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INFORMATION
FOR ACTION
PERMIT
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Publication No. 73-e26

WA-35-1020

TO: John Arnquist, John Hodgson

FROM: Jim Armstrong

SUBJECT: Asotin STP Survey

DATE: August 7, 1973

State of Washington
Department of Ecology

On Monday, July 16, 1973, a survey was run on the sewage treatment plant for the Town of Asotin. The survey lasted from 0900 hours to 1700 hours with samples taken every half hour.

The appearance of the grounds was good and the plant was well fenced.

The BOD reduction was 57% and total suspended solids reduction was 84%.

The chlorine contact chamber should be cleaned out as there is at least a foot of settleable solids in the bottom. This is probably due to poor settling of the solids in the clarifier.

The flow of sewage into the clarifier was not checked during this survey. It is advisable to check the flow in the near future to see if the clarifier is being overloaded.

Due to the large amount of settleable solids in the chlorine contact chamber, there is a high chlorine demand resulting in Cl_2 residuals of less than 0.1 and fecal coliforms of more than forty thousand at the existing flow and chlorination rate.

Provisions for removal of grit from the grit channel should be made since at the present time it is simply washed into the system with a high pressure hose.

The operator of this plant should have some training in sewage treatment plant operation, as he has had no previous experience.

JA:bjj

STP SURVEY REPORT FORM

(EFFICIENCY STUDY)

City Asotin Plant Type Primary Population Served 745 Design Capacity 2500

Receiving Water Snake River Engineer Kennedy

Date 7/16 Survey Period 0900-1700 Survey Personnel Jim Armstrong

Comp. Sampling Frequency 1/2 hour Weather Conditions (last 48 hours) Clear, hot

Sampling Alequot 1,000 ml

PLANT OPERATION

Total Flow 30 - 40 thousand gal. per day How Measured

Max. (Flow) Time of Max. Min. Time of Min.

Pre Cl_2 NA #/day Post Cl_2 8.5 #/day

FIELD RESULTS

	Influent				Effluent			
Determinations	Max.	Min.	Mean	Median	Max.	Min.	Mean	Median
Temp. °C	24	22	22.9	23	22	21	21.8	22
pH	8.1	6.8		7.7	7.8	6.8		7.2
Conductivity (umhos/cm)								
Settleable Solids	13	2.5	6.6	4.5	.2	.1	.1	.1

LABORATORY RESULTS ON COMPOSITE IN PPM

Laboratory Number	Influent	Effluent	% Reduction
5-Day BOD	385	166	57
COD	748	279	64
T.S.	1105	543	51
T.N.V.S.	588	329	44
T.S.S.	740	119	84
N.V.S.S.	272	15	94
pH	7.1	7.1	0
Conductivity	830	810	--
Turbidity	175	50	72

Asotin

BACTERIOLOGICAL RESULTS

$Na_2S_2O_3$ added to sample before sample ~~Xxxxx~~ was taken. ~~xxx~~ min.

LAB #	SAMPLING TIME	COLONIES/100 MLS (MF)	Cl Residual	
			ppm	(after secs)
65	1000	$>4 \times 10^4$	<.1	3 min.
66	1200	22,500	<.1	3 min.
67	1530	400	2.0	3 min.

rator's Name John Cox Phone # 509-243-4411

ments: Last coliform was taken after chlorine was raised from 7.5 lbs. to 9.5 lbs.

Exhibit C

U.S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION

SEWAGE TREATMENT PLANT OPERATION AND MAINTENANCE PRACTICES QUESTIONNAIRE

FORM APPROVED
BUDGET BUREAU NO. 42-R1527

CHECK ONE: [X] 1ST AUDIT [ ] RE-AUDIT

DATE OF AUDIT: 7/16

PLANT DESCRIPTION CODE (For Official Use Only)

