

# On-Site Training Case Studies – Two Programs That Work

## *Presented by*

**Christine Bergren**, Program Specialist, Region 13, Texas Commission on Environmental Quality

**Billy Black**, P.E., Environmental Engineer, Region 6, U.S. Environmental Protection Agency

**Russ Martin, P.E.**, Environmental Engineer, Operation & Maintenance Municipal Wastewater Treatment Specialist, Region 5, U.S. Environmental Protection Agency

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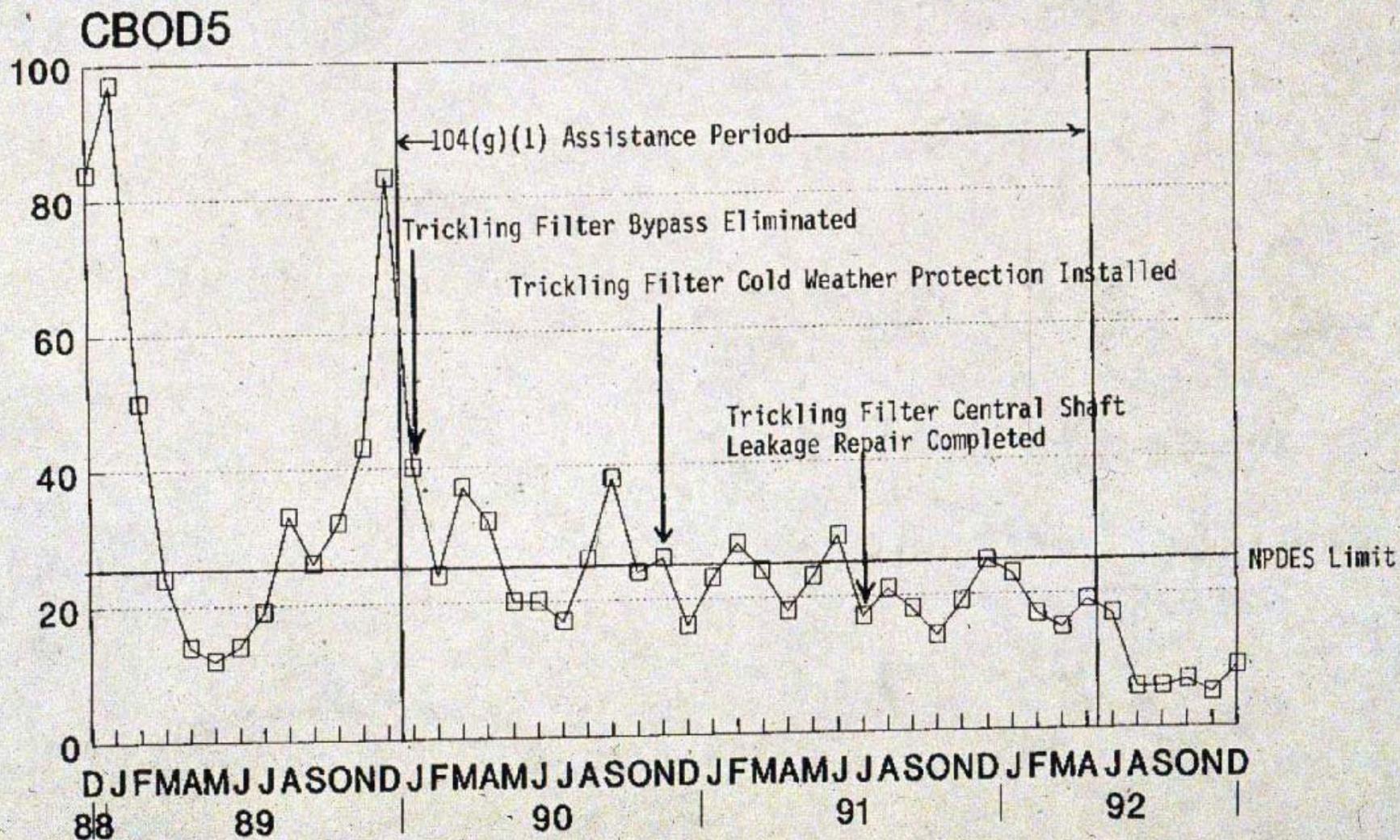
U.S. Environmental Protection Agency  
and Texas Commission on Environmental Quality

