

**SFC PHASE I PROJECTS
YONKERS, NEW YORK**

SITE UTILITY REPORT

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**SFC PHASE I PROJECTS
YONKERS, NEW YORK**

SITE UTILITY REPORT

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I. EXECUTIVE SUMMARY

In support of the Draft Environmental Impact Statement for the SFC Phase I Projects (Project), this report has been prepared to assess the existing utility systems for the capacity required to service the proposed development.

A. Site Description

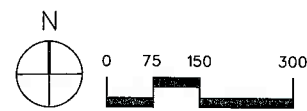
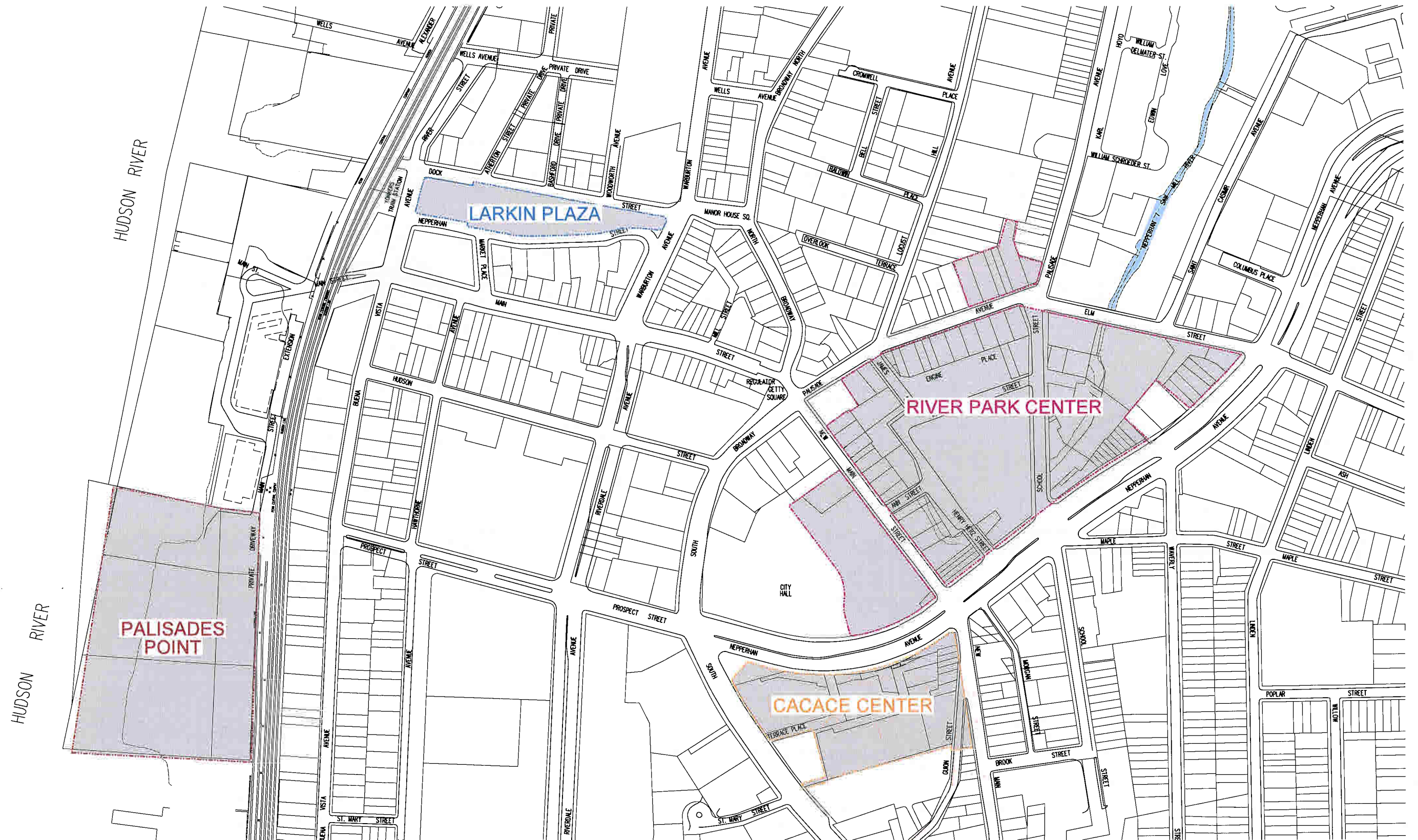
The SFC project is comprised of many small existing parcels that are to be combined into several large new parcels in the downtown area of the southwestern portion of Yonkers (City). Refer to Figure No. 1 for location of development sites. The total land area to be developed is approximately 22.4 acres. Development will take place in three areas known as River Park Center, Larkin Plaza, and Palisades Point. The River Park area includes the Government Center and Cacace Center projects. The current property use is widely varied. The existing parcels are currently used for office, residential, retail, parking, and industrial purposes. The project is bounded by the Saw Mill River Parkway to the East, the Hudson River to the West, Ashburton Avenue to the North, and the Bronx county line to the south. A portion of the Nepperhan or Saw Mill River passes through the area, most of it underground via a box culvert. See Figure No. 1 for Phase I Project Locations.

B. Existing Utility Conditions

The existing utilities currently serving the site include storm, sanitary, and combined storm and sanitary sewers, water mains, gas lines, electric lines, telephone and cable services. Existing utility infrastructure is either in the vicinity of the site or can be extended from existing distribution systems located nearby.

C. Proposed Utility Conditions

The proposed development will require the upgrade or installation of the following systems: storm drainage and sanitary sewers, domestic water and fire protection, electric, telephone, cable TV and natural gas. New systems will be placed underground, where applicable, and integrated with bridge structures. Obsolete systems will be abandoned.



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NOTE: BASE SURVEY INFORMATION RECEIVED FROM CITY OF YONKERS ENGINEERING DEPARTMENT

PHASE I PROJECT LOCATIONS

SFC PHASE I SITES
YONKERS, NEW YORK

FIGURE NO. 1

1. Water Supply Service

The project sites are in the vicinity of existing feeder water mains in Riverdale Avenue and Elm Street. The developed project water demand, with consideration for the use of water conservation measures, is estimated to be approximately 543,665¹ gallons per day (gpd) with a peak flow rate of 1,133 gallons per minute (gpm). Fire demand for the complex is conservatively estimated to be between 4000 and 4500 gpm.

It is proposed that the water distribution system be upgraded in two areas. In the area of River Park Center, the system capacity will be increased by providing larger mains and extension of new mains. In the Palisades Point area, the existing water main(s) will be extended into the site and, where feasible, a loop connection to the City main on the east side of the Metro-North Railroad tracks.

2. Sanitary Sewer Disposal

The estimated average daily sanitary flow for the project sites are approximately 393,320 gallons per day(gpd) for River Park Center, Government Center, and Cacace Justice Center, and 100,920 gpd for Palisades Point for a total of 494,240 gpd. The increase in wastewater flow into the City sewer system is estimated to be approximately 452,750 gpd. There will be no increase at the Larkin Plaza parcel as no development is planned there. Monitoring of the existing wastewater systems was conducted in the fall of 2006 to identify potential improvements to reduce the amount of stormwater inflow into the combined systems so as to mitigate the increase in additional wastewater flow into the system.

3. Electric & Gas Service

Con Edison currently supplies the project area with gas and electric service via an existing distribution system. Con Ed will provide service for electric and gas systems to individual parcels in accordance with the requirements of their tariff structure for each respective system. The project's internal electric system will be an underground distribution system with below grade vaults and suitably screened pad-mounted equipment where necessary.

¹ Water Demand Flow Rate increased by 10% from the NYSDEC Design Standards for Wastewater Treatment Works, pp. 10-12, 1988. Additional unit flow not to enter sewer system.

The natural gas system will serve the heating, hot water and cooking requirements for the project. The electric system will serve the lighting, power and HVAC requirements for the project. HVAC will be a decentralized system with units designed to serve each respective structure's cooling requirements.

4. Telephone and Cable Service

Existing telephone systems will be extended underground in utility trenches to serve the individual parcels comprising the proposed development.

II. WATER SERVICE

A. Source of Water

The City of Yonkers obtains its water from the New York City Reservoir System, an unfiltered surface water supply that originates from the Catskill and Delaware watershed areas, located 100 miles northwest of Yonkers in upstate New York. Approximately 10.6 billion gallons of water were used by the City of Yonkers from the New York City water supply system during 2005. This yielded an average daily citywide consumption of 28.9 million gallons per day with an average daily per capita usage of approximately 147.3 gallons. A series of water storage tanks located throughout the City maintain the pressure within the systems and serves approximately 196,086 residents of the City of Yonkers, per the 2000 Census².

Under normal operating conditions, water is obtained from one connection to the Westchester County Water District #1 and three separate connections in the New York City Reservoir System before discharging into the NYC Hillview Reservoir located in southeast Yonkers. From these four connections, the City is served via high and low service mains within their water distribution system.³

Although the Grassy Sprain Reservoir is no longer used as a source of normal water supply; it is still classified as a water supply reservoir and the city is permitted to draw water from it under emergency conditions without filtration or treatment.

B. Treatment of the Water

Water that enters the City of Yonkers water distribution system has been treated with the addition of chlorine so as to comply with New York State and Federal disinfection requirements. Fluoride is added to the New York City water supply before it enters the Yonkers water system to aid in the prevention of tooth decay. Further orthophosphate is added to water entering the City of Yonkers water

² 2005 Yonkers Annual Water Quality Report

³ See letter from City Department of Public Works to Divney Tung Schwalbe dated 01/11/08 at the end of this document.

distribution system to meet New York State and Federal corrosion control regulations.

C. City of Yonkers Water Distribution

The City maintains a High and a Low Service (elevation) zone to accommodate the varying topography within the City of Yonkers. Water from the City of Yonkers and Westchester County intake systems is pumped or piped to the different systems with hydraulic grade lines⁴ between elevations 440 and 490 for the high service pressure zone and elevations 260 and 290 for the low service zone. The project sites are located in the low service zone, with a hydraulic grade line of approximately 290 feet. Although the sites are in the low service zone, the area is supported by the high service pressure zone through a pressure regulating valve⁵. This pressure regulating valve is located at Odell Avenue and maintains pressure in the Warburton Avenue corridor (north and south of Odell Avenue). During times of heavy demand in the low service system it is not uncommon to have the valve remain open which causes the water level in the elevated water tank at the Southern Westchester Executive Park to drop.⁶

As shown on Table No. 1 and on Figure No. 2, *Existing Water Mains*; water mains exist in all streets in the vicinity of the project as follows:

⁴ Hydraulic grade line (HGL) is the sum of the pressures and gravitational head, and contributes to the amount of available water pressure in a distribution system.

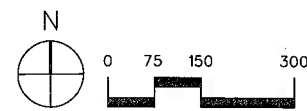
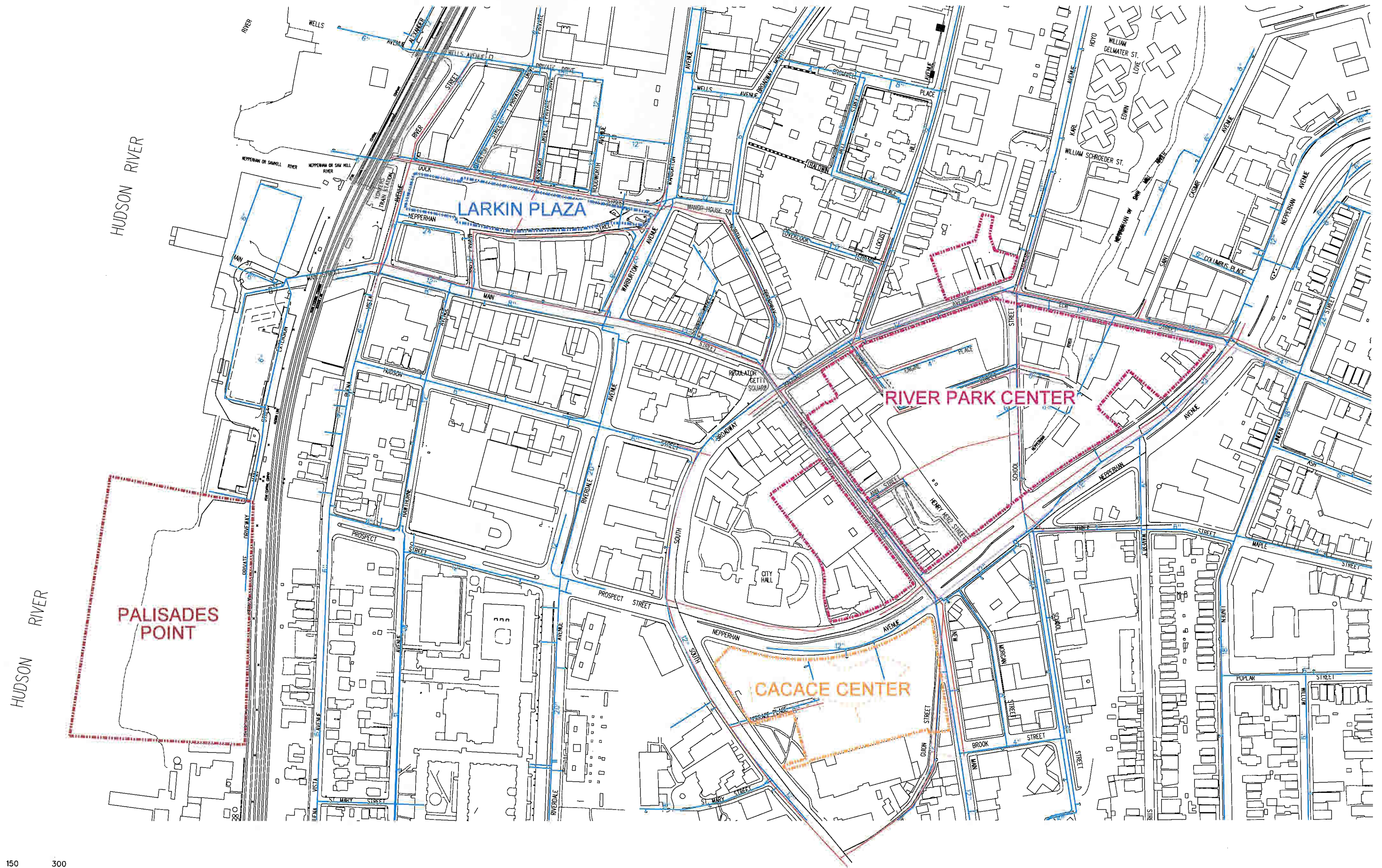
⁵ Based on email correspondence from John Liszewski, Commissioner, Department of Public Works, in reference to the PDEIS submission.

