APPENDIX #U-1

FIRE HYDRANT SPACING

The choice of hydrants for public service is based on the same considerations as the choice of hydrants for private fire service. One way in which private and public practice may differ is that public hydrants are generally equipped with a gate valve between the hydrant and the main so as to make repairs to the hydrant possible without shutting down the street main.

In general, hydrants should be placed with consideration to their possible use. Hose lines more than 400 or 500 feet long result in delay and undue pressure losses in hoselines. Therefore, hydrants should be distributed not more than 300 or 400 feet from the buildings to be protected. Where it is the fire department practice to use hose lines direct from hydrants, to prevent undue friction losses, lines must be kept shorter than in the case of lines from pumpers, and hydrants must be spaced about 100 feet closer together.

A rough rule to follow is to place one hydrant near each street intersection and to set intermediate hydrants where the distance between intersections exceeds 350 to 400 feet so that each hydrant has a service radius of 200 to 300 feet maximum.

APPENDIX #U-2

GLOUCESTER CITY
FIRE FLOW TESTS

Location	Quantity of H20 at 20 psi Residual Pressure		
	Required Pressure (GPM)	Available Pressure (GPM)	Surplus (Deficit)
Burlington & Salem Sts.	3,500	650	(2,850)
Somerset Street on the west side of Broadway	2,500	750	(1,750)
Jersey Avenue (between 5th and 6th)	2,500	1,200	(1,300)
Charles Street & 9th Avenue	5,500	910	(4,590)
Broadway & George Street	1,500	380	(1,120)
Market & Stiles Aavenue	2,000	180	(1,820)
Market & Weston Avenue	1,000	410	(590)
Yale & Lehigh Avenues	1,000	380	(620)

Source: Insurance Service Office of New Jersey - 1975 Report and Recommendations for Gloucester City

APPENDIX #U-3

FIRE DEPARTMENT RECOMMENDATIONS

1. All laterals going to hydrants be changed from 4" to a minimum 6". Laterals on 10" or larger be increased to 8".

2. All 4" mains be replaced in areas where fire potential is greatest.

3. Holts be made to install hydrant system inside yard to operate off of river.

4. Koch fuel and all further industry be made to install hydrant system completely independent of domestic water system.

5. A 10" main be laid along Route 130 north and south of Market Street to provide some water in the event of a fire in that area.

6. The City's surrounding water should be used in a more advantageous way.

7. That fire zones be established for light and heavy industry, where the availablility of water can be utilized from the river. That more water be placed in reserve.

8. That all industries within the city form a co-op on supplying water from the river for fire fighting only, which would reduce the demand on the domestic supply system.

Example: The Power House on Water Street
CAPABILITY: 3500 G.P.M.
STATUS: IDLE

Fire Pump at closed Gulf & Western
CAPABILITY: 3000 G.P.M.
STATUS: IDLE

GLOUCESTER CITY MASTER PLAN
STREET AND UTILITY INVENTORY

ANALYSIS ZONE	STREET NAME	FROM	TO	R.O.W. LENGTH	WIDTH OF R.O.W.	CART-WAY	LENGTH OF SEWER LINE	SEWER SIZE	LENGTH OF WATER LINE	WATER MAIN SIZE	TYPE STORM SEWER	LENGTH OF GAS LINE	GAS LINE SIZE	PRIMARY USERS
1	ELLIS	MONMOUTH	WARREN	1,800	50	30	940	unknown	1,840	4 & 6	COMBINATN	1,600	2 & 6	SERVICE/INDUSTRIAL
1	LINDEN	N. KING	N.WILLOW	200	40	20	270	unknown	150	4	COMBINATN	1,160	4	
1	MERCER	RIVER	ELLIS	650	60	30	450	unknown	330	4	COMBINATN	650	4	PAPER STREET N/A
1	MONMOUTH	RIVER	ELLIS	250	60	30	300	unknown	250	4	COMBINATN	200	2	RESIDENTIAL
1	N.BRDWAY	PASSIAC	NEWTON CR	1,600	66	45	1,600	unknown	250	4	COMBINATN	175	6 & 12	ALL TYPES
1	N. KING	LINDEN	N.BRDWAY	500	60	40	N/A	unknown	450	6	COMBINATN	450	12	ALL TYPES
1	PASSAIC	N.BRDWAY	NEWTON CR	1,150	60	30	540	unknown	450	4	COMBINATN	NA	NA	RESIDENTIAL
SUB TOTAL/AVG				6,150	59	32	586		517					

