

Post-It™ brand fax transmittal memo 7671		# of pages ▶ 7
To	LAURA BUS - WT/2	
From	CRAIG ROESLER	
Co.	Co.	
Dept.	Phone #	
Fax #	Fax #	

TO: FILES

FROM: Larry Prens

DATE: June, 1991

SUBJECT: GRANDVIEW STP SITE REVIEW

Description:

The Grandview wastewater treatment facility consists of three sealed aerated ponds operated in series. Operation of the STP results in a continuous discharge of treated domestic wastewater to a dry run tributary to the Bibon Marsh. The discharge is located west of the plant. The intermittent tributary, which drains two adjacent fields, is appropriately classified as marginal surface water.

Summary:

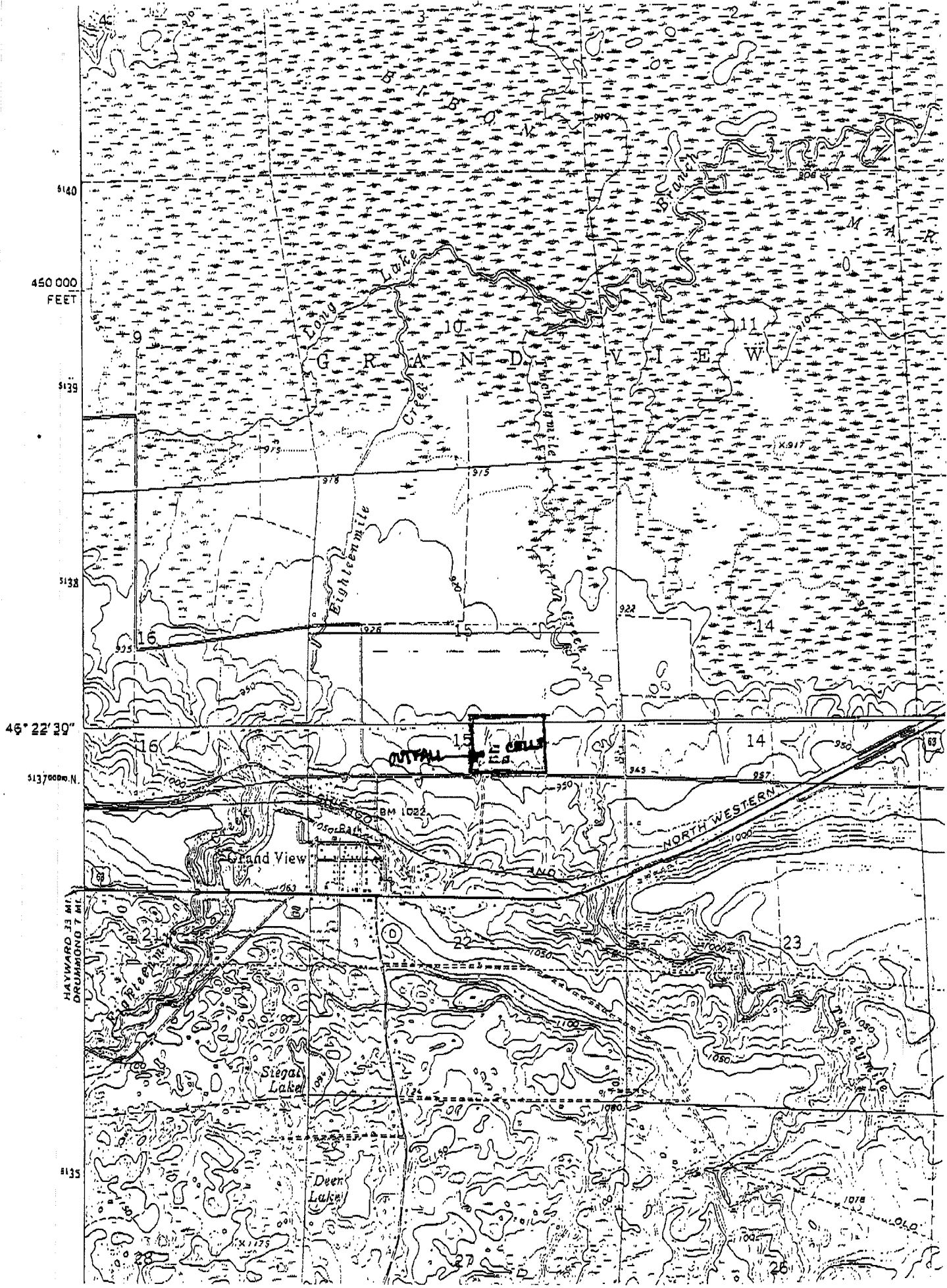
Water chemistry information obtained during three site inspections is attached at the end of this summary. Sampling was conducted once in the summer of 1989, and twice in the spring of 1991.