A. GENERAL INFORMATION

1. PROJECT (State, Number)

SCOPE OF PROJECT (new plant, additions, etc.): Existing Summary

2. PLANT LOCATION (City, county): Hoopa Hoopa

IDENTIFICATION OF AREAS SERVED: Town

3. POPULATION

3A. FRACTION OF AREA POPULATION SERVED (%): 100 %

3B. PLANT DESIGN (population equivalent): 2500

3C. SERVED BY PLANT (domestic): 745

4. TYPE OF COLLECTION SYSTEM

4A. [ ] COMBINED [ ] SEPARATE [ ] BOTH

4B. ESTIMATED FLOW CONTRIBUTED BY SURFACE OR GROUND WATER (infiltration, mgd)

5. YEAR COMMUNITY BEGAN SEWAGE TREATMENT

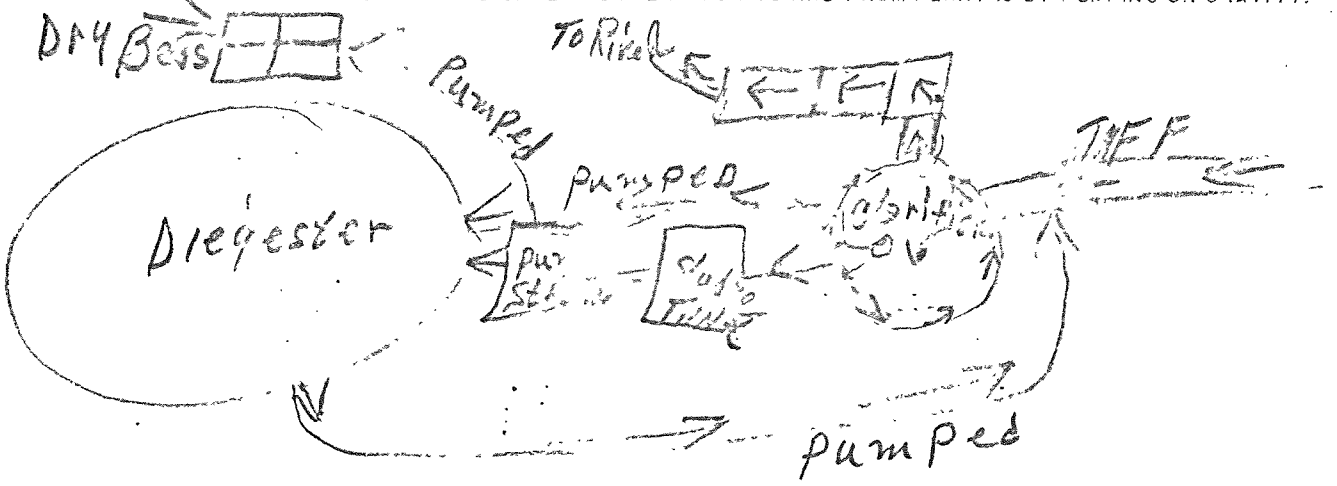
6. YEAR PRESENT SYSTEM PLACED IN OPERATION

6A. SEWER	6B. PLANT	6C. ANCILLARY WORKS

7A. SIZE OF PLANT SITE (acres): 1.5

7B. APPROXIMATE AREA LEFT FOR EXPANSION (acres)

8A. IN THE SPACE PROVIDED BELOW PLEASE SHOW A SIMPLIFIED FLOW DIAGRAM OR A WRITTEN DESCRIPTION OF THE PLANT UNITS IN FLOW SEQUENCE. INCLUDE THE METHOD OF ULTIMATE SLUDGE DISPOSAL. SHOW APPROXIMATE SURFACE AREA OF STABILIZATION PONDS AND NUMBER OF CELLS. INDICATE WHETHER FLOW TO AND FROM PLANT IS BY PUMPING OR GRAVITY.



8B. NOTE ANY SIGNIFICANT OR UNIQUE PROCESSING CONDITIONS.