ANALYSIS ZONE	STREET NAME	FROM	TO	LENGTH	R.O.W.	CART-WAY	LENGTH OF SEWER LINE	SEWER SIZE	LENGTH OF WATER LINE	WATER MAIN SIZE	TYPE STORM SEWER	LENGTH OF GAS LINE	GAS LINE SIZE	PRIMARY USERS
2	BERGEN	WILLOW	ELLIS	300	40	20	150	unknown	170	4	COMBINATN	150	4	RESIDENTIAL
2	CMBRLND	WILLOW	KING	120	60	30	460	unknown	170	4	COMBINATN	150	3 & 12	RESIDENTIAL
2	ESSEX	WILLOW	ELLIS	300	60	30	190	unknown	340	4	COMBINATN	350	2 &4	RESIDENTIAL
2	HUDSON	WILLOW	ELLIS	300	50	20	360	unknown	370	6 & 8	COMBINATN	350	4	RESIDENTIAL
2	JERSEY	FERRY	RIVER	480	50	NA	NA	unknown	450	4	COMBINATN		NA	PAPER STREET N/A
2	KING	JERSEY	BROADWAY	3,430	60	40	2,630	unknown	3,870	8 & 10	COMBINATN	4,200	12	ALL TYPES
2	MARKET	S. KING	RIVER	600	66	30	660	unknown	370	6	COMBINATN	600	4	ALL TYPES
2	MERCER	WILLOW	ELLIS	300	60	30	340	unknown	340	4	COMBINATN	300	4	RESIDENTIAL
2	MIDDLESEX	WILLOW	ELLIS	300	40	20	340	unknown	340	4	COMBINATN	300	4	RESIDENTIAL
2	MONMOUTH	WILLOW	ELLIS	300	60	30	350	unknown	340	4	COMBINATN	300	2 & 6	RESIDNTL/BUSINESS
2	MORRIS	WILLOW	ELLIS	300	40	20	60	unknown	170	4	COMBINATN	250	4 & 6	RESIDENTIAL
2	ORANGE	BURLNGTN	KING	130	30	14	150	unknown	150	4	COMBINATN	110	4	RESIDENTIAL
2	POWELL	BURLNGTN	RIVER	130	50	30	150	unknown	150	4	COMBINATN	500	4 & 6	RESIDENTIAL
2	RIDGE	BURLNGTN	KING	100	20	12	140	unknown	140	4	COMBINATN	?	4	RESIDENTIAL
2	SALEM	WILLOW	KING	120	NA	NA	NA	unknown	160	4	N/A		NA	PAPER STREET N/A
2	SOMERSET	WILLOW	KING	120	40	20	170	unknown	170	4	COMBINATN	80	4	RESIDENTIAL
2	WARREN	WILLOW	ELLIS	280	60	30	80	unknown	320	4	COMBINATN	150	4	RESIDENTIAL
2	WILLOW	CMBRLND	LINDEN	2,410	20	8	1,850	unknown	2,020	4	COMBINATN	640	4	RESIDENTIAL
TOTAL/AVG FOR ANALYSIS ZONE # 2				10,020	45	21	5,450		10,040					

ANALYSIS ZONE	STREET NAME	FROM	TO	LENGTH	R.O.W.	CART-WAY	LENGTH OF SEWER LINE	SEWER SIZE	LENGTH OF WATER LINE	WATER MAIN SIZE	TYPE STORM SEWER	LENGTH OF GAS LINE	GAS LINE SIZE	PRIMARY USERS
3	BRICK	BRICK	CHARLES	530	40	20	550	unknown	620	4	COMBINATN	?	2 & 4	INDUSTRIAL
3	BRICK	BRICK	BROADWAY	440	40	30	590	unknown	290	4	COMBINATN	0	NA	INDUSTRIAL
3	S.BRDWAY	L TMBR CK	JERSEY	850	66	44	100	unknown	1,300	4 & 6	COMBINATN	850	12	RES/BUS/IND
3	ELM	MD-BLK	KOHLER	240			450	unknown	240	4	COMBINATN	0	NA	
3	FERRY	RIVER	RR/WATER	180			N/A	unknown	600	4	COMBINATN		NA	PAPER STREET
3	FIFTH	RIVER	RR/WATER	160			180	unknown	200	4	COMBINATN		NA	PAPER STREET
3	FOURTH	RIVER	RR/WATER	220			250	unknown	250	4	COMBINATN	70	4	PAPER STREET
3	GROVE	TENTH	CHARLES	730	50	30	760	unknown	790	4	COMBINATN	280	2	IND LOCAL
3	NINTH	GROVE	JERSEY	400	60	30	N/A	unknown	480	4	COMBINATN	250	6	IND/RES LOCAL
3	SIXTH	RIVER	RR/WATER	190			220	unknown	210	4	COMBINATN		NA	PAPER
3	THIRD	RIVER	RR/WATER	200			250	unknown	320	6	COMBINATN	70	3	PAPER
3	WATER	CHARLES	FERRY	2,200	50	25	1,170	unknown	3,270	4 & 8	COMBINATN	900	3 & 6	IND COLLECTOR
3											COMBINATN			
TOTAL OR AVERAGE FOR ANALYSIS ZONE # 3				6,340	306	179	4,520		8,570					