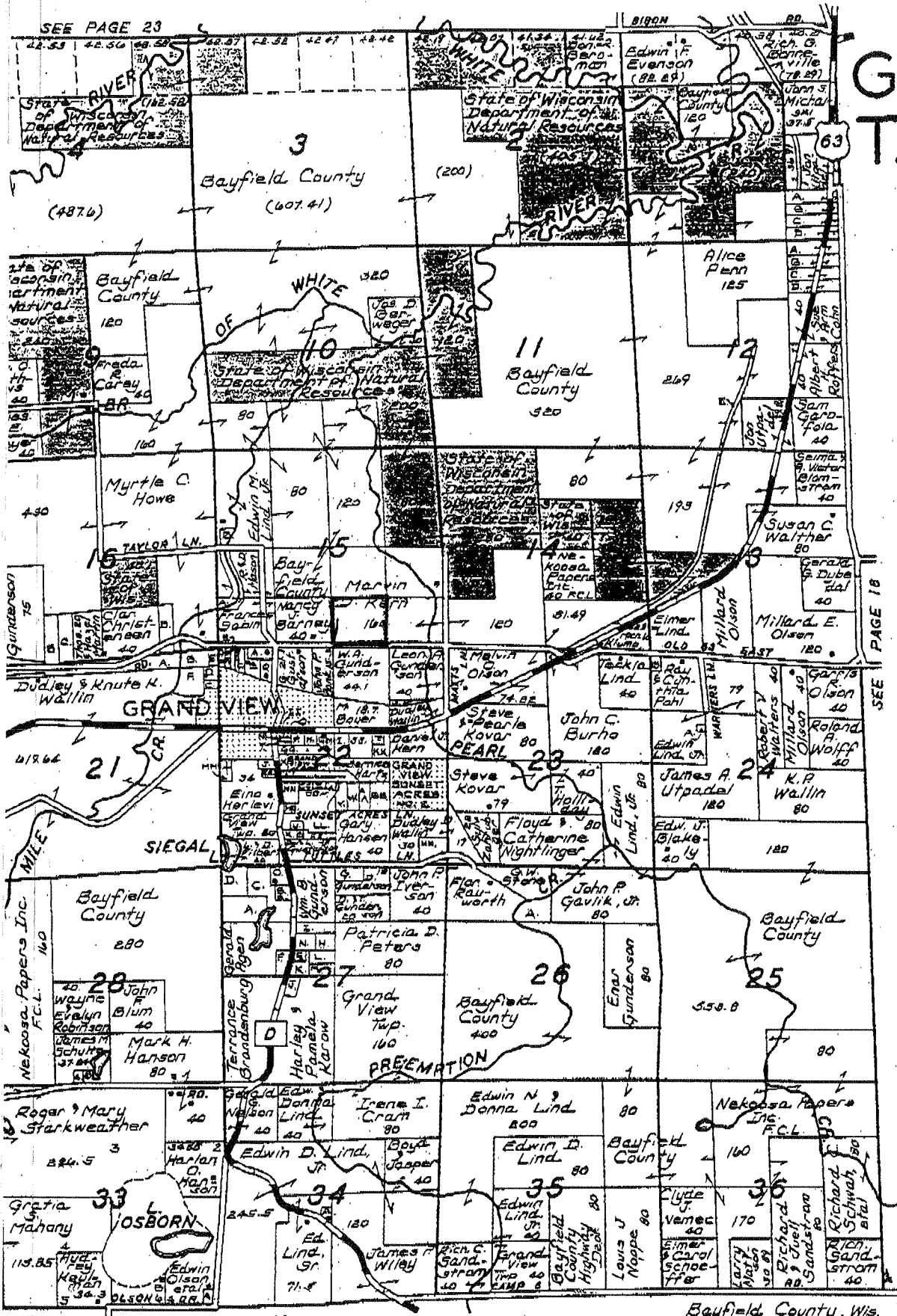
Elevated nutrient levels and a single, high BOD₅ level were found to be present in the ditch below the discharge overflow. This is indicative of the limited dilution that occurs during periods of reduced runoff. Estimated flow in the ditch above the discharge was 0.05 cfs in 1989, and 0.15 cfs in 1991.