9. RECEIVING STREAM

9A. NAME OF STREAM: Snake River

9B. STREAM FLOW IS

[X] PERENNIAL [ ] INTERMITTENT [X] NATURAL [ ] REGULATED [X] INTERSTATE [ ] INTRASTATE [ ] COASTAL

B. CURRENT PERFORMANCE AND PLANT LOADING INFORMATION

1A. ANNUAL AVERAGE DAILY FLOW RATE (mgd)	1B. PEAK FLOW RATE (mgd)		1C. MINIMUM FLOW RATE (mgd)
	DRY WEATHER	WET WEATHER	

2. AVERAGE BOD OF RAW SEWAGE (5 DAY, 20°C) (ppm)

3. AVERAGE SETTLEABLE SOLIDS OF RAW SEWAGE (ml/l)

4. AVERAGE SUSPENDED SOLIDS OF RAW SEWAGE (mg/l)

5. AVERAGE COLIFORM DENSITY OF RAW SEWAGE (mpn per 100 ml)

6. ANNUAL AVERAGE PLANT REDUCTION

6A. BOD (%)	6B. SETTLEABLE SOLIDS (%)	6C. SUSPENDED SOLIDS (%)	6D. COLIFORM DENSITY (%)

7A. DOES PLANT HAVE STANDBY POWER GENERATOR FOR MAJOR PUMPING FACILITIES? [ ] YES [✓] NO

7B. ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES? [ ] YES [ ] NO

8. ARE CHLORINATION FACILITIES PROVIDED? [✓] YES [ ] NO IF YES, ANSWER 8A THRU G

IF YES, IS CHLORINATION CONTINUOUS? [✓] YES [ ] NO
IF NO, EXPLAIN REASON FOR INTERMITTENT CHLORINATION

8A PURPOSE OF CHLORINATION

Kill Bacteria

8B. TYPE OF CHLORINATOR

Gas

8C. POINT OF APPLICATION OF CHLORINE

Effluent

8D. CAN BYPASSED SEWAGE BE CHLORINATED?

[✓] YES [ ] NO

8E. AVERAGE FEED RATE OF CHLORINE (lb/day)

8.5

8F. CHLORINE RESIDUAL IN EFFLUENT

_____ PPM AT END OF _____ MINUTES

8G. MINIMUM SUPPLY OF CHLORINE STORED ON PREMISES (lb)

230

9. ARE FACILITIES PROVIDED FOR COMPLETE BYPASS OF RAW SEWAGE?

[✓] YES [ ] NO IF YES, ANSWER A THRU G BELOW, ANSWER H IN EITHER CASE.

9A. FREQUENCY (times monthly)	9B. AVERAGE DURATION (hours)	9C. REASON FOR BYPASSING
1	2	Maintenance

9D. ESTIMATED FLOW RATE DURING BYPASS IS

[✓] WITHIN HYDRAULIC CAPACITY OF PLANT
[ ] BEYOND HYDRAULIC CAPACITY OF PLANT BY

9E. DOES SEWAGE OVERFLOW IN DRY WEATHER?

[ ] YES [✓] NO

9F. TYPE OF DIVERSION STRUCTURE

Valve

9G. AGENCIES NOTIFIED OF BYPASS ACTION

None

9H. DO OPERATORS HAVE OPTION TO BYPASS INDIVIDUAL PLANT UNITS? *(If no, has this caused any operational problems?)*