ANALYSIS ZONE	STREET NAME	FROM	TO	LENGTH	R.O.W.	CART-WAY	LENGTH OF SEWER LINE	SEWER SIZE	LENGTH OF WATER LINE	WATER MAIN SIZE	TYPE STORM SEWER	LENGTH OF GAS LINE	GAS LINE SIZE	PRIMARY USERS
4	ATLANTIC	MARKET	MONMOUTH	950	60	25	520	unknown	1,000	4	COMBINATN	600	8	RESIDENTIAL
4	N.BRDWAY	MARKET	PASSIAC	3,770	66	45	3,840	unknown	3,670	4&6&8	COMBINATN	3,770	6	RES/BUS/IND
4	CHAMBERS	N.BRDWAY	RR	360	50	25	400	unknown	410	4	COMBINATN	360	4	RESIDENTIAL
4	CHAMPION	CMBRLND	BERGEN	630	40	20	490	unknown	540	4	COMBINATN	450	4	RESIDENTIAL
4	CMBRLND	S WILLOW	RR	1,610	33-110	30-110	2,170	unknown	2,300	4	COMBINATN	2,920	4 & 12	RESIDENTIAL
4	BERGEN	N.WILLOW	RR	1,680	40	20	1,780	unknown	1,740	4	COMBINATN	1,850	3 & 4	RESIDENTIAL
4	BURLINGTON	MARKET	WRN/BRDWY	2,660	60	30	2,520	unknown	2,040	4 & 6	COMBINATN	2,350	6 & 8	RESIDENTIAL
4	ESSEX	WILLOW	BROADWAY	500	60	30	570	unknown	580	4	COMBINATN	600	4	RESIDENTIAL
4		BRDWAY	RR	400	60	35	440	unknown	470	6	COMBINATN	450	4	RES/IND
4	N FILMORE	HUDSON	PASSIAC	2,150	30	15	1,690	unknown	2,210	4	COMBINATN	1,400	4	RESIDENTIAL
4	S. FILMORE	MARKET	CMBRLND	600	30	20	280	unknown	770	4	COMBINATN	550	4	RESIDENTIAL
4	HUDSON	N.WILLOW	RR	1,550	50	25	1,590	unknown	1,640	8	COMBINATN	1,650	4	RESIDENTIAL
4	JOY	MARKET	CMBRLND	480	45	25	250	unknown	580	4	COMBINATN	440	4	RESIDENTIAL
4	LINDEN	N WILLOW	N BRDWAY	140	40	20	180	unknown	180	4	COMBINATN	200	4	RESIDENTIAL
4	MARKET	S.WILLOW	RR	2,480	66	30	2,470	unknown	2,220	4&6&8	COMBINATN	2,480	6	RES/BUS/IND
4	MERCER	WILLOW	BROADWAY	770	60	30	790	unknown	850	4	COMBINATN	770	4	RESIDENTIAL
4		BROADWAY	RR	380	60	30	410	unknown	410	4	COMBINATN	375	4	
4	MIDDLESEX	WILLOW	BROADWAY	730	40	20	790	unknown	990	4	COMBINATN	1,050	3 & 4	RESIDENTIAL
4		BRDWY	RR	360	50	25	410	unknown	400	4	COMBINATN	400	6	RESIDENTIAL
4	MONMOUTH	WILLOW	RR	1,810	60/75	50/30	1,850	unknown	1,840	4	COMBINATN	1,800	4 & 6	RES/BUS
4	MORRIS	WILLOW	BROADWAY	640	50	25	700	unknown	720	4	COMBINATN	1,450	4&6&8	RESIDENTIAL
4		BROADWAY	RR	390	40	20	420	unknown	420	4	COMBINATN	450	4	RESIDENTIAL
4	PAUL	N.BRDWAY	RR	290	50	25	330	unknown	410	4	COMBINATN	400	4	RESIDENTIAL
4	RIDGE	S.WILLOW	S.BRLGTN	250	20	12	220	unknown	290	4	COMBINATN	250	4	RESIDENTIAL
4	RIDGEWAY	S.BRLGTN	N.BRDWAY	1,570	50	20	1,650	unknown	1,650	4	COMBINATN	1,470	4	RESIDENTIAL
4	SALEM	WILLOW	BROADWAY	370	40	20	360	unknown	430	4	COMBINATN	250	4	RESIDENTIAL
4		BROADWAY	RR	400	40	20	N/A	unknown	230	4	COMBINATN	100	4	RESIDENTIAL
4	SHERMAN	N.BRDWAY	RR	420	50	25	460	unknown	450	4	COMBINATN	300	4	RESIDENTIAL
4	SOMERSET	S.WILLOW	CHAMPION	1,820	40	20	1,550	unknown	1,740	4	COMBINATN	1,600	4	RESIDENTIAL
4	SUSSEX	MARKET	MERCER	1,800	60	25	1,210	unknown	1,860	4 & 6	COMBINATN	1,300	4	RESIDENTIAL
4	WARREN	WILLOW	BROADWAY	250	60	30	310	unknown	450	8	COMBINATN	300	4	RESIDENTIAL
4		BROADWAY	RR	420	60	30	450	unknown	440	4	COMBINATN	550	4	RESIDENTIAL
TOTAL OR AVERAGE FOR ANALYSIS ZONE #4				24,010	45	24	23,440	0	24,840			24,465		