The ditch is channelized for a distance of approximately 750 feet below the discharge overflow. Channelization is first lost in a low grassy area that drains into a diffuse ash swamp. In 1989, standing water was present in the grassy area, but not in the ash swamp. Soil conditions in the ash swamp were saturated.

Habitat rating of the ditch placed it in a fair, to near poor category. Lack of both flow and riffle areas, and the shallowness of pools were the most limiting of the evaluation standards considered.

SITE	Parameters																				
	TIME	DEPTH	FLOW E ³ /S ²	DO mg/L	TEMP C	PH	BOD ₅ mg/L	Ca mg/L	Chloride mg/L	COND UMOS	HARD mg/L	Mg mg/L	NH ₃ mg/L	NO ₂ +NO ₃ mg/L	TKN mg/L	PHOS mg/L	DISS PHOS mg/L	SULF mg/L	SOLIDS mg/L	MPCC /cc	
							July 27, 1989														
A Ditch above STP	13:45	0	Est .05	8.6	15.2	7.9	0.9	34	12	264	130	10	0.03	0.67	<0.2	0.05	0.043	2	30		
B STP Discharge Overflow	13:55	0		7.5	24.1	8.4	<6	39	34	381	150	12	0.1	1.2	1.1	0.38	0.31	9	20		
D-1 Ditch 200' below Discharge	14:10	0		7.7	19.4	7.9	0.9	36	19	298	140	11	0.1	0.7	0.3	0.14	0.117	3	120		
D-2 Ditch 620' below Discharge	14:30	0		7.6	19.5	8.0	1.5	36	18	287	140	11	0.1	0.6	0.3	0.13	0.10	6	230		
D-3 750' below Discharge			Channel	Disappears				Into				Diffuse			Ash		Swamp				
							May 16, 1991														
A Ditch above STP	13:30	0	Est 0.15	9.5	14.3	7.9	1.8	31	17	290	120	10	0.004	0.466	0.2	0.03	—	2	410	111	
B STP Discharge Overflow	13:35	0		4.0	17.2	8.1	17	38	58	578	140	12	2.94	9.21	7.9	3.52	0.022	18	30	136	
G0-1 Ditch 60' below Discharge	13:37	0		8.3	14.5	7.9	<10	33	23	329	130	11	0.455	1.83	1.4	0.63	0.55	2	10	114	
							June 13, 1991														
A Ditch above STP	14:00	0		8.9	13.4	7.8	1.5	34	13		130	11	0.04	0.479	0.3	0.06	0.031	14	10	113	
G-01 Ditch 60' below Discharge	14:10	0		8.3	15.0	7.8	3.4	34	34		130	12	0.056	1.27	0.8	0.74	0.64	22	40	118	





NORTH PART GRAND VIEW T.45N.-R.6W.