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# FREDERICKTOWN, OHIO

## EFFLUENT CBOD5 VS. TIME

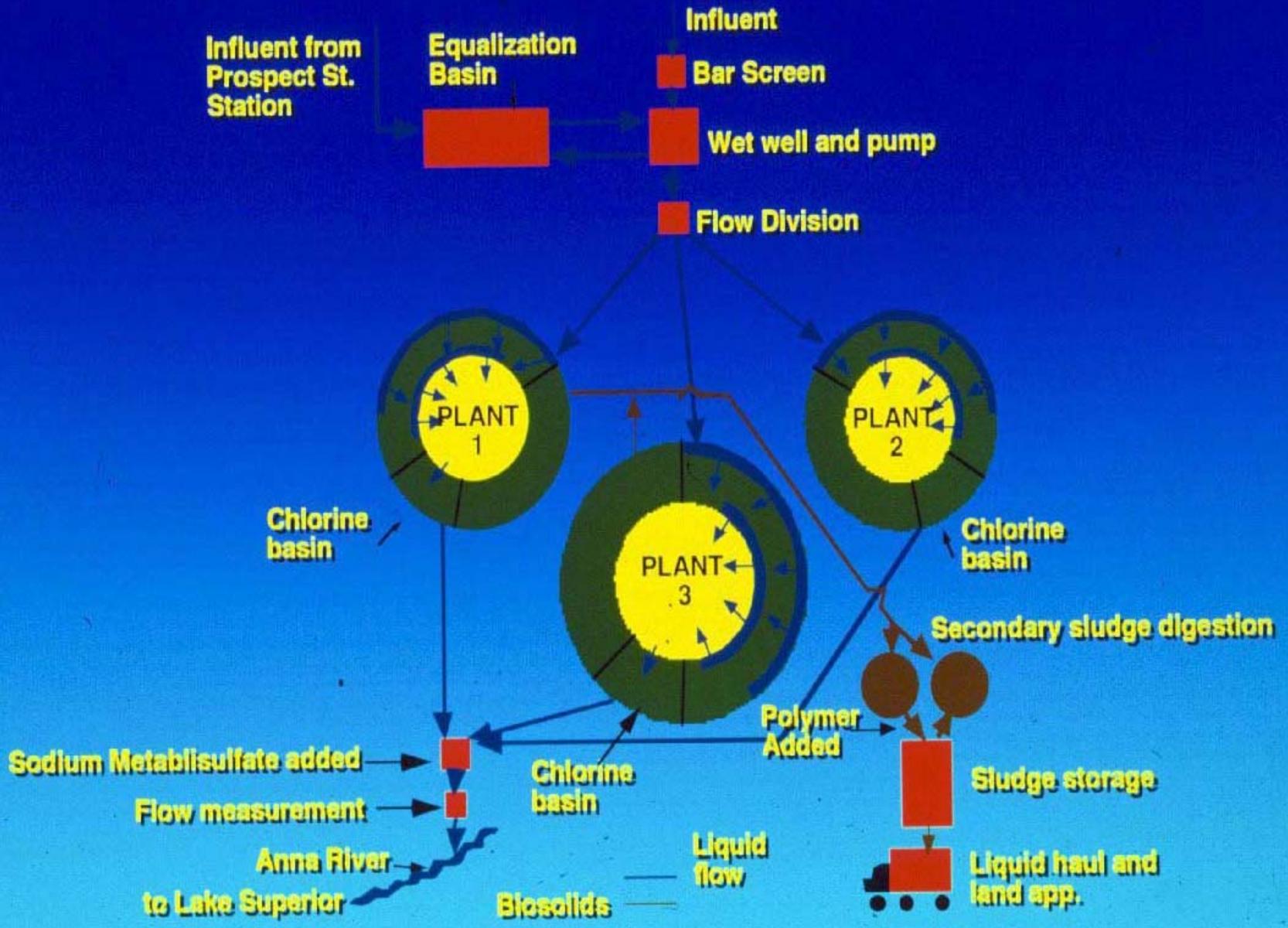


# Results

	<b>Effluent CBOD<sub>5</sub> Concentration</b>	<b>Effluent TSS Concentration</b>
<b>12 Months Prior to Assistance</b>	<b>35.8 mg/l</b>	<b>20.7 mg/l</b>
<b>12 Months Prior to Graduation</b>	<b>19.9 mg/l</b>	<b>13.0 mg/l</b>
<b>Change</b>	<b>44% Decrease</b>	<b>37% Decrease</b>



# MUNISING FLOW SCHEMATIC



# TREATMENT PLANT PERFORMANCE

Parameter	No. of Permit Exceedances	Percentage of Exceedances
<b>BOD<sub>5</sub></b>	<b>16</b>	<b>33%</b>
<b>Total Suspended Solids</b>	<b>20</b>	<b>42%</b>
<b>Fecal Coliform Bacteria</b>	<b>4</b>	<b>17%</b>
<b>Chlorine Residual</b>	<b>7</b>	<b>58%</b>
<b>Phosphorus</b>	<b>3</b>	<b>25%</b>
<b>Any month in exceedance of any permit value</b>	<b>12</b>	<b>100%</b>

It is clear that despite the addition of \$1.2 million in treatment plant improvements that went on line in October 1991, this WWTP continues to have significant performance problems.