[✓] YES [ ] NO

10A. ARE BACK FLOW DEVICES PROVIDED AT ALL CONNECTIONS TO CITY WATER SUPPLY? *(If no, explain)*

[ ] YES [✓] NO

10B. CHECK TYPE OF BACK FLOW PREVENTION DEVICE

[ ] DOUBLE CHECK VALVE [ ] PRESSURE OPERATED [ ] PHYSICAL DISCONNECT [ ] OTHER *(specify)*

11. USES OF TREATMENT PLANT EFFLUENT

All goes in River

12. USES OF RECEIVING STREAM WITHIN 10 MILES OF OUTFALL

Transportation, Recreation, Industry

13. HAVE THERE BEEN ANY ODOR COMPLAINTS BEYOND THE PLANT PROPERTY? *(If yes, explain)*

[✓] YES [ ] NO

Reduction of Odor since I started feeding Digester

14. OBSERVED APPEARANCE AND CONDITION OF EFFLUENT, RECEIVING STREAM, OR DRAINAGE WAY

15. STABILIZATION PONDS

A. WEEDS CUT AND VEGETATIVE GROWTH IN PONDS ELIMINATED? ☐ YES ☐ NO

B. BANKS AND DIKES MAINTAINED (erosion etc.)? ☐ YES ☐ NO

C. FENCING AND POSTING – POLLUTED WATER SIGNS PRESENT AND IN GOOD REPAIR? ☐ YES ☐ NO

D. FREQUENCY OF INSPECTION BY OPERATOR

E. WATER DEPTH (feet)

_____ HIGH _____ MEDIUM

F. ADEQUATE CONTROL OF DEPTH? ☐ YES ☐ NO

G. SEEPAGE REPORTED? ☐ YES ☐ NO

H. ANY REPORTS OF GROUND WATER CONTAMINATION FROM POND (If yes, give details)? ☐ YES ☐ NO

I. MOSQUITO BREEDING PROBLEM? ☐ YES ☐ NO IF YES, NAME OF SPECIES IF KNOWN

J. CAN SURFACE RUN-OFF ENTER POND? ☐ YES ☐ NO

C. SUPERVISORY SERVICES

1. IS A CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTATION ON OPERATING AND MAINTENANCE PROBLEMS?

☑ YES ☐ NO IF YES IS IT ON: ☑ CONTINUING BASIS OR ☐ UPON REQUEST BASIS

IF CONTINUING BASIS, WHAT IS THE FREQUENCY OF VISITS:

2. DO OPERATORS AND OTHER PERSONNEL ROUTINELY ATTEND SHORT COURSES, SCHOOLS OR OTHER TRAINING ACTIVITIES?

☐ YES ☑ NO

IF YES, CITE COURSE SPONSOR AND DATE OF LAST COURSE ATTENDED

IF NO, DO YOU KNOW OF ANY COURSES AVAILABLE TO SERVE THIS AREA?

scheduled to take a course this fall

3A. ARE ALL EQUIPMENT AND PARTS OF THE PRESENT PLANT STILL IN OPERATION? ☑ YES ☐ NO (If no, explain)

B. ARE PROCESSING UNITS OPERATING AT DESIGN EFFICIENCY? ☑ YES ☐ NO (If no, explain)

4. HAVE THERE BEEN ANY DIFFICULTIES WITH THE SEWAGE TREATMENT PLANT?

A. STRUCTURAL ☐ YES ☑ NO (If yes explain)

B. MECHANICAL ☐ YES ☑ NO (If yes, explain)

C. OPERATIONAL ☒ YES ☑ NO (If yes, explain)

Red Operator needs training & more time for maintence. Chlorinator rocked pumping

D. BASED ON OPERATING EXPERIENCE TO DATE WHAT IF ANY CHANGES WOULD YOU RECOMMEND TO IMPROVE OPERATION OF THE PLANT?

5 ARE OPERATING RECORDS MAINTAINED? (If maintained, check general items included) ☑ YES ☐ NO

REPORTED? ☑ YES ☐ NO

TO WHOM? Dept. Health

FREQUENCY	WEATHER	FLOW	SLUDGE HANDLED	CHEMICALS USED	DIGESTER	GRIT HANDLED	ELEC. USED	COST DATA	AIR USED	MAINTENANCE	OTHER
DAILY		✓	✓	✓	✓	✓				✓	
WEEKLY											
MONTHLY							✓	✓			
ANNUALLY											

6. ARE LABORATORY RECORDS MAINTAINED? (check appropriate box)

☐ NOT AT ALL ☑ DAILY ☐ WEEKLY ☐ MONTHLY ☐ ANNUALLY

IF MAINTAINED CHECK FORM OF RECORD BELOW:

☐ LOG BOOK ☑ TABULAR SHEET ☐ SEPARATE BY OPERATION ☐ CONTROL CHARTS ☐ GRAPHS

WHAT PLANT AND/OR LABORATORY EQUIPMENT, GAGES AND METERS ARE CALIBRATED PERIODICALLY?

