The Southend waterworks company and Vange Reservoir

17 Pages

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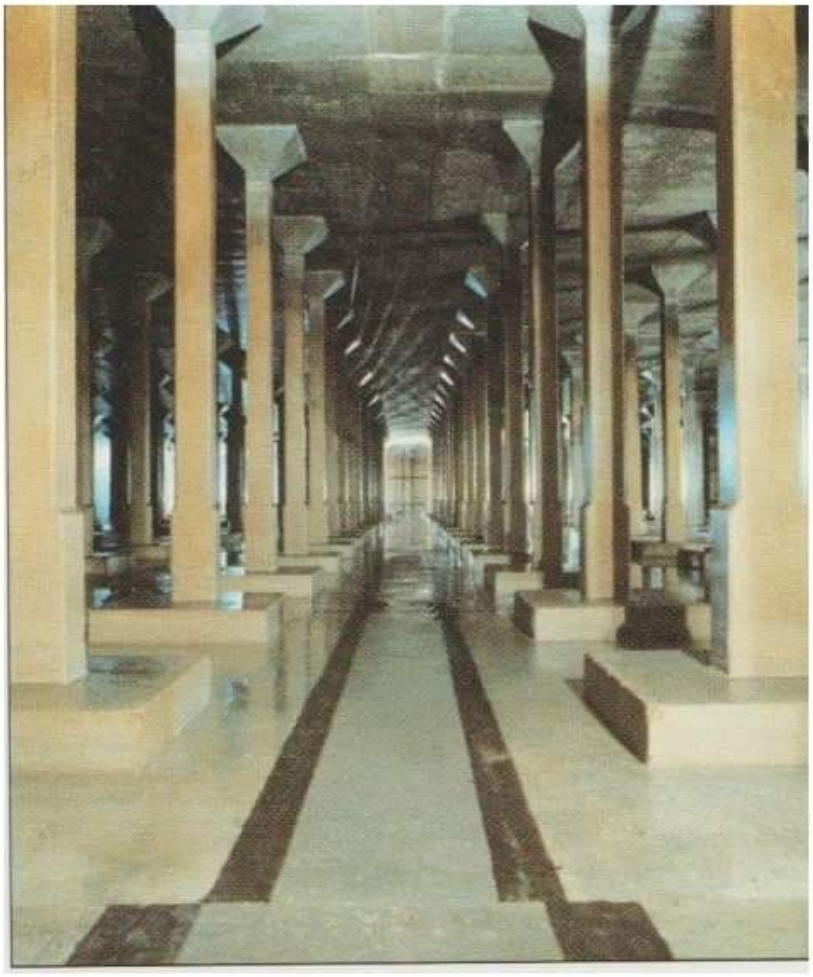
Vange Reservoir



Built in 1898, the Vange Reservoir, near Basildon, was the first of the Southend Company's covered reservoirs

Vange Reservoir under construction 1912

The Southend Water Works Company

In 1865 a civil engineering company contractor Thomas Brassey founded the Southend Waterworks Company. As a private undertaking to supply water for the London Tilbury and Southend railway's locomotives. It became a limited company on his death in 1871, and incorporated in 1879. He constructed in Southend the first deep borehole in Milton Road (well no1) which was first pumped in 1865. This had been dug 6ft diameter and lined with brickwork for 385ft then bored 9ins to 2.5ins to a depth of 906ft. There was an associated storage reservoir, of 300,000 gallons ,and later a tower, of 50,000 gallons constructed in nearby in Cambridge Road, Southend, below.

Southend No 1 Well Pumping station 1865

This was followed by two storage reservoirs at Vange of 8.0 Million gallons and two at Thundersley holding 3million gallons. The storage reservoirs provided water at peak times, when consumption, exceeded the flow from boreholes. A treatment plant was built at Vange for the combined treatment of 5 boreholes, Three at Vange and two at Fobbing. Lime/soda softening was required to reduce the hardness of the combined water. This also had a lime recovery plant, the first of it's kind.

There were no essential services in Basildon at the turn of the century. No gas, electricity, piped water supply or sanitation.

