

[Report 1949] / Medical Officer of Health, Witham U.D.C.

Contributors

Witham (England). Urban District Council.

Publication/Creation

1949

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REPORT

OF THE

Medical Officer of Health

A. P. KALRA

M.B., M.R.C.S., D.P.H., D.C.H.

FOR THE YEAR

1949

TOGETHER WITH THE

REPORT

OF THE

Chief Sanitary Inspector

CHAS. JOSCELYNE
Printer - Braintree



Witham Urban District Council

Public Health Committee

D. J. MAIDMENT, ESQ., J.P., *Chairman*

MRS J. N. PELLY

A. J. GOODRICH, ESQ., J.P.

W. G. LOVEDAY, ESQ.

S. J. SOAR, ESQ.

S. C. GIGGINS, ESQ.

J. AGER, ESQ.

T. R. MOTT, ESQ., J.P., *ex officio*

Public Health Officers

MEDICAL OFFICER OF HEALTH

W. J. MOFFAT, M.B., CH.B., D.P.H. (until June, 1949)

A. P. KALRA, M.B., M.R.C.S., D.P.H., D.C.H. (from November, 1949)

CHIEF SANITARY INSPECTOR AND INSPECTOR OF MEAT AND OTHER FOODS

E. H. C. WADHAMS, M.R.SAN.I., M.S.I.A.

ADDITIONAL SANITARY INSPECTOR

H. R. SCOTT, M.S.I.A. (appointed March, 1949)

CLERICAL ASSISTANT

R. G. CHAPMAN

PUBLIC HEALTH DEPARTMENT,
TOWN HALL,
BRAINTREE.

September, 1950

MR CHAIRMAN, MADAM AND GENTLEMEN,

I have the honour to present the Annual Report for the year 1949, on the health and sanitary circumstances of the Witham Urban District.

The birth rate was 15.7 and the death rate 10.9 per 1,000 of estimated population.

The infectious disease statistics show a higher incidence of measles in the district than in the previous two years. During the country wide epidemic of poliomyelitis in 1949, the Urban District had 9 confirmed cases with one death. Fortunately, poliomyelitis is a disease of low infectivity, as will be seen by the fact that only 9 cases occurred during the year, while there were 183 cases of measles, which is a highly infectious disease.

The section on the General Provision of Health Services has been almost entirely rewritten to bring it into line with the new set up under the National Health Service Act. The Essex County Council is the Local Health Authority and provides the Public Health Services under the Act, and the Regional Hospital Board and the Executive Council are the responsible bodies for the provision of Hospital and General Practitioner Services respectively.

Housing is, and will continue to be a major social problem in the district, and although good progress has been made in the building of new houses, it is disturbing to see that the number of applications for Council houses continues to increase.

In conclusion, I should like to thank the members of the Council, the Council's Officers, and, in particular, the staff of the Public Health Department for their help and co-operation since my appointment as Medical Officer of Health.

I am, Mr Chairman, Madam and Gentlemen,

Your obedient Servant,

A. P. KALRA

PUBLIC HEALTH DEPARTMENT,
COUNCIL OFFICES,
WITHAM

To the Chairman and Members of the Urban District Council of
Witham.

MR CHAIRMAN, MADAM AND GENTLEMEN,

I beg to submit, in conjunction with the report of the Medical Officer of Health, my report upon the sanitary circumstances of the Urban District for the year 1949, with details of the public services administered by my department.

The satisfactory sanitary condition of the district has been maintained throughout the year. Active progress has been centred, as in other areas, mainly on the development of new housing estates, but very necessary extensions of sewer and water services have been carried out for the benefit of existing properties, and a limited amount of reconditioning of sub-standard houses has been achieved. Your Council has approved further schemes of sewerage, sewage disposal and water supply improvement, and in these respects is making good the enforced lack of progress during the war and immediate post-war period.

Hygiene of food preparation and handling, which has assumed greater importance owing to the widespread increase in communal feeding, has again been given considerable attention. In addition to the remedy of defects in food premises and food handling processes, much time has been spent in advising managements and their staffs on the importance and practical application of hygiene. The labour shortage and lack of trained staff in the expanding food industry undoubtedly call for greater emphasis on education, and for close co-operation between the local authority, the managements and their employees, for the greater appreciation and solution of the faults which undoubtedly exist. Given this co-operation, the improvement already achieved can be sustained and extended. It should not be forgotten, however, that the local authority has the statutory duty of enforcing clean safe food production and distribution, and any co-operative approach must commence from a basis of legal minimum requirements, and not with the object of attaining them. The majority of food handlers, of all grades, have shown a keen interest in the Department's efforts, and I anticipate no difficulty in obtaining their co-operation in the furtherance of the present national campaign.

It is regrettable, but unavoidable, that the continued housing shortage precludes the quicker demolition of condemned properties, and the pursuance of further slum clearance programmes. However, so far as a large majority of sub-standard houses are concerned, the Housing Act, 1949, offers a solution of the difficulties which have faced all post-war reconditioning schemes, and should ensure that every

house which can be brought to modern standards will be utilised for its maximum habitable life and thereby contribute to the economic solution of the housing problem.

The control of milk production passed to the Ministry of Agriculture and Fisheries on 1st October, which relieved your Council and my Department of duties which had given justifiable cause for pride. It is regrettable that the need for this centralisation was made the occasion for criticism of the work of local authorities, which for many years (and especially in Essex, in co-operation with the County Council) had been faithfully and energetically directed towards the ideal with which they had been entrusted—a clean milk supply. The fact that clean milk was not necessarily always safe was only indirectly a responsibility of district councils, who were not entrusted with the eradication of Tuberculosis and other milk borne infections from the dairy herds. The emphasis now appears, quite rightly, to be on the provision of safe milk, but cleanliness is still a virtue and a public health principle. It is hoped that the aim of the new administration will be to combine both qualities. Safety is all-important, but its achievement need not involve disregard of aesthetic values. As an analogy, it is possible to make tuberculous meat safe for human consumption, but it would be a sorry sacrifice to economic necessity if such a course had to be adopted to replace condemnation.

The sanitary services of refuse collection and sewage disposal were maintained throughout the year, and proposals for the improvement and extension of both were adopted by the Council. Salvage recovery produced the highest income yet achieved in Witham, and continues to be a profitable undertaking.

Routine inspection work, limited in 1948 by the temporary lack of an Additional Sanitary Inspector, was resumed on the appointment of Mr H. R. D. Scott. With his assistance, it is hoped to commence a housing survey of the district in 1950.

I would like to record my appreciation of the support I have received from the Chairman and Members of the Council and the Public Health Committee. In expressing my thanks for the co-operation and support of the Medical Officers of Health, I would like to pay tribute to Dr W. J. Moffat, with whom I have had the pleasure of working during the past three years, and to the harmony and understanding with which he coupled his keen interest in all aspects of the department's work. My thanks are also due to the other Officers of the Council for their ready co-operation and assistance, and to the staff and workmen of my Department for their loyal support.

I am, Mr Chairman, Madam and Gentlemen,

Your obedient servant,

E. H. C. WADHAMS,
Chief Sanitary Inspector

General Statistics

Area (in acres)	7,329
Population (estimated mid-year)	8,363
Number of inhabited houses according to rate books ...	2,506
Rateable value (March, 1949)	£44,807
Sum represented by a penny rate	£170

SOCIAL CONDITIONS. The area has two minor industrial centres in the town of Witham and the garden village of Silver End. The remainder of the area is almost entirely agricultural.

There was no unemployment problem during 1949.

Vital Statistics

In Table I on page 8 are set out the extracts of the Vital Statistics of the District for the ten year period 1940-49 in regard to the estimated mid-year populations, and the local and national birth and death rates for each year during that time.

DEATHS

The death rate in the Urban District was 10.9 per 1000 of estimated resident population. The comparability factor for the District is 1.03 and offers a direct comparison to be made with the rate of England and Wales as a whole, after adjustment for the proportion of the different age groups in the population.

Table II on page 7 gives the Causes of death of residents of the District during the year, according to sex, whether death occurred inside or outside the Urban District. The information for this table has been furnished by the Registrar General.

Diseases of the heart and circulatory system account for just over 50% of all deaths during the year, and cancer was the second in importance as a cause of death.

The nett deaths of persons dying in 1949 whose normal place of residence was within the Urban District, whether death occurred within or outside the District were distributed in age groups as shown below:

All	under	1-2	2-5	5-15	15-25	25-35	35-45	45-55	55-65	65-75	75
Ages	1										& up
91	6	—	—	—	—	1	6	7	.15	17	39

The percentage of the total deaths in the age groups 75 and upwards was 43 and was higher than last year's figure.