⁶ Based on correspondence from Albina Glaz of the City of Yonkers Water Department regarding completeness of the PDEIS submission.

Table No. 1 - Existing Water Mains

Location	Diameter (inches)	
River Park Ctr./ Gov't. Ctr.	Main 1	Main 2
Nepperhan Avenue	12	-
South Broadway	12	-
School Street	12	6
Waverly Street	6	-
Elm Street	12	-
John Street	6	4
Engine Place	4	-
James Street	6	-
New Main Street	12	-
Palisade Avenue	12	-
Ann Street	6	-

Location	Diameter (inches)	
Cacace Center	Main 1	Main 2
South Broadway	12	-
Terrace Place	8	-
Guion Street	12	-
Location	Diameter (inches)	
Larkin Plaza	Main 1	Main 2
Main Street	12	-
Riverdale Avenue	20	12
Dock Street	12	-
Palisades Point		
Site	12	20



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NOTE: BASE SURVEY INFORMATION RECEIVED FROM CITY OF YONKERS ENGINEERING DEPARTMENT

EXISTING WATER MAINS

SFC PHASE I SITES
YONKERS, NEW YORK

FIGURE NO. 2

Hydrant testing has recently been conducted for the Project sites. Based on preliminary review of the test results and discussions between the Applicant's engineer and City representatives, the water mains currently in the vicinity of the sites will not provide adequate pressure for the proposed projects. Some water mains located near the River Park Center site are in excess of 100 years old and will require replacement due to their age. The initial and limited water modeling determined limitations in the hydraulic capacity of the existing water mains located in New Main Street, Palisades Avenue, Elm Street, Main Street, Nepperhan Avenue and along the waterfront. The City has indicated that improvements to those water mains will be required to partially improve water flow capacity to the Project sites, but may not satisfy the significant increase of water demand for proposed SFC and other planned developments in the downtown area. Proposed improvements in DEIS are listed in Item 3 under "Mitigation Measures." As part of the FEIS, the Applicant will evaluate and perform a comprehensive hydraulic analysis of the existing water distribution system affected by the proposed development and its ability to handle the significant increase in water demand and fire flow for the proposed developments, both year round and summer months during peak hour water demand. During construction of the Project, new water mains will be installed within the roadways in the vicinity of the Project sites as described herein under "Mitigation Measures".

Currently, the area west of the Railroad where the Palisades Point site will be constructed is served by a 12-inch main in Main Street that feeds a 20-inch main serving the Scrimshaw House. An unknown obstruction of this line was found during the flow testing just south of the Scrimshaw House where the 20-inch main meets a 12-inch main that extends to the Palisades Point site and may require excavation to find the source of the obstruction⁷.

⁷ Hydraulic analysis Water system conditions proposed Palisades Point site 3/19/2007 by George W. Lackowitz, P.E. – see end of this sectionII.

Existing fire flows have been provided by the City's hydraulic consultant, George Lackowitz, P.E. and are based on hydrant flow tests performed at strategic hydrants in the vicinity of the Project sites that would be representative of hydrant flows for the general area surrounding the test hydrants. The fire flows were calculated at maximum day water demand conditions at the sites have been provided as follows. In the area of the River Park Center including the Cacace Center and Government Center, a fire flow of approximately 3,500 gpm with residual pressures between 40 and 55 psi. Existing fire flow conditions at the Palisades Point site are approximately 2,000 gpm at a residual pressure of 20 psi⁸.

D. Proposed Project Demand

Based on conservative unit flow values from the New York State Department of Environmental Conservation's Design Standards for Wastewater Treatment Works, and with the use of water conservation measures providing a 20% flow reduction, the estimated average daily water demand for the Project sites are approximately 432,650 gpd for River Park Center, Government Center and Cacace Center, and 111,010 gpd for Palisades Point for a total of 543,665 gpd as presented in Table 2A, Summary of Average Daily Sanitary Flow and Water Demand. Based on the Project sites existing water demand of approximately 45,640 gpd which will be discontinued, the incremental increase in water consumption on the Project sites will be approximately 498,025 gallons per day⁹ (i.e., $543,665 \text{ gpd} - 45,640 \text{ gpd} = 498,025 \text{ gpd}$). The proposed Project sites will generate an estimated peak demand flow rate of 1,038 gallons per minute (gpm). (See Table No. 2B, Estimate of Sanitary Flow and Water Demand, for detailed breakdown of existing and proposed conditions for Phase I sites.) It is noted that without the use of water conservation

⁸ Hydraulic analysis Water system conditions proposed River Park Center/Cacace Center 4/4/2007 by George W. Lackowitz, P.E. – see end of this section II.

⁹ The developed project's total water demand, with consideration of water conservation measures providing a 20% flow reduction, is estimated to be approximately 543,665 gallons per day (gpd). (i.e., $679,580 \text{ gpd} \times 20\% = 135,916 \text{ gpd}$. Thus, $679,580 \text{ gpd} - 135,916 \text{ gpd} = 543,665 \text{ gpd}$) Based on the project site's existing water demand of approximately 45,639 gpd which will be discontinued, the incremental increase in water consumption from the Project sites are estimated to be approximately 498,025 gpd ($543,665 - 45,640 = 498,025 \text{ gpd}$) For purposes of this analysis, the water demand flow rate has been increased by 10% from the NYSDEC Design Standards for Wastewater Treatment Works.

TABLE NO. 2A

SFC - PHASE I PROJECTS
 STRUEVER FIDELCO CAPPELLI, LLC
 YONKERS, NEW YORK

SUMMARY OF AVERAGE DAILY SANITARY FLOW AND WATER DEMAND

Proposed Program Components		Floor Area (GSF)	Sanitary Demand (GPD)	Water Demand (GPD)
<u>River Park Area</u>				
River Park Center:	Residential	1,150,200	218,520	240,372
	Retail, Office, Cinema, Ballpark, Restaurant	747,000	116,800	128,480
Palisade Office:	Office, College	225,000	18,000	19,800
Government Center:	Retail, Restaurant	30,000	9,600	10,560
Cacace Center:	Firehouse, Hotel, Office	<u>265,000</u>	<u>30,400</u>	<u>33,440</u>
River Park Area Total		2,417,200	393,320	432,652
Peak Flow Rate (gpm)			819	901
Palisades Point:	Residential, Retail, Office	1,143,200	100,920	111,012
	Peak Flow Rate (gpm)		210	231
Project Totals (River Park Area & Palisades Point)		3,560,400	494,240	543,664
Peak Flow Rate (gpm)			1,030	1,133
Existing Parcels:	Various existing parcels to be razed		41,490	45,639
	Peak Flow Rate (gpm)		86	95
Net Increase (gpd)			452,750	498,025
Peak Flow Rate (gpm)			943	1038
Seasonal Irrigation Demand ⁽⁵⁾			0	24,955

Notes

1. Flow Rates based on NYSDEC Design Standards for Wastewater Treatment Works (1988) pp. 10-13.
2. Water Demand estimated at 110% of Sanitary flows.
3. Peak Rate calculated at three (3) times the average daily rate due to mixed use of development.
4. Proposed Sanitary Flow figures calculated using water saving fixtures adjustment factor.
5. The seasonal irrigation demand for the ballfield is calculated using historic evapotranspiration data for the New York area and a preliminary estimate of the play field area at approximately 121,000 square feet. Based on an average demand for the peak season of 66.88 gallons per minute and a watering cycle of 4 hours per day, the seasonal irrigation demand for the ballfield is estimated at approximately 16,050 gallons per day. An additional 100,000 square feet was used to account for other green areas within the proposed project based on 1 inch of irrigation per week. The seasonal irrigation demand for these other green areas is estimated at approximately 8,900 gallons per day.

TABLE NO. 2B

SFC - PHASE I PROJECTS
STRUEVER FIDELCO CAPPELLI, LLC
YONKERS, NEW YORK

Date: 9/6/2006
By: DTS
Issue No. 11
Rev. 5/30/2007

Estimate of Sanitary Flow and Water Demand - Phase I Sites

Existing Conditions

Description		Address	Tax Designation			Site Area (sf)	Bldg Area ⁽¹⁾ (sf)	Sanitary Demand Generators				Use	DEC Unit Flowrate ⁽²⁾ (gals.)	Sanitary Demand Avg Daily Flow	Water Demand Avg Daily Flow ⁽⁴⁾
			Section	Block	Lot			Residential Units			Other (Seats/keys/sq.ft.)				
								1 BR	2 BR	3 BR					
RIVER PARK CENTER															
1	12 Palisade Ave	Two story commerical building	1	484	3	4,358	8,716				4,300	Clinic (Office)	0.1	430	473
											4,300	Office	0.1	430	473
2	8 Palisade Ave; 109, 113, 177 New Main Street, and 2 & 8 James Street	One Story three tenant retail building.	1	484	1,5,8,59,6,1,62,63	36,954	35,649				35,000	Retail	0.1	3,500	3,850
3	119 New Main Street	One Story single tenant retail building	1	484	57	1,530	1,530				1,500	Retail	0.1	150	165
4	123-125 New Main Street	One Story three tenant retail building	1	484	55,56	6,840	5,782				5,700	Retail	0.1	570	627
5	127, 129,131 New Main St	One Story commercial building (131 New Main Street). Five Story residential/commercial building (127/129 New Main Street) with 2 retail establishments and 16 apartments. 8 apartments with 3 rooms and 8 with 5 rooms	1	484	15,51,53	38,700	35,900				9,800	Retail	0.1	980	1,078
6	135-145 New Main St	Two Story seven tenant retail building	1	483	12,13,16	17,150	12,424	8	8		12,000	Residential Retail	Varies by BR (2) 0.1	3,600 1,200	3,960 1,320
7	147,149,151A New Main St	One Story single tenant retail building.	1	483	10	9,540	5,688				5,600	Retail	0.1	560	616
8	151B New Main St	One Story single tenant retail building	1	483	9	2,325	992				900	Retail	0.1	90	99
9	153 New Main St	One Story single tenant retail building	1	483	7	2,370	1,659				32	Restaurant	35	1,120	1,232
10	155 New Main Street	One Story Restaurant.	1	483	5	1,774	1,680				32	Restaurant	35	1,120	1,232
11	58-70 Elm Street	One Story and Two story slab, single tenant, gas and service station.	1	475	1	17,280	5,032				2	Service Station	400	800	880
12	33 John St & 7 New School Street	One Story, over full basement, which includes office space, shop area for a A/C installer, and a separate coffee shop building	1	475	64,65,66	4,585	4,827				3,000	Office	0.1	300	330
13	37 John Street	Two Story commercial building	1	475	67	5,775	6,675				30 2 3,300 100	Restaurant Service Station Retail Car Wash	35 400 0.1 40	1,050 800 330 4,000	1,155 880 363 4,400
14	78 Elm St, 92 Elm St, 193 Nepperhan Ave, 195 Nepperhan Ave, 45 John Street	Four story eight family apartment building with one retail tenant on the first floor and a small garage structure (23 x 18) at the rear (193 Nepperhan Ave). And a Vacant four story eight family apartment building that is severly fire damaged (195 Nepperhan Ave).	1	475	9,19,25,2,6,70	52,155	5,500	8	8			Residential	Varies by BR (2)	3,600	3,960
15	46 John Street	Two story Commercial Building	1	475	53	14,425	8,280				1,400	Retail	0.1	140	154
16	197 Nepperhan Ave	One story three tenant Retail Building	1	475	22	4,590	4,489				8,200	Commercial	0.1	820	902
17	5-7 School Street	Fire House	1	475	50,51,55,59		25,000				1,500	Retail	0.1	150	165
											30	Institution	125	3,750	4,125
River Park Center Subtotal														29,490	32,439

PALISADE OFFICE/COLLEGE

18	45 Palisade Avenue	unknown	1	2027	48							0	0
19	43 Palisade Avenue	unknown	1	2027	50							0	0
20	41 Palisade Avenue	unknown	1	2027	51							0	0
21	39 Palisade Avenue	unknown	1	2027	52							0	0
22	33 Palisade Avenue	unknown	1	2027	54							0	0
Palisade Office Subtotal												0	0

GOVERNMENT CENTER GARAGE

23	110 New Main Street	Salvation Army Headquarters	1	487	13,15	10,454	20,908		20,000	Retail/Office	0.1	2,000	2,200
24	87 Nepperhan Avenue	Yonkers Building Dept, Parking Athy, etc.	1	488	1 (partial)				100,000	Office	0.1	<u>10,000</u>	<u>11,000</u>
Government Center Subtotal												<u>12,000</u>	<u>13,200</u>

TOTAL (Gallons per Day)

41,490 45,639

DEC FLOWRATE STANDARDS⁽²⁾:

Residential	Daily Flow	
Bedrooms		
1	150	gal
2	300	gal
3	400	gal
Office	0.1	gal/day/sf
Hotel	120	gal/day/key
Retail	0.1	gal/day/sf
Restaurant	35	gal/day/seat (assume 50 sf/seat)
Movies	3	gal/day/seat
Sports Stadium	5	gal/day/seat
Church	3	gal/day/seat
Service Station	400	gal/day/toilet
Car Wash (rollover type)	40	gal/car/day

- 1. Existing parcel & building information based on Bill Fonte Inventory Table (8/16/06)
- 2. Unit flow values based on NYSDEC Design Standards for Wastewater Treatment Works (1988), pp.10-13
- 3. Domestic Water Demand = Sanitary Demand x 110%
- 4. Assumed values based on Inventory Table descriptions; actual numbers to be field-verified if needed
- 5. Larkin Plaza, Cacace, and Palisades Point sites currently have no sewer or water demand