7. IS LABORATORY TESTING ADEQUATE FOR THE CONTROL REQUIRED FOR THIS SIZE AND TYPE OF PLANT?

☐ YES ☐ NO (If no, explain)

8. INDUSTRIAL WASTES DISCHARGED TO MUNICIPAL SYSTEM.

A. NUMBER AND TYPES OF INDUSTRIES DISCHARGING TO SYSTEMS

B. POPULATION EQUIVALENT (BOD) OF INDUSTRIAL WASTES (pe)

C. POPULATION EQUIVALENT (SS) OF INDUSTRIAL WASTES (pe)

D. VOLUME OF INDUSTRIAL WASTES (mgd)

E. COMPOSITION AND CHARACTERISTICS OF INDUSTRIAL WASTES

F. MAIN DIFFICULTY EXPERIENCED WITH INDUSTRIAL WASTE (explain)

G. HAVE INDUSTRIAL EFFLUENT PROBLEMS BEEN SOLVED? ☐ YES ☐ NO (If yes, how?)

9A. METHOD OR METHODS USED TO ASSESS INDUSTRIAL WASTE TREATMENT COST (check appropriate box)

☐ NO CHARGE BY CITY ☐ PROPERTY TAX ☐ WATER USE ASSESSMENT ☐ CHARGE BASED ON FLOW

☐ CHARGED BASED ON BOD ☐ CHARGE BASED ON SS ☐ OTHER METHODS (describe)

COMMENT ON HOW CHARGE IS COLLECTED (fixed charge, sliding scale, etc.)

9B. IS INDUSTRIAL WASTE ORDINANCE IN EFFECT AND ENFORCED? ☐ YES ☐ NO

10. WHO PROVIDED INITIAL INSTRUCTION IN THE OPERATION OF THE PLANT?

Leonard Helfer - Town Marshall

11. IS A MANUAL OF PRACTICE OR INSTRUCTIONS AVAILABLE? ☑ YES ☐ NO

IF YES, WHO WROTE AND PROVIDED IT? Dept. of Health, U.S.P.H.S., Pac. N.W. [illegible]

12. ESTIMATE OF MAN-HOURS PER WEEK DEVOTED TO LABORATORY WORK AND MAINTENANCE OF RECORDS AND REPORTS

5

D. PLANT PERSONNEL (Annual Average Staff for Most Recent Year Reported in Section "F")

JOB CATEGORY	NUMBER	TOTAL MAN-HOURS PER WEEK	TOTAL NUMBER CERTIFIED OR LICENSED	RANGE IN YEARS EMPLOYED AT PRESENT PLANT	RANGE IN YEARS OF EXPERIENCE IN THIS AREA
1. SUPERINTENDENT	1	10		7 mo.	7 mo
2. OPERATORS					
3. LABORATORY TECHNICIANS					
4. LABORERS					
5. PART-TIME LABORERS					
6. TOTAL					

E. LABORATORY CONTROL

Enter test codes opposite appropriate items. If any of the below tests are used to monitor industrial wastes place an "X" in addition to the test code.

CODES

1 – 7 or more per week 3 – 1, 2, or 3 per week 5 – 2 or 3 per month 7 – Quarterly 9 – Annually
2 – 4, 5 or 6 per week 4 – as required 6 – 1 per month 8 – Semi-Annually

ITEM	RAW	PRIMARY EFFLUENT	MIXED LIQUOR	FINAL	SLUDGE		DIGESTOR	RECEIVING STREAM
					RAW	SUPER-NATANT		
1. BOD								
2. SUSPENDED SOLIDS								
3. SETTLEABLE SOLIDS	3							
4. SUSPENDED VOLATILE								
5. DISSOLVED OXYGEN	2			2			2	
6. TOTAL SOLIDS								
7. VOLATILE SOLIDS								
8. pH	2			2				
9. TEMPERATURE	3						2	
10. COLIFORM DENSITY								2
11. RESIDUAL CHLORINE				2				2
12. VOLATILE ACIDS								
13. M. B. STABILITY								
14. ALKALINITY							2	
15.			Do not Practice Recharge					
16.								
17.								
18.								
19.								