DESIRED MLSSs 44.78 #1-2  
48.90 #3

SCHEDULE 1

WEEK 1 WEEK 2 WEEK 3

48.90

34	27	39
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LOADING

1250	1090	1350
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WASTAGE

1400	2802	2952
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SLUDGE AGE

0	.5	1.0
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SLUDGE DEPTH

18"	16"	8"
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REMARKS

1st level	2nd level	off empty
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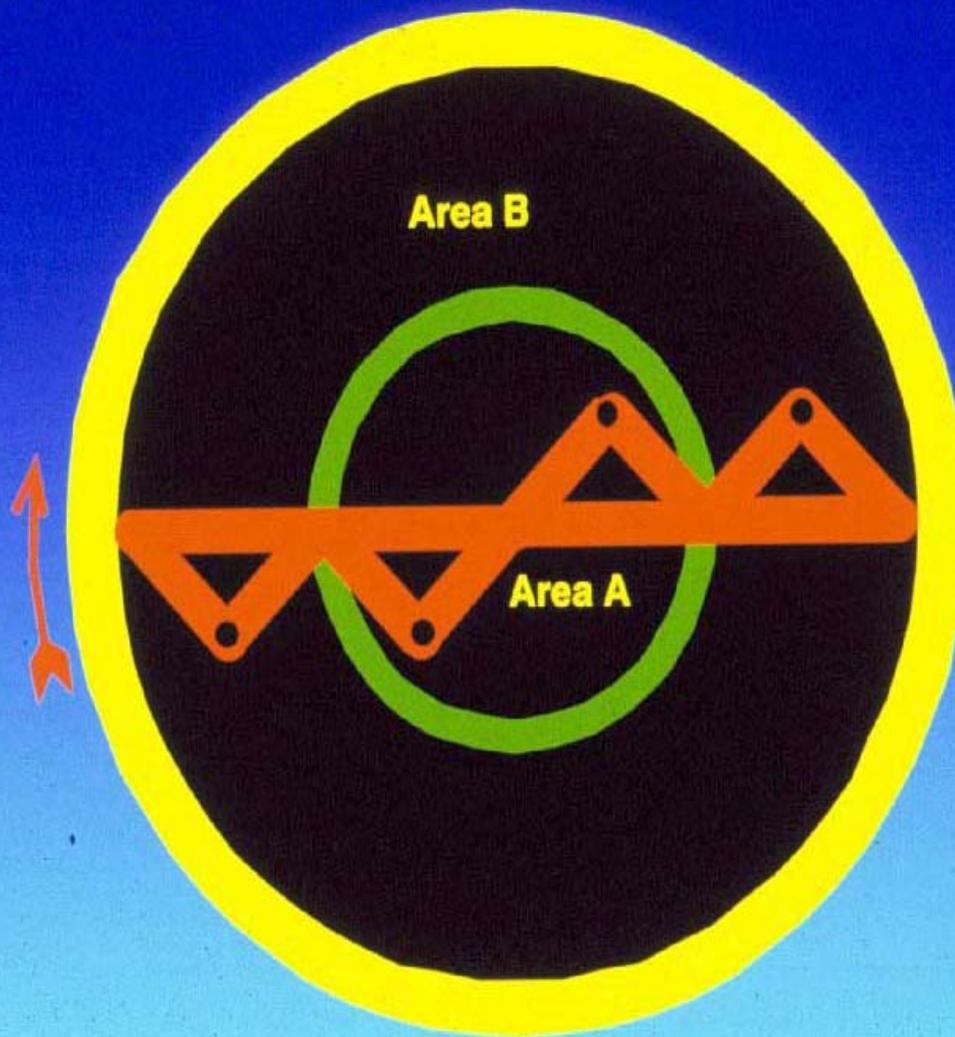
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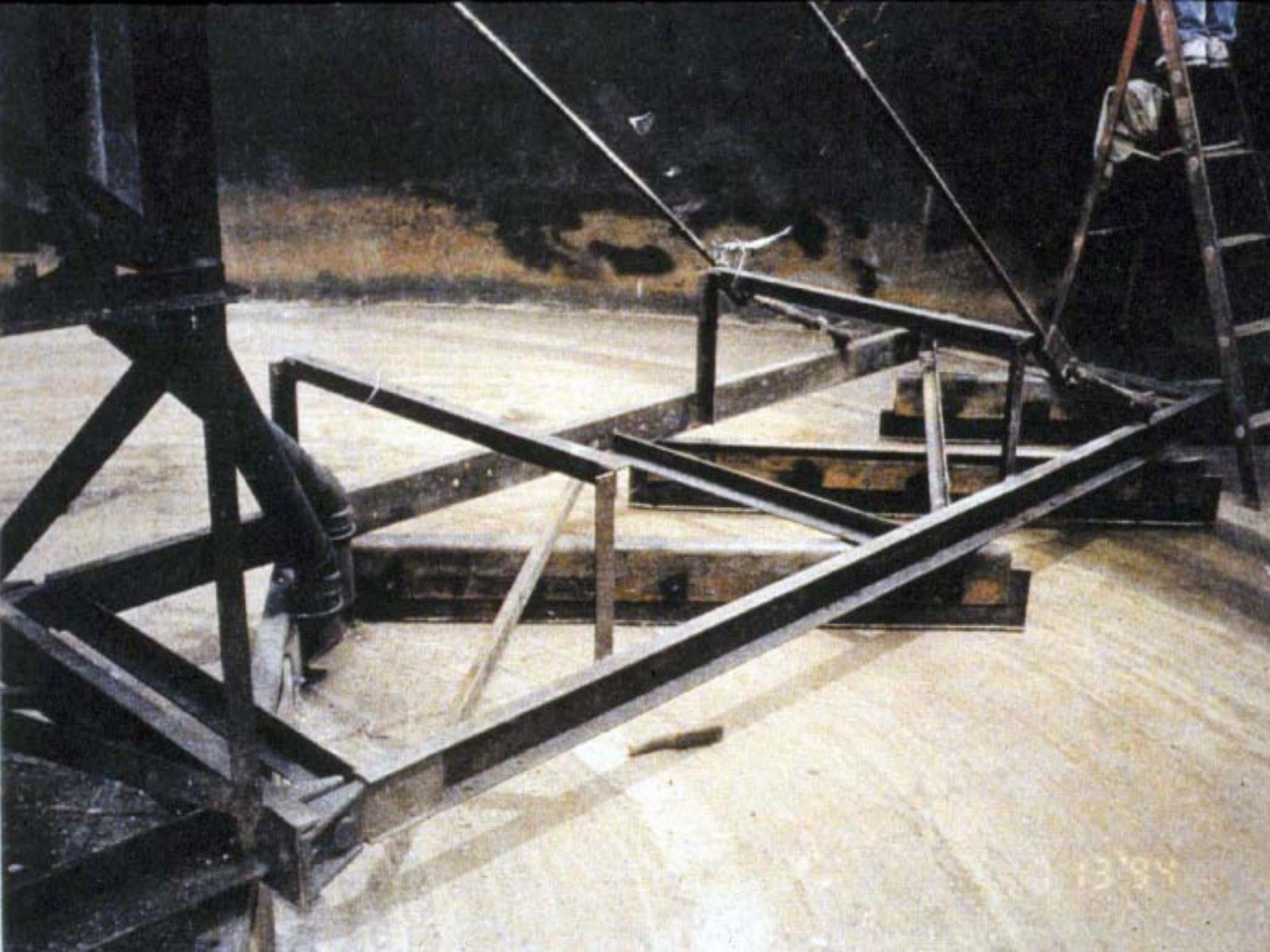
# CLARIFIER RAPID SLUDGE WITHDRAWAL SYSTEM