SFC PHASE I PROJECTS
Yonkers, New York

Estimate of Sanitary Flow and Water Demand - Phase I Sites

Proposed Conditions

Key Map	Description	Address	Tax Designation			Site Area (sf)	Bldg Area ⁽¹⁾ (sf)	Sanitary Demand Generators				Use	DEC Unit Flowrate ⁽²⁾ (gals.)	Sanitary Demand		Water Demand
			Section	Block	Lot			Residential Units			Other (Seats/keys/sq.ft.)			Avg Daily Flow	Adj Daily Flow ⁽³⁾	Avg Daily Flow ⁽⁴⁾
								1 BR	2 BR	3 BR						
<u>RIVER PARK CENTER</u>																
	Tower West ⁽¹⁾⁽⁶⁾					575,100	119	238	118		Apts	*see below		136,450	109,160	120,076
	Tower East ⁽¹⁾⁽⁶⁾					575,100	118	238	119		Apts	*see below		136,700	109,360	120,296
	Residential Subtotal					1,150,200	237	476	237					273,150	218,520	240,372
	Office					100,000					Office Space	0.1		10,000	8,000	8,800
	Retail					450,000					Retail space	0.1		45,000	36,000	39,600
	Restaurant ⁽⁵⁾					75,000				1,500	Restaurant	35		52,500	42,000	46,200
	Movie Theater					80,000				2,000	Movies	3		6,000	4,800	5,280
	Ballpark					42,000				6,500	Sports	5		32,500	26,000	28,600
	River Park Center Subtotal					1,897,200								419,150	335,320	368,852
<u>PALISADE OFFICE/COLLEGE</u>																
	Office					225,000					Office Space	0.1		22,500	18,000	19,800
<u>GOVERNMENT CENTER</u>																
	Retail					15,000					Retail space	0.1		1,500	1,200	1,320
	Restaurant					15,000				300	Restaurant	35		10,500	8,400	9,240
	Govt Ctr Garage Subtotal					30,000								12,000	9,600	10,560
<u>CACACE</u>																
	Office					150,000					Office Space	0.1		15,000	12,000	13,200
	Hotel ⁽⁵⁾					75,000				150	Hotel	120		18,000	14,400	15,840
	Fire House					40,000				40	Institution	125		5,000	4,000	4,400
	Cacace Subtotal					265,000								38,000	30,400	33,440
RIVER PARK AREA TOTAL												Average Daily Flow (gpd)		491,650	393,320	432,652
												Peak Flow Rate ⁽⁷⁾ (gpm)		1,024	819	901
<u>PALISADES POINT</u>																
	North Tower ⁽⁶⁾					265,000	55	109	54		Apts/Condos	*see below		62,550	50,040	55,044
	South Tower ⁽⁶⁾					302,600	54	109	55		Apts/Condos	*see below		62,800	50,240	55,264
	Residential Subtotal					567,600	109	218	109					125,350	100,280	110,308
	Retail/Office					8,000					Retail	0.1		800	640	704
	Palisades Point Subtotal					1,143,200								126,150	100,920	111,012
GRAND TOTAL												Average Daily Flow (gpd)		617,800	494,240	543,664
												Peak Flow Rate ⁽⁷⁾ (gpm)		1,287	1,030	1,133
<u>SEASONAL IRRIGATION DEMAND</u>																
	Green Areas ⁽⁸⁾					100,000										8,900
	Ballpark ⁽⁹⁾					120,000										16,055

DEC FLOWRATE STANDARDS⁽²⁾:

Residential	Daily Flow	
Bedrooms		
1	150	gal
2	300	gal
3	400	gal
Office	0.1	gal/day/sf
Hotel	120	gal/day/key
Retail	0.1	gal/day/sf
Restaurant	35	gal/day/seat
Movies	3	gal/day/seat
Sports Stadium	5	gal/day/seat
Institution (non-hosp)	125	gal/day/person

- (1) Proposed building area and program information based on Design Development Listing (8/30/06)
- (2) Unit flow values based on NYSDEC Design Standards for Wastewater Treatment Works (1988), pp.10-13
- (3) 20% subtracted from daily flow for use of water savings plumbing per NYSDEC Design Standards for Wastewater Treatment Works (1988) p.10.
- (4) Domestic Water Demand = Sanitary Demand x 110%
- (5) Assumed values based on preliminary program: Hotel = 500 sf/key; Restaurant = 50 sf/seat
- (6) Bedroom mix estimate based on info from Saccardi and Schiff 5/24/2007
- (7) Peaking Factor assumed to be 3.0 due to mixed use development
- (8) Irrigation demand calculated using and estimate of 1 inch (depth) of irrigation applied to green areas per week. (1 in/week/sf = 0.089 gal/week/sf)
- "Green area" estimates provided by IQ Landscape Architecture and W Architecture
- (9) Irrigation demand for the ballpark estimated (using 66.88 gpm @ 4hrs/day = 16,052 gpd) by Chad Brown at IQ Landscape Architecture

measures, the total average water demand for the Project sites would be approximately 679,580 gpd and an estimated peak demand flow rate of 1,415 gpm would be required to provide potable water supply for the Project sites.

Based on the recommendations for upgrading the City's water distribution system provided by George Lackowitz, P.E. it will be capable of providing, fire flows of approximately 3500 gpm at 60 psi to the hydrants and building sprinkler systems for both the River Park Center and Cacace Center and over 5000 gpm at palisades Point. Water pressures inside the buildings will be required to meet NYS Building Code and if necessary booster pumps will be installed to increase pressure within buildings.

"Environmentally Sustainability Objectives", water conservation will be promoted in the selection of water-efficient plumbing fixtures for the proposed Project. All plumbing fixtures will be low flow to conserve water and hot water energy, as required by the NYS Building code. Energy efficiency will be pursued by potentially using higher efficiency heat pump systems and advanced cooling tower controls for residences (if a water loop heat pump is selected) as well as other measures that are appropriate to the specific buildings.

During the growing season, the ball field turf and landscaped areas will require water for irrigation. It is anticipated that approximately 16,050 gpd may be required for the ball field in addition to the average daily water demand noted above. For purposes of this analysis, a conservatively high estimate of 100,000 square feet has been used to account for other green areas within the project, resulting in an irrigation estimate of approximately 8,900 gpd¹⁰. When combined, the total estimated seasonal irrigation demand for the Project sites is 24,955 gpd as shown in Table No. 2A. With the additional water usage caused by irrigation the total water

¹⁰ Irrigation demand for the other green areas within the proposed project is calculated using an estimate of 1 inch of irrigation per week and an area of 100,000 square feet. For purposes of this analysis, the total seasonal irrigation demand of these green areas is estimated to be approximately 8,900 gpd. The combined seasonal irrigation total for the ballfield (16,050 gpd) and the other green areas (8,900 gpd) is approximately 24,950 gpd.

demand during the summer months is increased to 568,619 gpd (i.e., 543,665 gpd + 24,995 gpd = 568,619 gpd). However, the actual extent of the other green areas to be irrigated will be reviewed during the site plan approval process, and may be reduced in area, thereby reducing the seasonal irrigation demand.

Without the use of water conservation measures, the proposed project's total average daily water demand including irrigation would be approximately 679,580 gallons per day and an estimated peak demand flow rate of 1,415 gpm would be required to provide potable water supply for the Project.

It is anticipated that the fire flow demand needed to supply the hydrants and building fire sprinkler systems will be approximately 4000 to 4500 gallons per minute maintained for several hours.

E. Other Proposed Projects Demand

To assess the adequacy of the existing water supply system to accommodate other potential growth in the area the water demand for other planned development, projects slated for completion by the proposed project's anticipated build year have also been considered. As presented in Table No. 3, *Summary of Other Planned Projects*, and Figure No. 3, *Other Planned Development Projects*, additional projects are proposed in the area, which would have a combined average daily water demand of approximately 515,745 gallons per day and a peak flow rate of approximately 1075 gallons per minute. On a cumulative basis, the average daily water demand of the proposed project 543,665 gpd and the other proposed development projects 515,745 gpd would total approximately 1,059,410 gallons per day.

The increase in water demand from the Project sites as well as other planned development projects in the area will require the City of Yonkers to supply additional amounts of water to both the low and high pressure zones. According to the City Water Bureau¹¹, there is sufficient overall water supply available to serve the

¹¹ According to John Speight, Superintendent, Water Bureau, October 3, 2006.

TABLE NO. 3

SFC - PHASE I PROJECTS
STRUEVER FIDELCO CAPPELLI, LLC
YONKERS, NEW YORK

Date: 03/05/07
By: DTS
Issue No. 7
Rev. 04/26/07

SUMMARY OF OTHER PLANNED DEVELOPMENTS
PRELIMINARY ESTIMATE OF AVERAGE DAILY SANITARY FLOW AND WATER DEMAND

Map ID	Project Name	Address	Development Program	Unit Flow ⁽¹⁾ (gpd)	Sanitary Flow (gpd)	Sanitary Flow (w/ Water Saving Fixtures) ⁽²⁾ (gpd)	Water Demand (w/ Water Saving Fixtures) ⁽³⁾ (gpd)
	Residential Projects						
19	Buena Vista Phase 2 ⁽⁴⁾	45 Buena Vista Avenue	60 Apts				
			1 BR 24	150	3,600	2,880	3,168
			2 BR 36	300	10,800	8,640	9,504
12	Stan-Lou Building ⁽⁴⁾	27 North Broadway	15 Apts				
			1 BR 6	150	900	720	792
			2 BR 9	300	2,700	2,160	2,376
15	Old Furniture Storage/Cooks ⁽⁴⁾	14 Warburton Avenue	12 Apts				
			1 BR 5	150	750	600	660
			2 BR 7	300	2,100	1,680	1,848
16	Main Street Lofts ⁽⁴⁾	66 Main Street	171 Apts				
			1 BR 68	150	10,200	8,160	8,976
			2 BR 103	300	30,900	24,720	27,192
8	Collins Phase 2 ⁽⁴⁾	75 Dock Street	312 Apts				
			1 BR 125	150	18,750	15,000	16,500
			2 BR 187	300	56,100	44,880	49,368
11	Greystone/North Broadway Lofts	49 N. Broadway	100 Apts				
			1 BR 40	150	6,000	4,800	5,280
			2 BR 60	300	18,000	14,400	15,840
1	Ginsburg	1105-1135 Warburton Avenue	353 Apts				
			1 BR 141	150	21,150	16,920	18,612
			2 BR 212	300	63,600	50,880	55,968
3	Yonkers Green ⁽⁴⁾	Ashburton Avenue & Nepperhan Avenue	124 Townhouse				
			2 BR 50	300	15,000	12,000	13,200
			3 BR 74	400	29,600	23,680	26,048
26	179 Riverdale Avenue	179 Riverdale Avenue	83 Apts				
			1 BR 33	150	4,950	3,960	4,356
			2 BR 50	300	15,000	12,000	13,200
20	1077 Warburton Avenue	1077 Warburton Avenue	71 Apts				
			1 BR 28	150	4,200	3,360	3,696
			2 BR 43	300	12,900	10,320	11,352
4	Ashburton Ave Redvlp. (Mulford Gardens)	Ashburton Avenue Net Increase	245 Apts				
	(Replaces existing 552 units of public housing)	Between St. Joseph & Vineland Avenues	1 BR 100	150	15,000	12,000	13,200
			2 BR 120	300	36,000	28,800	31,680
			3 BR 100	400	40,000	32,000	35,200
	Total Residential				418,200	334,560	368,016

TABLE NO. 3

SFC - PHASE I PROJECTS
STRUEVER FIDELCO CAPPELLI, LLC
YONKERS, NEW YORK

Date: 03/05/07
By: DTS
Issue No. 7
Rev. 04/26/07

SUMMARY OF OTHER PLANNED DEVELOPMENTS
PRELIMINARY ESTIMATE OF AVERAGE DAILY SANITARY FLOW AND WATER DEMAND

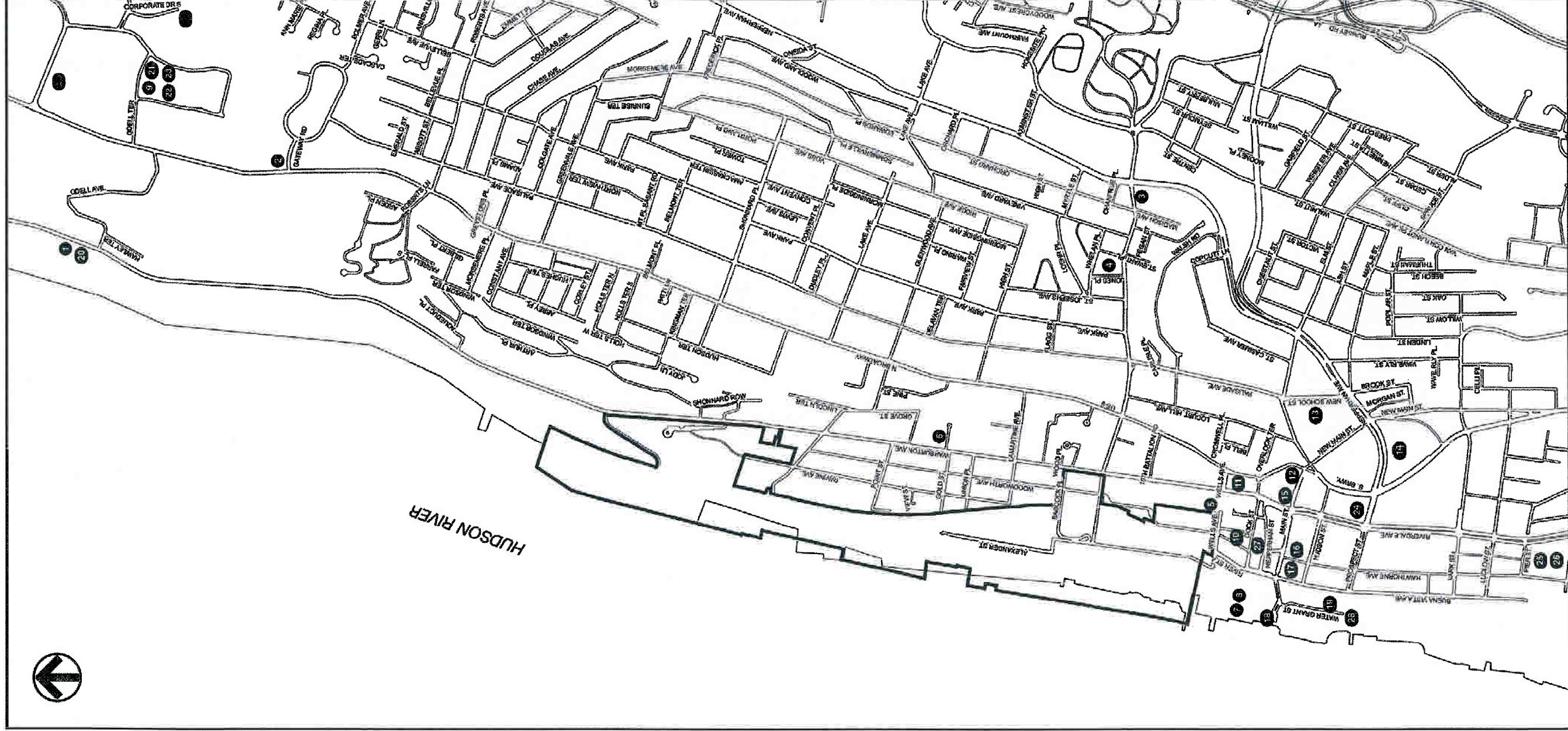
Map ID	Project Name	Address	Development Program	Unit Flow ⁽¹⁾ (gpd)	Sanitary Flow (gpd)	Sanitary Flow (w/ Water Saving Fixtures) ⁽²⁾ (gpd)	Water Demand (w/ Water Saving Fixtures) ⁽³⁾ (gpd)
	Retail Projects						
19	Buena Vista Phase 2 ⁽⁴⁾	45 Buena Vista Avenue	7,500 SF	0.1	750	600	660
17	Homes for America ⁽⁴⁾	86 Main Street	12,000 SF	0.1	1,200	960	1,056
15	Old Furniture Storage/Cooks ⁽⁴⁾	14 Warburton Avenue	4,400 SF	0.1	440	352	387
16	Main Street Lofts ⁽⁴⁾	66 Main Street	12,000 SF	0.1	1,200	960	1,056
5	I-Park Phase 2	Warburton Avenue	20,000 SF	0.1	2,000	1,600	1,760
	(Replaces existing Alexander St. facilities)						
	Total Retail				5,590	4,472	4,919
	Office Projects						
5	I-Park Phase 2	Warburton Avenue	(see 20,000 sf net increase above)	0.1	0	0	0
2	900 North Broadway (Medical Office)	900 North Broadway	25,000 SF	0.304	7,600	6,080	6,688
17	Homes for America ⁽⁴⁾	86 Main Street	58,000 SF	0.1	5,800	4,640	5,104
	Total Office				13,400	10,720	11,792
	Other Projects						
21	Veterinary Office	9 Odell Plaza	25,000 SF	0.14	3,410	2,728	3,001
24	Proctor Theatre ⁽⁴⁾	53 South Broadway	1,200 Seats	3	3,600	2,880	3,168
7	Hudson Park Phase II	Dock Street	153 Berths	2	306	245	269
9	Verizon Switching Station (20 Employees)	140 Corporate Blvd.	20 25,000 SF	22.5	450	360	396
23	Marriott Hotel	160 Executive Blvd.	150 Rooms	137	20,550	16,440	18,084
22	Hampton Inn Hotel	7 Executive Blvd.	114 Rooms	137	15,618	12,494	13,744
10	Restaurant	31 Dock St	Est. @ 80 Seats	35	2,800	2,240	2,464
18	Peter X Kelly's Xavier's Restaurant	Yonkers Pier (end of Main St.)	240 Seats	35	8,400	6,720	7,392
29	Cintas Laundry Facility	325 Executive Blvd.	-		87,500	70,000	80,000
30	Flex Building: 225 Corporate Blvd. S.	225 Corporate Blvd. S.	50,000 SF		2,841	2,273	2,500
	Total Other Projects				145,475	116,380	131,018
	Grand Total for All Projects (gpd)				582,665	466,132	515,745
	Peak Flow (gpm)						