BIRTHS.

In the year 1949, there were 131 live births in the Urban District, and these were as follows:—

	Male	Female
Total ...	71	60
Legitimate	69	60
Illegitimate	2	—

The birth rate was 15.7 per 1,000 of estimated population. This rate is less than that of last year.

STILL BIRTHS.

There were only 2 still births registered in 1949 and these were as follows:—

	Male	Female
Total	1	1
Legitimate	1	1
Illegitimate	—	—

The still birth rate per 1,000 total (i.e. live and still) births was 15.

INFANT DEATHS.

There were 6 deaths of infants under 1 year in 1949 and these were made up as shown below:—

	Male	Female
Total	3	3
Legitimate	3	3
Illegitimate	—	—

The Death Rate for infants under one year of age was as follows:
 All infants per 1,000 births 45.8
 Legitimate infants per 1,000 legitimate live births 46.5
 Illegitimate infants per 1,000 illegitimate live births —

Among the infant deaths 2 were due to prematurity, one to hydrocephalus and spina bifida, 1 to pulmonary atelectasis, 1 to bronchopneumonia and 1 to meningitis.

TABLE II
CAUSES OF DEATH

The Table below was compiled from figures supplied by the Registrar-General and the classification is given under the new abridged list of causes of death as used in England and Wales and contained in the Manual of the International List of Causes of Death.

<i>Cause of Death</i>	<i>Male</i>	<i>Female</i>
Typhoid and para-typhoid fevers	—	—
Cerebro-spinal fever	—	—
Scarlet fever	—	—
Whooping cough	—	—
Diphtheria	—	—
Tuberculosis of respiratory system	1	—
Other forms of tuberculosis	—	—
Syphilitic disease	—	—
Influenza	—	—
Measles	—	—
Acute poliomyelitis and polio-encephalitis	1	—
Acute infectious encephalitis	—	—
Cancer of buccal cavity and oesophagus (M) uterus (F)	—	—
Cancer of stomach and duodenum	1	1
Cancer of breast	—	1
Cancer of all other sites	7	2
Diabetes	—	—
Intra-cranial vascular lesions	6	4
Heart disease	21	9
Other diseases of circulatory system	3	3
Bronchitis	3	4
Pneumonia	—	1
Other respiratory diseases	—	—
Ulcer of stomach or duodenum	—	—
Diarrhoea under 2 years	—	—
Appendicitis	—	—
Other digestive diseases	—	2
Nephritis	3	—
Puerperal and post-abortive sepsis	—	—
Other maternal causes	—	1
Premature birth	1	1
Congenital malformation, birth injury, infantile disease	2	1
Suicide	1	—
Road traffic accidents	—	—
Other violent causes	—	2
All other causes	8	1
All causes	58	33

TABLE I
EXTRACTS FROM VITAL STATISTICS FOR 1949 AND PREVIOUS YEARS

YEAR	BIRTHS			DEATHS											
	Population estimated mid-year	NETT		Total number registered in District	TRANSFER- ABLE		Under 1 year of age			NETT				Natural increase (excess of births over deaths)	
		Number	Rate		Rate—England and Wales	Of Non- residents in District	Of Residents not registered in District	Number	Rate per 1,000 nett. births	Rate—England and Wales	Number	Rate	Rate—England and Wales		At all ages
1940	7,707	102	13.2	14.1	68	10	26	4	39.2	†57	84	10.9	14.4	18	
1941	7,929	121	15.6	13.9	67	7	20	3	24.8	†60	80	10.1	13.5	41	
1942	7,781	124	15.9	15.6	52	11	26	3	24.2	†51	67	8.6	12.3	57	
1943	7,949	114	14.3	16.2	53	10	28	2	17.5	†49	71	8.9	13.0	43	
1944	7,735	128	16.6	17.7	61	14	27	8	63.5	†45	74	9.6	12.7	54	
1945	7,619	145	19	15.9	71	18	28	10	68.9	†46	81	10.6	12.6	64	
1946	7,960	170	21.5	19.1	66	6	25	6	35.3	†43	85	10.7	12.0	85	
1947	8,144	149	18.3	20.5	57	7	28	5	33.6	†41	78	9.6	12.3	71	
1948	8,252	143	17.3	17.9	50	8	26	1	7.0	†34	68	8.2	10.8	75	
1949	8,363	131	15.7	16.7	65	12	38	6	45.8	†32	91	10.9	11.7	40	

† Rate per 1,000 related births

General Provision of Health Services

Public Health Officers

For list see page 1.

The Medical Officer of Health is also the Medical Officer of Health for the Urban District of Braintree and Bocking and for the Rural Districts of Braintree and Dunmow, and Assistant Medical Officer for the Essex County Council.

Dr W. J. Moffat left in June to take up his new appointment as Area Medical Officer of Health to the South East Essex Health Area.

Dr A. P. Kalra commenced his appointment as Medical Officer to Braintree, Witham and Dunmow Districts in November.

The Braintree and Bocking Urban District Council, by arrangement with the Authorities concerned, provide office accommodation for the Medical Officer of Health in the prefabricated annexe of the Town Hall, Braintree.

The Chief Sanitary Inspector, in addition to his ordinary duties and meat inspection, continued to be responsible for the Council's Refuse and Salvage Collection scheme, for the management of the Council's Sewage Disposal Works, including the farming of the land at the Witham Sewage Works.

Mr H. R. Scott began his duties as Additional Sanitary Inspector to the Council in March, the post having been vacant for nine months.

SERVICES PROVIDED BY THE ESSEX COUNTY COUNCIL

CARE OF EXPECTANT MOTHERS.

Regular ante-natal clinics are held, with a lady doctor in attendance, at the Combined Treatment Centre, Guithavon Street, Witham.

CARE OF YOUNG CHILDREN UP TO SCHOOL AGE.

Child Welfare clinics are held fortnightly at the Combined Treatment Centre in Witham and also at the Village Hall in Silver End. Injections for Diphtheria Immunisation are given with the parents' consent. Children requiring treatment are referred to the local general practitioners, hospitals or special appointments given to attend the Braintree Combined Treatment Centre or the Public Health Department in Chelmsford.

DAY NURSERY.

The Essex County Council have a Day Nursery at Brookcote, Chipping Hill, Witham, for some 30 children whose mothers are engaged in industry.

CARE OF SCHOOL CHILDREN

Regular school medical inspections are carried out and the children with defects are referred for treatment. Boosting doses of diphtheria prophylactic are given to increase the resistance of the children to diphtheria.

HEALTH VISITING.

The Health Visitors visit the homes of young children, act as school nurses and help at the clinics at the Combined Treatment Centre, Witham, and the Village Hall, Silver End.

HOME NURSING AND DOMICILIARY MIDWIFERY.

These services are carried out by the District nurse midwives resident in the area.

DOMESTIC HELP SERVICE.

Applications for domestic help should be made to the County Medical Officer, County Hall, Chelmsford. This service is not provided free of cost.

AMBULANCE FACILITIES.

The whole of the ambulance services are under the control of the Essex County Council and a 24 hour service is available.

CARE OF THE AGED AND INFIRM.

Residential accommodation is provided at St. Michael's Hospital, Braintree, and at Stisted Hall.

LABORATORY SERVICES.

The Essex County Council provide a laboratory service which includes the bacteriological and chemical analyses of water samples, the chemical analyses of sewage effluents, and the examination of other food for pathogenic organisms. These examinations are carried out by the Counties Public Health Laboratories, 61 Victoria Street, London, S.W.1.

Examination of milk samples from the District are also arranged by the Essex County Council and the service is provided by the Essex Institute of Agriculture at Writtle, near Chelmsford.

Chemical examination of foodstuffs are undertaken by the Public Analyst to the Essex County Council.

SERVICES PROVIDED BY THE NORTH EAST METROPOLITAN REGIONAL HOSPITAL BOARD

The hospitals are managed by the Regional Hospital Board and provide medical, surgical and special treatment. The hospitals which serve the Witham population are those in Chelmsford, Colchester, Braintree, Black Notley and Broomfield. A Chest Clinic is held weekly at the Combined Treatment Centre, Braintree, and treatment for Venereal Disease is available in Chelmsford and Colchester.

SERVICES PROVIDED BY THE ESSEX EXECUTIVE COUNCIL

Under the National Health Service Act, 1946, this Council provides the general Medical, Dental, Pharmaceutical and Supplementary Ophthalmic services through the family doctors, dentists, chemists and opticians in the area.