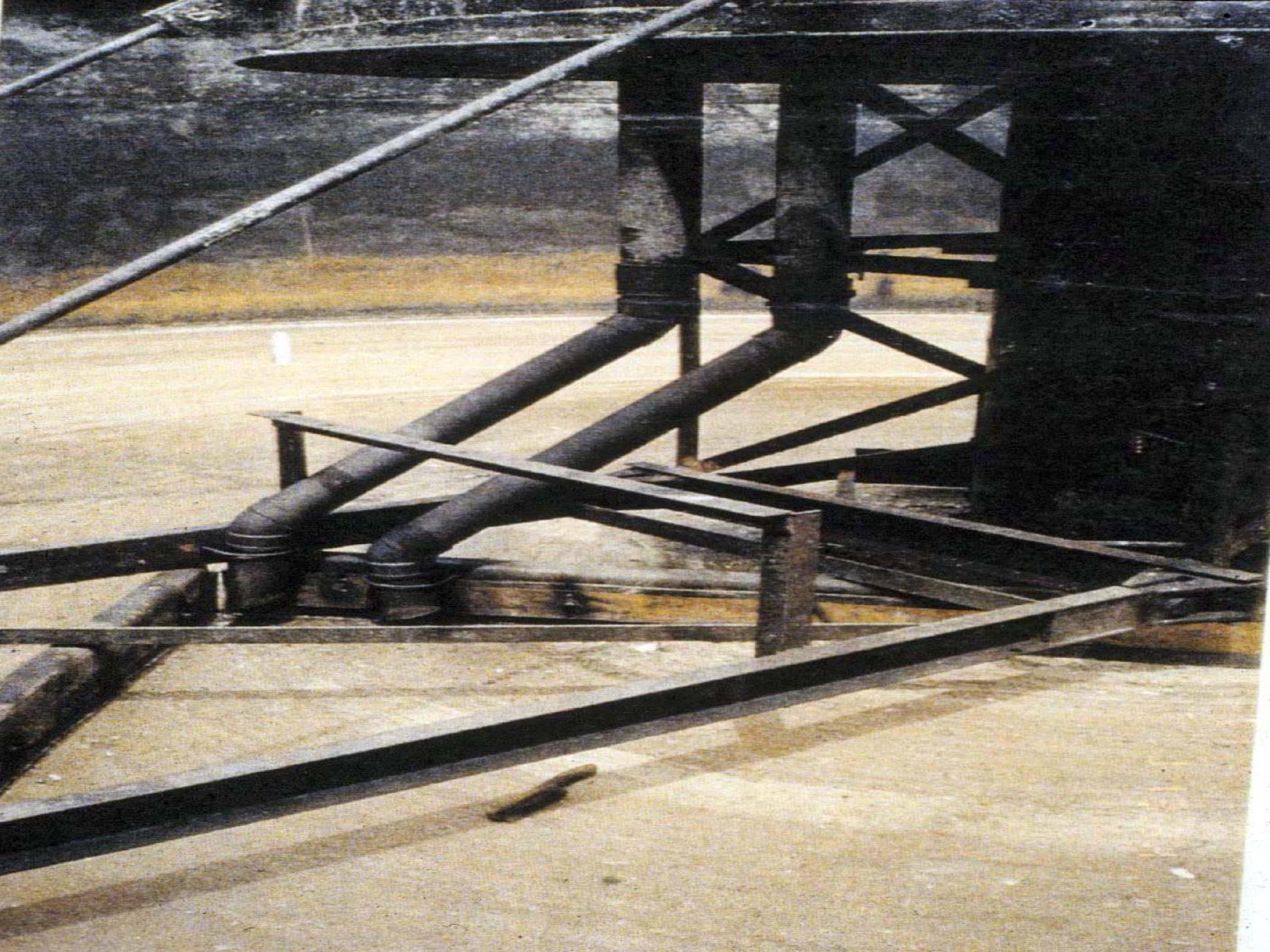


**Area B = 4 times Area A**









# RESULTS

FEBRUARY MARCH 1993

Parameter	No. of Permit Exceedances	Comments
CBOD	0	March value of 8.2 mg/l lowest in 1 1/2 years
SS	2 (% removal only)	% removal 10% better than 1992 (now 81% average)
Fecal Coliform	0	
Chlorine Residual	0	
Phosphorus	0	

- |                       |                             |
|-----------------------|-----------------------------|
| 1 ADDISON MACHINE     | 8 R & L SUPPLY CO-OP        |
| 2 GLACIER TOOL & MOLD | 9 REGAL TOOL                |
| 3 GLACIER TOOL & MOLD | 10 HANDISHOP IND. INC.      |
| 4 CELLOX CORP.        | 11 SUEMNIGHT CHEESE         |
| 5 PACE INDUSTRIES     | 12 R & L PATTERN            |
| 6 NATIONAL SPORTSWEAR | 13 DONE RITE PATTERNS       |
| 7 PLATECO             | 14 RDSBG. HARDWOODS         |
|                       | 15 SEATS                    |
|                       | 16 MEISTER LOG & LUMBER CO. |