ANALYSIS ZONE	STREET NAME	FROM	TO	LENGTH	R.O.W.	CART-WAY	LENGTH OF SEWER LINE	SEWER SIZE	LENGTH OF WATER LINE	WATER MAIN SIZE	TYPE STORM SEWER	LENGTH OF GAS LINE	GAS LINE SIZE	PRIMARY USERS
5	S.BRDWAY	JERSEY	MARKET	2,350	66	45	2,350	unknown	2,450	6	COMBINATN	2,450	6	RES/BUS/IND
5	CENTER	EIGHTH	S.BRDWAY	470	50/40	25	510	unknown	490	4	COMBINATN	550	4	RESIDENTIAL
5	CHERRY	SIXTH	NINTH	1,380	50	25	770	unknown	1,350	4	COMBINATN	1,100	4	RES/BUS
5	DIVISION	FIFTH	S.BRDWAY	1,640	60	30	1,650	unknown	1,720	4	COMBINATN	1,300	4	RESIDENTIAL
5	EIGHTH	JERSEY	DIVISION	560	50	25	630	unknown	640	4	COMBINATN	400	4	RESIDENTIAL
5		DIVISION	HUNTER	250	50	25	250	unknown	280	6	COMBINATN	300	4	RESIDENTIAL
5	FIFTH	JERSEY	MARKET		60	30	940	unknown	940	8	COMBINATN	840	6	
5	FOURTH	JERSEY	MARKET	720	60	30	770	unknown	800	6	COMBINATN	230	4	RESIDENTIAL
5	GEORGE	S.BRDWAY	RR	250	35	20	220	unknown	210	4	COMBINATN	2,270	4	RESIDENTIAL
5	HUNTER	THIRD	S.BRDWAY	2,120	60	30	2,110	unknown	2,220	4	COMBINATN	3,900	3&4&6	RESIDENTIAL
5	JERSEY	FERRY	S.BRDWAY	3,750	60	45	3,570	unknown	3,920	6 & 8	COMBINATN		12	RES/BUS/IND
5	JOHN	S.KOHLER	N.KOHLER	500	20	10	320	unknown	450	4	COMBINATN	300	NA	RESIDENTIAL
5	JOHN	S.GEORGE	N.GEORGE	350	20	10	380	unknown	250	4	COMBINATN	700	4	RESIDENTIAL
5	KOHLER	JERSEY	RR	520	40	25	530	unknown	1,050	6 & 8	COMBINATN		4	RESIDENTIAL
5	LINDN LN	FOURTH	JERSEY	450			N/A	unknown	440	4	N/A	1,000	NA	PARTIAL PAPR ST
5	NINTH	JERSEY	CENTER	440	50	25	410	unknown	490	4	COMBINATN	500	6	RESIDENTIAL
5	ORANGE	S.KING	S.BRLGTN	210	30	14	260	unknown	240	4	COMBINATN	400	4	RESIDENTIAL
5	POWELL	S.KING	S.BRDWAY	2,620	60	30	260	unknown	240	4	COMBINATN	2,400	4	RESIDENTIAL
5	SEVENTH	JERSEY	DIVISION	380	50	25	250	unknown	N/A	N/A	COMBINATN		NA	RESIDENTIAL
5		DIVISION	MARKET	750	50	25	490	unknown	810	4	COMBINATN	300	6	RESIDENTIAL
5	SIXTH	JERSEY	MARKET	1,010	50	25	1,140	unknown	1,140	4	COMBINATN	350	4	RESIDENTIAL
5	THIRD	JERSEY	MARKET	590	60	30	650	unknown	670	6	COMBINATN	600	6	RESIDENTIAL
TOTAL OR AVERAGE FOR ANALYSIS ZONE #5				21,310	47	26	18,460		20,800			19,890		

ANALYSIS ZONE	STREET NAME	FROM	TO	LENGTH	R.O.W.	CART-WAY	LENGTH OF SEWER LINE	SEWER SIZE	LENGTH OF WATER LINE	WATER MAIN SIZE	TYPE STORM SEWER	LENGTH OF GAS LINE	GAS LINE SIZE	PRIMARY USERS
6	CHARLES	WATER ST	JERSEY	1,890	80	50	2,360	unknown	4,000	4 & 8	COMBINATN	3,000	2&3&6&12	INDUSTRIAL
6	EIGHTH	CHARLES	JERSEY	410	50	25	440	unknown	440	4	COMBINATN	100	2	INDUSTRIAL
6	FIFTH	WATER ST	JERSEY	530	50	25	N/A	unknown	600	4	N/A	0	NA	INDUSTRIAL
6	FOURTH	WATER ST	JERSEY	320	50/60	25	390	unknown	400	4	COMBINATN	400	4	RES/BUS/IND
6	NINTH	CHARLES	JERSEY	210	50	25	70	unknown	210	4	COMBINATN	200	6	IND/BUS
6	SEVENTH	CHARLES	JERSEY	570	50	25	N/A	unknown	N/A	N/A	N/A	100	6	IND/BUS
6	SIXTH	WATER ST	WALNUT	200	50	20	240	unknown	250	4	COMBINATN		NA	INDUSTRIAL
6		CHARLES	JERSEY	680			710	unknown	720	6	COMBINATN	50	3	PAPER STREET
6	SPRUCE		FIFTH	220			N/A	unknown	300	6	N/A		NA	PAPER STREET
6	THIRD	WATER ST	JERSEY	140	50	25	140	unknown	200	6	COMBINATN	200	3	IND. (LOCAL)
6	WALNUT	CHARLES	FOURTH	1,120	50	25	750	unknown	690	4	COMBINATN	100	4	IND. (LOCAL)
TOTAL OR AVERAGE FOR ANALYSIS ZONE #6				6,290	48	27	5,100		7,810			4,150		