F. OPERATION AND MAINTENANCE COST FOR PLANT

YEAR OF OPERATION	SALARIES/WAGES	ELECTRICITY	CHEMICALS	MAINTENANCE	OTHER ITEMS	TOTAL
MOST CURRENT YEAR 19						
PRIOR YEAR 19						
PRIOR YEAR 19						
PRIOR YEAR 19						

EVALUATION PERFORMED BY	TITLE	ORGANIZATION

INFORMATION FURNISHED BY	TITLE	ORGANIZATION	DATE
John Cox	Supt	Town of Acton	6-16-

G. NOTATIONS BY EVALUATOR

1. ADDITIONAL REMARKS *(If remarks refer to a particular item, identify by number)*

2. GENERAL COMMENTS ON HOUSEKEEPING AND MAINTENANCE

3. REQUIREMENTS OF HIGHER AUTHORITY

3A. DOES THE PLANT PROVIDE THE DEGREE OF TREATMENT PRESENTLY REQUIRED BY THE STATE? *(If no, explain)*

☐ YES ☐ NO

3B. ARE THERE ANY PENDING ACTIONS *(enforcement conferences, change in water quality standards, etc.)* THAT WOULD REQUIRE UPGRADING OF TREATMENT BY THIS PLANT?

☐ YES ☐ NO *(If yes, explain)* Engineering Survey in progress for New plant.

3C. NUMBER OF STATE INSPECTIONS OF PRESENT PLANT TO DATE.

4. IS ANY FOLLOW-THRU ACTION REQUIRED TO (1) CORRECT DEFICIENCIES IN THE PLANT OR ITS OPERATION OR (2) RESOLVE INDUSTRIAL WASTE PROBLEMS? *(If yes, describe required corrective action)* ☐ YES ☐ NO

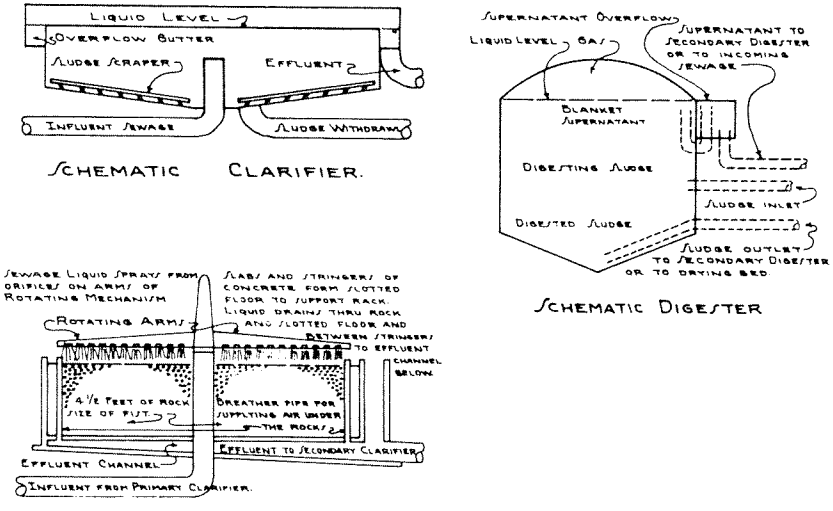
ifier, where it settles down with the primary sludge and with the latter is pumped to the primary digester.

The primary digester, where the important digestion takes place, is kept by means of a heat exchanger at a temperature of 95 to 100 degrees Fahrenheit. At this temperature meso-philic bacteria produce gas which is 65% to 70% methane, and which burns readily in a gas furnace.

From the domes of the digester, this gas is piped to the hot-water boilers which heat the several buildings as well as the digesters.

In order to obtain good treatment of sewage, it is necessary that the several chemical, biological, and hydraulic processes be at all times properly controlled. So that we may know we are doing this, regular tests are made in the laboratory. In this way we determine that each step is as it should be. When we find that any unit is performing below standard, we must devise corrective methods.

To those young people, who have shown an interest in this plant, it may be stated that Sewage Treatment is a growing industry. As the concentration of population further pollutes our streams and beaches, many similar plants and improved ones must be built; it will require many intelligent young men and young women, too, to operate them.