# Reedsburg

## INDUSTRIAL PARK

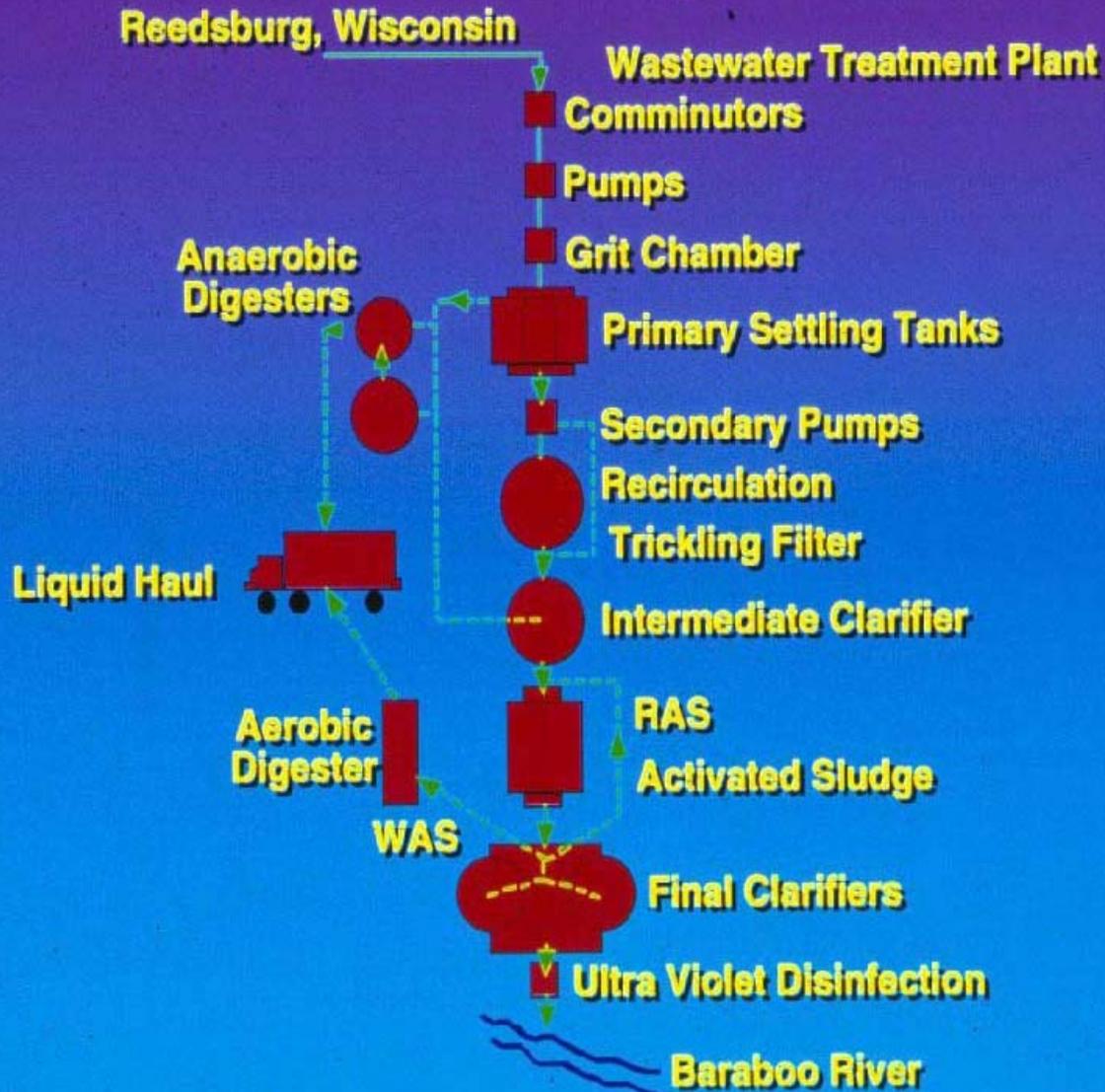


REEDSBURG INDUSTRIAL COMMISSION

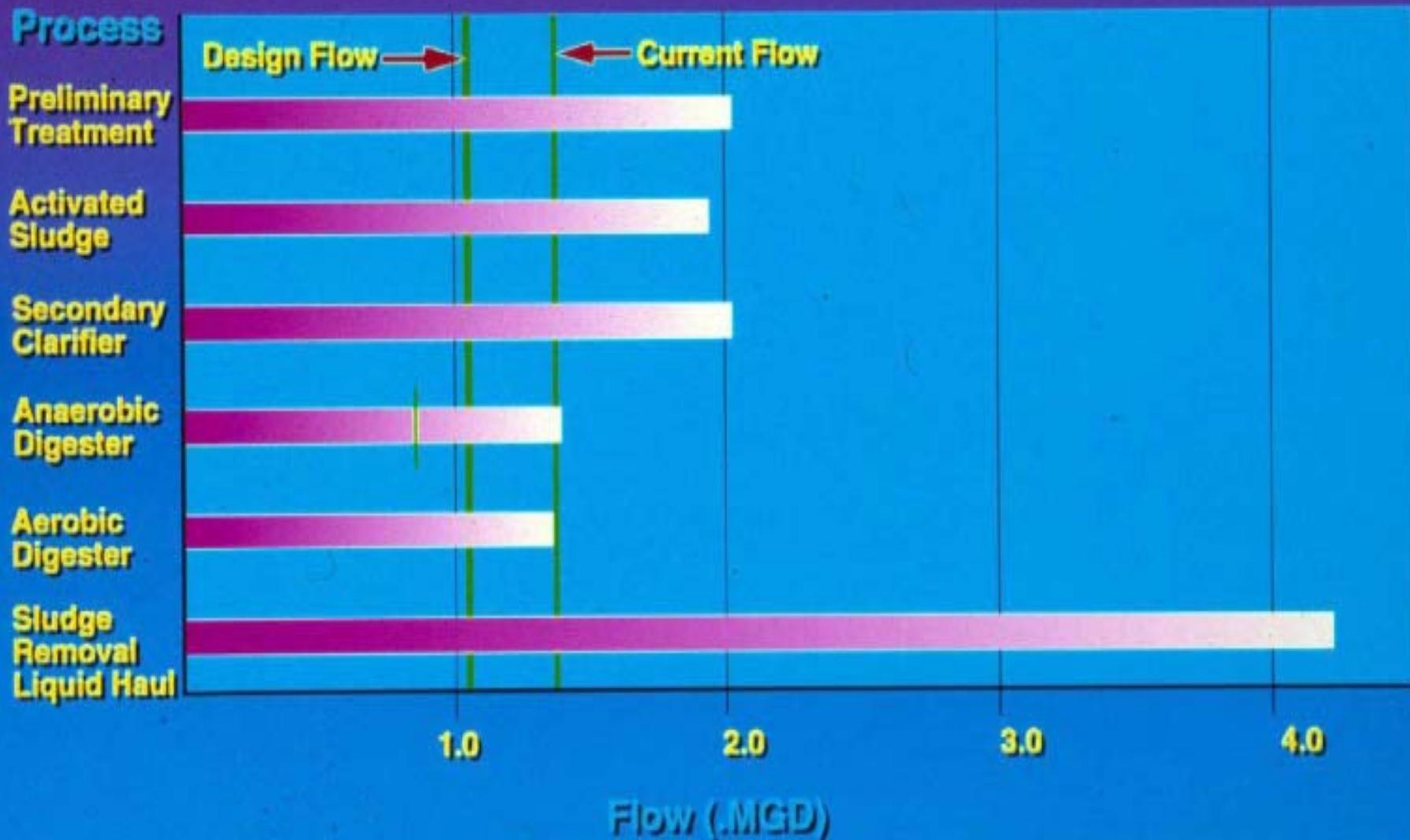
CHAIRMAN -



# 1994 USEPA O&M AWARDS PROGRAM Plant Layout



# REEDSBURG PROCESS CAPABILITIES







**FLIGHT CUSHION  
AND ROPE**







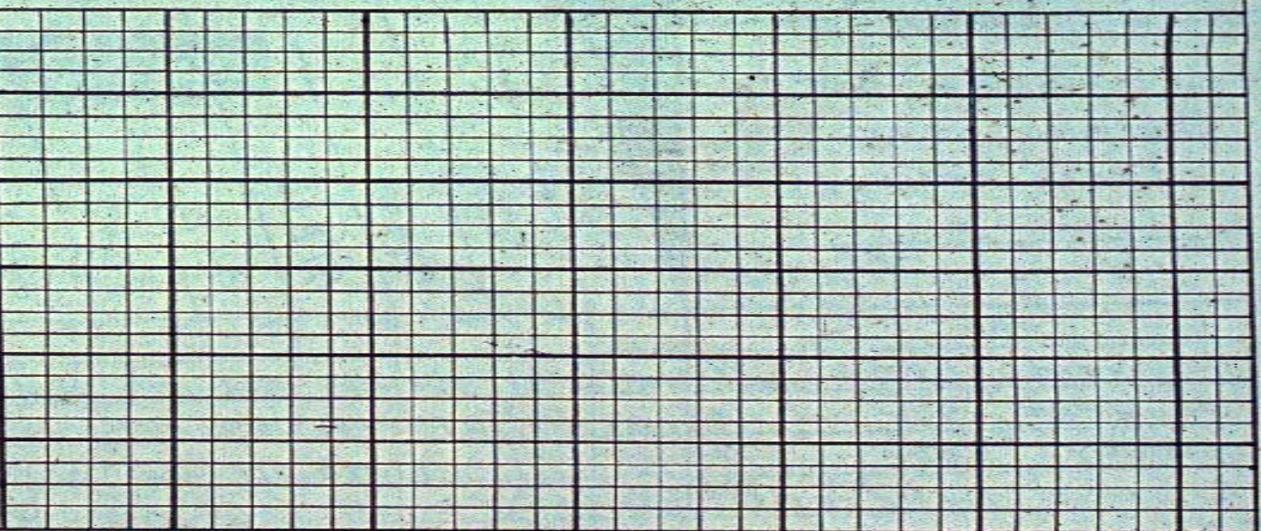
# **CITY OF REEDSBURG PRETREATMENT LETTER**

**“We all need to be reminded from time to time that we can’t dump whatever we want down the drain and it goes away, it really doesn’t.”**



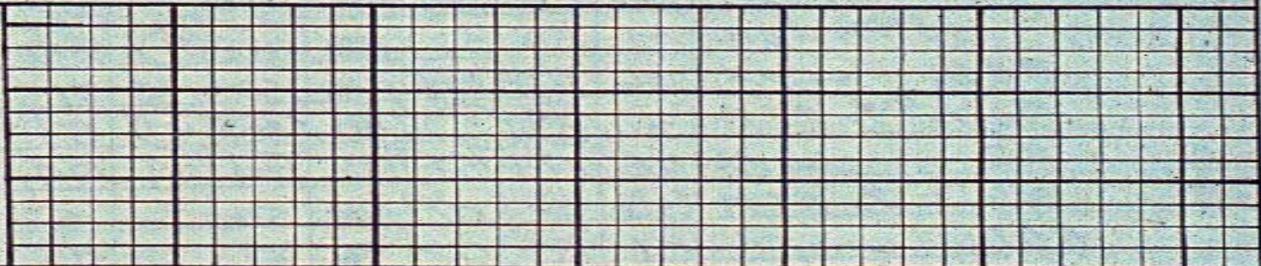
**MLSS**  
**mg/L**  
**5 day**  
**average**