⁽¹⁾ Unit flow rates based on NYSDEC Design Standards for Wastewater Treatment Works (1988) pages 10- 13.

⁽²⁾ Use of water saving fixtures assumed to reduce the sanitary demand by 20%.

⁽³⁾ Water demand estimated at 110% of Sanitary flows.

⁽⁴⁾ Projects that will discharge into the same sewerage infrastructure as the SFC Phase I Project



0 200 1000 FEET
SCALE

SOURCE: AKRF



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OTHER PLANNED DEVELOPMENT PROJECTS
SFC - YONKERS
PHASE I SITES
FIGURE NO. 3

Projects sites as well as the other planned development projects. However, the City Water Bureau has also indicated that they will need to perform a city-wide hydraulic water study of the existing distribution system to determine the system's ability to accommodate future incremental growth and its ability to adequately serve the downtown area. As part of the FEIS, the City's water consultant can model the water distribution system's capacity under existing conditions as well as potential future build out conditions with the SFC Project and other planned developments slated for completion by the proposed Project's anticipated build year in order to assess the ability of the system to adequately supply water to the City in the future and to identify if there are any improvements needed to meet the future growth of the planned City projects.

According to the City's consultant, there are limitations in the hydraulic capacity of the existing water mains located in New Main Street, Palisade Avenue, Elm Street, Main Street, Nepperhan Avenue and along the waterfront. The City has indicated that improvements to these water mains will be required to provide adequate flow to the Project sites. These improvements are outlined under "Mitigation measures" and include, but are not limited to, replacement of the existing mains in new main Street, palisade Avenue, Elm Street and Nepperhan Avenue, as well as installing a new main in prospect Avenue from the Riverdale Avenue transmission main to the existing 12-inch main in Nepperhan Avenue. In addition, for the Palisades Point site, the City's consultant has recommended that a dual source of supply for the area west of the railroad tracks be created by either a loop around the site or connection to water mains on both ends of the site. Further, the City's consultant recommends that one of the supply sources be provided by a new main connected to the transmission main in Riverdale Avenue. As discussed under "Mitigation Measures", the use of tax increment financing is proposed to pay for these necessary utility improvements. It is anticipated that primary responsibility for construction of the recommended utility improvements will be undertaken by the Applicant in consultation with the City.

F. Potential Impacts

The increase in water demand will require the City of Yonkers to treat additional water and will utilize the City's water supply storage. According to the City Water Bureau¹², there appears to be sufficient water supply available, to serve the projects.

During construction of the new water mains there may be some discoloration and temporary shutdown of water services but this is expected to occur only after hard connection of water mains and would be of short duration. Also, there may be some road closures and temporary redirection of traffic. Temporary access to operating businesses affected by the construction work will be provided. Additionally, current fire flows must be maintained during construction. During final design, the Applicant's Engineer, in coordination with the City Water Department, will decide on a case by case basis whether to install temporary piping prior to the installation of the new water mains to maintain service to existing customers.

After installation of the new mains, the time and cost of maintenance on the mains should decrease as the new mains will be more reliable.

The City Water Bureau has indicated that when the City of New York temporarily removes one of their water connections from the aqueduct for service when all proposed projects have been completed, there may be some additional improvements required to increase capacity to portions of the City water system. This condition may exist with or without this project. The City has also indicated that additional studies will be required to determine what additional improvements are needed.

G. Mitigation Measures

In order to provide adequate fire flow and domestic supply to the new buildings and without significantly impacting existing water flow in the project area, the City of

¹² According to John Speight, Superintendent, Water Bureau, October 3, 2006.

Yonkers has indicated various improvements to the existing water flow in the area will be required. Based on the flow testing, the City's consultant has indicated that the following measures should be taken to serve the proposed project.¹³:

- Replace 12-inch main in Palisade Avenue with a 16-inch main from New Main Street to Elm Street.
- Replace 12-inch main in New Main Street with a 16-inch main from Nepperhan Avenue to Getty Square.
- Replace 12-inch main in Nepperhan Avenue with a 16-inch main from Elm Street to New Main Street.
- Replace existing 12-inch main in Elm Street with a new 12-inch main from Palisade Avenue to Nepperhan Avenue
- Install a new 16-inch main in Prospect Street from the Riverdale Avenue transmission main to existing 12-inch main in Nepperhan Avenue.

The above measures will help to strengthen the downtown water distribution system and provide fire flows of approximately 3500 gpm at a residual pressure of 60 psi. During final design of the water main improvements, the City Water Bureau will review the improvement plans to be sure that they adequately address the measures needed to supply water to the project site. It is anticipated that primary responsibility for construction management of the recommended utility improvements described herein will be undertaken by the Applicant in consultation with the City. The use of tax increment financing is proposed to fund the necessary utility improvements. This funding of the public utilities and other infrastructure improvements is integral to the development of the proposed Project and is also necessary to support other future development in downtown Yonkers.

The City's consultant has recommended the following for the Palisades Point Site. Create a dual source of supply for the area west of the railroad by either establishing

¹³ Hydraulic Analysis Water System Conditions by George W. Lackowitz, P.E. (Proposed River Park Center/Cacase Center April 4, 2007) & (Proposed Palisades Point Site March 19, 2007).

a loop around the site or connect to water mains on both ends of the site. Four scenarios were presented in the City consultants' report. They are listed below:

- Create a loop around the proposed site and connect to the existing 12-inch main present in Main Street and the proposed extension of the Alexander Street water main for which installation is being planned by the City DPW.
- The construction of a utility bridge in the vicinity of Prospect Street and connection to the existing 12-inch main in Hawthorne Street to provide a second source of supply to the site. This option would eliminate a portion of the dead end main for the site, but still requires a loop around the site.
- Connect to the existing 12-inch water main in Hawthorne Avenue and install a water main from Buena Vista Street under the Railroad Tracks utilizing the "pipe-jacking" technique to the southern end of the development site, which will provide a source of supply from both ends of the site eliminating the need for a loop around the site.
- Connect to the existing 18-inch main in Vark Street south of the site at the "sugar plant". This option will also provide a source of supply from both ends of the site and eliminate the need to loop the main around the proposed site.

Additionally the City's consultant recommends that one of the supply sources be supplied by a new water main connected to the transmission main in Riverdale Avenue. The recommendations outlined above will supply the Palisades Point site in excess of 5,000 gpm¹⁴.

Figure No. 4, Proposed Water Mains, illustrates the locations of the proposed improvements for Larkin Plaza, River Park Center and Cacace Center, while Figure No. 4A illustrates the four possible scenarios for the Palisades Point Site as described above.

¹⁴ Hydraulic Analysis Water System Conditions Proposed Palisades Point Site by the City's engineering consultant, George W. Lackowitz, P.E. March 19, 2007

SEE FIGURE NO. 4A,
PALISADES POINT
PROPOSED WATER
MAIN SCENARIOS
FOR WATER MAIN
CONNECTION
OPTIONS.

HUDSON RIVER

PALISADES
POINT

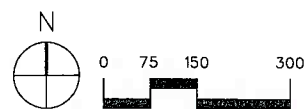
LARKIN PLAZA

RIVER PARK CENTER

CACACE CENTER

LEGEND

- 12" EXISTING WATER MAIN
(AND SIZE)
- 12" PROPOSED WATER MAIN
(AND SIZE)



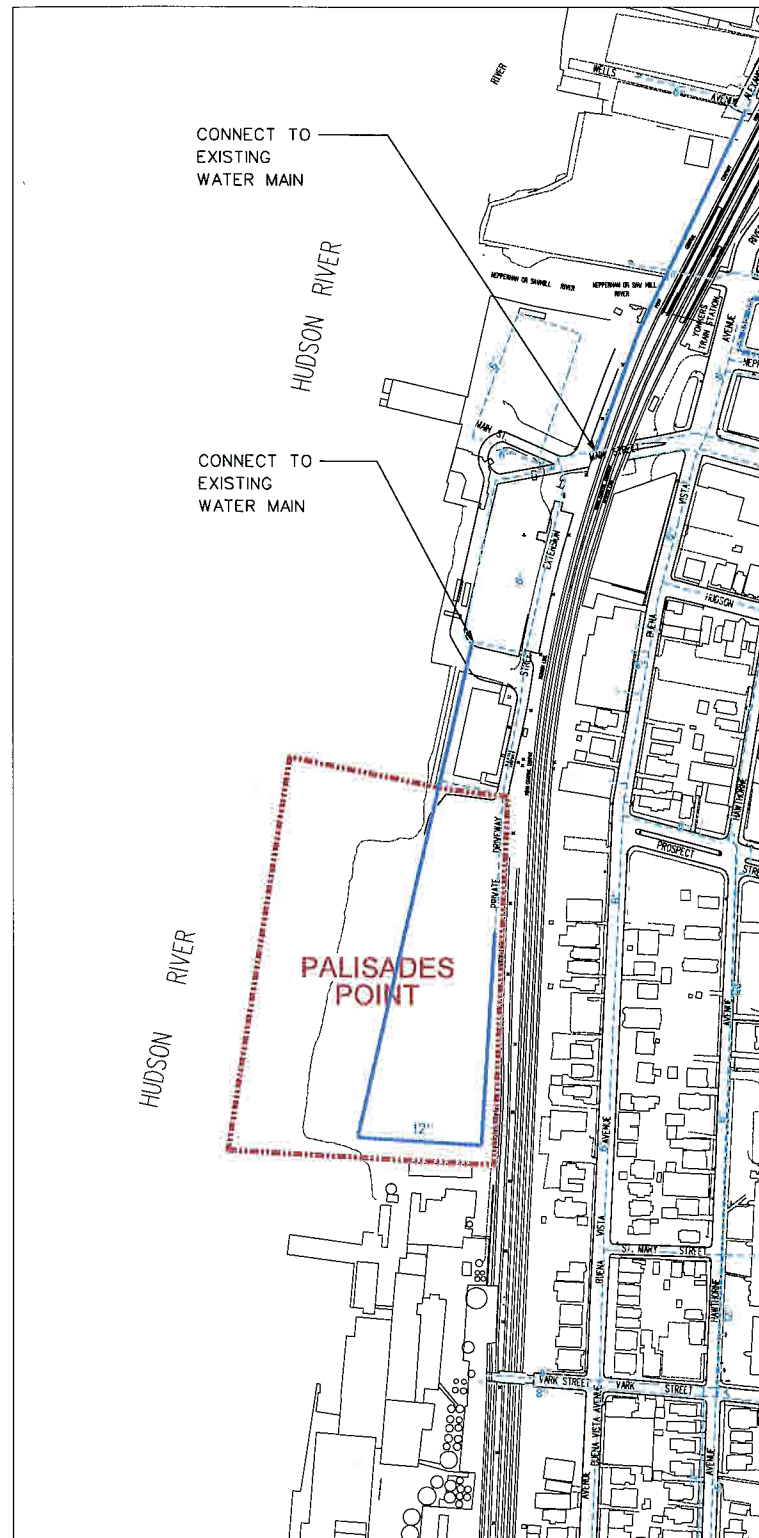
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NOTE: BASE SURVEY INFORMATION RECEIVED FROM CITY OF YONKERS ENGINEERING DEPARTMENT