A GLANCE AT THE - -

SEWAGE TREATMENT PLANT

RICHLAND, WASHINGTON

A GLANCE AT THE SEWAGE TREATMENT PLANT

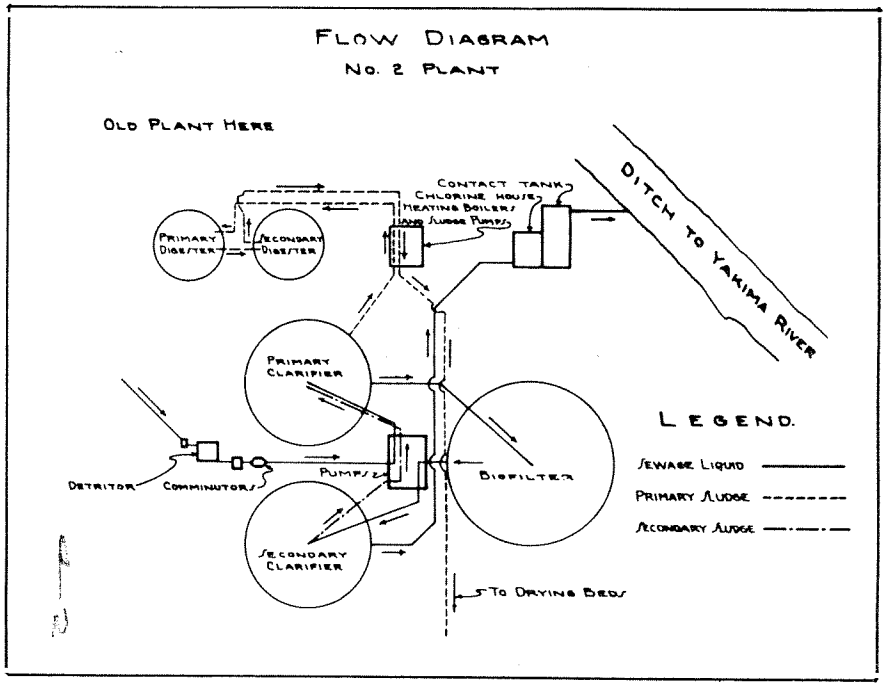
In the city of London, England, two or three hundred years ago, the death rate was so high that only the steady influx of country people kept the population large enough to carry on the work of that industrial area. This high death rate was due largely to two things, lack of an adequate supply of pure water, and lack of a good system for disposing of household wastes. Now the Romans, two thousand years ago brought into Rome by large aquaducts excellent water from the Appenine Mountains. And in the ancient cities of Crete, there were some sanitary sewers. But good water and workable systems for disposing of sewage have become common only with the last hundred years; and in sewage disposal, particularly, only in this century have engineers devised systems which are truly sanitary.

In general, disposing of sewage is accomplished by some variation of the following--

Thru a system of underground pipes or conduits, the waste from homes, office buildings, hotels, and industrial plants is collected and moved to the Treatment Plant. From the entrance pipe or conduit, the sewage flows thru a grit chamber, where velocity of the flowing liquid is reduced enough for sand, grit, coal bits, and the like to settle out. This deposit is raked out mechanically or manually. Next, the sewage passes thru a chopper, usually a comminutor, where floating solids are reduced in size; and then, to a settling basin or clarifier where a large part of the suspended solids, (called sludge), settle out and are moved by underwater scrapers to a pipe opening and are pumped into a large covered tank or digester. The overflow from the settling basin is then aerated by one of several possible systems and is pumped or flows into a second settling basin, where more solids settle out. This second settling of sludge, sometimes called humus, is moved into the digester also. The overflow from the second settling basin or clarifier is usually treated with chlorine to kill bacteria and then flows into some stream or body of water. If treatment has been carried on correctly, this final liquid or effluent from the Sewage Treatment Plant is no longer harmful to fish or capable of producing noxious smells.

The sludge in the digester is increased in amount daily. It goes thru a process somewhat like decay, (which we call digestion), because bacteria actually feed on certain elements in it and change the form. After these bacteria have used up the materials in the sludge, which are food for them, the remainder, inert as clay or sand, sinks to the bottom. From time to time this digested sludge is drawn off to drying beds or burned. If dried, it is useful as fertilizer.

The Richland Plant consists of two parts, the original plant and the new plant completed in 1949. These are operated jointly; about one-third of the sewage flowing thru the old plant and the remainder thru the new.