5500  
5000  
4500  
4000  
3500  
3000  
2500  
2000  
1500  
1000  
500



**SLUDGE**  
**VOLUME**  
**INDEX**

250  
200  
150  
100  
50



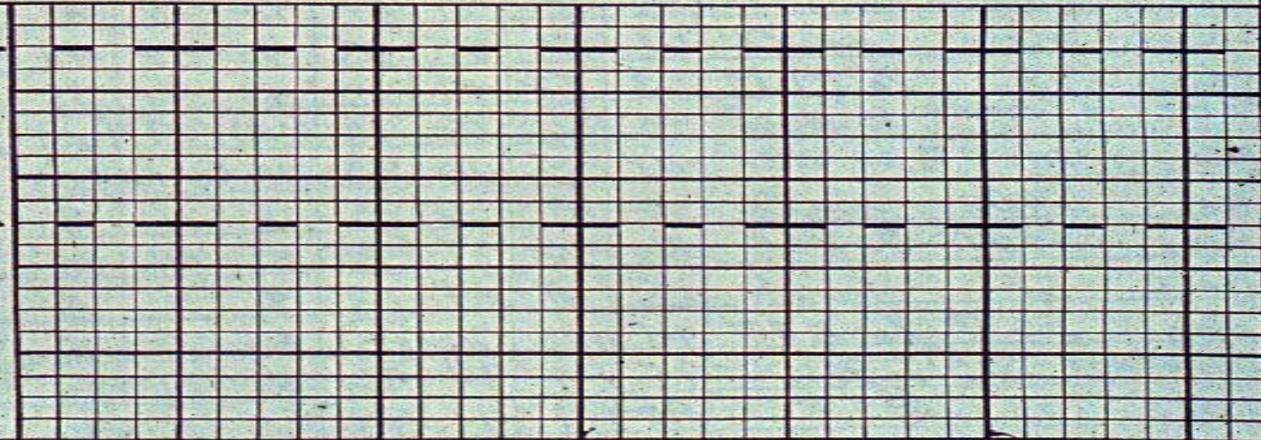
WPDES WEEKLY LIMIT

**B.O.D.<sub>(5)</sub>**  
**mg/L = ●**

WPDES MONTHLY LIMIT

**S.S.**  
**mg/L = X**

45  
40  
35  
30  
25  
20  
15  
10  
5



DAY →

5

10

15

20

25

30

MONTH

YEAR



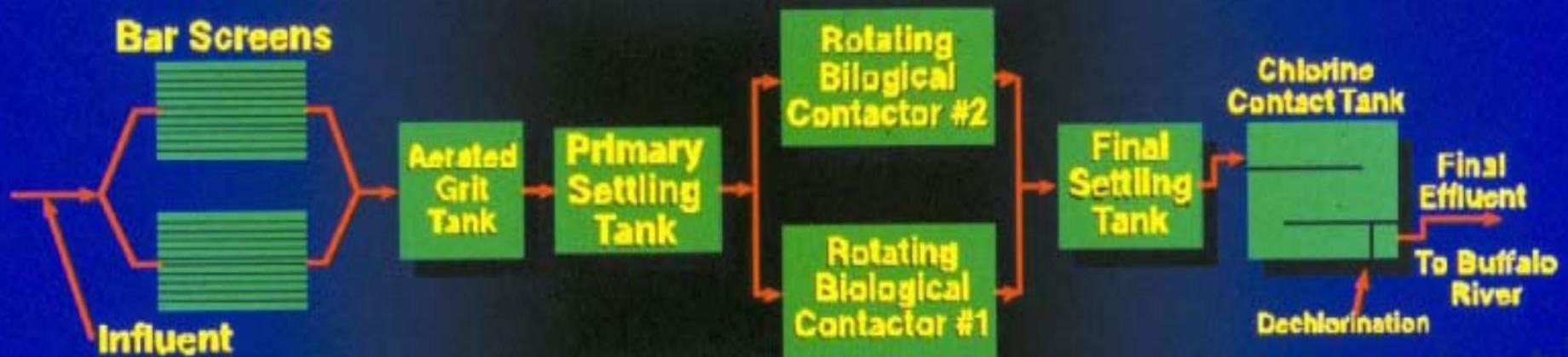
# REEDSBURG, WISCONSIN RESULTS - continued

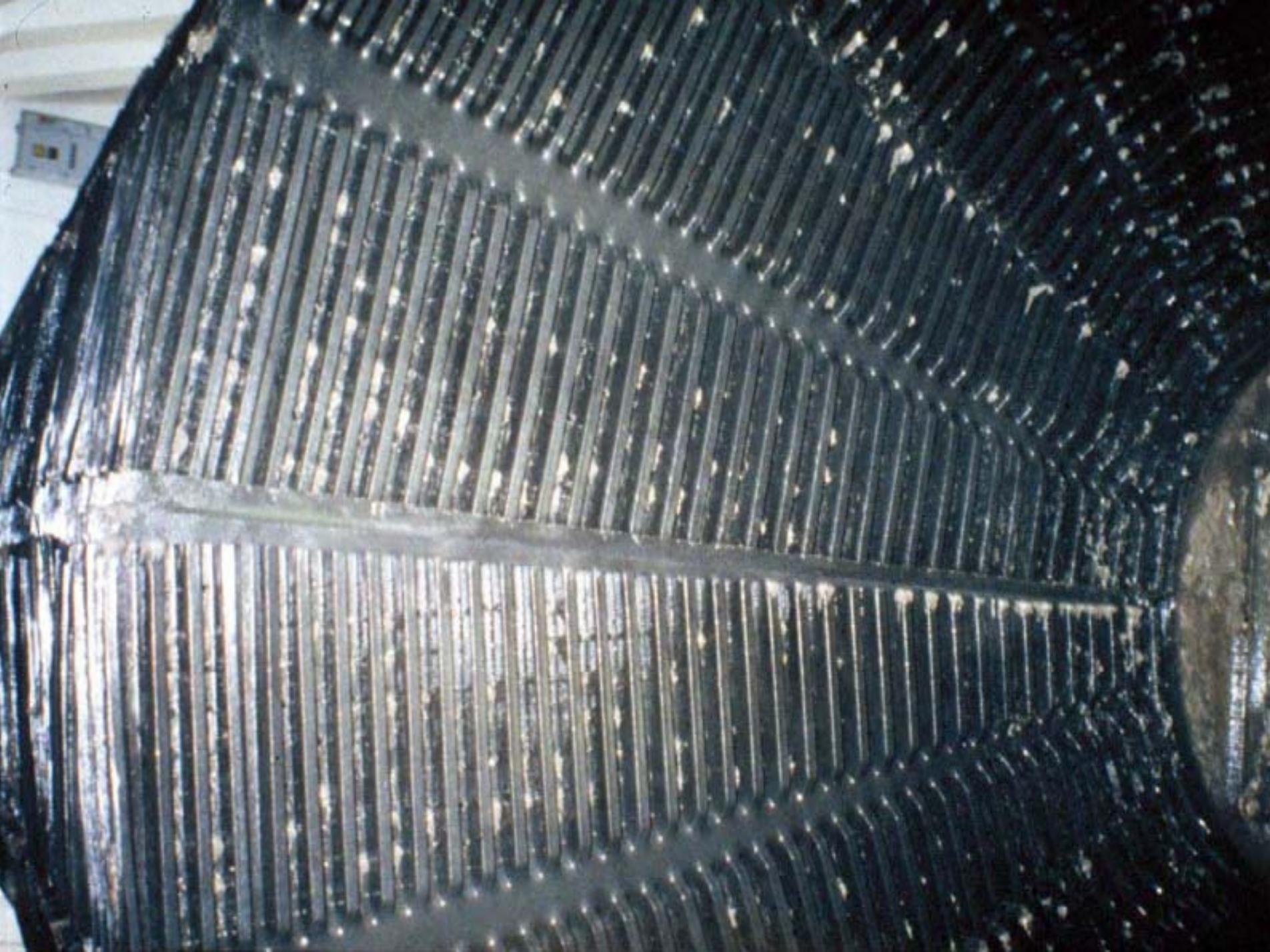
-  **BOD<sub>5</sub> levels reduced by 35%**
-  **Suspended solids levels reduced by 34%**
-  **Clarity - Secci disk readings  
from 4 feet  
to 6-8 feet**