Prevalence of and Control Over Infectious Disease

The incidence of infectious disease in the Urban District during 1949 was higher than the previous year, the number of cases notified was 217 and the major portion of these were due to measles. The disease which caused a good deal of alarm throughout the district was poliomyelitis, details of which are given below. Particulars as to numbers and ages of the cases, other than tuberculosis, for the year are given in the table on page 14. A few brief comments are made on some of the infectious diseases.

Poliomyelitis (Infantile Paralysis).

In 1949, there was an epidemic of this disease throughout the country, affecting mainly the areas with large populations. In the Witham Urban District, 9 cases occurred with one death. Two suspected cases were admitted to hospital for observation but the diagnosis was not confirmed.

Of the 9 cases, one occurred in August, one in September, four in October and three in November. Four of the cases occurred in Witham, three in Silver End and two in Rivenhall. All but two cases had paralysis and were admitted to hospital, whereas the two non-paralytic cases were nursed at home. Only in one instance was there a second case in the same household.

All the necessary preventative measures were taken. All cases, suspected and diagnosed were isolated in hospital or at home, all contacts were closely observed and all children contacts kept away from school for 21 days. Disinfectants were issued where the cases were nursed at home and in each case disinfection of the premises was done when the patient was removed to hospital or at the end of 21 days from the onset of the illness in the home-nursed cases.

Full use of the local press was made in keeping the public informed about the numbers of cases, as local rumour creates the impression of an epidemic, even when only 2 or 3 cases occur in a district.

Diphtheria.

For the second year running there were no confirmed cases of diphtheria in the district. This proves the value of diphtheria immunisation of infants and school children.

Measles.

There was a marked increase in the number of cases of measles in 1949. The last time the disease reached treble figures was in 1946. The increased incidence of the disease is due to a larger number of children who are susceptible. The disease usually follows a 2 year cycle, but this time the interval between the peaks is three years.

Disinfections.

Seventeen of which were performed, were carried out with formaldehyde vapour or disinfectant spray; infected bedding and clothing being treated with steam at the disinfecting station operated by the Braintree and Bocking Urban District Council. Library books are disinfected or destroyed as the circumstances require. In addition, disinfectant is issued to occupiers of premises where infectious disease has occurred.

Non-notifiable Diseases.

Eleven cases of sore throat and 4 of chicken-pox came to the notice of the Public Health Department via the head teachers from the different schools in the area.

Tuberculosis.

Particulars of the new cases of tuberculosis reported during the year and of deaths from the disease in the district are set out in the table below.

Age Periods (Years)	New Cases				Deaths				
	Respiratory		Non-respiratory		Respiratory		Non-respiratory		
	M	F	M	F	M	F	M	F	
0-1	—	—	—	—	—	—	—
1-5	1	—	—	—	—	—	—
5-10	—	—	—	1	—	—	—
10-15	—	1	—	—	—	—	—
15-20	1	—	—	—	—	—	—
20-25	—	—	—	—	—	—	—
25-35	2	1	1	—	—	—	—
35-45	1	1	—	—	2	—	—
45-55	—	2	—	—	—	—	—
55-65	1	—	—	—	1	—	—
65 and upwards	1	—	—	—	1	—	—
Totals	7	5	1	1	4	—	—
			12		2		4		—

At the end of the year there were 66 cases on the Tuberculosis Register of the District and these were as follows:—

Males		Females	
Respiratory	Non-respiratory	Respiratory	Non-respiratory
24	9	26	7

The Council take into consideration the circumstances of families in whom there are cases of tuberculosis and, within their resources, endeavour to provide housing accommodation when existing housing conditions are prejudicial to the health of members of such families.

On the death or removal of an "open" case of tuberculosis, the Council offer disinfection of premises and bedding. No charge is made for this service.

NOTIFIABLE DISEASES (OTHER THAN TUBERCULOSIS) NOTIFIED IN 1949

NOTIFIABLE DISEASE	NUMBER OF CASES NOTIFIED													Cases admitted to Hospital	Total number of deaths		
	At Ages—Years																
	At all under Ages	1	1-2	2-3	3-4	4-5	5-10	10-15	15-20	20-35	35-45	45-65	65 & over				
Scarlet Fever ...	3	—	—	—	1	1	1	—	—	—	—	—	—	—	—	—	—
Acute Poliomyelitis ...	9	—	—	—	3	—	2	—	1	—	—	—	—	—	—	—	7
Whooping cough ...	13	—	1	5	—	1	6	—	—	—	—	—	—	—	—	—	—
Measles ...	183	1	11	29	15	19	91	12	—	2	3	—	—	—	—	—	—
Acute Pneumonia ...	5	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—
Erysipelas ...	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Infective Hepatitis ...	3	—	—	—	—	—	1	1	1	—	—	—	—	—	—	—	—
Total	217	1	12	34	19	21	102	13	2	2	6	4	1	7	1	—	—

HOUSING

The Council continued its house building programme throughout the year, during which a further 46 houses were completed at Glebe Crescent, Ebenezer Close, Maldon Road, Powers Hall End and Blunts Hall. In the same period one house was erected and one building converted to living accommodation by private enterprise. At December there were 29 Council houses and 7 private enterprise houses under construction. The number of new houses erected in the Urban District since the end of the war is as follows:—

By the Local Authority 203 (includes 84 pre-fabricated bungalows)
By private enterprise 46.

The number of applicants for Council Houses was 341 at the end of 1949, compared with 321 at 31st December, 1948. In addition there were 26 applications for aged persons' bungalows. It is therefore apparent that considerably more houses are required to satisfy the local demand. For this purpose the Council's immediate programme includes the development of a new small estate in the Spinks Lane—Highfields Road area, which will contain about 50 houses. A further scheme of development, comprising 50 houses at Rivenhall Oak, cannot be completed until the sewerage of that area has been effected, and it is hoped that Government approval of the sewerage scheme will shortly be forthcoming.

Progress with regard to sub-standard houses has been limited. Of the condemned houses still occupied at December, 1948, 6 became vacant when the tenants were rehoused, leaving 24 in occupation at the end of 1949. While there are undoubtedly a further number of houses which warrant condemnation, the housing shortage precludes such action at the present time.

A certain amount of reconditioning was carried out during 1949, but the procedure under the Housing Act, 1936, is not suitable to post-war conditions, and it is hoped that under the new Housing Act, 1949, more will be done in this respect. Much existing property is rapidly deteriorating, and the provision of new houses will not have the desired effect upon housing requirements generally, if such property is allowed to reach a stage at which it would be uneconomic to carry out repair and modernisation.

In conjunction with a reconditioning scheme, Closing Orders were made in respect of the basement rooms of 6 houses; new kitchen/wash-house additions being erected by the owners to replace the accommodation closed.

The following Table gives a summary of action taken in connection with the inspection of houses during 1949:—

1. Inspection of dwellinghouses during the year:—			
(a)	Total number inspected for housing defects (under Public Health or Housing Acts)	... ..	189
(b)	Number found to be in a state so dangerous or injurious to health as to be unfit for human habitation		Nil
(c)	Number [exclusive of those referred to under sub-heading (b)] found not to be in all respects reasonably fit for human habitation	... ..	125
2. Remedy of defects during year without service of formal notice:			
(a)	Number of houses rendered fit in consequence of informal action by Local Authority or its Officers		105
3. Action under Statutory Powers: Housing Act, 1936:			
(a)	Number of houses in respect of which notices were served requiring repairs	... ..	7
(b)	Number of dwellinghouses rendered fit after service of formal notice	... ..	7
(c)	Number of separate tenements or underground rooms in respect of which Closing Orders were made	...	6
4. Action under Statutory Powers: Public Health Act, 1936:			
(a)	Number of houses in respect of which notices were served requiring defects to be remedied	...	12
(b)	Number of houses in which defects were remedied after service of formal notice	... ..	7
5.	Number of dwellinghouses demolished in pursuance of action under Secs. 25-33 Housing Act, 1936 (Clearance Orders)		5

Water Supply

There was no change in the sources of public supply in the Urban District. Three supplies are used: the Council's Braintree Road Waterworks supply (deep bore); the South Essex Water Company's supply from the Abberton impounding reservoir; and the Bradwell Springs supply (deep spring) operated by the Crittall Manufacturing Co. Ltd. Silver End and Rivenhall are fed by the Bradwell Springs undertaking, while the remainder of the district receives a mixture of all three supplies. All supplies undergo chloramination at the source.