ANALYSIS ZONE	STREET NAME	FROM	TO	LENGTH	R.O.W.	CART-WAY	LENGTH OF SEWER LINE	SEWER SIZE	LENGTH OF WATER LINE	WATER MAIN SIZE	TYPE STORM SEWER	LENGTH OF GAS LINE	GAS LINE SIZE	PRIMARY USERS
7	BROWN	HUDSON	ESSEX	1,400	60	30	1,610	unknown	1,680	6	COMBINATN	1,700	4	RESIDENTIAL
7	CHAMBERS	RR	JOHNSON	980	50	25	1,050	unknown	1,020	4	COMBINATN	900	4	RESIDENTIAL
7	ESSEX	RR	JOHNSON	920	60	30	1,000	unknown	990	6	COMBINATN	750	4	RESIDENTIAL
7	GAUNT	BROWN	JOHNSON	420	60	30	470	unknown	440	4	COMBINATN	500	4	RESIDENTIAL
7	HUDSON	RR	JOHNSON	1,100	50	25	1,240	unknown	1,230	4	COMBINATN	1,250	4	RESIDENTIAL
7	JOHNSON	HUDSON	ESSEX	1,910	75	45	1,990	unknown	2,640	6 & 16	SA & ST	2,850	4	BUS/RES
7	MERCER	RR	JOHNSON	960	60	30	990	unknown	1,000	6	COMBINATN	900	4	RESIDENTIAL
7	MIDDLESEX	RR	JOHNSON	970	50	25	1,030	unknown	1,000	6	COMBINATN	1,000	6	RESIDENTIAL
7	MORRIS	RR	JOHNSON	950	50	25	970	unknown	960	6	COMBINATN	970	4	RESIDENTIAL
7	PAUL	N.BRDWAY	JOHNSON	980	50	25	1,040	unknown	1,040	16	COMBINATN	1,000	4	RESIDENTIAL
TOTAL OR AVERAGE FOR ANALYSIS ZONE #7				10,590	57	29	11,390		12,000			11,820		

ANALYSIS ZONE	STREET NAME	FROM	TO	LENGTH	R.O.W.	CART-WAY	LENGTH OF SEWER LINE	SEWER SIZE	LENGTH OF WATER LINE	WATER MAIN SIZE	TYPE STORM SEWER	LENGTH OF GAS LINE	GAS LINE SIZE	PRIMARY USERS
8	BERGEN	RR	JOHNSON	1,020	50	25	1,240	unknown	1,220	4	COMBINATN	1,250	4	RESIDENTIAL
8	BROWN	SOMERSET	HUDSON	720		30	800	unknown	800	6	COMBINATN	800	4	RESIDENTIAL
8	CHAMPION	BROADWAY	BERGEN	50	40	20	N/A	unknown	N/A	NA	COMBINATN	450	4	RESIDENTIAL
8	JOHNSON	SOMERSET	HUDSON	850	70/56	80	830	unknown	860	6 & 16	SA & ST	400	4	MINOR ARTERIAL
8	L.SOMRST	RR	WASHINGTN	350	30	15	380	unknown	360	4	COMBINATN	1,220	4	RESIDENTIAL
8	MONMOUTH	RR	JOHNSON	1,200	60	30	1,250	unknown	1,210	4	COMBINATN	800	4	RES/THOROFARE
8	SOMERSET		JOHNSON	800	60	30	890	unknown	930	4	COMBINATN		4	RESIDENTIAL
8	WASHINGTN	L.SOMRST	SOMERSET	90	30	14	110	unknown	100	4	COMBINATN		NA	RESIDENTIAL
8	RR AVENUE	PAUL	ESSEX	1,300	20	15	100	unknown	N/A	NA	COMBINATN		NA	RESIDENTIAL
TOTAL OR AVERAGE FOR ANALYSIS ZONE #8				6,380	36	29	5,600		5,480			4,920		