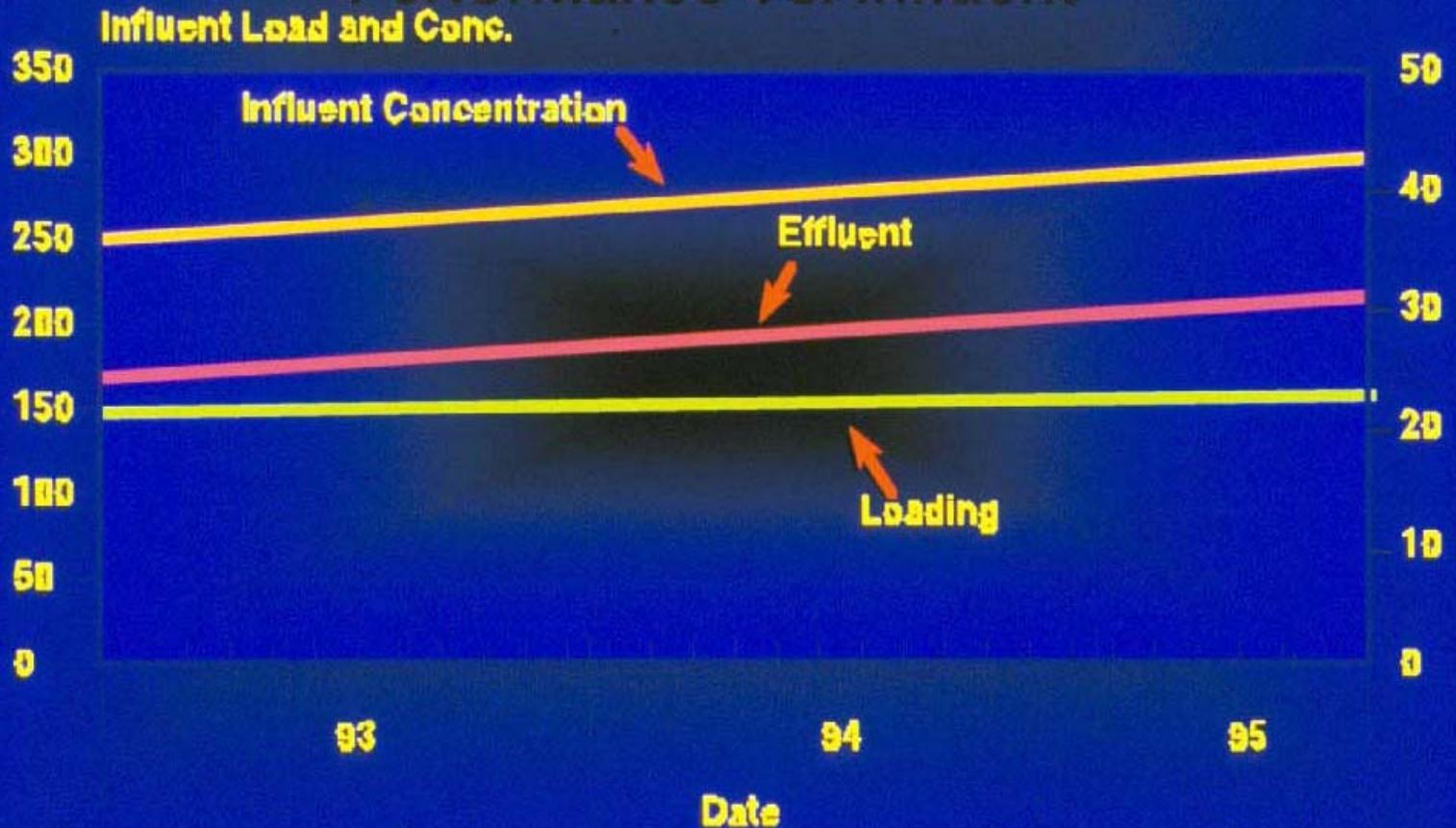
# Schematic Flow Diagram





# STRUM WWTP

## Performance Vs. Influent

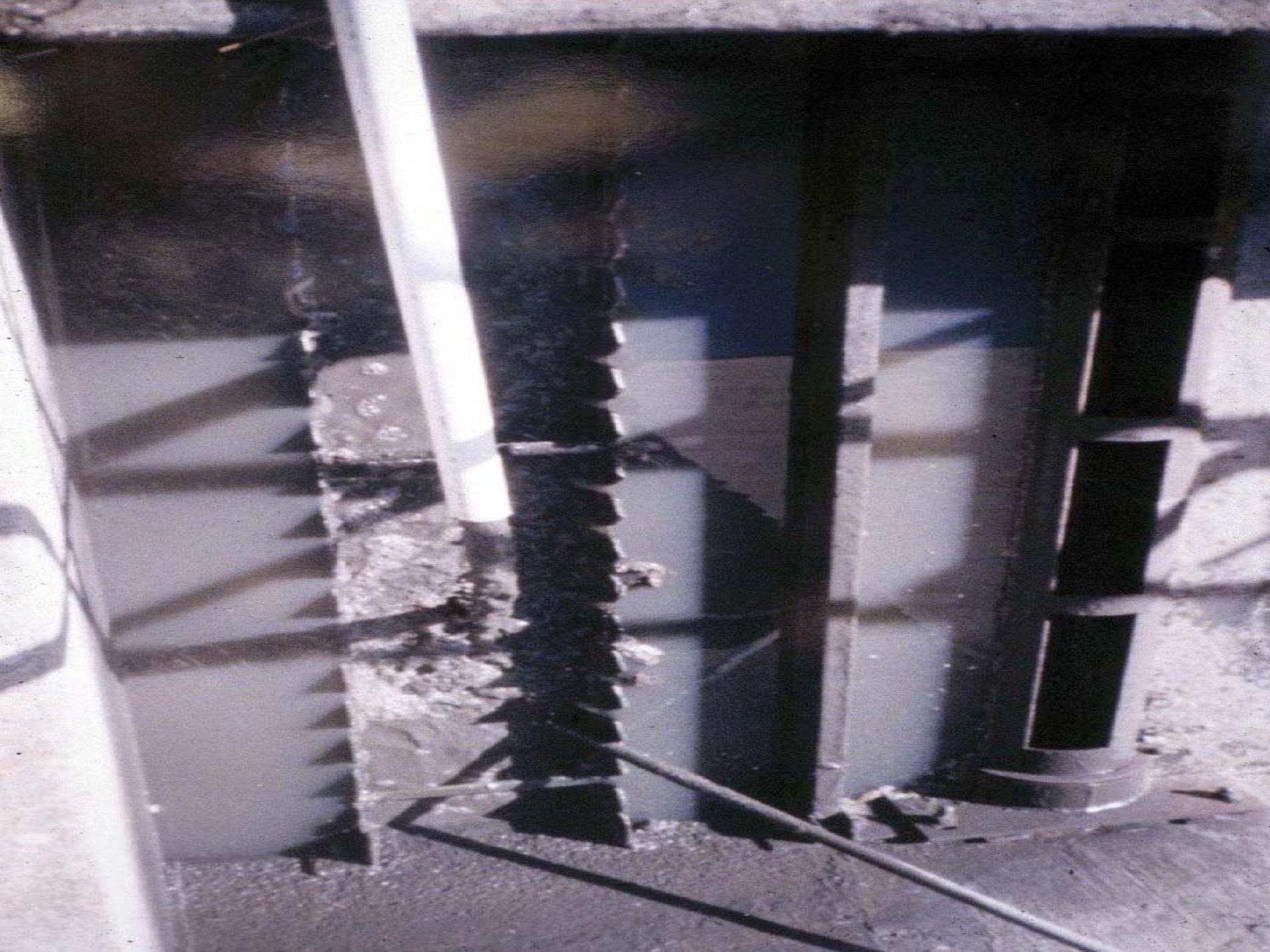


— Inf. Conc. mg/l — Inf. Load #/Day — Effluent