After the late R. L. Curtis established the Vange Brickworks, he built Vange Hall Cottages near the church in 1883. It is said that a local firm of haulage contractors used to fetch water in dry weather from Laindon Wash where a stream flowed across Wash Road and sell it to the inhabitants of these cottages.

Most Pitsea people washed in rain water collected from the roofs. Therefore the weekly wash presented a problem in dry weather. The tenants of four tiny cottages known as Bedlam Row in the High Road (near the entrance to Rectory Road) had to fetch water for washing day from the pond at the back of the village bakery, in dry weather. The well at Pitsea Hall was destroyed by the railway. It was rediscovered by accident when someone nearly fell down it in the goods yard of Pitsea Station. Water for the station was brought from Low Street Station and to save walking to the pump, the water was sometimes stolen at night by nearby householders.

A parish pump once stood in the area of where Eversley Road joins London Road. It was the only supply for miles and was in use till 1904, Mr William Hatch, from Pitsea, had the job of maintaining the pump for which he was paid the sum of 7s 6d (35 1/2p) a week.

In 1905, the first piped water supply was laid in the main road in Vange and Pitsea only. Most people had to fetch their water from standpipes in the road; only a few of the larger houses had the luxury of private supplies.

In January 1907, the first meeting of the Parochial Sanitary Committee of Vange, Pitsea and Bowers Gifford (an advisory committee to Billericay Rural District Council) was held and it was agreed to charge private meter holders 1s. 9d. per thousand gallons of water. In March 1908 control passed out of local hands when the Committee approved the decision of Billericay Council to hand over the supply to the Southend Waterworks Company and on 7 November 1907 it had been recommended that Pitsea pump be dismantled and the fittings sold.

The Southend waterworks company were responsible for the new supply, which ran to Vange from a main at Bowers Gifford. This was also used to supply North Benfleet with water after a 4inch main was laid at the cost of £1,290.

Southend Standard and Essex Weekly Advertiser December 1907

PITSEA AND VANGE

THE WATER QUESTION—A combined meeting of the parishes of

Pitsea, Vange and Bowers Gifford was held at the Rectory Museum, Pitsea, on Thursday evening to consider the question as to whether the Billericay Rural District Council should continue to have the management of the water supply or whether it should be given over to Southend Water Company , who would be prepared to lay mains and give the parishes in question a house to house supply. The Rev. A Harrison Chairman Bowers Gifford Parish Council presided over a good attendance, and explained the reason the meeting had been called. Mr Heard moved that the existing arrangement should continue with Billericay Council for another five years. The Rev A B Hutton moved that the power should be given over to Southend Water Company this was carried by twenty five for and twenty against.

Grays & Tilbury Gazette,
And Southend Telegraph
June 1902

WORK FOR LABOURERS.

On Pipe-laying Trench

BETWEEN GREAT TARPOTS, THUNDERSLEY, BOWERS GIFFORD, ITSEA, VANGE, and FOBBING VILLAGES.

WAGES,

5d to 6d per hour

APPLY ON THE JOB,

To the Foreman of Southend Water Works, at Pitsea.

Grays & Tilbury Gazette,and
Southend Telegraph May 1908

PITSEA AND VANGE.

The work of laying the water mains through Vange, Pitsea, Bowers Gifford, etc., has been commenced by the Southend Water Works Company.