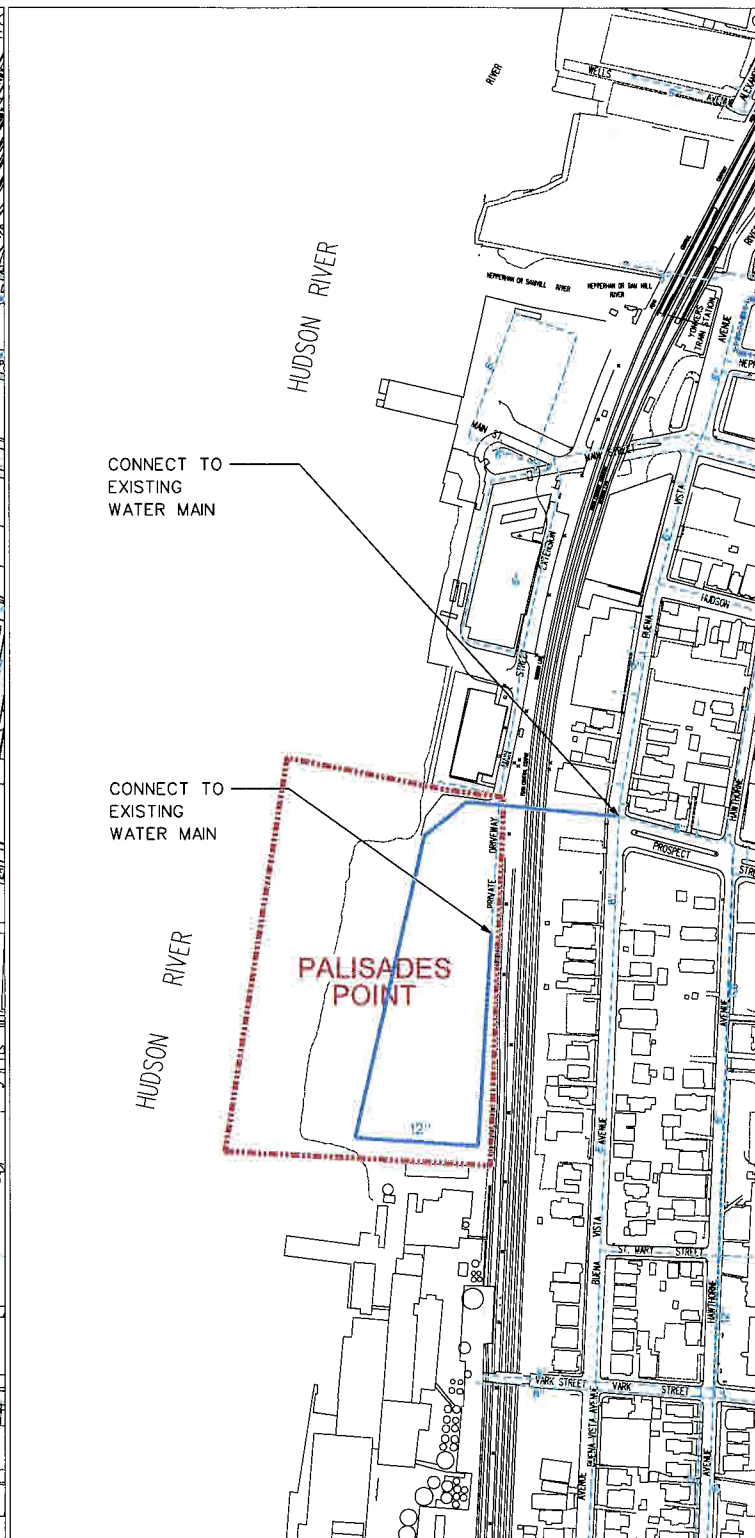
PROPOSED WATER MAINS

SFC PHASE I SITES
YONKERS, NEW YORK

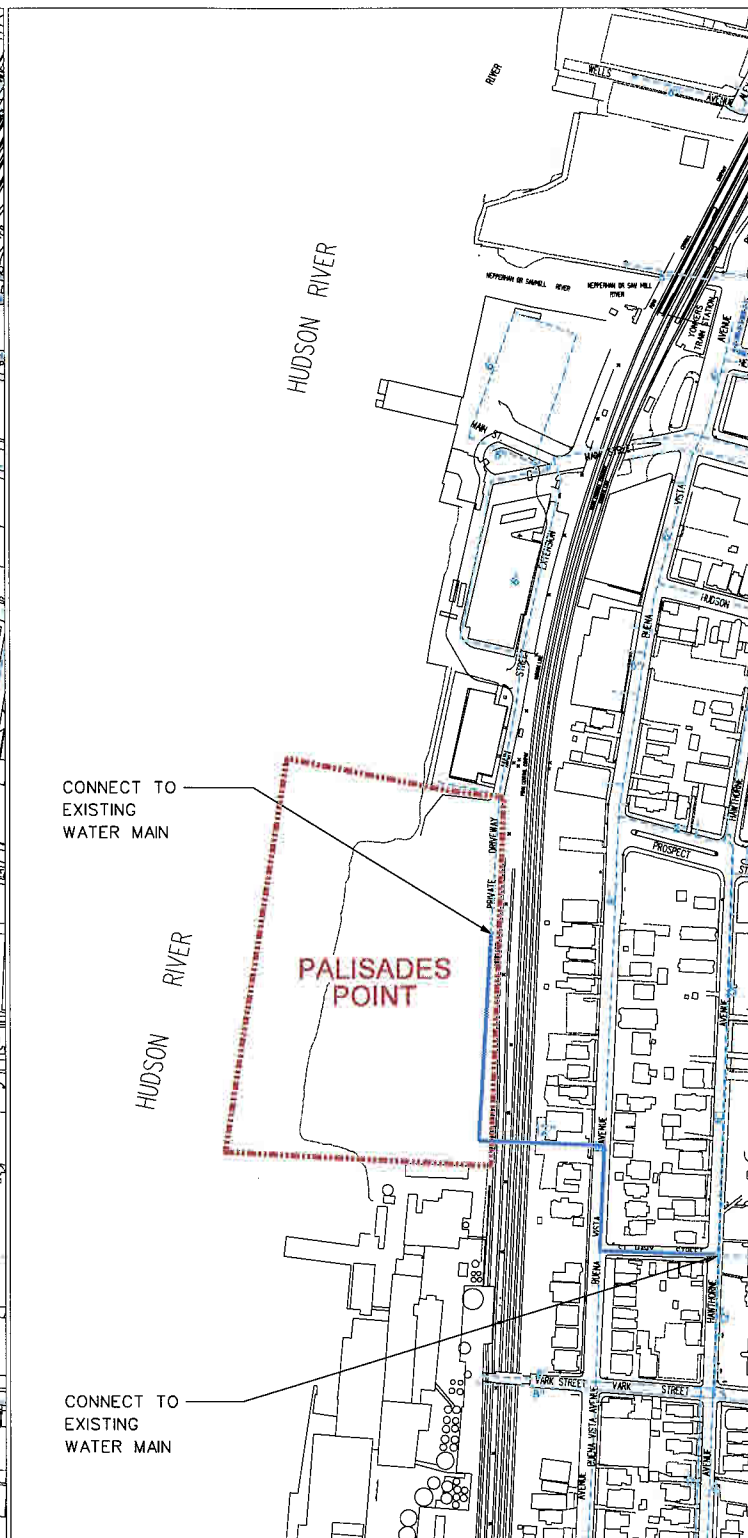
FIGURE NO. 4



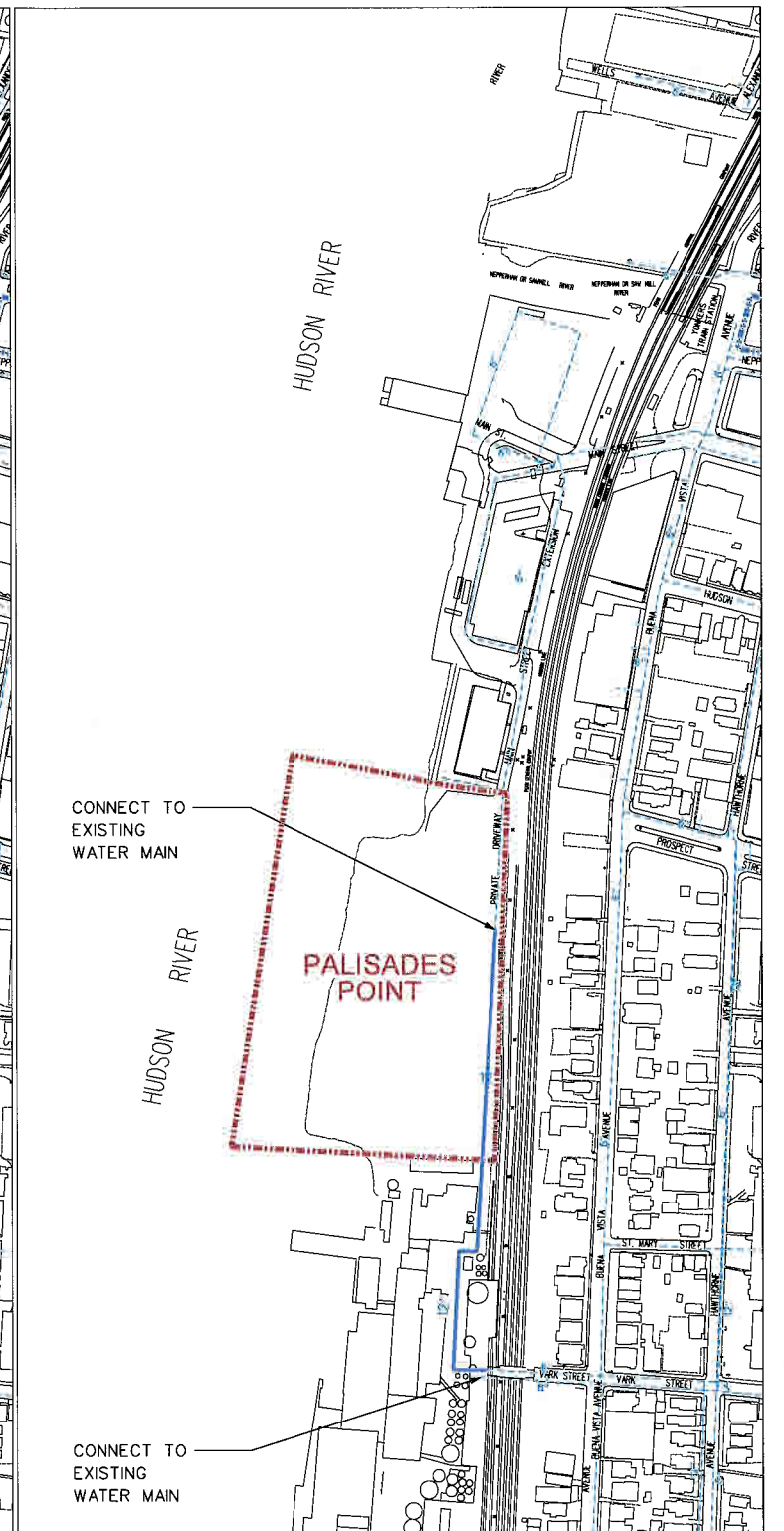
SCENARIO 1



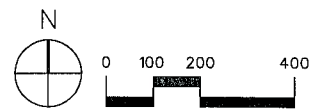
SCENARIO 2



SCENARIO 3



SCENARIO 4



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NOTE: BASE SURVEY INFORMATION RECEIVED FROM CITY OF YONKERS ENGINEERING DEPARTMENT

LEGEND

- 6" EXISTING WATER MAIN (AND SIZE)
- 12" PROPOSED WATER MAIN (AND SIZE)

**PALISADES POINT
PROPOSED WATER MAIN SCENARIOS**

SFC PHASE I SITES
YONKERS, NEW YORK

FIGURE NO. 4A

The relocated water main will be constructed prior to taking the existing mains out of service or a temporary main will be installed. The existing users will not be removed from service except for a very brief time to make a final connection to the new water main. With a relocated main there will be no change or deterioration of existing water service.

The water supply construction work will be phased so domestic and fire service will be maintained to the existing buildings that are occupied during construction. The final design and construction sequencing will be developed during the final design of the public improvements at the project sites.

The City of Yonkers currently purchases water from the New York City water system at a set rate scale based on U.S. Census data. The population of the City of Yonkers is allotted a fixed amount of gallons based on Census population data and is sold this amount of water at a set rate. When water demand exceeds this allotment, the City is then charged for the water at a premium rate.¹⁵ Since this rate structure is based on Census data, it does not include water usage from establishments without full-time residency such as retail and entertainment uses that may draw a transient population to the City. Although some of the non-residential establishments proposed in the SFC Projects may draw a transient population, the proposed residential project components will also attract approximately 1,950 permanent residents to the City which will increase the City's water allocation from the new York City system.

Since the City will receive payment for the water consumed by the proposed project through metering of the service mains, the money received for water use compensates the City for the increased operational costs associated with the additional water demand. The replacement of water mains in the adjacent streets

¹⁵ Based on meeting between the Applicant's Engineer and the City of Yonkers Water Department, September 11, 2007.

with pipe adequately sized to accommodate the water flow would mitigate the effects of the increased water demand in the distribution system and improve flow and reliability of the City system to the downtown area.

As a mitigation measure for conserving water resources, the use of water saving fixtures within the proposed Project will reduce the water demand by approximately 20%. The following measures are typical of those to be employed at the development:

- Reduced Flow Plumbing Fixtures
- Reduced Flow Shower Heads
- Drip Irrigation where feasible
- Restrict irrigation to early morning hours
- Air-Cooled Condensing Units where possible

HYDRAULIC ANALYSIS
WATER SYSTEM CONDITIONS
PROPOSED PALISADES POINT SITE
YONKERS, NEW YORK
PREPARED BY GEORGE W. LACKOWITZ, P.E.
March 19, 2007

Utilizing the Yonkers Hydraulic Model, a hydraulic analysis of water system conditions in the vicinity of the proposed Palisades Point Development Site has been performed. The analysis incorporates the results of hydrant flow tests performed in the vicinity of the development site and on the sole source of supply to the development site, the Main Street 12 inch diameter water main.

HYDRANT FLOW TESTS

Working with City of Yonkers personnel, hydrant flows tests were performed in the vicinity of the project area. The locations of the flow tests are shown on Figure 1. The results of these flow tests were as follows:

Flow Test 1

Location:	12 inch diameter pipeline to Palisades Point site
Gauge Hydrant:	G1: First hydrant on 12 inch line
Flow Hydrant:	F1: Second hydrant on 12 inch line
Static Pressure:	107 psi
Flow:	1,700 gpm
Residual Pressure:	42 psi

Flow Test 2

Location:	20 inch pipeline behind Scrimhaw House
Gauge Hydrant:	G2: Hydrant behind Scrimhaw House
Flow Hydrant:	F2: Hydrant behind existing building
Static Pressure:	109 psi
Flow:	1,200 gpm
Residual Pressure:	88 psi

Flow Test 3

Location:	City Pier
Gauge Hydrant:	G3: First hydrant west of Railroad Bridge
Flow Hydrant:	F2: Hydrant nearest City Pier
Static Pressure:	110 psi
Flow:	1,470 gpm
Residual Pressure:	95 psi

RESULTS OF THE ANALYSIS

The results of the hydrant flow tests were then incorporated into the hydraulic model. The resulting analysis has identified a restriction on the Palisades Point Site which significantly reduced fire flow availability to the development site. The analysis indicates that the restriction is located immediately south of the Scrimhaw House in the vicinity of the connection of the 12 inch diameter water main to the 20 inch water main. This is shown graphically on Figure 1. Excavation in the vicinity of the connection between the two water mains may be necessary to determine the cause of the restriction.