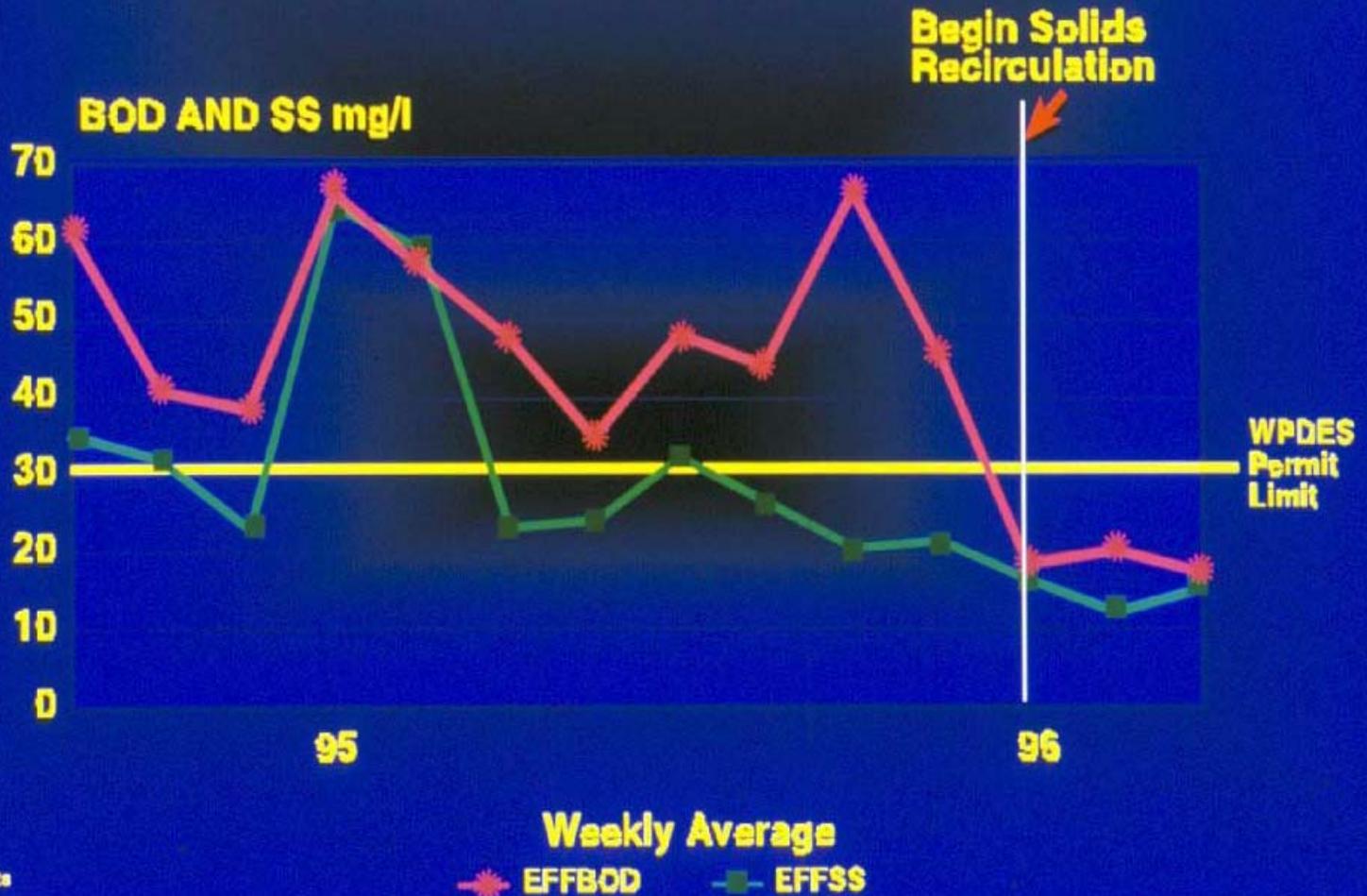






# Village of Strum

## Wastewater Treatment Plant Performance



# Fleet Environmental Workshops

A TCEQ Training Program That Gets Results!



12/28/94