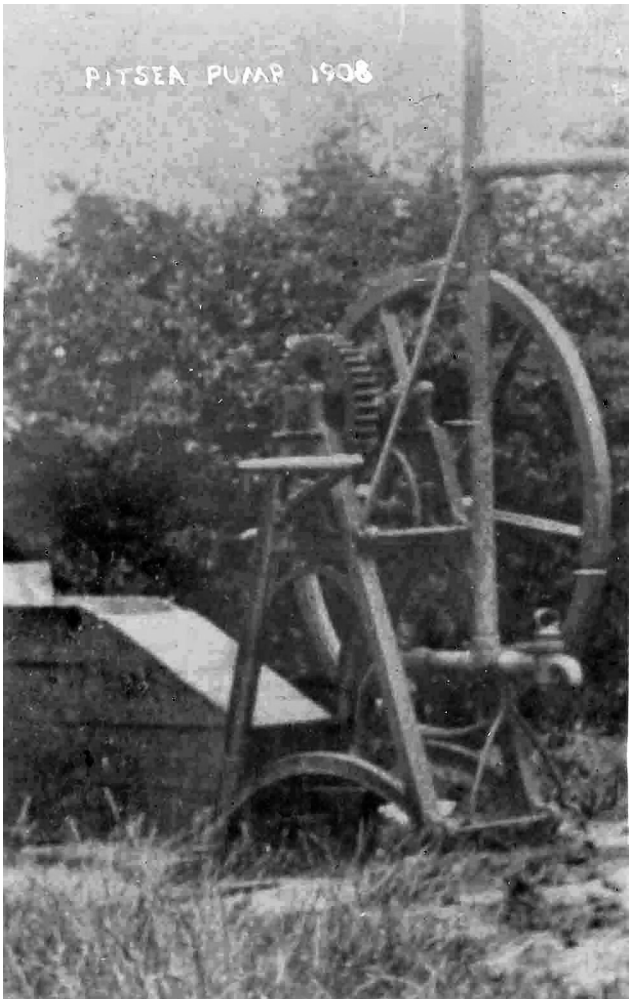
Alfred Moss of Gouldings farm Vange, was an assistant overseer for Vange and later a rate collector for the Southend Waterwork's Company, his daughter Jessie Payne would work for him later at the Pitsea office, before she moved to their office in Southend.

(Jessie Payne recording 1986. Basildon Heritage)

Chelmsford Chronicle May 1904

PITSEA & DISTRICT

A Parish Meeting was held at the schoolroom, Mr Nicol presiding—The meeting further expressed the opinion that no more public money should be expended on the village pump, as the Southend Water Company had erected water mains, and had issued keys to all parishioners willing to pay the water rate. Persons wanting to use the parish pump in the future should repair it and keep it in order.–It was resolved to offer when Mr Willismer the assistant overseer, the sum of £3 to collect a special rate of £23.



SOUTHEND AREA

VANGE MAIN WELL

Geological Survey Reference No. 258/43.

Strata.	Thickness.	Total Depth from surface.
Surface material	0.9m	0.9m
London Clay	70.41m	71.31m
Woolwich, Reading and Thanet Sands	43.28m	114.59m
Boring into Chalk	68.28m	182.87m
Rest water level	43.89m below surface	- 30.48m O.D.

Near the Railway Crossing, Vange Belle, Fobbing.
O.S. Grid Ref. TQ 709859
Surface Level 13.41m O.D.
Construction commenced, August, 1903.
Pumping commenced, 28th June, 1904.
Brought into supply, July, 1914.
Improvement commenced, October, 1923.

VANGE AUXILIARY WELL

Geological Survey Reference No. 258/130.

Strata.	Thickness.	Total Depth from surface.
Surface material	1.48m	1.48m
London Clay	73.07m	74.55m
Woolwich, Reading and Thanet Sands	45.06m	119.61m
Boring into Chalk	63.15m	182.76m
Rest water level	53.34m below surface	- 41.91m O.D.

Near the Railway Crossing, Vange Belle, Fobbing.
O.S. Grid Ref. TQ 710860
Surface Level 11.43m O.D.
Construction commenced, October, 1904.
Pumping commenced, 19th May, 1905.
Improvement commenced, June, 1920.

VANGE WEST WELL

Strata.	Thickness.	Total Depth from surface.
Surface material	0.9m	0.9m
London Clay	73.08m	73.98m
Woolwich, Reading and Thanet Sands	46.48m	120.46m
Boring into Chalk	62.33m	182.79m
Rest water level	62.00m below surface	- 36.24m O.D.

Adjoining British Rail south-east of Brickhouse, Fobbing.
O.S. Grid Ref. TQ 705856
Surface Level 25.76m O.D.
Construction commenced, 16th November, 1910.
Pumping commenced, 14th July, 1911.
Improvement commenced, November, 1923.
Pumping ceased from these sources in September, 1985.

SOUTHEND AREA

FOBBING TUNNEL (NORTH) WELL

Geological Survey Reference No. 258/122B.