Quality and quantity have been uniformly satisfactory throughout the year, though inadequate capacity and high demand on parts of the mains system cause serious loss of pressure in some parts of the area. The Council is considering measures for improving and maintaining the pressure in the mains concerned.

Samples are submitted periodically for bacteriological and chemical examination. The results, detailed on pages 19-21 showed that all supplies at the source, both before and after treatment, were satisfactory. Less satisfactory reports were received on samples taken from a newly constructed length of main, and arrangements were in hand at the end of the year for this length to be chlorinated.

The chemical analyses of mains water indicate that slight corrosive action may be exerted by the Bradwell Springs supply, owing to high content of free carbonic acid. In addition, this supply and the South Essex supply are both very hard in character. The admixture of soft water from the Braintree Road works is insufficient to offset this hardness and the Council were considering the possibility of installing a water softening plant, in conjunction with a proposal, also under consideration at the end of the year, for the purchase of the Bradwell Springs undertaking.

The number of well supplies in the Urban District has been reduced by the installation of a new main serving Maldon Road south, where twenty houses previously using shallow wells of doubtful purity are now being connected to the public main. Other wells of unsatisfactory quality exist in the neighbouring Blue Mills Hill area and the Council is considering the extension of the mains service in this direction.

House Connections, etc.

No. of separate dwellings in Urban District	...	...	2506
No. of separate dwellings having internal piped mains supply			2391
Estimated population so served	...	...	7979
No. of separate dwellings connected during year:			
		New	47
		Existing	23
No. of separate dwellings served by standpipes	...		55
Estimated population so served	...	...	186
Remaining houses, served by shallow wells, springs or cartage			60
Estimated population so served	...	...	198
Mains extension during 1949:			
4" main. Maldon Road	...		733 yards
3" main. Maldon Road	...		450 yards
	Church Street/ Ebenezer Close	...	470 yards
4" main. Rivenhall Oak Site			543 yards

Water Consumption and Future Requirements.

Total water supplied by:

1. Braintree Road Waterworks	...	26,206,000 gallons
2. Bradwell Springs:		
(a) To Silver End (estimated)	...	36,500,000 gallons
(b) To remainder of Urban District		36,292,980 gallons
3. South Essex Water Company:		
(a) Direct from Trunk Main	...	33,734,010 gallons
(b) From Braintree R.D.C. Main	...	842,000 gallons
Total Consumption	... ..	<u>133,574,990 gallons</u>
Average consumption per head per day (Domestic demand)		29.54 gallons
Average consumption per head per day (Trade demand)		<u>14.91 gallons</u>
Average total consumption per head per day ...		43.76 gallons

The average consumption per head in the district has increased by approximately 100% during the past twenty years. It is impossible to account accurately for this increase, but it is thought to be due to two main causes: (a) the enlargement and development of the district from 4,348 to over 8,000 population, involving the addition of 1,257 modern houses with bathrooms and other water consuming amenities, including considerable replacement of slum properties by modern Council houses; and (b) the very heavy demands made by local industry developed during those years. The present figure, though somewhat higher than in surrounding districts, is not regarded as excessive, and is very considerably lower than the average for the Metropolitan Water Board area. In view of the fact that future development of the district will probably be residential/industrial in character, a future demand of 50 gallons per head per day should be anticipated. On such a basis, the Council's existing supplies and their provisional reservation with the South Essex Water Company will provide for a population of 16,000. There is, therefore, no anxiety concerning the adequacy of supplies for future requirements.

Sampling.

The following table shows the number of samples submitted for examination:

		Satisfactory	Unsatisfactory	Total
1.	Mains Water:			
	Chemical ...	9	—	9
	Bacteriological ...	40	4	44
2.	Other supplies:			
	Chemical ...	8	9	17
	Bacteriological ...	7	13	20
		—	—	—
		64	26	90
		—	—	—

Copies of typical chemical analyses of the three mains supplies are given below:—

Source: BRADWELL SPRINGS. Date of sample 15th December, 1949.

Chemical Results expressed in parts per Million

Appearance: Bright with very few mineral particles.

Colour (Hazen)	Nil	Turbidity (Silica Scale)	Less than 5
Reaction pH	6.9	Odour	Nil
Electric Conductivity at 20°C	700	Free Carbon Dioxide	47
Chlorine in Chlorides	32	Total solids dried at 180°C	470
Hardness:		Alkalinity as Calcium Carbonate	260
Total	400	Nitrogen in Nitrates	4.2
Temporary	260	Nitrogen in Nitrites	Less than 0.01
Permanent	140	Oxygen absorbed 4 hrs. at 27°C	0.10
Free Ammonia	0.000	Residual Chlorine	—
Albuminoid ammonia	0.012	Metals	absent

BACTERIOLOGICAL RESULTS

Number of Colonies developing on Agar per ml. in

1 day at 37°C	2 days at 37°C	3 days at 20°C
6	30	—

Presumptive Coliform Reaction:

Present in — ml. Absent from 100 ml.

Bact. Coli (Type I):

Present in — ml. Absent from 100 ml.

Report: This sample is practically clear and bright in appearance, and free from metals, although as the water is very faintly acid in reaction, and has an appreciable content of free carbon dioxide, a corrosive tendency towards

metals would be anticipated. The water is very hard in character, though not to an excessive degree, contains no excess of saline or mineral constituents in solution, and is of satisfactory organic quality and bacterial purity.

These results are consistent with a wholesome water, suitable for public supply purposes.

Signed G. J. LAWS,
The Counties Public Health Laboratories

Source: BRAINTREE ROAD WATERWORKS. Date of Sample
7th December, 1949

Chemical results expressed in parts per Million

Appearance: Bright with a few mineral particles.

<i>Colour (Hazen)</i>	Nil	<i>Turbidity (Silica Scale)</i>	Less than 5
<i>Reaction pH</i>	8.3	<i>Odour</i>	Nil
<i>Electric Conductivity</i>		<i>Free Carbon Dioxide</i>	Absent
<i>at 20°C</i>	1900	<i>Total solids, dried at 180°C</i>	1270
<i>Chlorine in Chlorides</i>	460	<i>Alkalinity as Calcium</i>	
<i>Hardness:</i>		<i>Carbonate</i>	300
<i>Total</i>	55	<i>Nitrogen in Nitrates</i>	0.0
<i>Temporary</i>	55	<i>Nitrogen in Nitrites</i>	Less than 0.01
<i>Permanent</i>	Nil	<i>Oxygen absorbed 4 hrs.</i>	
<i>Free Ammonia</i>	0.84	<i>at 27°C</i>	0.15
<i>Albuminoid Ammonia</i>	0.000	<i>Metals: Iron</i>	0.09
		<i>Other metals</i>	absent

BACTERIOLOGICAL RESULTS

Number of Colonies developing on Agar per ml.

1 day at 37°C	2 days at 37°C	3 days at 20°C
8	12	—

Presumptive Coliform Reaction:

Present in — ml. Absent from 100 ml.

Bact. Coli (Type I):

Present in — ml. Absent from 100 ml.

Report: This sample is practically clear and bright in appearance, free from metals apart from a negligible trace of iron, and faintly alkaline in reaction. The water is soft in character, and the high content of saline and mineral constituents in solution is normal to this supply. Its organic and bacterial purity are very satisfactory.

These results are consistent with a water which is wholesome in character and suitable for drinking and domestic purposes.

Signed G. J. LAWS,
The Counties Public Health Laboratories

Source: SOUTH ESSEX WATER COMPANY TRUNK MAIN.

Date of sample 25th October, 1949

Chemical results expressed in parts per Million

Appearance: Bright with a number of mineral particles.

Colour (Hazen) Faint		Turbidity (Silica Scale) Less than 5	
yellow-brown	10	Odour	Nil
Reaction pH	7.3	Free Carbon Dioxide	17
Electric Conductivity		Alkalinity as Calcium	
at 20°C	800	Carbonate	235
Chlorine in Chlorides	104	Total solids, dried at 180°C	535
Hardness:		Nitrogen in Nitrates	1.2
Total	295	Nitrogen in Nitrites	Less than 0.01
Temporary	235	Oxygen absorbed 4 hrs.	
Permanent	60	at 27°C	0.90
Free Ammonia	0.000	Metals: Iron	0.04
Albuminoid Ammonia	0.046	Other metals	Absent

BACTERIOLOGICAL RESULTS

Number of Colonies developing on Agar per ml.

1 day at 37°C

2 days at 37°C

3 days at 20°C

1

1

—

Presumptive Coliform Reaction:

Present in — ml.