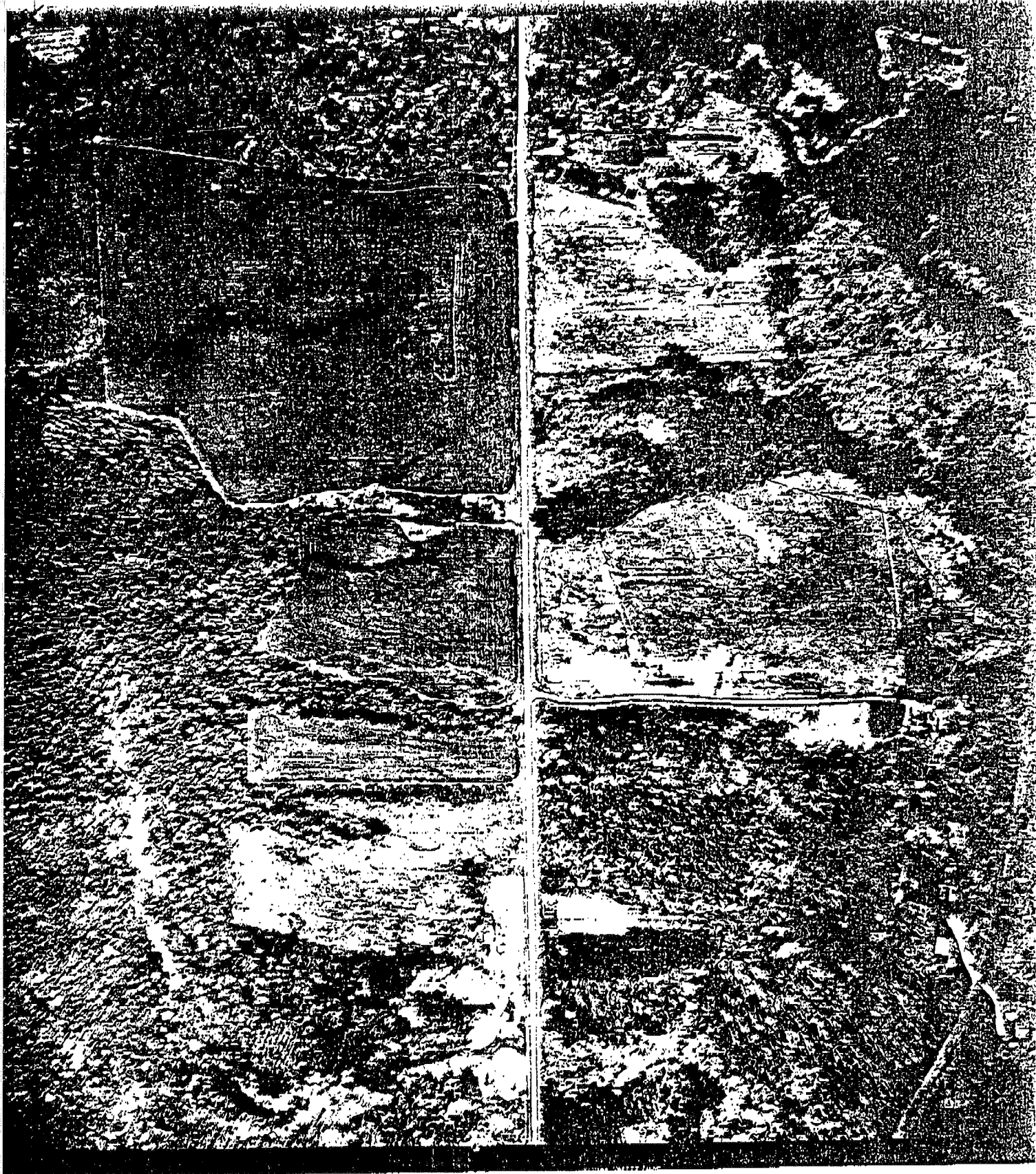
SMALL TRACTS
NORTH PART GRAND VIEW
T.45N. - R.6W.