Strata.	Thickness.	Total Depth from surface.
Made-up ground	0.3m	0.3m
London Clay	67.82m	68.12m
Woolwich, Reading and Thanet Sands	43.43m	111.55m
Boring into Chalk	43.89m	155.44m

O.S. Grid Ref. TQ 708851
Surface Level 24.87m O.D.
Construction Commenced, 28th August, 1923.
Pumping Commenced, June, 1924.

FOBBING TUNNEL (CENTRAL SHAFT)

Geological Survey Reference No. 258/122A

Strata.	Thickness.	Total Depth from surface.
Surface material	0.48m	0.48m
London Clay	69.32m	69.80m
Woolwich, Reading and Thanet Sands	41.45m	111.25m
Boring into Chalk	101.80m	213.05m
Highest water level	49.22m below surface	- 24.34m O.D.

Parish of Fobbing. Situated between Fobbing Main and Vange West.
O.S. Grid Ref. TQ 708850
Surface Level 24.88m O.D.
Construction Commenced, January, 1920.
Pumping Commenced, 4th August, 1920.
Improvements Commenced, December, 1922 and July, 1923.

Well Construction.			From	To.
Brick Lining	-	1.83m dia.	Surface	21.74m
Brick Lining	-	2.44m dia.	21.74m	24.08m
Brick Lining	-	1.83m dia.	24.08m	44.19m
Borepipes	-	0.38m dia.	44.19m	94.69m
Borepipes	-	0.30m dia.	94.69m	113.15m
Unlined	-	0.30m dia.	113.15m	213.05m

Pumping ceased from these sources in September, 1985.

When a bore hole was dug for the explosives factory the water level at pitsea pump went down.This is a copy of the bore hole information.

Pitsea.

Ordnance Map 258, new ser. (Essex 77, NW.). Geologic Map 1, SE.

According to Dr. Thresh's Report on the Water Supply of Essex, 1901, p. 84, the population was about 400, and some of the inhabitants had to go three-quarters of a mile for water.

1. Brln 1. Explosives Syndicate. On the marsh on the eastern side of Pitseahan Fleet, about five-sixths of a mile southward of the railway station. 1897.

10 ft. above Ordnance Datum (15-20 according to the manager). Communicated by the Syndicate.

Yield with continuous pumping, at 100 ft. down, 9,000 gallons a day; at 150, 13,000 gallons; at 200, 17,000 gallons; at 250, 20,000 gallons a day. In 1910, at 320, 750 gallons an hour.

Water-level 6 ft. down in 1898. Said to be the same in 1900.

Boring, piped to 400 ft. down with 7½-in. tubes, and with 6½-in. tubes to 404 ft. down.

		Thickness. Ft.	Depths Ft.
[Alluvium]	Marsh-clay	14	14
[London Clay, 233 ft.]	Hard brown clay	18	32
	Dark hard clay	18	50
	Very stiff brown clay	8	58
	Stiff brown clay...	2	60
	Brown clay	10	70
	Very stiff dark brown clay	10	80
	Hard dark clay with dark claystone at 162½ to 163 ft. 1 in.	88½	168½
	Dark clay	3½	172
	Hard dark clay	30	202
	Very hard dark clay	14	216
	Hard blue clay	6	222
	Very hard dark blue clay	10	232
	Very hard dark clay, with two bands of claystone	10	242
	[? Basement-bed.] Very hard dark sandy clay	4½	246½
	[? Basement-bed.] Very hard black gravel [pebbles] ...	½	247
[Oldhaven Beds, Woolwich Beds and Thanet Beds, 147½ ft.]	Blackwall rock [? pebbles]	3½	250½
	Hard bound sand with shells	1½	251½
	Sand [and] gravel with shells	8½	260
	Hard bound sand and gravel [pebbles]	½	260½
	Hard bound sand and shells with flint gravel [pebbles]	4½	265
	Hard bound sand and shells	1	266
	Black sandy clay with gravel [pebbles] very hard	1½	267½
	Hard black sand	2	269½
	Black sand	½	270¼
	Light-coloured running sand	4¾	275
	Light-coloured clay with gravel [pebbles]	3	278
	Running sand	4	282
	Grey running sand	18	300
	Dark greenish running sand	10	310
	Running sand	6	316
	Dark greenish sand	27	343
	Hard sand	7	350
	Hard dry sand	24	374
	Hard sand	10	384
	Very hard clay (hard stone met with)	10½	394½
[Upper and Middle Chalk, 460½ ft.]	Chalk with flint nuggets	286½	681
	Darker and harder chalk with flints ...	4	685
	Chalk with no flints	35	720
	Harder chalk	12	732
	Chalk	118	850
	Very much harder chalk	5	855

For analysis of the water, see p. 426. 256/58

Not only was there shortage in the yield here, but great trouble was caused by grit and sand occurring in the water to a considerable extent.

