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December 11, 1973

WA-09-1020

Memo to: John Glynn
 From: Ron Devitt
 Subject: Kent Highlands
 (See scoping request - June 6, 1973, from John Glynn.)

State of
 Washington
 Department
 of Ecology



On June 19, 1973, grab samples were taken at the Kent Highlands "sanitary landfill" "wastewater treatment plant."

The river flow was low and the rusty-red, foaming effluent was obvious.

A V-notch weir had a head height of 2 3/4". The angle was not determined. The maintenance man, Jim O'Brian, said that Stevens, Thompson & Runyon installed the weir and could be contacted for flow determination. If one of the regional personnel is in the area, it could be measured.

Grab samples were taken of the polluted spring water, of the leachate, and of the effluent. The data is reported below. There are some very obvious conclusions based on this data.

	Spring	Leachate(Inf)	Effluent
1			
pH	6.2	6.0	6.9
Turbidity ²	42	125	135
Conductivity ³	1010	2600	1900
COD	925	2980	1840
BOD	>160	>800	>800
Chlorides	39	138	114
NH ₃ -N	7.9	45.5	31.0
T.Kjeldahl-N	8.1	47.8	36.4
Total Solids	857	2301	1726
Total Non-Vol Solids	382	1098	773
Total Suspended Solids	33	138	244
Total Sus. Non-Vol Solids	12	85	132
Sulfates	11	160	50
Calcium	75	240	160
Magnesium	26	41	34
Iron	14	105	35
Hardness ⁴	300	770	540

1- pH units.

2- JTU

3- μ hos/cm @ 25°C

4- Ca + Mg hardness

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- #1. The spring water is grossly contaminated.
- #2. The leachate is some bad stuff.
- #3. The treatment unit does reduce the undesirable characteristics of the leachate somewhat, but the effluent is still so obnoxious that discharge to any state waters should be prohibited.

From experience in observing the wide fluctuations in leachate characteristics and hydraulic runoff from Cedar Hills landfill, it is my opinion that a biological treatment process seems impractical. The performance of this pilot unit on the day of the survey tends to support this theory. It would seem that chemical treatment would be more versatile in treating a wastewater which is so changeable.

RCD:jmh

MEMORANDUM
Department of Ecology

Check

Information
F A tion
Permit
Other

TO: Pete Hildebrand, Tom McCann,
Ron Pine, Ron Devitt, & Files

DATE: June 6, 1973

FROM: John H. Glynn *JHG*

SUBJECT: REQUEST FOR SURVEY OF KENT-HIGHLANDS SANITARY LANDFILL

It is requested that a survey be run of the leachate treatment system at the Kent-Highlands sanitary landfill during the month of June 1973. This survey is requested in order to provide background data for an evaluation of an engineering report due from the City of Seattle in July for an improvement in this leachate treatment system. In addition this information will be useful in providing comparative data in evaluating the results of our winter long survey of the Cedar Hills Sanitary Landfill leachate problem.

Four sampling points are suggested (see enclosed sketch). The following parameters are recommended: COD, CONDUCTIVITY, CHLORIDES, CALCIUM, IRON, MAGNESIUM, HARDNESS, TOTAL CARBON, TOTAL INORGANIC CARBON, TOTAL ORGANIC CARBON, AND HYDROGEN SULFIDE. A single grab sample at each station should be sufficient.

A key to the lagoon can be obtained from the operator at the entrance to the landfill located on Military Road. The manholes are rather difficult to open and will probably require a sledge and manhole puller. I would like to be present during the survey if that can be arranged.