The old plant consists of entrance box with comminutor, two primary clarifiers, one bio-filter, two secondary clarifiers, digester, pumphouse, and laboratory in one building, chlorine house and retention chamber. Flow is by gravity thru the plant. Recirculating pumps continually pump part of the secondary effluent back to the primary clarifier and biofilter, so that all liquid makes a double trip thru the units, which contributes toward more thorough treatment.

The new plant consists of grit chamber with mechanism for raking grit into a hopper for disposal at garbage dump, splitter box for diverting part of flow to old plant, two comminutors for alternate use, primary clarifier, pumphouse for circulating and re-circulating pumps, biofilter, secondary clarifier, two digesters, (primary and secondary), boiler-room, chlorine house and retention chamber. The laboratory of the original plant serves the needs of both.

The appended flow diagram shows the direction of the principal movement of sewage thru the plant. Additionally, part of the biofilter effluent is pumped back to the primary clarifier from the center of the secondary clarifier, the "launder" line carries liquid back thru the biofilter and the thin liquid or supernatant, pushed off the top of the digesters as sludge is added, flows back to join incoming sewage ahead of the comminutors.

You will note from the flow diagram that the sludge settling out in the secondary clarifier is pumped back into the primary clar-

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

WATER QUALITY LABORATORY

ORIGINAL TO: J. ARMSTRONG
COPIES TO: R. DEVITH
LAB FILES

DATA SUMMARY

Source ASOTIN STP Collected By J.A.

Date Collected 7/17/73 Goal, Pro./Obj.

Log Number: 73- 2563	64	65	66	67						STORET
Station:	INF	EFF	1000	1200	1530					
pH	7.1	7.1								00403
Turbidity (JTU)	175	50								00070
Conductivity (umhos/cm)@25°C	830	810								00095
COD	748	279								00340
BOD (5 day)	385	166								00310
Total Coliform (Col./100ml)			>8x10⁵	>8x10⁵	>8x10⁵					31504
Fecal Coliform (Col./100ml)			>4x10⁴	22,500	400					31616
NO3-N (Filtered)										00620
NO2-N (Filtered)										00615
NH3-N (Unfiltered)										00610
T. Kjeldahl-N (Unfiltered)										00625
O-PO4-P (Filtered)										00671
Total Phos.-P (Unfiltered)										00665
Total Solids	1105	543								00500
Total Non Vol. Solids	588	329								
Total Suspended Solids	740	119								00530
Total Sus. Non Vol. Solids	272	15								

Note: All results are in PPM unless otherwise specified. ND is "None Detected"
Convert those marked with a * to PPB (PPM X 10^3) prior to entry into STORET

Summary By Stephen D. Rudd Date 7/25/73

Table IV — 6

RESULTS OF DOE's EFFICIENCY SURVEY ON ASOTIN'S S.T.P.

FIELD RESULTS

Parameters Tested	INFLUENT Max.	Min.	Mean	Median	EFFLUENT Max.	Min.	Mean	Median
Temp. °C	24	22	22.9	23	22	21	21.8	22
pH	8.1	6.8		7.7	7.8	6.8		7.2
Conductivity (μmhos/cm)	—	—	—	—	—	—	—	—
Settleable Solids	13	2.5	6.6	4.5	0.2	0.1	0.1	0.1

LABORATORY RESULTS ON COMPOSITE IN PPM

Parameters Tested	Influent	Effluent	% Reduction
5-Day BOD	385	166	57
C.O.D.	748	279	64
T.S.	1105	543	51
T.N.V.S.	588	329	44
T.S.S.	740	119	84
N.V.S.E.	272	15	94
pH	7.1	7.1	0
Conductivity	830	810	—
Turbidity	175	50	27

BACTERIOLOGICAL RESULTS (*)

Sampling Time	Colonies/100 MLS (MF)	Cl Residual ppm	Time elapsed
1000	>40,000	<0.1	3 Min.
1200	22,500	<0.1	3 Min.
1530	400	2.0	3 Min.

(*) ($Na_2 S_2 O_3$ added to sample before sampling.)