Absent from 100 ml.

Bact. Coli. (Type I):

Present in — ml.

Absent from 100 ml.

Report: This sample is reasonably clear and bright in appearance, neutral in reaction and free from metals apart from a negligible trace of iron. The water is hard in character though not to an excessive degree, contains no excess of saline or mineral constituents in solution and is of satisfactory organic quality and bacterial purity.

These results are consistent with a water which is wholesome in character and suitable for drinking and domestic purposes.

Signed G. J. LAWS,
The Counties Public Health Laboratories

Drainage and Sewerage

The following table shows the drainage facilities in use in the district at 31st December, 1949

Houses with	Drainage to						Totals
	Sewer	Septic Tanks	Cesspools	Ditches via Cesspools	Direct to Ditches	No Drainage	
W.C.s, Sinks, and Drains ...	2280	5	29	9	—	—	2323
W.C.s, Gulley Drains, no Sinks	7	—	—	—	—	—	7
Pail Closets, Sinks and Drains ...	—	—	79	30	36	—	145
Pail Closets and Sinks ...	—	—	—	—	—	2	2
Pail Closets and Gulley drains only	—	—	—	—	8	—	8
Privies and Gulley drains only*...	—	—	—	—	6	—	6
Pail Closets, no Sinks or Drains	—	—	—	—	—	13	13
Privies, no Sinks or Drains* ...	—	—	—	—	—	2	2
	2287	5	108	39	50	17	2506

*Property already condemned under the Housing Act, 1936.

Of the 219 properties not at present connected to the sewer, 8 are capable of connection immediately, and proposed schemes for sewer extension at Silver End and Rivenhall will provide for connection of 100 dwellinghouses. Prospective future development along the lines at present suggested should allow for the serving of another 20-30 existing houses. There will then remain 80-90 agricultural and isolated properties for which no economic sewerage scheme appears to be possible. It was with the needs of these properties in mind, and to provide a service for those mentioned above until sewer schemes have been completed, that the Council approved, in June 1949, the purchase of a cesspool emptying vehicle. It is anticipated that this vehicle will be put into service during 1950.

The existing sewer systems at Witham and Silver End are both liable to surcharging at times of heavy rainfall. At Witham, where a combined system of soil and surface water drainage predominates, building development has so taken up the available sewer capacity, that the marginal capacity available for storm water is inadequate. In addition, certain lengths are known to be in poor structural condition, lacking correct falls, and silted to a considerable extent. At Silver End, where a totally separate system was designed, storm water nevertheless gains access to the sewers, not only causing serious surcharge and flooding, but increasing the flow to proportions far beyond

the capacity of the sewage works. The Council has been considering a recommendation that a complete survey of all sewers should be undertaken, in order that a true assessment of the district's needs could be made. No decision had been reached, however, at the end of the year.

The following extensions to the main sewers were carried out during 1949:—

Maldon Road:

- 753 yards of 9" sewer.
- 200 yards of 6" sewer.
- 333 yards of 3" pumping main.

Church Street/Ebenezer Close:

- 205 yards of 9" sewer.
- 314 yards of 6" sewer.

In addition, work on a scheme to serve the south eastern extremity of Silver End commenced in November, 1949. The total length to be laid is 642 yards of 6" and 201 yards of 4" sewer.

Sewage Disposal

There are three major sewage disposal plants in the Urban District, two owned and maintained by the Council and one administered by the Ministry of Works for the National Assistance Board. The Urban District Sewage Works serve the communities of Witham and Silver End, and the third plant treats sewage from the Board's Hostel for Displaced Persons at Rivenhall Aerodrome Camp.

Witham Sewage Works.

Details of the layout and capacity of this plant have been given in previous reports. No major alteration or improvement has been made and the flow to the works continues to increase with the development of the town. The plant remains, therefore, inadequate for present needs and overloaded by more than 40%. It is regrettable, but not surprising that the majority of effluent samples failed to achieve the required standards of the Essex County Council and the Southend Waterworks Company. This can be attributed partly to the saturation of the plant with industrial wastes from local industries, but it is nevertheless true that the size, design and condition of the works would not allow of proper purification of wholly domestic sewage at the present rate of flow. Apart from general lack of capacity, the major defects are lack of provision for storm water; disintegrated and badly graded filter medium; and inadequate undrained sludge lagoons. The tanks, carriers and sprinklers are badly in need of repair, which cannot be carried out because the present rate of flow precludes any opportunity of resting

the plant, or any part of it, while repair work is progressing. On the other hand, all the pumps and motors are well maintained and in excellent condition, though at times severely overtaxed.

This matter has been a source of some concern to the Council for a considerable time, and early in 1949, their Consulting Engineers were instructed to prepare improvement proposals. This scheme, the preliminary layout of which has received the Council's approval, provides for immediate enlargement and improvement of the works to cope with a 25% increase on present population and for a two or three stage future expansion, should the development of the district require it.

Trade Wastes.

The trade waste content of the sewage had been the subject of prolonged negotiation between the Council and the Industry concerned since 1947. In June of 1949, in accordance with an agreement under the Public Health (Drainage of Trade Premises) Act, 1937, the Company began to operate its own plant for the treatment of the offending wastes, to reduce acidity and to remove iron and zinc constituents. The resulting liquid complies with a formula approved by the Council, and is harmless to sewer systems and sewage disposal processes. In addition, the Company has found it possible to re-use the treated liquid, and factory discharge to the Council's sewer has been somewhat reduced thereby. Sludge produced in the treatment process is bulky, very difficult to dry, corrosive to iron and concrete, and inhibitory of plant life. Disposal of it has therefore presented a further problem, but temporary facilities have been provided by the Council, pending the adoption of a process which is expected to overcome these difficulties.

Farmland.

The year saw the completion of the second cropping season since the Council decided to cultivate the 20 $\frac{3}{4}$ acres of land in its possession at the Witham Sewage Works.

Unlike that of the previous year, the cropping programme was carried out without any major failure or difficulty, and a profit on the season amounting to £294 was derived from satisfactory yields of early potatoes and barley. A portion of this profit was utilised in the cultivation and fertilising of the land in preparation for a proposed wheat crop in 1950.

Despite this success, it is considered that cultivation costs and difficulties could be reduced by the purchase of essential farm equipment, instead of hiring it from local farmers. Excellent relations have been maintained with these farmers, and their assistance has been essential to the success of the venture, but it is not to be expected that

equipment and labour can be made available always when required, especially at times when it is in greatest demand.

Silver End Sewage Works.

This plant, described in detail in previous reports, serves the community of Silver End, a population of nearly 2,000. The plant is well designed, except for the siting of the secondary filters, which were added after completion of the original design, and are situated below the humus tanks, thus allowing no facility for removal of secondary humus. This could be remedied by providing additional humus tanks, but the high standard of purification normally maintained has rendered such a project unnecessary. If the development of the district involves greater flows to the plant, reconsideration of the matter may be required. A more pressing need is the renewal of the secondary filter medium, which after 20 years' service has disintegrated and allows ponding to occur. As there is little marginal capacity for secondary filtration, the renewal of the medium is being postponed until an accurate assessment of the future requirements of the area may be made, in order that any work carried out may ensure the adequacy of the plant for a number of years without further addition.

The average dry weather flow to the works is estimated to be about 90,000 gallons daily, which indicates a somewhat higher domestic water consumption than in other parts of the Urban District. This rate of flow involves a theoretical settlement period of 13-14 hours retention, with dosage to the primary filters of 90 gallons and to the secondary filters of 270 gallons per cubic yard per day. The resulting standard of purification is very satisfactory.

The surcharge of the Silver End sewers in times of storm involves periodic overloading of the plant. This, at times, completely overcomes the capacity of the pumping plant, when the only available outlet for the sewage flow is direct to the effluent stream. As Silver End is supposed to have completely separate soil and surface water drainage, the works is not designed to take such flows. Periodic investigation has led to the diversion of several surface water connections, but this has not been sufficient to noticeably reduce the storm flow to the works. Not until a full sewer survey can be carried out will it be possible to ensure diversion of all surface water from the soil sewers.

Minor improvements carried out during the year include the underdrainage of one of the new sludge lagoons, in continuation of a scheme of sludge disposal improvement out of current revenue.

It has not yet been possible for the Council to house the attendant near the works to facilitate supervision and control, but arrangements have been made for the purchase of a plot of land for this purpose.

Rivenhall Camp Sewage Works.