JHG:as

6-6-73 dd

6-7-73 dt

Enclosure

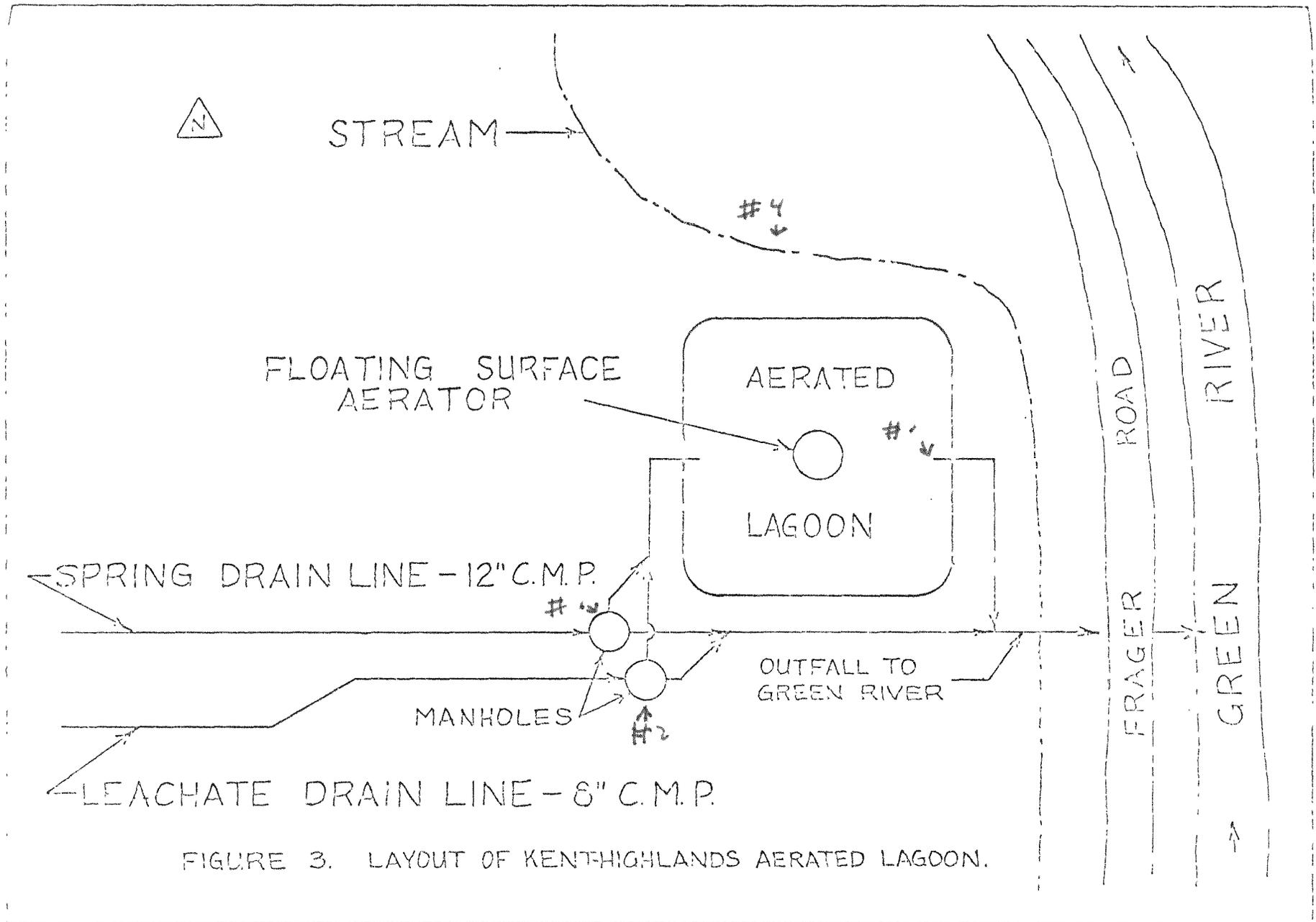


FIGURE 3. LAYOUT OF KENT-HIGHLANDS AERATED LAGOON.