- SEC. 1
 A - Dekker, Julia
 B - Domitrovich, Frank
 B - Domitrovich, Mary
 C - Wolf, Agnes
 D - Americk, Paul
- SEC. 12
 A - Amich, Emil - 10
 B - Amich, Steve - 10
 C - Amich, Roy - 10
 D - Amich, Mike Jr. - 10
 E - Chicago St. Paul & N
- SEC. 15
 A - Bayfield County
 B - Taylor, Paul Jr.
- SEC. 16
 A - Moore, Don
 B - Mattakat, Thos. - 10
 C - Mattakat, J. V. - 10
 D - Fibert, James - 10
- SEC. 18
 A - Heigesen, Milton - 3.5
- SEC. 19
 A - Kissel, F. L. - 5.01
 B - Berry, Tim L. - 1.5
 C - Anderson, J. L. - 5.0
- SEC. 20
 A - Lee, Terry
 B - Burris, Wm.
 B - Burris, Deibert
 C - Harris, Caroline - 8
 D - Pearson, Chet - 8
 E - Pearson, Homer - 8
 F - Hanson, Adeline - 8
 G - Hanson, John - 8
 G - Pritzl, Pat - 8
- SEC. 21
 A - Yankee, Virginia - 7
 A - Yankee, Ervin - 7
 B - Gunderson, Daniel
 C - Giltzad, A. B. - 1
 D - Charmin Paper Prod
 E - Melrhofer, Kath.
 F - Giltzad, B. E.
- SEC. 22
 A - Ellingson, Francis -
 B - Howe, Myrtle
 C - Pusateri, Som. - 2.35
 D - Sabin, Francis - 7
 E - Gunderson, Melvin
 F - Melrhofer, Harold
 G - Merenchin, Robert
 H - Renoos, Edwin
 I - Gustafson, Les - 1
 I - Gustafson, Fritz - 2
 K - Melland, Glenn J.
 L - Wilcox, Willis
 M - Lair, Eugene
 N - Nicholson, Elva - .11
 O - Hartz, Bernice
 P - Larson, Ragnar
 P - Larson, Thomas
 Q - Bayfield County
 R - Lake Superior Dist.
 S - Gustafson, Don
 T - Bjork, Ron

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Bayfield County, Wis.



Department of Natural Resources

STREAM SYSTEM HABITAT RATING FORM
Form 3200-68 1-95

Stream Grandview Trib Reach Location Just below STP Reach Score/Rating 180 / Fair
 County Bayfield Date 5/16/91 Evaluator FK + LP Classification _____

Rating Item	Category			
	Excellent	Good	Fair	Poor
Watershed Erosion	No evidences of significant erosion. Stable forest or grass land. Little potential for future erosion. 8	Some erosion evident. No significant "raw" areas. Good land mgmt. practices in area. Low potential for significant erosion. 10	Moderate erosion evident. Erosion from heavy storm events obvious. Some "raw" areas. Potential for significant erosion. 14	Heavy erosion evident. Probable erosion from any run off. 16
Watershed Nonpoint Sources	No evidences of significant sources. Little potential for future problem. 8	Some potential sources (roads, urban area, farm fields). 10	Moderate sources (small wetlands, tile fields, urban area, Intense agriculture). 14	Obvious sources (major wetland drainage, high use urban or industrial area, feed lots, impoundment). 16
Bank Erosion, Failure	No evidences of significant erosion or bank failure. Little potential for future problem. 4	Infrequent, small areas, mostly healed over. Some potential in extreme floods. 8	Moderate frequency and size. Some "raw" spots. Erosion potential during high flow. 16	Many eroded areas. "Raw" areas frequent along straight sections and bends. 20
Bank Vegetative Protection	90% plant density. Diverse trees, shrubs, grass. Plants healthy with apparently good root system. 8	70-90% density. Fewer plant species. A few barren or thin areas. Vegetation appears generally healthy. 9	50-70% density. Dominated by grass, sparse trees and shrubs. Plant types and conditions suggest poorer soil binding. 15	<50% density. Many raw areas. Thin grass, few if any trees and shrubs. 18
Lower Bank Channel Capacity	Ample for present peak flow plus some increase. Peak flow contained. W/D ratio <7. 8	Adequate. Overbank flows rare. W/D ratio 8-15. 10	Barely contains present peaks. Occasional overbank flow. W/D ratio 15-25. 14	Inadequate, overbank flow common. W/D ratio > 25. 16
Lower Bank Deposition	Little or no enlargement of channel or point bars. 6	Some new increase in bar formation, mostly from coarse gravel. <u>Fines</u> 9	Moderate deposition of new gravel and coarse sand on old and some new bars. 15	Heavy deposits of fine material, increased bar development. 18
Bottom Scouring and Deposition	Less than 5% of the bottom affected by scouring and deposition. 4	5-30% affected. Scour at constrictions and where grades steepen. Some deposition in pools. 8	30-50% affected. Deposits and scour at obstructions, constrictions and bends. Some filling of pools. 16	More than 50% of the bottom changing nearly year long. Pools almost absent due to deposition. 20
Bottom Substrate/ Available Cover	Greater than 50% rubble, gravel or other stable habitat. 2	30-60% rubble, gravel or other stable habitat. Adequate habitat. 7	10-30% rubble, gravel or other stable habitat. Habitat availability less than desirable. 17	Less than 10% rubble gravel or other stable habitat. Lack of habitat is obvious. 22
Avg. Depth Riffles and Runs	Cold >1' 0 Warm >1.5' 0	6" to 1' 8 10" to 1.5' 6	3" to 6" 18 6" to 10" 18	<3" 24 <6" 24
Avg. Depth of Pools	Cold >4' 0 Warm >5' 0	3' to 4' 6 4' to 5' 8	2' to 3' 18 3' to 4' 18	<2' 24 <3' 24
Flow, at Rep. Low Flow	Cold >2 cfs 0 Warm >5 cfs 0	1-2 cfs 6 2-5 cfs 6	.5-1 cfs 18 1-2 cfs 18	<.5 cfs 24 <1 cfs 24
Pool/Riffle, Run/Bend Ratio (distance between riffles + stream width)	5-7. Variety of habitat. Deep riffles and pools. 4	7-15. Adequate depth in pools and riffles. Bends provide habitat. <u>but very small</u> 8	15-25. Occasional riffle or bend. Bottom contours provide some habitat. 16	> 25. Essentially a straight stream. Generally all flat water or shallow riffle. Poor habitat. 20
Aesthetics	Wilderness characteristics, outstanding natural beauty. Usually wooded or un-pastured corridor. 8	High natural beauty. Trees, historic site. Some development may be visible. 10	Common setting, not offensive. Developed but uncluttered area. 14	Stream does not enhance aesthetics. Condition of stream is offensive. 16

