

ML 2

Cranbury

June 1985

Costs to ~~services~~ sewer service
to the ~~above~~ ~~are~~ Cranbury
Land Corporation.

pgs 4

ML 000 779 E

PROFESSIONAL PLANNING AND ENGINEERING
 50 South St., P.O. Box 2284R, Morristown, N.J. 07960
 (201) 267-3244

RECEIVED

June 7, 1985

JUN 12 1985

JUDGE SERPENTELLI'S CHAMBERS

Carl S. Bisgaier, Esq.
 Bisgaier & Panotto
 510 Park Blvd.
 Cherry Hill, NJ 08034

Re: Cranbury Land Corporation
 Ancil Davison & Old Trenton Rds.
 Block 21, Lot 8, Block 22, Lot 8
 Cranbury Township
 Middlesex County, New Jersey

Dear Mr. Bisgaier:

Following is my brief report describing the proposed means of providing water and sewer service to the above mentioned tract of land. It can be concluded from the facts that these services can be provided at a cost which is not prohibitive or beyond that which is normally anticipated for a project of this size. The techniques involved are also normal municipal methods currently used by Cranbury Township, such as pumps, tanks, and pressure and gravity pipes.

Sanitary Sewage Collection:

Sewage Generation:	Multi Family:	2.5 persons/unit, 85 gal/person
	Single Family:	3.5 persons/unit, 100 gal/person
	Multi Family:	620 units x 2.5x85 = 131,750 gpd
	Single Family:	60 units x 3.5x100 = 21,000 gpd
	Total Average Daily Flow	152,750 gal
	Use	160,000 gal

Sewage Generation of Market Units:

0.80 x 680 = 544 units
 60 are Single Family = 21,000 gpd
 484 are Multi Family @2.75 people/unit @75gpd = 100,000 gpd

There are 110 units in the adjacent Shadow Oaks Development which can share in the cost of sewage collection for this area.

Shadow Oaks Sewage Generation

110 Single Family @350 gpd = 38,500 gpd

Total Sewage Collection from the area = 159,500 gallons

Costs for sewage collection to be allocated based on sewage generation into the system - 24% Shadow Oaks
 76% CLC Development

Summary Description of System:

Sewage generated on the site should be collected in gravity mains to a pumping station by Old Trenton Road as close to its eastern property line as possible.

New sewer mains are required to carry the flow to an existing pump station by the Cranbury Brook, located west of the Cranbury Central Business District.

The existing pump station and forced main will need to be expanded to handle the 2680 units of additional housing in Cranbury (536 low and moderate units recommended by Caten are 20% of the housing density requirements or $536 \times 5 = 2680$ units). The cost of this to be born on a proportionate share of 25% by CLC.

Sewage gets pumped from this station to South Brunswick where the South Brunswick Sewage Treatment Authority (SBSTA), through a series of pumps, transports it to the Middlesex County Sewerage Treatment Authority's (MCSTA) treatment plant in Sayerville. There are some construction improvements underway in the SBSTA system and some minor additional work required of which CLC may ultimately have to bear a pro rata share, a contingency budget amount has been allocated for this item. The MCSTA treatment plant is currently treating 90 million gallons per day and has rated capacity of 120 million gallons per day, leaving 30 million gallons per day capacity available.

Route Of Sanitary Sewer Collection Mains:

Collect all effluent by gravity to a pumping station in the vicinity of the Eastern property line and Old Trenton Road.

From there it will be pumped easterly in an 8" forced main along Old Trenton Road, thence northerly along Old Hightstown Road until it reaches Cranbury Neck Road, a distance of 7,500 feet.

From there it will flow by gravity to the existing pump station within the Cranbury Brook Reserve, a distance of 4,000 feet in a 10" main.

Beyond this pump station the system exists as follows:

8" forced main northerly through Cranbury Township to the SBSTA Pump Station #9 at Broadway Road. This station has a capacity of 2,000,000 gpd and currently pumps 250,000 gpd.

From there it goes to the SBSTA's pump station #10 at Davidsons Mill Pond which is about to undergo a \$200,000 improvement which will increase its' capacity sufficiently for CLC's needs.

From there it goes to Pump Station #13 in Edlys Lane in North Brunswick which has sufficient capacity to pump to the MCSTA treatment plant.

Cost of Sewer Collection System Improvements:

1) Pump Station	\$100,000
2) 7,500 LF 8" forced main	150,000
3) 4,500 LF 10" gravity with 10 MH	<u>100,000</u>
	350,000
76% to CLC =	270,000 or \$400/unit
4) Improvement to Cranbury Pump Station and Forced Main 25% share of \$400,000	100,000 or \$150/unit
Total Cost of Sewerage Services	\$370,000 or \$550/unit

These costs are well within the normal range of hook-up fees charged for municipal sewer services.

It should be noted that these sewer lines go through a developed and developing area of town and that additional sharing of the costs could be effected.

Water Supply:

Volume Required: Multi Family	2.5 persons/unit, 85 gal/person
Single Family:	3.5 persons/unit, 100 gal/person
Multi Family:	620 units x 2.5 x 85 = 131,750 gpd
Single Family:	60 units x 3.5 x 100 = 21,000 gpd
Total Average Daily Flow	152,750 gal
Use	160,000 gal

Water Consumption:

0.80 x 680 = 544 units

60 are Single Family = 21,000 gpd

484 are Multi Family @2.75 people/unit @75 gpd = 100,000 gpd

There are 110 units in the adjacent Shadow Oaks Development which can share in the cost of water supply to this area.

Shadow Oaks Water Consumption

110 Single Family @350 gpd = 38,500 gpd

Total Water Consumption in the area = 159,500 gallons

Costs for water supply to be allocated based on water consumption

= 24% Shadow Oaks

76% CLC Development

Summary Description:

The present water supply to the Township is distributed only within the Central Business District, with combinations of 2" to 8" mains. This system is inadequate to connect into. In addition, the 3 wells currently supplying the system are close to capacity. Therefore, the most feasible alternative is a new source of water supply or connection to the Elizabethtown Water Company system in Plainsborough Township in John White/George Davison Roads.

Alternate A would be connection to the Elizabethtown system by a main over a 15,000 LF distance along Cranbury Neck Road and would be jointly shared by the 2680 units and CLC would bear a 25% share of this 16" main. Seven thousand five hundred LF of 12" main along Old Trenton Road would be born 76% by CLC and 24% by Shadow Oaks.

Alternate B would be a new well and tank in the Central Business District jointly shared by the 2680 units with a 25% share paid by CLC. The cost of a main running from the center of town to the CLC site along Old Trenton Road would be 76% the burden of CLC.

Alternate C would be a new well and tank built locally to serve the needs of Shadow Oaks and CLC.

Alt. A - 15,000 LF of 16" pipe @\$50/LF @25% = \$187,500
7,500 LF of 12" pipe @\$30/LF @76% = 171,000

\$358,500 or \$530/unit

Alt. B - 7,500 LF of 12" pipe @\$30/LF @76% = \$171,000

25% of cost of well & tank
@\$1,000,000

250,000

\$421,000 or \$620/unit

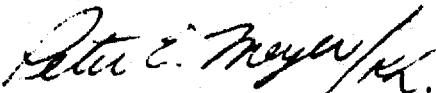
Alt. C - 76% cost of independent well & tank \$380,000 or \$560/unit

It should be noted that these lines go through developed and developing areas of town and that additional sharing of the cost could be effected.

These costs are well within the normal range of hook-up fees charged for municipal water services.

Should you require any additional information please let me know.

Very truly yours



Peter E. Meyer, P.E.

PEM:kl

cc: P. Abeles