This plant, constructed during the war to serve the Aerodrome, now treats the sewage from some hundreds of displaced persons occupying the camp under the control of the National Assistance Board.

The plant is not working to capacity and has maintained an efficient standard of treatment.

Sampling of Sewage, Effluents, etc.

Seventy-seven samples of effluent were submitted for analysis, and the results are as under:

	<i>Satisfactory</i>	<i>Unsatisfactory</i>	<i>Total</i>
Witham Sewage Works ...	19	44	63
Silver End Sewage Works ...	9	—	9
Rivenhall Camp Sewage Works...	5	—	5
	—	—	—
Totals	33	44	77
	—	—	—

In addition, 8 samples were examined to check the strength of sewage received at the various works. 86 special short analyses were made to check the trade waste contents of sewage and sewage effluent.

Rivers and Streams

The rivers Blackwater and Brain, with tributary streams, pass through the Urban District and contribute appreciably to its natural beauty. The Council is anxious that these water courses shall not become fouled, and my Department maintains constant supervision to discover and remedy any pollution which may occur. This work is done in close co-operation with the Southend Waterworks Company which draws river water for its supply, and is therefore equally anxious to prevent pollution.

Of the two rivers, the Brain is the lesser, and receives larger quantities of sewage effluent and road surface water on its course. It is also the more liable to trade waste pollution. Its purity is therefore of a lower standard than that of the Blackwater, but is nevertheless sufficient for it to support a certain amount of fish life in the length within the Urban District. It is necessary, however, to ensure that no further general deterioration can occur.

Sampling.

The following pollutions were discovered and remedied during the year. In no case was formal action necessary, but the management of one industrial undertaking has been warned that its failure to replace

improvised diversionary methods by permanent drainage will lead to a serious view being taken of any recurrence of pollution.

<i>No.</i>	<i>River affected</i>	<i>Polluting substance.</i>
1.	{ Brain Brain Brain	Thiocyanate and Tar Acids. Thiocyanate and Tar Acids. Thiocyanate and Tar Acids.
2.	Brain	Oil.
3.	{ Brain Brain	Zinc and Iron. Zinc and Iron.
4.	Brain	Zinc, iron, sulphates and coal dust.
5.	Blackwater (tributary)	Oil, zinc, iron and copper.

Public Cleansing

Of the Public Cleansing services, that of Street Scavenging, including sweeping, road gritting, snow clearing and gully emptying, is carried out by the Essex County Council and Urban Council Highways Departments. During the year, the Council had reason to express dissatisfaction with the state of cleanliness of the County roads in the area, and negotiations were proceeding in December for improvement in this respect. The Council also considered and approved a scheme for the provision of litter bins throughout the district.

The remaining services, refuse collection and disposal, and salvage recovery, are administered by the Council's Public Health Department. Details are given below. In addition, the Council approved in June, a suggestion that the Department should undertake cesspool and gully emptying, sewer flushing and (if necessary) street washing and pail closet emptying, and for these purposes ordered a multi-purpose vehicle. This vehicle with two interchangeable bodies, will also allow the improvement and maintenance of the district refuse collection service, to cope with expected development during the next few years. It is hoped that the improved service will be in operation by September, 1950.

REFUSE COLLECTION AND DISPOSAL

Collection.

The routine collection of house refuse from the whole of the Urban District has been maintained throughout the year without major interruption. Weekly collection is carried out, except in some rural parts of the area from which a fortnightly collection is made from about 250 houses.

As previously reported, the one vehicle, an 8 cu. yard S.D. freighter is barely adequate for the amount of refuse now collected. However, the delivery of the second vehicle referred to above, will enable the service to be maintained more easily and, in addition, will allow a weekly collection throughout the whole of the district.

Disposal.

Disposal is by means of controlled tipping in the Guithavon Valley area, where a considerable amount of riverside marshland has been recovered during the past fifteen years. The fact that this area is centrally situated in the town is evidence that refuse tipping, on proper lines, can be conducted almost anywhere without giving rise to offence of any kind.

Unfortunately, tipping on the Council's own land in this area is almost complete, and though further tipping in this vicinity would allow a more comprehensive and satisfactory improvement programme, every effort to obtain possession of the adjoining land has failed. It has been necessary, therefore, to find an alternative site elsewhere, and arrangements were in progress at the end of the year to use marshland in the Council's possession bordering on the river Blackwater. It is to be hoped, however, that future development will enable the resumption of a long term improvement tipping plan in the Guithavon Valley/river Brain area, to eliminate floodland and to allow the proper development of the riverside "green belt," which the Council desires to foster. Meanwhile, the new site will provide tipping space for a period of about ten years and will serve a similar purpose.

SALVAGE

Collection of salvage is effected in conjunction with house refuse collection, the following table showing income from salvage sold during the financial year 1949/50.

	£	s.	d.		£	s.	d.
Waste Paper	588	18	3	Kitchen Waste	6	1	9
Bones	27	2	0	Bottles and Jars	31	9	3
Rags	48	6	3	Miscellaneous	12	15	9
Sacking	35	18	9	Board of Trade Grants	49	10	0
Scrap Iron	5	6	6				
Metal	18	11	10		£824	0	4

This amount, the highest ever recorded in Witham, represents an increase of £13 11s. 9d. over receipts during 1948/49. Costs of collection and disposal of salvage amounted to £703 18s. 9d., an increase of £116 1s. 0d. on the previous year, leaving a profit of £120 2s. 1d. Profit would have been very much higher but for £110 non-recurring expend-

iture on the new salvage hut and the purchase of a new baling machine. In addition there was a considerable drop in the market value of salvaged paper. The Council was able to negotiate reasonably satisfactory contract prices for the five years ending 1954, and it is anticipated that salvage operations will continue to be conducted at a profit.

COSTS

Total net cost of refuse collection and disposal, and salvage, (detailed in the table below) rose during the year by £423. This increase was incurred on road work and other preparatory work at the new tip site, prior to transfer of tipping from Guithavon Valley. Actual cost per ton amounted to £1 4s. 5d. which compares favourably with the national average.

REFUSE COLLECTION AND DISPOSAL AND SALVAGE

Table showing Costs for year ending 31st March, 1950:—

	<i>Total collection and disposal with depreciation or loan charges included or excluded</i>					
	Included			Excluded		
	£	s.	d.	£	s.	d.
A. Gross Expenditure	3081	0	5½	2951	16	5½
B. Gross Income	842	12	1	842	12	1
C. Net Cost	2238	8	4½	2109	4	4½
<i>Unit Costs</i>						
D. Net Cost per ton	1	4	5	1	3	0
E. Net cost per 1,000 population	267	13	1¾	252	4	2
F. Net Cost per 1,000 houses or premises from which refuse is collected	893	4	5¾	841	13	4
<i>Rate Poundage</i>						
G. Net Cost, equivalent rate in £	13.166d.			12.407d.		
H. Percentage of "G" to total rate in £	5.58			5.25		

1. Total refuse collected in tons (estimated) 1931
2. Population 8363
3. Area (statute acres) 7329
4. Weight in cwts. (per 1,000 population) per day (365 days to year) 12

5.	Number of houses and premises	2506
6.	Rateable value	£44,807
7.	Produce of a penny rate	£170
8.	Total rates in £1	19s. 6d.
9.	Method of collection—mechanical vehicles	1
10.	Method of tipping. Controlled tipping, i.e. on lines of Ministry's precautions 100%	
11.	Average length of journey	5½ miles
12.	Percentage of refuse collected	100

SANITARY INSPECTION OF THE AREA

A total of 5,495 visits and inspections were made during the year as follows:—

Housing Acts	425
Public Health Acts	282
Verminous Premises:	
Visits	15
Disinfestations	11
Complaints (other than dwelling houses)	69
Slaughterhouse	815
Butchers' Shops	10
Fish Shops	21
Bakehouses	13
Ice Cream Vendors	54
Licensed Premises	1
Food Preparation Premises	89
Dairies	19
Cowsheds	16
Sampling:	
Ice Cream	59
Milk	66
Water	70
Sewage effluent	156
Shops	16
Factories	37
Infectious Disease Prevention:	
Visits	53
Disinfections	17
Water Supplies	58
Streams and watercourses	9
Drainage	432
Cesspools, Septic Tanks and Pail Closets	8
Refuse Tips	141
Sewage Works	244
Salvage	124
Rodent Control	2102
Tents, Vans and Sheds	3
Stables and Pig sties	2
Schools	3
Places of amusement	8
Building Licences	5
Council House Applicants	21
Miscellaneous	21

In addition, a total of 1,662 interviews were given to owners, builders, tenants and other interested parties.

