMENTS

Biological Data Summary
Chemical Data Summary

REFERENCES USED

Original Stream Classification
Surface Water Resources of Grant
County

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
STREAM CLASSIFICATION WORKSHEET

Receiving Watercourse : Little Grant River
District : Southern
Location : From Section 28, T.6N., R.4W. to
Section 10, T.4N., R.4W.
Major Basin : Grant
Discharger : Mount Hope
Flow (Design & Actual) :
Type of Treatment :

Recommended No.	Reach	Classification Location
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Date of Field Observations

Personnel :

Class :

Other Persons Contacted :

Noted by WQES :

Date :

PHYSICAL FEATURE		STREAM CLASS REACHES				
		1	2	3	4	5
Watershed Character (maps or observations)	Size (sqmi)	24.65				
	Vegetation Type					
	Predominant Land Use	57% cropland; 32% pasture & open space, 9% woodland				
	Wetland Type					
Hydrologic Features (indicate if estimates or actual measurements)	Width (ave)	15 feet				
	Depth (ave/max)	0.8 feet				
	Velocity (est)(fps)					
	Flow (cfs)	Slow - Moderate				
	Pools or Refuges for Fish No. observed, depth	The stream is characterized by large pools and long riffles				
Bottom Type	Silt	X				
	Sand					
	Gravel	X				
	Rubble	X				
Other						
Control Structures or Obstructions	None					
Irretriv. Channel Alterations						
Discharge Q ₇₁₀		0.03 cfs				

BIOLOGICAL CHARACTERISTICS

STATIONS ON RECEIVING WATER

	1	2	3	4	5	6
Bank Vegetation						
Aquatic Macrophytes						
Invertebrates		See attached biological summary			data	
Phytoplankton (algae)	Abundant					
Fish Observed	Forage Fish	Forage Fish Brown + Rainbow Trout	Forage Fish Small-mouth bass			
Fishery Classification						

BIOLOGICAL DATA FOR THE LITTLE GRANT RIVER

<u>Site Description and Date</u>	<u>Bottom</u>	<u>Current</u>	<u>Organisms / Sq. Ft.</u>					
			<u>Intolerant</u>		<u>Tolerant</u>		<u>Very Tolerant</u>	
			Spp.	No.	Spp.	No.	Spp.	No.
0.1 miles above CTH "JJ" (River Mile 13.9) 1955	Silt	Sluggish	3	24	2	28	1	4
*** CTH "JJ" (River Mile 13.8) 12-3-75	Bedrock	Moderate	2*	24**	6*	424**	2*	16**
0.2 miles below CTH "JJ" (River Mile +13.6) 1955	Silt	Sluggish	0	-	0	-	1	760
(River Mile -13.6) 1955	Silt	Sluggish	0	-	0	-	1	2,528
0.3 miles below CTH "JJ" (No Flow) 12-30-70	-	-	-	-	-	-	-	-
3/4 mile below CTH "JJ" (River Mile 13.0) 8-14-64	Rock & Gravel	Moderate	0	0	7	636	3	208

* Organisms not necessarily identified to species level

** Does not represent population density

*** Sewage Treatment Plant Located at RM 13.7+

CHEMICAL DATA FOR THE LITTLE GRANT RIVER

Site Description and Date	BOD ₅ (mg/l)	Temp. (°C)	pH (s.u.)	D.O. (mg/l)	Fecal Coliform (MFCC per 100 ml)
Hwy 18 above					
Mt. Hope					
(River Mile 14.3)					
7-21-64 (No Flow)	-	-	-	-	-
8-14-64 (No Flow)	-	-	-	-	-
8-26-64 (No Flow)	-	-	-	-	-
6-22-70 (No Flow)	-	-	-	-	-
7-6-70 (No Flow)	-	-	-	-	-
7-28-70 (No Flow)	-	-	-	-	-
CTH "JJ"					
(River Mile 13.8)					
8-12-55 (No Flow)	2.2	17	7.1	8.2	100,000
9-20-55 (No Flow)	2.9	15	-	7.6	100,000
7-21-64 (No Flow)	-	-	-	-	-
8-14-64 (No Flow)	-	-	-	-	-
8-26-64 (No Flow)	-	-	-	-	-
10-14-64	1.6	11.5	7.8	9.6	25,000
6-22-70	7.8	18	7.8	8.0	27,000
7-6-70	3.2	20	7.8	8.4	9,000
7-28-70	8.0	22	7.6	6.8	76,000
4-16-75	1.5	8.0	-	10.6	60 *
8-4-75	5.5	23.0	-	7.5	12,000 *
12-3-75	2.4	3.7	-	14.2	210 *
0.1 mile below CTH "JJ"					
(River Mile 13.7)					
6-22-70	2.8	19	7.8	8.3	6,200
7-6-70	3.2	19	7.8	7.7	2,500
7-28-70	5.0	22	7.6	7.4	400,000
4-16-75	2.5	8.0	-	8.3	1,200 *
8-4-75	7.0	25.0	-	5.5	12,000 *
12-3-75	3.3	2.5	-	13.2	560 *
0.2 mile below CTH "JJ"					
(River Mile 13.6)					
8-12-55	2.2	17	7.1	8.2	100,000
Private Road Bridge					
(River Mile 13.5)					
7-21-64	200	24	7.3	0.0	2,100,000
8-26-64	204	18	7.0	1.0	1,300,000
10-14-64	335	13	6.7	0.65	1,600,000
6-22-70	3.2	19	7.8	8.5	2,400
7-6-70	4.1	19	7.8	7.7	1,100
7-28-70	2.0	21	7.8	8.1	17,000
River Mile 13.3					
8-12-55	13.6	22	7.1	3.0	1,000,000
9-20-55	84.8	17	7.7	2.0	100,000
CTH "J"					
River Mile 13.0					
8-14-64	9.4	19	7.8	6.85	40,000
10-14-64	2.5	10	8.3	11.05	10,000

* Value measured in M-FCAGAR/100 ml

** Sewage Treatment Located at RM 13.7+

Main Stream of Little Grant River

Tributaries