Some of the Vange water workers

Stationary Engine Drivers 1911

Alfred Waylett (4 Vange Villas)

Thomas Edgar Thomas (2 High Rd Vange)

Archibald Campbell (Penwith Hse Kent Veiw Rd Vange)

George Cornwell (Elm Villas)

Thomas King (2 Elms Villa)

Thomas Butcher (2 Clarance Cottages Vange)

Wm G Claggett (7 Vange Hill Cottages Vange)

Henry

General Labour's 1911

Arthur Tookey (2 Southend Terrance)

George W Steward (Lunchies Rd)

Ernest Lacey (Lunchies Rd)

Frederick Clark (Paynters Hill)

William Brown (2 Clarances Cottages)

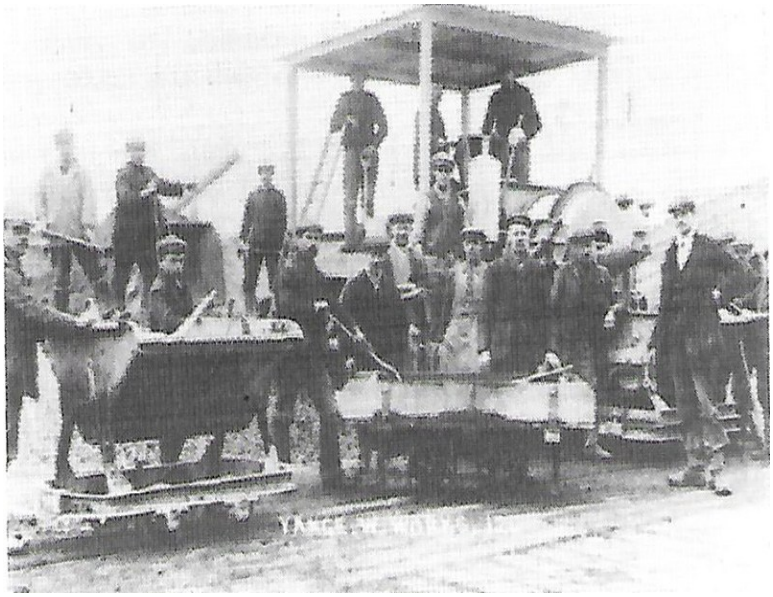
Samuel Wiseman (2 rooms (Thatched Cottage High Rd Vange Night watchman)

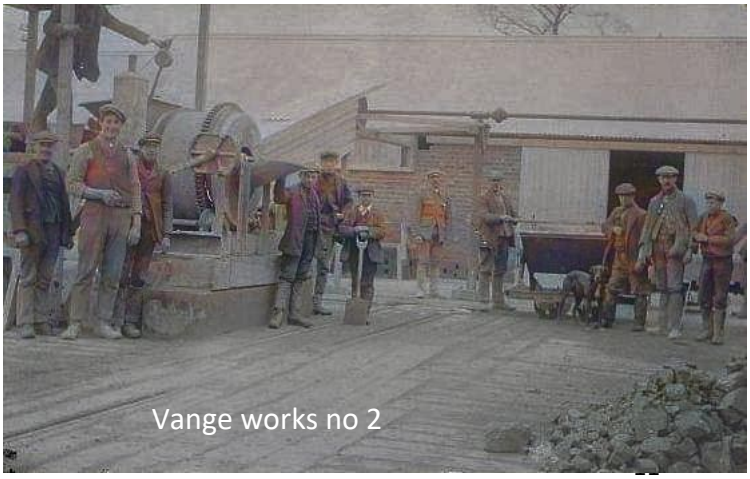
William Beale (Night watchman)