ANALYSIS ZONE	STREET NAME	FROM	TO	LENGTH	R.O.W.	CART-WAY	LENGTH OF SEWER LINE	SEWER SIZE	LENGTH OF WATER LINE	WATER MAIN SIZE	TYPE STORM SEWER	LENGTH OF GAS LINE	GAS LINE SIZE	PRIMARY USERS
9	AMON	MARKET	BAYNES	400	50	30	500	unknown	410	4	COMBINATN	400	4	RESIDENTIAL
9	BARNABY	MARKET	BAYNES	550	50	30	470	unknown	590	4	COMBINATN	400	4	RESIDENTIAL
9	BAYNES	MARKET	JOHNSON	1,300	50	30	1,370	unknown	1,380	6	COMBINATN	1,050	4	RESIDENTIAL
9	BROWN	E. BRWN	SOMERSET	200	60	30	210	unknown	270	6	COMBINATN	300	4	RESIDENTIAL
9	E. BROWN	BROWN	SPARKS	1,130	60	30	970	unknown	1,170	6	COMBINATN	?	4	RESIDENTIAL
9	CUMBERLAND	RR	WSTMNSTR	840	40	20	1,020	unknown	700	4	COMBINATN	900	4	RESIDENTIAL
9	FRANCES	E. BROWN	JOHNSON	310	50	25	380	unknown	740	4 & 16	COMBINATN	360	6	RESIDENTIAL
9	HICKMAN	MARKET	BAYNES	500	50	30	430	unknown	510	4	COMBINATN	500	4	RESIDENTIAL
9	JOHNSON	SOMERSET	HIGHLND	?	75	45	330	unknown	1,200	NA	STORM	?	4 & 6	RESIDENTIAL
9	KATHERINE	E. BROWN	JOHNSON	320	50	25	380	unknown	380	4	COMBINATN	300	4	RESIDENTIAL
9	L.SOMRST	WASHINGTN	E.BROWN	320	30	13	380	unknown	390	4	COMBINATN	?	4	RESIDENTIAL
9	MARKET	RR	BAYNES	2,610	66	35	2,370	unknown	4,170	4	COMBINATN	2,900	4&6&8&12	IND/BUS/RES
9	MARY	MARKET	E.BRWN	460	40	12&15	240	unknown	520	4 & 16	COMBINATN	500	4	RESIDENTIAL
9	RIDGEWAY	MARY	SPARKS	480	40	22	520	unknown	520	4	COMBINATN	450	4	RESIDENTIAL
9	SPARKS	MARKET	BAYNES	670	50	25	660	unknown	700	4	COMBINATN	500	4	RESIDENTIAL
9	WASHINGTN	MARKET	SOMERSET	740	30	15	810	unknown	920	4	COMBINATN	700	4	RESIDENTIAL
9	WSTMNSTR	MARKET	E. BROWN	630	30	11&15	640	unknown	670	4	COMBINATN	570	4	RESIDENTIAL
TOTAL OR AVERAGE FOR ANALYSIS ZONE #9				11,460	48	24	11,680		15,240			9,830		

ANALYSIS ZONE	STREET NAME	FROM	TO	LENGTH	R.O.W.	CART-WAY	LENGTH OF SEWER LINE	SEWER SIZE	LENGTH OF WATER LINE	WATER MAIN SIZE	TYPE STORM SEWER	LENGTH OF GAS LINE	GAS LINE SIZE	PRIMARY USERS
10	BARNARD	RR	POWELL	760	50	25	870	unknown	870	4	COMBINATN	850	4	RESIDENTIAL
10	BURDSALL	MD-BLCK	THOMPSON	550	50	25	840	unknown	890	4	COMBINATN	650	4	RESIDENTIAL
10	DALY	MD-BLCK	MARKET	420	40	20	100	unknown	240	4	COMBINATN	250	4	RESIDENTIAL
10	HARLEY	THOMPSON	THOMPSON	970	50	25	830	unknown	920	4 & 6	COMBINATN	950	4	RESIDENTIAL
10	HUNTER	LANE	STINSON	240	40	21	240	unknown	250	NA	COMBINATN	250	2	RESIDENTIAL
10	LANE	RR	MARKET	930	50	25	1,420	unknown	2,740	4&6&16	COMBINATN	2,100	3&4&8	RESIDENTIAL
10	POWELL	RR	ZONE 13	1,510	60	30	1,350	unknown	1,400	4	COMBINATN	1,050	4	RESIDENTIAL
10	STINSON	RR	HUNTER	1,260	50	25	1,300	unknown	1,270	4	COMBINATN	1,320	2	RESIDENTIAL
10	STITES	RR	MARKET	450	50	25	520	unknown	300	4	COMBINATN	850	4	RESIDENTIAL
10	THOMPSON	RR	HUGHES	1,260	50	25	1,270	unknown	1,310	4 & 6	COMBINATN	1,100	2 & 6	RESIDENTIAL
TOTAL OR AVERAGE FOR ANALYSIS ZONE #10				8,350	49	25	8,740		10,190			9,370		

ANALYSIS ZONE	STREET NAME	FROM	TO	LENGTH	R.O.W.	CART-WAY	LENGTH OF SEWER LINE	SEWER SIZE	LENGTH OF WATER LINE	WATER MAIN SIZE	TYPE STORM SEWER	LENGTH OF GAS LINE	GAS LINE SIZE	PRIMARY USERS
11	BARLOW	PRINCETON	YALE	410	40	25	300	unknown	N/A	NA	2	N/A		RESIDENTIAL
11	CORNELL	S.BR CRK	NICHOLSN	900	40	25	670	unknown	700	6	2	700		RESIDENTIAL
11	HAVERFORD	S.BR CRK	NICHOLSN	900	40	25	580	unknown	760	4 & 6	2	360		RESIDENTIAL
11	HARVARD	N/S FRWY	NWTN CRK	1,100	40	25	1,460	unknown	680	6	2	950		RESIDENTIAL
11	JEFFERSON	S.BR CRK	RUTGERS	570	40	25	470	unknown	490	6	2	500		RESIDENTIAL
11	LEHIGH	NWTN CRK	E.ZN 11	2,150	40	25	1,980	unknown	1,970	6	2	1,900		COLLECTOR
11	MARLBOROUGH	YALE	RT.130	390	40	25	350	unknown	400	4 & 6	2	375		RESIDENTIAL
11	MEMORIAL	UNIVERSTY	HVERFRD	410	40	25	450	unknown	50	6	2	450		RESIDENTIAL
11	NICHOLSN	S.BR CRK	YALE	2,600	50	30	2,250	unknown	2,700	10	2	3,400		MNR ARTERIAL
11	OXFORD	NICHOLSN	NWTN CRK	1,740	40	25	1,650	unknown	1,560	6	2	1,700		RESIDENTIAL
11	PRINCETON	NICHOLSN	NWTN CRK	1,730	40	25	1,650	unknown	1,510	6	2	1,650		RESIDENTIAL
11	RUTGERS	NICHOLSN	NWTN CRK	850	40	25	700	unknown	800	6	2	675		RESIDENTIAL
11	SWARTHMORE	S.BR CRK	NICHOLSN	700	40	25	680	unknown	750	6	2	750		RESIDENTIAL
11	TEMPLE	S.BR CRK	NICHOLSN	900	40	25	530	unknown	490	6	2	525		RESIDENTIAL
11	UNIVERSTY	S.BR CRK	NICHOLSN	900	40	25	460	unknown	510	6	2	620		RESIDENTIAL
11	YALE	NICHOLSN	NWTN CRK	1,610	40	25	1,500		1,580	6	2	1,540		RESIDENTIAL
TOTAL OR AVERAGE FOR ANALYSIS ZONE #11				17,860	41	25	15,680		13,370			16,095		