Effect of These Restrictions on Fire Flow Availability

Hydraulic analyses performed at Maximum Day Water Demand Conditions estimate that for the existing system the available fire flow from the 12 inch diameter pipe in the vicinity of the proposed Palisades Point buildings is 2,000 gpm at a residual pressure of 20 psi. As is shown on Figure 1, the available fire flow from the 20 inch diameter pipe in the vicinity of Scrimhaw House is 3,000 gpm at a residual pressure of 20 psi. Hydraulic modeling indicates that eliminating the restriction on the Palisades Point site at the connection between the existing 12 inch and 20 inch pipelines will increase fire flow availability at the Palisades Point site to approximately 3,000 gpm at a residual pressure of 20 psi.

DUAL SOURCE OF SUPPLY

Currently, the Main Street 12 inch diameter water main provides the only source of supply from the Yonkers distribution system to the area west of the Metro North Railroad Tracks where the Palisades Point Project will be built. Therefore, a shut down of this 100 to 130 year old pipeline would result in a total loss of water supply for the Palisades Point site. Additionally west of the railroad tracks, the site is supplied from approximately 700 lineal feet of dead end water main. Hence, a shutdown of the dead end line would eliminate all water supply to the Palisades Point buildings. To address this situation, a dual source of supply to the site is required. As part of this analysis the alternatives for providing a dual source of supply were identified. Calculation of the available fire flow from these sources of supply was not part of the scope of this analysis but, could be performed in a future study. The alternatives available to achieve a dual source of supply are:

- o Supply from Alexander Street

The Yonkers DPW plans to install a new water main from Alexander Street south to the existing water mains west of the railroad track. This will provide a second source of supply to the area west of the railroad tracks from the Yonkers water distribution system but, will not address the situation of the dead end line supplying the Palisades Point site. To address this will require between 1,000 and 1,500 lineal feet of looped water main in the vicinity of the Palisades Point development site. This is

shown graphically on Figure 2. Since much of the land was created by fill, further investigation will be needed to determine if these mains would need to be installed on piles.

o Prospect Street Bridge

A proposal has been made to construct a utility bridge in the vicinity of Prospect Street in order to provide a second source of supply from the Yonkers distribution system to the development site. In order to provide a sufficient source of supply, the pipeline would need to connect to existing 12 inch diameter water mains in Hawthorne Avenue. This alternative shown graphically on Figure 3, would eliminate a portion of dead end water main but, would still require the installation of a water main loop around the Palisades Point site.

o Jacking Water Main under Railroad Tracks on the south end of the Palisades Point site

Installing a water main from Buena Vista Street under the Railroad Tracks (utilizing the “pipe jacking” technique) to the south end of the development site would provide a dual source of supply from either end of the project area. Thus, water supply would be maintained to the Palisades Point site with any section of water main out of service. This is shown graphically on Figure 4. As with the Prospect Street Utility Bridge, the water main would have to be supplied from the Hawthorne Street 12 inch diameter water main.

o Supply from the Sugar Plant

Immediately south of the Palisades Point site is the “Sugar Plant” which receives its water supply from an 18 inch diameter water main in Vark Street. While the Sugar Plant’s facilities provide significant obstructions between the Vark Street water main and the Palisades Point site, it may be possible to install approximately 500 feet of water main through the Sugar Plant from Vark Street to the Palisades Point site. This is shown graphically on Figure 5. As with the previous alternative, a source of supply on the south side of the Palisades Point site will eliminate the existing dead end line which will result in maintenance of water supply to the site with any section of water main out of service.

OTHER CONSIDERATIONS

All sources of supply to the Palisades Point site rely on Yonkers water mains which are between 80 and 130 years old. With a project of this magnitude, good practice would dictate that at least one of the sources of supply be provided by a new water main.

Possible routes include:

Main Street Route

Installation of approximately 800 feet of 12 inch diameter pipeline in Main Street from Riverdale Avenue to west of the railroad tracks.

Larkin Plaza Route

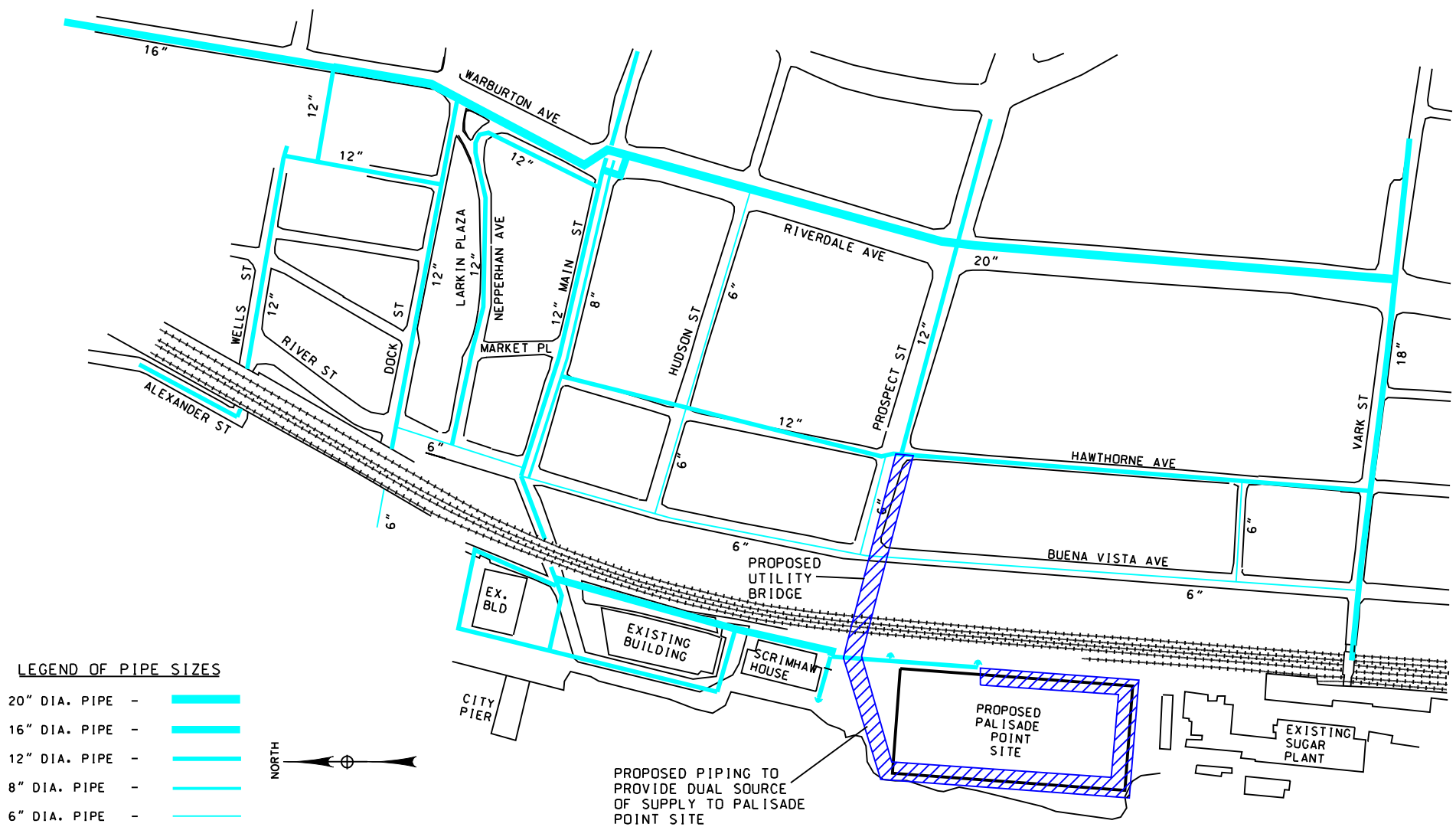
Installation of approximately 1,000 lineal feet of 12 inch diameter pipeline through Larkin Plaza from Warburton Avenue to Buena Vista Avenue, south on Buena Vista to Main Street and then under the railroad bridge to the west side of the tracks.

Prospect Street Utility Bridge Route

If the Prospect Street Utility Bridge were to be constructed, extend the proposed 12 inch diameter main 500 feet on Prospect Street from Hawthorne Avenue to Riverdale Avenue.

In addition to providing a new pipeline to supply the project area, implementing any of these alternatives would increase fire flow availability to the Palisades Point site to in excess of 5,000 gpm.

As part of the final engineering design an alternative will be selected which provides the Palisades Point site with an adequate water supply, improves the reliability of service to the project site while improving the reliability of service to the entire waterfront area.



**FIGURE 3
PALISADE POINT
ANALYSIS
DUAL SOURCE OF SUPPLY
FROM
PROPOSED PROSPECT STREET
UTILITY BRIDGE**

HYDRAULIC ANALYSIS
WATER SYSTEM CONDITIONS
PROPOSED RIVER PARK CENTER/CACASE CENTER
YONKERS, NEW YORK
PREPARED BY GEORGE W. LACKOWITZ, P.E.
April 4, 2007

Utilizing the Yonkers Hydraulic Model, a hydraulic analysis of water system conditions in the vicinity of the proposed River Park Center/Cacase Center Site has been performed. The analysis incorporates the results of hydrant flow tests performed in the vicinity of the development site.

HYDRANT FLOW TESTS

Working with City of Yonkers personnel, two (2) hydrant flow tests were performed in the vicinity of the project area. The locations of the flow tests are shown on Figure 1. The results of these flow tests were as follows:

Flow Test 1

Location:	Nepperhan Avenue and New Main Street
Gauge Hydrant:	G1: Hydrant 1642 on New Main Street
Flow Hydrant:	F1: Hydrant 1494 on Nepperhan Avenue
Static Pressure:	82 psi
Flow:	2,100 gpm
Residual Pressure:	74 psi

Flow Test 2

Location:	Three way intersection of Palisade Avenue Elm Street and School Street
Gauge Hydrant:	G2: Hydrant 1317 on Palisade Avenue
Flow Hydrant:	F2: Hydrant 1546 on School Street
Static Pressure:	82 psi
Flow:	2,100 gpm
Residual Pressure:	67 psi

RESULTS OF THE ANALYSIS

Existing Conditions

The results of the hydrant flow tests were incorporated into the hydraulic model. Hydraulic calculations of existing fire flow availability were then performed at system wide maximum day water demand conditions. These calculations indicated:

Location:	Nepperhan Avenue and New Main Street
Available Fire Flow:	3,500 gpm at a residual pressure of 55 psi

Location:	Three way intersection of Palisade Avenue Elm Street and School Street
Available Fire Flow:	3,500 gpm at a residual pressure of 40 psi

Fire Flow Availability With The School Street Water Main Removed From Service

A hydraulic calculation was then performed with the School Street 12 inch diameter water main removed from service from the three way intersection of Palisade Avenue, Elm Street and School Street to the intersection of School Street and Nepperhan Avenue. Maximum day water demand hydraulic calculations performed with the School Street water main out of service indicated the following:

Location: Nepperhan Avenue and New Main Street
Available Fire Flow: 3,500 gpm at a residual pressure of 55 psi

Location: Three way intersection of Palisade Avenue Elm Street and School Street
Available Fire Flow: 3,500 gpm at a residual pressure of 30 psi

Evaluation

While removing the School Street water main from service will have no effect upon fire flow availability on Nepperhan Avenue, the reduction in residual pressure from 40 psi to 30 psi at the three way intersection of Palisade Avenue Elm Street and School Street indicates, that removal of the School Street line will have an impact upon fire flow availability along Palisade Avenue. Additionally, all of the water mains in the project area are unlined cast iron pipes which are at least 80 years old (and possibly as old as 125 years), and have lost over 50 percent of their carrying capacity.

RECOMMENDATIONS

As part of the reconstruction of the site, it is recommended that the existing mains in the project area be replaced with approximately 3,000 lineal feet of new 16 inch diameter water main on Nepperhan Avenue, New Main Street and Palisade Avenue to “loop” around the site from the intersection of Elm Street and Nepperhan Avenue, to the intersection of Palisade Avenue and Elm Street. Additionally, replace 700 lineal feet of existing 12 inch diameter water main in Elm Street from Nepperhan Avenue to Palisade Avenue with a new 12 inch diameter water main. This is shown graphically on Figure 2. With installation of these water mains, model simulations indicate that fire flow availability will be improved throughout the project area as follows:

Location: Nepperhan Avenue and New Main Street
Fire Flow Availability: 3,500 gpm at a residual pressure of 60 psi

Location: Intersection of Palisade Avenue and Elm Street
Fire Flow Availability: 3,500 gpm at a residual pressure of 60 psi

DUAL SOURCE OF SUPPLY

The analysis indicates that with the proposed 16 inch diameter “loop” pipeline, the site will receive most of its water from a transmission main supplied by the Catskill Aqueduct. The site will also receive a portion of its supply through the existing network of old water mains from the Riverdale Avenue transmission main supplied by the Hillview Reservoir. In order to provide the River Park Center/Cacase Center site with a

direct connection from the Hillview Reservoir main through a new pipeline, the installation of approximately 500 lineal feet of 16 inch water main from the Riverdale Avenue Transmission Main to an existing 12 inch diameter ductile iron water main installed in the 1980's at intersection of South Broadway and Nepperhan Avenue is recommended. As is shown on Figure 2, the existing 12 inch diameter ductile iron water main will connect the proposed 16 inch diameter "loop" pipeline (to be installed around the River Park Center) to the proposed 16 inch diameter pipeline to the Riverdale Avenue Transmission Main.

PIPELINE REPLACEMENT THROUGHOUT DOWNTOWN YONKERS

Existing water mains throughout the study area are shown on maps prepared in the 1920's. The only water main indicated by these drawings to be replaced in the area is a portion of the 12 inch diameter pipeline on Nepperhan Avenue from New Main Street to South Broadway. The records indicate that this pipeline was replaced in the early 1980's. Additionally, one of the purposes of the original Yonkers Water System constructed in the 1870's was to provide fire flow supply to downtown Yonkers. Therefore it is probable that many of the water mains in the area, particularly those on the major streets such as Nepperhan Avenue, South Broadway, Main Street and Palisade Avenue may have been part of the original system installed over 125 years ago. With major redevelopment projects scheduled for this area, vibrations from construction activities could result in breaks in these extremely old (and brittle) cast iron pipes. Hence, along the streets where major construction is planned, replacement of water mains is recommended.