Arthur Perry (Railside Cottage Victoria Rd Vange) Boiler & Gen Smith)

George Cardy (4 Vange Hall Cottages Bricklayer)

Harry Howard son (Time Clerk) (2 Vange Hall Cottages)





Vange works no 2

Well Sinkers 1911

William Edwards (3 Vange Villas)

James Bacon (Brooklands Vange)

(Captain of barge Wattle 1903)

(1914-1924 Licensee at the Barge Inn)

Edmond Keyes (3 Vange Hall Cottages)

John Jennings (8 Vange Hall Cottages)

(Captain of Barge Fobbing)

William Nock (Driving steam winch)

Harry Howard (2 Vange Hall Cottages)

Arthur Jordan (6 Vange Hall Cottages)

Vange Water Works workers

J C Thresh on the water supply to the County of Essex 1901 an entry for Basildon as follows,

Basildon, (Vange) present population about 450. Sixty four new houses erected since 1891.

Practically the whole road frontage is laid out in building estates. There is a deep well at the Vicarage, which constitutes the sole village supply.

The inhabitants are allowed to take two bucketful's per diem (per day), on a payment of 5s a year. Rainwater is collected and forms a subsidiary supply.

The development of the village is much retarded by this deficiency.

In "The water supply of Essex from underground sources ", dated 1916 it gives the same information but says Lately included in the area of the Southend Water Co.

The water from most of the wells was obtained using a steam powered lift pump to lift the water to the enlarged part of the well and a ram pump to pump it into the water main.

This was soon followed by a network of boreholes and distribution mains, until in 1921 some 39 had been sunk.

The Vange and Fobbing wells were a major source in the early 1920's and a lime/soda softening plant was built to soften Vange west, Fobbing and Fobbing tunnel which were all hard, and blended them with Vange and vange main which were both soft. The Fobbing wells also having a high iron content. There was also a lime recovery plant, the first of it's kind and two treated water reservoirs of 8.0 Million gallons approx 36368720lts capacity each.

When the Langford river (Bedfordshire) source came on stream in 1927, the Fobbing wells and treatment plant where abandoned and the two Vange wells kept for periods of high demand

In 1962 with a growing demand for water, the Vange and Fobbing wells were test pumped for two months during 1963 and a decision taken to build a new softening plant which began operating in may 1966, at a cost of approx £176,000. The previous treated water reservoirs becoming the raw water storage, and a new treated water reservoir constructed. This was designed to be a semi automatic unmanned plant. The wells and treatment plant where abandoned for a second time in 1984.

Borehole pumping station after electrification

I would like to thank David Williams for some of the information contained

David N. Williams.

Member of the Chartered Institute of Water and Environmental

Managers.

Chartered Water and Environmental Manager.

Now Mapel Creek 2024

VANGE BOOKLETS

All Saints Church Hall 1931 £2.10

Barges at Vange Wharf £2.10

Cashes Well No5 £2.10

John (Paddy) Hemingway £1.50

The Barge Inn 1832 – 2015 £2.50

The Bull Public House 1878— 1961 £1.50

The Vange Crystal Well £1.50

Vange Board School 1876 £5.80

Vange Fire Station 1934 – 1962 £3.90

Vange Hall Brick Works 1886—1921 £3.30

Vange Reservoir & Southend Water Company £2.00

Vange Swimming Pool 1933-1952 £2.00

The Shops of Vange London Road & High Road £5.00

The 1st Pitsea and Vange Scouts 1913—1970 £4.50

3rd Battalion Essex Home Guard. Vange and Pitsea. £2.80

Royal Observer Corps, Monitoring Post, Vange, Essex. £2.10

BASILDON BOOKLET

Locarno Mecca Dancing £6.00 1961 - 1971

PITSEA BOOKLETS

W. J. Wager Dairies £1.50

Tuskite Works Pitsea Hall Lane £1.50

Broadway Cinema 1930—1970 £3.00

Pitsea United 1909—1971 £8.70

The Old Pitsea Market 1924—1969 £2.60

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Monday & Wednesday's 10am—12pm

Saturdays 10am—3pm