Column Totals: 0 72 14 94

Column Scores E 0 +G 72 +F 14 +P 94 = 180 = Score

<70 = Excellent, 71-129 = Good, 130-200 = Fair, >200 = Poor

SURVEY Grandview STP

DATE 7/27/89

General discharge is to very small ditch on west side of plant, flows North

A. No.	LOCATION	TIME	DEPTH	TEMP °C	D.O.	pH	SAMPLES COLLECTED - REMARKS
A	Ditch above STP	13:45	0	15.2	8.6	7.9	small volume of water - est. flow - $\approx 10''$ wide, avg depth $1\frac{1}{2}''$, est vol. $\approx 13 \times .5 =$ Bact, BOD, SS, Hurdness, Nutrient series, chlorides, cond.
	photo # 1 - sample site ≈ 20 yds above discharge						
	photo # 2 - General discharge site - viewed from N						
B	discharge overflow structure	13:55	0	24.1	7.5	8.4	B-1 - Thio, B-2 regular Bact. Unknown if chlorinated BOD, SS, Hurdness, Nutrient series, chlorides, cond.
	photo # 3 - general discharge site viewed as sampling from south.						
	photo # 4 - viewed from south - looking at ditch direction along west side of STP.						
B-1	Ditch ≈ 200 ft @ NW corner of STP	14:30	0	19.4	7.7	7.9	BOD, SS, Nutrient series, Bact, chlorides, cond.
	Slight amount of filamentous algae on grass and fence, photo # 5 - viewed to South @ sampling site. N Sucker Rd in background						
	72 paces to N end field						
B-2	@ 72 paces photo 7+8	14:30	0	19.5	7.6	8.0	BOD, SS, Nutrient series, Bact, chlorides, cond.
	Stream appears to be more turbid from clay, possibly due to heavy dam use in area						
D-3	@ ≈ 20 paces channel disappears into ditch - SC ash swamps, no standing water but ground is squishy wet						
	photo # 6 - viewed to North						
	N ↑						
	discharge						