Under the proposed plan the existing cast iron water mains fronting the River Park Center site on Nepperhan Avenue, Elm Street, New Main Street and Palisade Avenue will be replaced with new ductile iron pipes. The water main in Nepperhan Avenue fronting the Cacase Center site was replaced with a ductile iron pipeline in the 1980's and therefore does not need to be replaced.

CONCLUSION

Installation of the proposed pipelines will provide the River Park /Cacase Center an adequate water supply and by replacing old water main will have a positive benefit on the water supply system in downtown Yonkers.

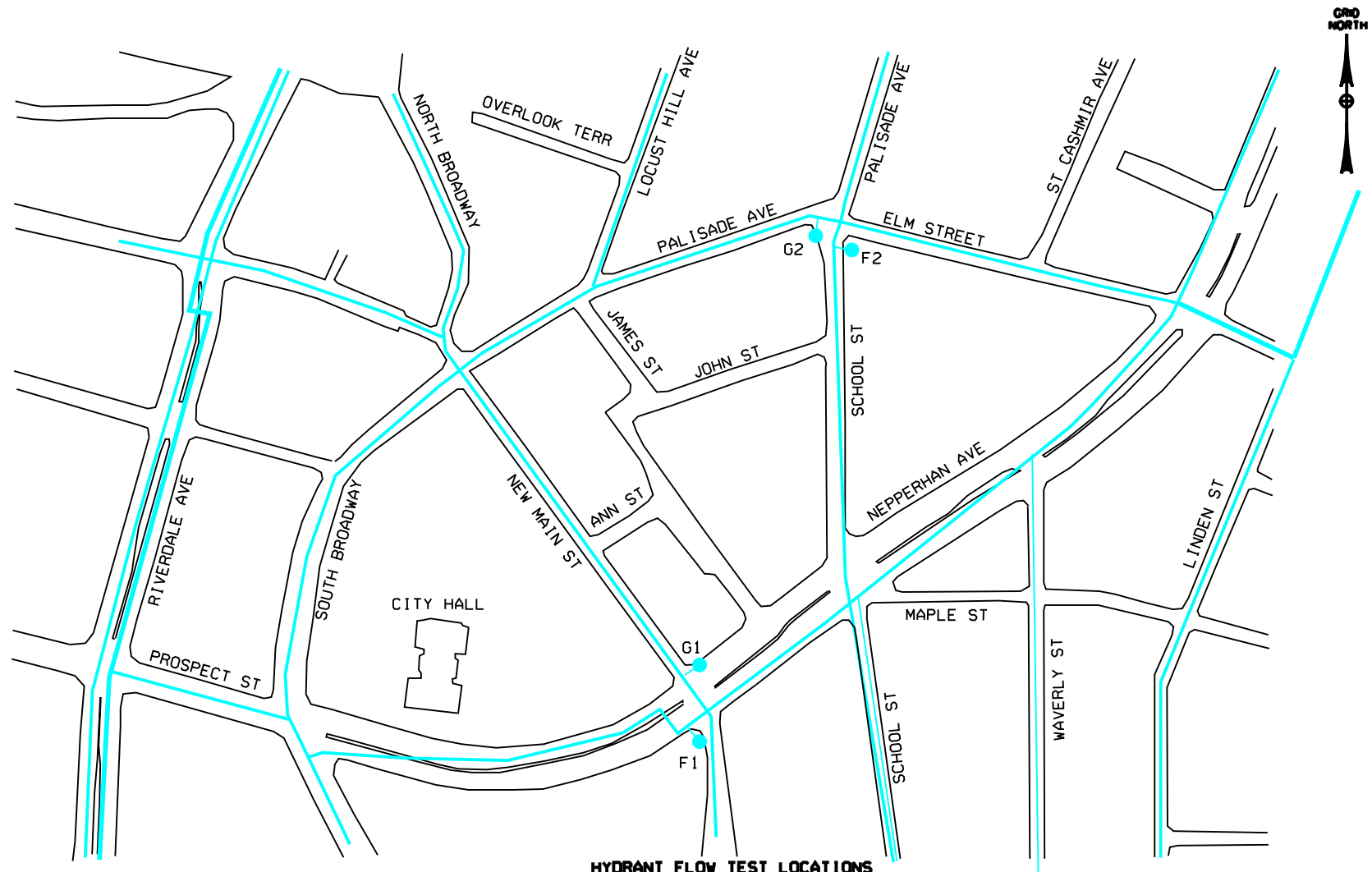
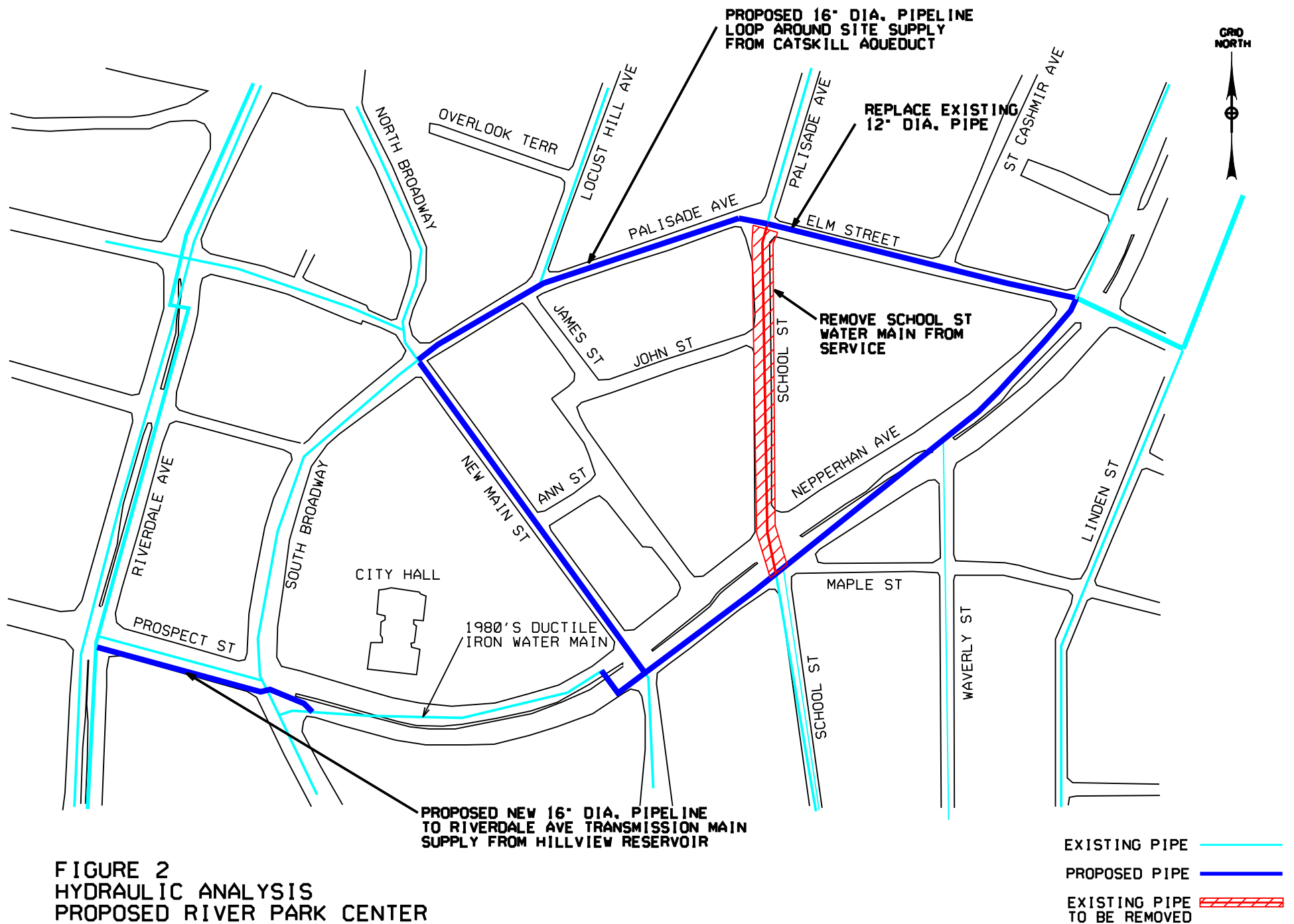


FIGURE 1
HYDRAULIC ANALYSIS
PROPOSED RIVER PARK CENTER



**FIGURE 2
HYDRAULIC ANALYSIS
PROPOSED RIVER PARK CENTER**

III. SANITARY SEWER DISPOSAL

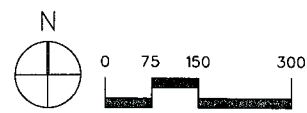
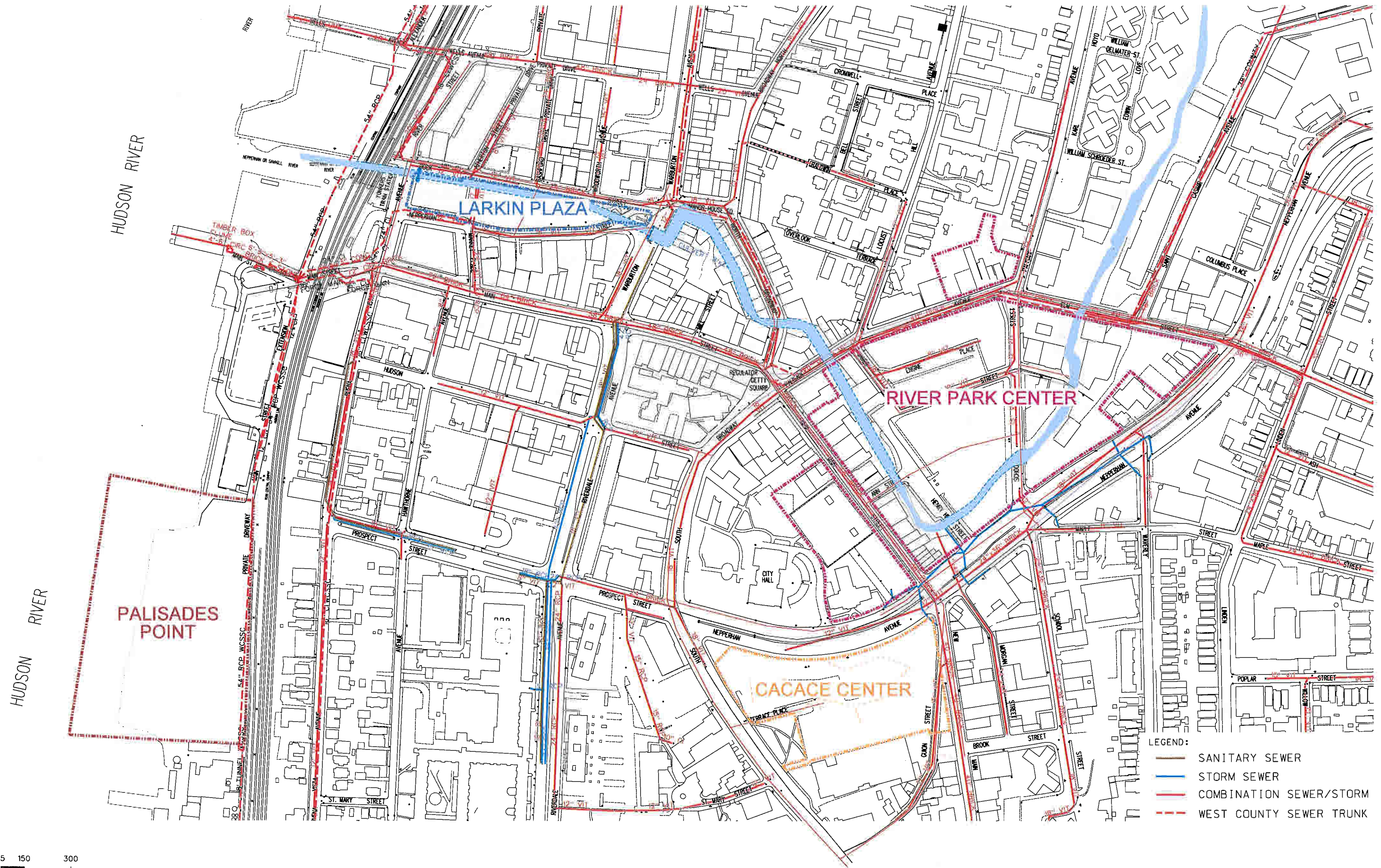
A. Existing Service Connection and Disposal System

The Project sites are currently serviced by both sanitary and combined stormwater and sanitary sewer systems owned and operated by the City of Yonkers. Figure No. 5, *Existing Sewer and Drain Lines*, shows the existing sewer and stormwater drainage lines in the vicinity of the Project Sites. The sanitary flows from these sites are tributary to Westchester County's Yonkers Joint Wastewater Treatment Plant located along the Hudson River in southwest Yonkers.

Many sewer mains in the vicinity of the project are in excess of 100 years old and are beginning to show signs of their age. According to a 1993 survey of the City-wide Sewerage Collection System¹⁴, the sewer lines in the area of the project are generally composed of vitrified clay pipe or brick lined sewer tunnels. The study identifies problems with sewer lines throughout the city which include missing bricks, cracked or broken pipes, offset joints, deteriorating mortar, and mineral deposits. Common problems with sewer manholes in the City are poor frames, collars, and covers, and deteriorating mortar on the walls causing inflow into the sewer system. Problems identified in the 1993 County survey for the Project area include several sewage manholes in the Getty Square parking lot that are scheduled to be abandoned and four manholes in Palisade Avenue that will be relined/repaired during utility work on Palisade Avenue.

Except for Palisades Point, sewage from the various sites will discharge into a 36" and 48" City trunk combined sanitary and storm sewer in either New Main Street or Palisade Avenue. From here the City trunk sewers direct the flow through Getty Square and down Main Street to the Westchester County owned Main Street

¹⁴ Westchester Sewer System Evaluation Survey performed by Malcolm Pirnie and summarized by Dolph Rotfeld Engineers Published December 1993



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NOTE: BASE SURVEY INFORMATION RECEIVED FROM CITY OF YONKERS ENGINEERING DEPARTMENT

EXISTING SEWER AND DRAIN LINES

SFC PHASE I SITES
YONKERS, NEW YORK

FIGURE NO. 5

Sewage Pumping Station located on the west side of the railroad. Sewage is then pumped into a 54-inch Westchester County force main that flows south parallel with the railroad to the treatment plant. Palisades Point would have access to a 12-inch gravity pipe that is currently serving the Scrimshaw House and is connected to the Main Street Pump Station. The capacities and results of the sanitary flow monitoring¹⁵ are found in the following paragraphs.