Nuisances, etc., on Books, with number of Notices Served.

No. of Notices outstanding, 31st December, 1948	24
No. of Intimation Notices served during the year	88
No. of Statutory Notices served during the year	14
No. of Notices complied with during the year	106
No. of Notices on Books, 31st December, 1949	20

The following list classifies the nuisances and defects dealt with:

Dampness, rising and penetrative	13
Defective brickwork, pointing, rendering, etc.	16
Defective roofs, parapets, gutters, R.W.P.s, etc.	61
Defective walls and ceilings	22
Defective doors, floors, windows, etc.	26
Defective cooking ranges and register stoves	10
Defective fences, gates, etc.	2
Defective external paintwork	7
Defective W.C. structure	3
Defective W.C. pans	3
Defective W.W.P.s	1
Defective and choked drainage systems	29
Defective sinks and waste pipes	2
Defective washhouse	1
Lack of proper washing accommodation	5
Lack of proper food storage facilities	5
Lack of proper cooking facilities	5
Lack of yard paving	7
Lack of permanent ventilation	2
Overflowing cesspool	1
Offensive ditches	2
Offensive accumulations	2
Filthy condition of rooms	1
Filthy condition of bedding	1
Filthy condition of sanitary accommodation	1
Unwholesome water supply	2
Vermin infestation:	
Bed Bugs	3
Wasps	3
Flies	3
Ants	1
Earwigs	1
Rats and mice	46
Absence of/Defective condition of dustbins	61

Factories Act, 1937

During the year, 37 visits were paid to factories and workshops throughout the district. This does not include visits to Food Preparation Premises also classified as factories, as these are dealt with under another heading. Conditions were generally found to be satisfactory, only a few minor items, chiefly relating to sanitary accommodation, requiring attention. A close liaison is maintained with H.M. Inspector of Factories. A considerable number of outworkers continue to be employed by local firms. At the end of 1949, the number on the register was 230, comprising:—

	<i>Witham U.D.C.</i>	<i>Other local authorities</i>
Glove Manufacturers	53	171
Seed Merchants	4	—
Feather Sorting	2	—

Notification of outworkers employed in other districts is made twice yearly to the 26 local authorities concerned.

Details of the inspections made during the year to premises in the Urban District under the Factories Act, 1937 are given in the Table below:—

1. INSPECTION for purposes of provisions as to health (including inspections made by Sanitary Inspectors).

PREMISES	Number on Register	Number of		
		Inspections	Written Notices	Occupiers Prosecuted
(i) Factories in which Section 1, 2, 3, 4 and 6 are to be enforced by Local Authorities	8	4	1	—
(ii) Factories not included in (i) in which Section 7 is enforced by the Local Authority	36	31	1	—
(iii) Other premises in which Section 7 is enforced by the Local Authority (excluding out-workers premises)	3	2	—	—
Total	47	37	2	—

2. Cases in which DEFECTS were found.

PARTICULARS	Number of cases in which defects were found				Number of cases in which prosecutions were instituted
	Found	Remedied	Referred to H.M. Inspector	Referred by H.M. Inspector	
Want of cleanliness (S.1.) ...	1	1	—	—	—
Overcrowding (S.2.) ...	—	—	—	—	—
Unreasonable temperatures (S.3.) ...	—	—	—	—	—
Inadequate ventilation (S.4.) ...	—	—	—	—	—
Ineffective drainage of floors (S.6.)...	—	—	—	—	—
Sanitary conveniences (S.7.) ...					
(a) insufficient ...	—	—	—	—	—
(b) unsuitable or defective ...	1	1	—	—	—
(c) not separate for sexes ...	—	—	—	—	—
Other offences (not including offences relating to out-workers) ...	—	—	—	—	—
Total	2	2	—	—	—

Shops Acts

Sixteen visits were paid to shops, apart from those dealt with under other headings. No action was taken under the Shops Acts, 1912-1938. The major part of the Shops Act administration is enforced by the Essex County Council.

Movable Dwellings

On three occasions during the year, caravans were stationed on sites within the district. In each case occupants were of the travelling gypsy type, and the vans were removed from the district after representation from my Department. While some sympathy must be extended to these people, who find great difficulty in obtaining permission to use sites, the provisions of the Public Health Act, 1936 regarding water supply, sanitary accommodation and disposal of refuse, cannot be ignored in these cases. It is regrettable that sites used by such van dwellers often present a very untidy and sometimes offensive appearance when vacated.

If the stationing of moveable dwellings in the district increases to any considerable extent it would be advisable for the Council to consider providing a properly equipped site, where, at reasonable rentals, van dwellers could station their vans for short periods, and to which they could be directed when found stationed in unsatisfactory conditions.

Insect Pests

The following cases of infestation, other than by rodents, were dealt with:—

Bed Bugs	...	...	3
Wasps	...	...	3
Flies	...	...	3
Ants	...	...	1
Earwigs	...	...	1

In addition, the Council's refuse tips are subjected to periodic treatment for destruction of crickets and other insects. Insecticides used are D.D.T. (5%) and gammexane, both in powder and liquid form, and cyanide preparations. The latter are only used on external disinfestations, and where the safety of human beings and domestic animals can be ensured.

Rodent Control

The Council conducts its own Rodent Control service, employing a specially trained operative for the purpose. The systematic inspection and treatment routine of the past years has succeeded in limiting the rodent population of the district to a minimum. The work has been carried out in co-operation with the pest control departments of the Ministry of Food and the Ministry of Agriculture. Details of the year's work are as follows:—

Inspections made	1401
Treatment visits	415
Infestations found:	
Minor (up to 20 rats)	40
Major (20-200 rats)	6
Reservoir (over 200 rats)	Nil
Bodies recovered:	
Rats	204
Estimated kill:	
Rats	466

The whole of the District sewer system was twice treated, with satisfactory results. The following details of the treatments show that the sewer infestation was very slight:

	<i>Witham system</i>		<i>Silver End system</i>	
	1st treatment	2nd treatment	1st treatment	2nd treatment
Manholes, test baited	24	21	25	23
Manholes, test baited, showing takes	4	3	4	3
Manholes, poison baited	16	9	12	9
Manholes, poison baited, showing takes	2	3	4	3
Estimated kill	10	10	10	10

On 1st April, 1949, the Ministry of Agriculture and Fisheries took over national administration of pest control from the Ministry of Food, and on 1st April, 1950, the Prevention of Damage by Pests Act, 1949, will come into force. This Act makes it the duty of each district Council to control the rodent population of its area. It is not anticipated that the Act will involve any serious change in the Council's organisation, which already fulfils the Ministry's requirements for grant-aid. It is expected that future grants will be available to the extent of 50% net expenditure.

Inspection and Supervision of Food

Meat Inspection

A total of 6,392 animals were killed at the Ministry of Food slaughterhouse during the year, an increase of 772 on 1948. As this increase was mainly confined to sheep, the amount of additional inspection work in this respect was not excessive. However, the necessity of examining beef animals for *Cysticercus Bovis*, since the end of 1948, has made appreciable additional demand on the duty time and leisure hours of the sanitary inspectors. All inspection is carried out on the lines of the Memoranda 62 of the Ministry of Health, with the exception that ante-mortem examination is not always possible. Every endeavour is made, however, to see casualty animals before slaughter, and to obtain their histories, to assist in proper post-mortem judgement.

The following Table sets out the particulars of the animals slaughtered and of inspections and condemnations during the year:—

	Cattle		Sheep		Pigs	Goats	Total
	excluding Cows	Calves	and	Lambs			
	Cows						
Number killed	1103	416	749	3575	546	3	6392
Number inspected	1103	416	749	3575	546	3	6392
<i>All Diseases except Tuberculosis.</i>							
Whole carcasses condemned	13	1	17	17	27	—	75
Weight in lbs. condemned	4405	320	698	931	2075	—	8429
Carcasses of which some part or organ was condemned	540	184	14	296	137	—	1171
Weight in lbs. condemned	11990	4108	271	856	1009	—	18234
Percentage affected	50.13	44.46	4.14	8.75	30.03	—	19.49
<i>Tuberculosis only.</i>							
Whole carcasses condemned	12	22	—	—	2	—	36
Weight in lbs. condemned	7681	11345	—	—	177	—	19203
Carcasses of which some part or organ was condemned	116	122	—	—	30	—	268
Weight in lbs. condemned	9458	7874	—	—	492	—	17824
Percentage affected	11.64	34.61	—	—	5.86	—	4.75

In addition, 6 cases of *Cysticercus Bovis* were detected. In these cases, the Ministry of Food's recommended procedure was adopted, i.e. condemnation of muscular offal and refrigeration of carcasses for at least three week before issue.

