



SAMUEL B. KIRKWOOD, M.D.
Commissioner

The Commonwealth of Massachusetts
Department of Public Health

State House, Boston 33 August 20, 1957

D.E. Makepeace Company
Pine and Dunham Streets
Attleboro, Massachusetts

Re: PLAINVILLE-RaH-Radioactive
Waste Disposal from D.E.
Makepeace Company, Route 152

Gentlemen: Attention: W.F. Mittendorf, Vice-President

The Department of Public Health is in receipt of your letter dated August 19, 1957, in which a request is made for the approval of a proposed design for disposal of certain radio-active liquid wastes from the new plant being constructed on Route 152 in Plainville.

The letter was accompanied by a two-page report titled:

"PROPOSED LIQUID WASTE DISPOSAL SYSTEM
NUCLEAR DEPARTMENT -- D.E. Makepeace Co.
PLAINVILLE, MASS."

and signed by Ray A. Blackler, Chemist and Health and Safety Engineer; a sketch drawing of a proposed leaching pit bearing the title "Proposed Leaching Pit for Nuclear Waste Water" bearing the date August 19, 1957, and initials R.A.B. of Mr. Blackler; and a blueprint showing the topography and test borings information in the vicinity of the site on Route 152. This plan contained the title:

SITE GRADING PLAN

NEW PLANT FOR
D.E. Makepeace Co.,
PLAINVILLE, MASS.

Scale: As Noted Date: April 29, 1957

GILBERT SMALL & CO.
INCORPORATED
ENGINEERS

10 State Street Boston 9, Mass.

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The information submitted reveals that it is proposed to provide a subsurface disposal system for certain of the process wastes (said system to be independent of the already approved sanitary waste disposal system). The wastes to be discharged to this system will be from the nuclear section of the building and will consist of treated, monitored and decontamination wastes from natural uranium and enriched uranium processes, and from laundry, shower and laboratory wastes. It will not contain wastes directly from pickling solutions and first rinse water operations. The waste water from these latter pickling operations will receive special treatment and only supernatant and separately monitored wastes will be admitted from these processes to the radio-active waste disposal works.

The information further reveals that all waste water from these said processes will be discharged through separate lines to a 2500-gallon receiving tank (#1) and/or to a second 2500-gallon tank (#2) to be used in parallel and alternately. Such arrangement, it is understood, is provided to facilitate and guarantee adequate facilities for proper and safe monitoring of the wastes. It is understood that the waste water received by these tanks will be filtered by three separate filter systems, (a 50-micron and a 5-micron filter) to remove and recover all particulate matter in suspension.

The water from these tanks (#1 and #2) will be pumped for discharge to a subsurface disposal system outside the building after it has been monitored and, if necessary, passed through an anion exchange column and into a 2500 gallon tank (#3) for monitoring of the wastes to assure that the radioactivity present will be less than the Atomic Energy Commission requirements as specified in regulations Part 20, Title 10.

The subsurface disposal works to receive these liquid wastes will be located some 30 feet east of the south end of the building and in gravelly soil suitable for subsurface disposal of liquid wastes. It is initially proposed to install a large leaching pit constructed of concrete cesspool blocks with an inside diameter of 12 feet and an effective depth of 5 feet with an effective estimated diameter of approximately 18 feet. The bottom of the pit will be paved with 12 inches of filter sand.

All waste disposal lines inside and outside the building will be of cast-iron, black iron, or plastic pipe with tight joints.

The basic design of these works provides for the potential expansion of the subsurface disposal portion by installation of additional leaching pits, when and if indicated necessary and to be located in the same general area.

The initial estimated quantity of wastes in any one week or any one day is indicated to approximately 2500 gallons; the leaching pit to be installed at the present time will have an effective inside capacity of approximately 4,000 gallons.

The examination and information submitted revealed that the only two existing wells currently in existence within a radius of a quarter of a mile are either to be abandoned or to be taken over by D.E. Makepeace Company for special research and/or monitoring uses.

The Department recommends that an 800-gallon septic tank be installed on the shower and wash water waste line ahead of the receiving sump to intercept floatable matter and to increase the filter efficiency. The Department determines that the works as designed and as submitted for approval are in conformance with good engineering practice for disposal of such wastes and gives temporary approval for the construction and use of these works until further notice and/or until such time as it deems necessary for changes or additions to such works provided that its recommendation pertaining to use of the 800-gallon septic tank is conformed with and that the Department's approval is obtained in the future as to methods to be employed for disposal of wastes collected by the filters and septic tank.

Respectfully,

C. I. Sterling, Jr.

Clarence I. Sterling, Jr.
Deputy Commissioner
Environmental Sanitation

c-Board of Health, Plainville