ANALYSIS ZONE	STREET NAME	FROM	TO	LENGTH	R.O.W.	CART-WAY	LENGTH OF SEWER LINE	SEWER SIZE	LENGTH OF WATER LINE	WATER MAIN SIZE	TYPE STORM SEWER	LENGTH OF GAS LINE	GAS LINE SIZE	PRIMARY USERS
12	GREENWOOD	SHRWOOD	HIGHLAND	1,200	50	30	1,220	unknown		4	COMBINATN	1,200	4	RESIDENTIAL
12	HIGHLAND	LAKE	RT.42	1,450	60	30	1,470	unknown	1,450	6	COMBINATN	1,500	6	RESIDENTIAL
12	KLEMM	JOHNSN	RT.42	1,800	40	30	1,350	unknown	850	6	COMBINATN	1,300	4 & 6	MINOR ARTERIAL
12	ORLANDO	SHERWOOD	KLEMM	1,310	50	30	1,350	unknown	1,380	4 & 6	COMBINATN	1,350	4	RESIDENTIAL
12	PALACE	SHERWOOD	KLEMM	1,220			300	unknown	490	4 & 6	COMBINATN		NA	PAPER STREET
12	PARK	BAYNES	ORLNDO	1,000	40	30	1,150	unknown	N/A	NA	STORM		NA	RES/COLLECTOR
12	ROSALIND	SHERWOOD	KLEMM	1,100	50	30	1,165	unknown	1,500	6	COMBINATN	1,150	4	RESIDENTIAL
12	SHERWOOD	MARKET	DEAD END	1,230	50	30	1,090	unknown	1,250	4	COMBINATN	1,100	6	RESIDENTIAL
12	SYLVAN	SHERWOOD	KLEMM	1,370	50	30	1,120	unknown	1,430	4 & 6	COMBINATN	1,400	4	RESIDENTIAL
TOTAL OR AVERAGE FOR ANALYSIS ZONE #12				11,680	49	30	10,215		8,350			9,000		

ANALYSIS ZONE	STREET NAME	FROM	TO	LENGTH	R.O.W.	CART-WAY	LENGTH OF SEWER LINE	SEWER SIZE	LENGTH OF WATER LINE	WATER MAIN SIZE	TYPE STORM SEWER	LENGTH OF GAS LINE	GAS LINE SIZE	PRIMARY USERS
13	HUGHES	THOMPSON	MARKET	1,360	50/60	32	N/A	unknown	1,410	6	N/A	1,050	4 & 6	RESIDENTIAL

ANALYSIS ZONE	STREET NAME	FROM	TO	LENGTH	R.O.W.	CART-WAY	LENGTH OF SEWER LINE	SEWER SIZE	LENGTH OF WATER LINE	WATER MAIN SIZE	TYPE STORM SEWER	LENGTH OF GAS LINE	GAS LINE SIZE	PRIMARY USERS
14	BIRCH	THOMPSON	MARKET	1,800			N/A	unknown	600	8	N/A		NA	PAPER STREET
14	RT 130	L.TMBR.CK	MARKET	2,200	120	70	N/A	unknown	N/A	NA	N/A	1,300	6	STATE FREEWAY
14	MARKET	W.OF 130	E.OF 130	980	66/50	35	1,050	unknown	910	10	COMBINATN	950	12	MINOR ARTERIAL
14	ORIENTAL		WALNUT	100	50	30	N/A	unknown	N/A	NA	N/A		NA	RESIDENTIAL
14	THOMPSON	KNGS HWY	WALNUT	100	50	30	N/A	unknown	170	NA	COMBINATN		NA	PAPER STREET
14	THOMPSON	W.OF 130					N/A	unknown	N/A	NA	N/A		NA	PAPER STREET
TOTAL OR AVERAGE FOR ANALYSIS ZONE #14				5,180	55	41	1,050		1,680			2,250		