Milk and Dairies

At 1.10.1949, when new legislation governing milk production and distribution came into force, the following were registered in the District for the production and/or sale of milk:—

Wholesale Producers:

Tuberculin Tested	4
Accredited	3
Undesignated	1
Pasteurising Establishment	1

Retailers:

Dairies within the District	
Pasteurised	2
Dairies outside the District	
Tuberculin Tested	1
Pasteurised	1
Milk Shops	1

From the above date, control of production passed to the Ministry of Agriculture and Fisheries, and of pasteurisation to the Food and Drugs Authority (the Essex County Council). The Council remains responsible for control of distribution and retail sale and for that purpose the following registrations and licences were effected under the Milk and Dairies Regulations, 1949:—

<i>Tuberculin Tested Pasteurised</i>		
Dairies	—	3
Dealers	2	2

Bacteriological Examination of Samples.

The following table shows the results of bacteriological examination of 110 samples submitted by my Department and the Essex County Council during the year:—

	<i>Satisfactory</i>	<i>Unsatisfactory</i>	<i>Total</i>
Tuberculin Tested	24	5	29
Accredited	21	3	24
Pasteurised	39	3	42
Undesignated	10	5	15
Totals	94	16	110

Nine of the unsatisfactory samples were taken at the height of the summer, from seven different producers. Repeat samples, after investigation and advice, proved to be satisfactory. Four were of bulk

mixed milk from the local pasteurising establishment, and the origin of the unsatisfactory milk could not be determined. The other three were of supplies produced and bottled outside the Urban District and were referred to the public health departments of the authorities concerned.

Tests of keeping quality of milk retailed in the area, showed a marked improvement upon those obtained during 1948. The dairy whose milk was formerly at fault in this respect had meanwhile improved the quality of the water supply used for cooling and cleansing.

It would be ungracious in reporting for the last time on milk production, not to express a sincere appreciation of the close, harmonious and very effective co-operation which has always been maintained with the Public Health Department of the Essex County Council, and particularly with Mr A. Marsh, M.B.E., the County Council's Chief Health Inspector, in this matter.

Ice Cream

The registration of manufacturers and vendors, and their premises, is effected by the Urban Council under the Essex County Council Act, 1933, and supervision is exercised to ensure compliance with the Ice Cream (Heat Treatment) Regulations, 1947. The effect of the latter has been to limit the amount of ice-cream manufactured locally, as the traders concerned find it more convenient to purchase supplies from wholesalers, than to provide and maintain the equipment necessitated by the Regulations. The number of registrations at 31st December, 1949, were as follows:—

Manufacturers/Vendors	4
Vendors only	15
Registered premises	18

In addition, many vendors registered in other areas operate within the Urban District.

Every make of ice-cream is sampled periodically to ascertain its standard of bacterial purity. 58 such samples were taken during the year, and the results are given below:—

<i>Bacteriologist's description</i>	<i>Ministry of Health's Provisional Grading</i>				Totals
	I	II	III	IV	
Satisfactory	30	10	—	—	40
Passable	—	8	2	1	11
Unsatisfactory	—	3	2	2	7
Totals	30	21	4	3	58

Considering that varieties of less reliable quality were sampled more frequently than those known to maintain consistently high standards, the above results are very satisfactory for the district as a whole. In only one case was a local product found to be at fault. Sample

reports are sent, for information and/or action, to manufacturers and vendors and local authorities of the district of origin. By co-operation with these authorities, and further sampling at stages of production and distribution, it has usually been possible to detect and remedy the faults responsible for unsatisfactory reports.

Hygiene of Food Preparation Premises

The number of premises where food is prepared, stored or retailed is 96, as follows:—

Restaurants	10
Factory and school canteens	8
Manufacturing butchers	6
Bakehouses	6
Fried Fish Shops	3
Retail butchers' shops	7
Other retail food shops	34
Retail wet fish shops	4
Licensed premises	18

All are subject to inspection and generally found to satisfy the requirements of the Food and Drugs Act, 1938. 188 visits of inspection were made during the year. In two cases it was necessary to issue warnings concerning lack of cleanliness and other unsatisfactory conditions. Subsequent improvements rendered it unnecessary to consider formal action in these cases. The table below shows defects required to be remedied during the year:—

Structural defects	5
Insanitary sink	1
Untrapped waste pipe	1
Inadequate supply of constant hot water	2
Defective W.C. pan	1
Defective W.C. seat	1
Defective W.C. flushing cistern	1

The erection of a new bakehouse, to replace an old inadequate one, is in progress, and it is hoped that in 1950 another old and unsatisfactory bakehouse will be replaced. One restaurant kitchen was completely redesigned and refitted to the requirements of my Department.

It has been found that there is an increasing interest in food hygiene among food handlers, and every effort has been made to foster this. The necessary understanding and willing co-operation can best be achieved by educational methods, particularly in view of the large

amount of untrained labour which has been absorbed by the food industries in recent years. It is hoped to arrange a Food Hygiene Exhibition and Film Show early in 1950. This should assist in preparing the way for the Byelaws relating to Handling, Wrapping, Delivery and Sale of Food, which the Council has decided to adopt.

Condemnation of Food

(*other than Meat*)

As a result of inspections carried out at food shops and food preparing premises in the District, and following surrender by local retailers, the items listed below were condemned as unfit for human consumption:—

	cwts.	st.	lbs.
Fish, fresh	1	0	7
Fish, cured		4	0
Fish, tinned		4	3
Vegetables, tinned		7	11
Jam or Marmalade, tinned		3	10
Fruit, tinned		4	0
Milk, tinned	1	2	10
Soup, tinned		3	10
Meat, tinned		2	1
Pudding, tinned			2
Fruit Cake			10
Biscuits			12
Flour			10
Semolina		1	8
Cereals			6
Cheese		1	3
Fish Paste			5
Prawns, bottled			4
Sweets		1	0
Fruit Juice			3
Sauce			6
	<hr/>	<hr/>	<hr/>
	7	0	9
	<hr/>	<hr/>	<hr/>

Food Poisoning

There were no notified cases of food poisoning during the year.

Food and Drugs

(*Adulteration*)

The Chief Inspector of Weights and Measures, Essex County Council has kindly supplied the following details of food sampled in the Urban District during 1949, for the detection of adulteration:—

<i>Commodity</i>	<i>No. of Samples</i>	<i>Genuine</i>
Milk	12	12
Baking Powder	1	1
Buns, Cream	1	1
Bun Flour Mixture	1	1
Cakes, Fairy	1	1
Cakes, sponge	1	1
Cake, fruit	1	1
Cake, marzipan	1	1
Caramel Dessert	1	1
Caramel Dessert Powder	1	1
Caraway Seeds, Dutch	1	1
Cooking Fat	1	1
Fruit Sauce	1	1
Gelatine	1	1
Jam Slices	1	1
Jelmol	1	1
Ketchup Tomato	1	1
Margarine	1	1
Paste, Anchovy	1	1
Paste, Beef Meat	1	1
Paste, BLOATER	1	1
Paste, Crab Fish	1	1
Paste, Sardine and Tomato Fish	1	1
Pilchovy	1	1
Saccharin Tablets	1	1
Sugar	1	1
Sweetened Fat	1	1
Tea	1	1
Butter	1	1
	—	—
	40	40
	—	—

Staff

In March, 1949, Mr H. R. D. Scott commenced duty as Additional Inspector, succeeding Mr H. Field.

Several changes occurred amongst the manual Staff during the year. Details of the Department's Staff at 31st December, 1949, were as follows:—

Office:

Chief Sanitary Inspector, Meat and Food Inspector.
Additional Sanitary Inspector.
Clerical Assistant.

Refuse Collection and Disposal and Salvage:

1 Foreman-driver.
1 Tip-chargehand.
3 Refuse Loaders.
1 Tiphand.

Sewage Disposal:

2 Works foremen.
3 Labourers.

Other:

1 Disinfector/Rodent Operative (part time).

The average age of the permanent outside staff is approximately 43 years.

1941
The first part of the program was held in 1941
at the University of California, Berkeley
and was organized by the National Science Foundation
and the National Bureau of Standards.

- 1. General Introduction
- 2. Theoretical Foundations
- 3. Experimental Methods
- 4. Applications
- 5. Summary

The second part of the program was held in 1942
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1943
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