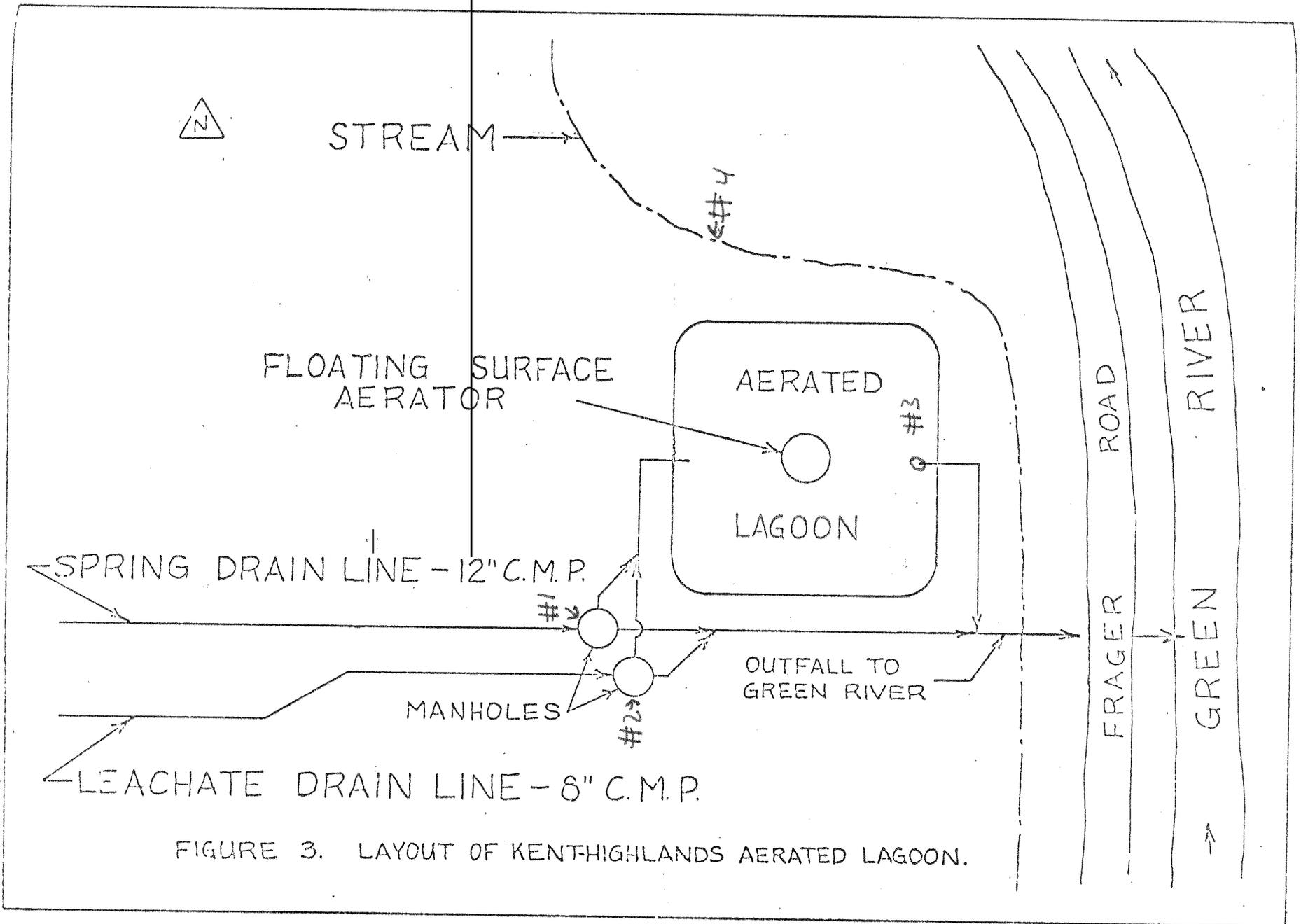


FIGURE 3. LAYOUT OF KENTHIGHLANDS AERATED LAGOON.