ANALYSIS ZONE	STREET NAME	FROM	TO	LENGTH	R.O.W.	CART-WAY	LENGTH OF SEWER LINE	SEWER SIZE	LENGTH OF WATER LINE	WATER MAIN SIZE	TYPE STORM SEWER	LENGTH OF GAS LINE	GAS LINE SIZE	PRIMARY USERS
15	KLEMM	RT.42	PARK	1,000	40	30	N/A	unknown	N/A	6	NONE	70	4	COMMERCIAL

ANALYSIS ZONE	STREET NAME	FROM	TO	LENGTH	R.O.W.	CART-WAY	LENGTH OF SEWER LINE	SEWER SIZE	LENGTH OF WATER LINE	WATER MAIN SIZE	TYPE STORM SEWER	LENGTH OF GAS LINE	GAS LINE SIZE	PRIMARY USERS
16	BAETZEL	N/S FRWY	PARK	410	60	35	N/A	unknown	470	6	N/A	450	4	RESIDENTIAL
16	GEHRIG	CULDESAC OFF BAETZ		800	50	25	N/A	unknown	760	6	N/A	790	4	RESIDENTIAL
16	CLOVER	GOLDY DR	MILLER	500	50	30	N/A	unknown	150	6	N/A	500	4	RESIDENTIAL
16	CYPRESS	N/S FRWY	MARKET	250	50	27	110	unknown	N/A	NA	COMBINATN	350	4	RESIDENTIAL
16	EDWARDS DR	LAMBERT (LOOP)		1,050	50	30	1,060	unknown	1,060	6	COMBINATN	950	4	RESIDENTIAL
16	FERN	HIGHLAND		280	50	30	100	unknown	N/A	NA	COMBINATN	300	4	RESIDENTIAL
16	GASKILL	PARK	WESTON	270	50	30	100	unknown	N/A	NA	COMBINATN	20	3	RESIDENTIAL
16	GOLDY DRIVE	LAMBERT (LOOP)		1,010	50	30	1,030	unknown	1,030	6	COMBINATN	1,150	6	RESIDENTIAL
16	HIGHLAND	N/S FRWY	PARK	910	60	40	950	unknown	950	6	COMBINATN	1,150	6	RES/COLLECTOR
16	IVY	BLK S.OF HGHLND		50	40	25	N/A	unknown	N/A	NA	COMBINATN		NA	SCHOOL
16	LAMBERT	WESTON	?	1,250	50	30	960	unknown	1,280	6	COMBINATN	1,300	6	RESIDENTIAL
16	MARKET	N/S FRWY	?	1,760	50	36	180	unknown	1,320	6 & 10	COMBINATN	1,850	12	THORO/MINR ARTL
16	MILLER	PARK	?	1,030	45	30	N/A	unknown	N/A	NA	N/A	100	3	RESIDENTIAL
16	MYRTLE	N/S FRWY	KLEMM	450	50	25/30	250	unknown	N/A	NA	COMBINATN	200	4	RESIDENTIAL
16	PARK	MARKET	KLEMM	2,100	50	30	1,940	unknown	2,160	6	COMBINATN	2,200	4 & 8	RES/COLLECTOR
16	SPRUCE	CULDESAC S. OF MRK		700	50	30	N/A	unknown	660	6	N/A	700	4	RESIDENTIAL
16	STATION			850			N/A	unknown	N/A	NA	N/A		NA	PAPER STREET
16	WESTON	MARKET	KLEMM	1,500	50	D/E 30	410	unknown	N/A	NA	COMBINATN	600	6	RESIDENTIAL
TOTAL OR AVERAGE FOR ANALYSIS ZONE #16				15,170	50	27	7,090		9,840			12,610		

ANALYSIS ZONE	STREET NAME	FROM	TO	LENGTH	R.O.W.	CART-WAY	LENGTH OF SEWER LINE	SEWER SIZE	LENGTH OF WATER LINE	WATER MAIN SIZE	TYPE STORM SEWER	LENGTH OF GAS LINE	GAS LINE SIZE	PRIMARY USERS
17	CHESTNUT	KNGS HWY	MAPLE	1,600	50	30	1,750	unknown	1,630	6	COMBINATN	1,800	6	RESIDENTIAL
17	HOLLY	THOMPSON	ORIENTAL	675	50	30	730	unknown	700	6	COMBINATN	650	4	RESIDENTIAL
17	MAPLE	ORIENTAL	MARKET	930	50	28	840	unknown	980	6	COMBINATN	1,000	8	RESIDENTIAL
17	ORIENTAL	WALNUT	THOMPSON	1,250	50	30	1,350	unknown	1,290	6	COMBINATN	1,150	4 & 8	RESIDENTIAL
17	THOMPSON	BIRCH	KNGS HWY	1,200	50	30	1,170	unknown	1,550	6	COMBINATN	1,150	6	RES/COLLECTOR
17	WALNUT	THOMPSON	MARKET	1,770	50	30	1,830	unknown	1,820	6	COMBINATN	1,400	4 & 6	RESIDENTIAL
TOTAL OR AVERAGE FOR ANALYSIS ZONE #17				7,425	50	30	7,670		7,970			7,150		