The City of Yonkers Department of Public Works, Sewer Bureau, is responsible for the inspection maintenance and repair of the existing City owned storm drains and sanitary and combined sewer system within the adjacent streets. Ultimately flows from the sanitary and combined sewers drain to the Westchester County pump stations and the Yonkers Joint Wastewater Treatment Plant. Sewers within the Project area described below. (Also see Figure No. 5)

In addition to the City sewer system, Westchester County maintains a 78-inch trunk sewer that flows west from St. Casimir Avenue, along Palisade Avenue, to Getty Square before flowing north and west to the Westchester County owned North Yonkers Sewage Pumping Station. The North Yonkers Pump station is located approximately one-half of a mile north of Palisades Point along the Hudson River. From there, the sewage is pumped into the 54-inch force main described above.

In times of heavy rainfall, if the combined storm and sanitary sewers do not have the capacity to accommodate the flow, the City trunk sewers in Getty Square overflow into the 78-inch Westchester County-owned trunk sewer through a below grade regulator located in Getty Square. Overflows can also occur near the County-owned Main Street Pump Station and the County-owned North Yonkers Pump Station where at times of heavy rainfall, diluted sewage can overflow into the Hudson River.

¹⁵ Sanitary sewer monitoring report prepared by New England Pipe Cleaning Company January 2007 and available as a reference copy at the City of Yonkers Engineering Department upon request.

In an effort to better identify the existing flows in the City trunk sewers, flow meters were installed during the fall of 2006. The meters were installed in three locations that were chosen to best represent flows present in the sewer system. The Trunk Sewers in New Main Street and Palisade Avenue and the 12-inch sewer that will serve the Palisades Point Site were monitored during this time. Although a number of rainfall events occurred during this monitoring period, no significant rainfall events occurred that caused overflow into the sewer regulators.

The results of the sanitary monitoring show that the New Main Street and Palisade Avenue sewer mains should have the capacity to handle the amount of sewage generated by the River Park Center and Cacace sites under normal Conditions.

The New Main Street Trunk Sewer has a maximum estimated capacity of 39,675 gpm. Under normal day to day conditions the average flow is between 1200 gpm and 1600 gpm, which is less than 5% of its capacity. The Palisade Avenue Trunk Sewer has a maximum estimated capacity of 51,500 gpm. Under normal conditions the average flow is between 3000 gpm and 4000 gpm, which is less than 8% of its capacity.

The results also indicate that during times of heavy rainfall the 12-inch sewer proposed to serve the Palisades Point site showed increases of heavy flow and may not have capacity for the new buildings on that site without remediation or pipe replacement. In order to remediate this existing condition and accommodate the proposed SFC project, the existing 12-inch sewer main proposed to serve the Palisades Point site will be relined or replaced with a new, larger capacity sewer main designed in coordination with the City Engineer's office.

The Westchester County Yonkers Joint Wastewater Treatment Plant ("WWTP") was originally designed to accommodate a maximum hydraulic flow rate of 330 million gallons per day (MGD) and satisfactorily treat a flow rate of 92 MGD. Upgrades to the plant increased its ability to treat sanitary flow and the plant is

currently permitted by the NYS Department of Environmental Conservation to treat up to 120 MGD. The WWTP is currently serving a population of approximately 500,000 and the 2005 Westchester County Department of Environmental Facilities annual report states that the average flow to the plant was 108 MGD.

During 2005 the two County-owned pump stations serving the project sites had the following flows. The Main Street Pump Station actual flow was 0.92 MGD and has a capacity of 8.10 MGD. The North Yonkers Pump Station actual flow was 23.3 MGD and has a capacity of 70 MGD¹⁶.

Although no development is planned in the vicinity of Larkin Plaza, the proposed day lighting of the Saw Mill River will cause displacement of utilities in the streets adjacent to the project site. The following is a description of the storm and sanitary systems in this area.

- The flows from north of Larkin Plaza, along Dock Street, discharge to a series of 12-inch and 18-inch clay and 24-inch brick combined sewers. The area west of Bashford Drive and along Atherton Street discharge to an 18-inch cast iron Westchester County sewer. This sewer flows north along River Street to the Westchester County North Yonkers Pump Station located along the Hudson River. The sewage is then pumped to a 54-inch force main to the Yonkers Wastewater Treatment Plant.
- The area of Dock Street between Bashford Drive and Warburton Avenue discharges to a 24-inch brick sewer. Within Bashford Drive a 34-inch brick sewer flows north and ultimately to the North Yonkers Pump Station.
- The area south of Larkin Plaza, along Nepperhan Street, drains to a series of 12-inch and 18-inch clay sewers. These City sewers connect to a 24-inch cast iron Westchester County sewer at the intersection of Market Place and Nepperhan Street. The County sewer continues west along Nepperhan Street to Buena

¹⁶ 2005 Annual Report, Water and Wastewater Operations

Vista Avenue, where it continues south to Main Street and ultimately to the Main Street Pump Station.

Record plans and the visual inspection¹⁷ of the Saw Mill River flume under Larkin Plaza¹⁸ indicate several existing sewers overflow pipes are connected to the arch culvert within Larkin Plaza. These connections include the following:

- Dock Street - Overflow pipes of 12-inch and 18-inch pipes are located near Atherton Street and another pipe (size unknown and inaccessible due to existing conditions in the area) is connected near Woodworth Ave. The location of all existing drains will be determined as part of the project design phase.
- Nepperhan Street- A 24-inch clay pipe in Market Street is connected to the 78-inch City combined sewer in Main Street. A 12-inch clay pipe is connected to the Nepperhan Street sewer at Market Street. Both of these overflow pipes extend across Larkin Plaza to the arch culvert.

During final design, sewer mains in the vicinity of Larkin Plaza that require relocation will be analyzed and located in streets adjacent to Larkin Plaza so as to provide for no degradation in existing service. Temporary and permanent sewer mains will be designed in association with the City of Yonkers Department of Public Works.

The Larkin Plaza area is relatively flat with a limited number of inlets in the streets. This creates localized street flooding during heavy rainfalls. The proposed design of Larkin Plaza will provide the opportunity to separate the combined sewers in the streets surrounding the project. Also, additional inlets can be installed in the adjacent streets to improve the drainage conditions and ponding conditions.

¹⁷ Saw Mill River Flume Inspection - Report by McLaren Engineering Group

¹⁸ Nepperhan/Saw Mill River Culvert/Flume Inspection – Yonkers, New York by McLaren Engineering Group, August 2006

B. Proposed Project Load

According to Table No. 2B, *Estimate of Sanitary Flow and Water Demand*, The estimated average daily sanitary flows for the Project sites are approximately 393,320 gallons per day for River Park Center, Government Center, and Cacace Center, and 100,920 for Palisades Point for a total of 494,240 gallons per day. The increase in sanitary flow for the project, taking into account the removal of flows from existing parcels, is approximately 452,750 gallons per day. There will be no increase at the Larkin Plaza site as no development is planned there. These figures include a 20% flow reduction from the use of water saving fixtures.

Water conservation will be provided in the selection of water efficient plumbing fixtures for the proposed project as required by the New York State Building Code and the New York State Energy Conservation Construction Code. All plumbing fixtures will be low flow to conserve water and hot water energy. Low flow fixtures are typically accepted as reducing water consumption levels by 20% for purposes of calculating water and sanitary sewer design flows for a project.

Without the use of water saving fixtures, the total sanitary flow would be 617,800 gallons per day. See the Estimate of Sanitary Flow and Water Demand table for more information. It appears based on information provided in the “Existing Conditions” section that the existing facilities (i.e., mains, pump station and the Yonkers WWTF) could accommodate an increase in wastewater flow during dry-weather flow conditions. During times of significant rainfall, the City trunk sewer and pipes in and around the Project sites can become surcharged due to large amounts of storm water runoff entering the combined sewer system. In an effort to reduce this surcharge effect and provide capacity for the proposed Projects during significant rainfall events, a number of mitigation measures have been proposed and are described in the “Mitigation measures” section.

C. Other Proposed Projects Demand

To assess the adequacy of the existing sewage treatment plant and sewage

infrastructure to accommodate other potential growth in the area, the sanitary sewer flows for other planned development projects slated for completion by the proposed project's anticipated build year have also been considered. As presented in Table No. 3, *Summary of Other Planned Developments*, other projects are proposed in the area, which would have a combined average daily sanitary flow of approximately 466,130 gallons per day. On a cumulative basis, the average daily sanitary flow of the proposed project 494,240 gpd and the other proposed development projects 466,130 gpd would total approximately 960,370 gallons per day. The New Main Street Trunk Sewer and Pump Station will only see a portion of the sewage from other developments in the area while they serve the SFC Projects in entirety. Approximately 206,700 gallons per day will enter the New Main Trunk Sewer and Pump station from the other projects. Cumulatively with the SFC Project the Main Street Sewer Infrastructure will see an increase of 700,910 gallons per day. It appears that the existing sewage facilities could accommodate this estimated cumulative increase in wastewater flows; however during times of significant rainfall, the City trunk sewer and carrying pipes in and around the Project sites and the other planned development projects become surcharged due to large amounts of storm water runoff entering the combined sewer and storm sewer system.

D. Mitigation Measures

Due to the additional development on the Project sites, there will be a net increase of approximately 452,750 gallons per day in wastewater loading to the City and County wastewater collection and treatment systems. Existing on-site City-owned combined wastewater and stormwater systems will be upgraded to accommodate the proposed Project. The City Engineering Department has indicated that the downtown wastewater system can begin to overflow into the County system during intense rainfall events. The removal of stormwater from adjacent streets in the project area will have a positive benefit by reducing the volume of stormwater entering the wastewater system and thus reducing the extent of overflow to the County system. In addition, the removal of inflow and infiltration from sources in other areas around the City will reduce the base sewage flow in the sewer system and

will mitigate the increase from the project flows by removing approximately 542,000 gpd of base flow. This is expected to also help reduce the possibility of overflow at the County owned pump stations.

An illustration of the proposed Sewer and Drain lines can be seen on Figure No. 6.

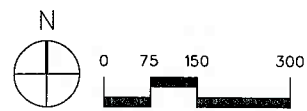
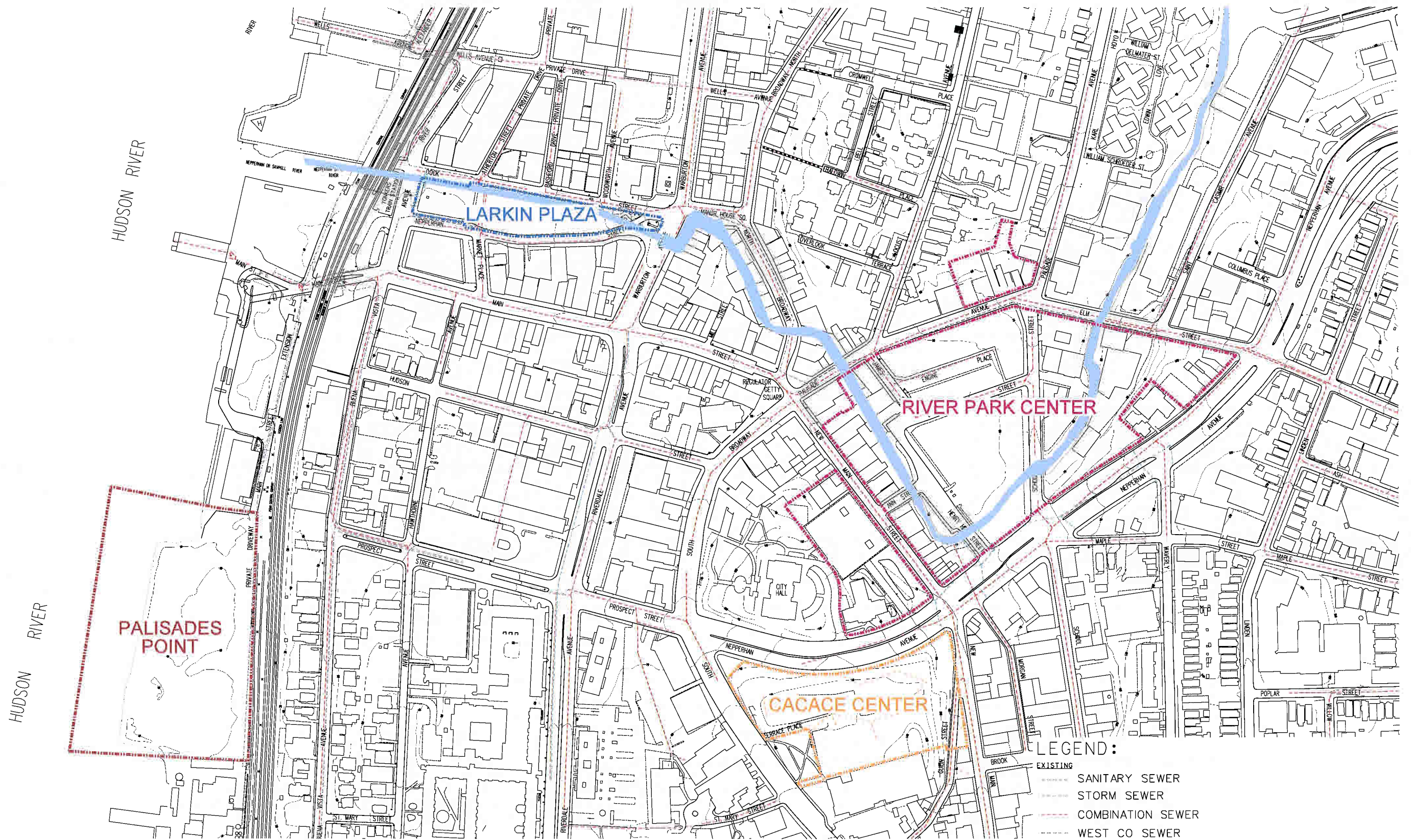
The Westchester County Department of Environmental Facilities has requested that the additional flow to the sewer system from the Project Sites be off-set by reductions in existing inflow/infiltration (I&I) at a three for one ratio¹⁹. As such, an I&I reduction to the existing system of approximately 1.4 million gallons per day is being sought by the County²⁰. Although the Applicant is currently awaiting a response from Westchester County regarding proposed mitigation measures to remediate flow increases to the County-owned treatment facilities, a series of potential measures which could be considered include, but are not limited to those listed below. (Also see Figure No. 7 and Table Nos. 4A and 4B).²¹ The Applicant requests that Westchester County in coordination with the City of Yonkers review the range of potential mitigation measures with the Applicant to help further reduce flows to the existing system.

As required by the NYS DEC, municipalities named in the Sewer System Evaluation Survey were required to remove 40% (by volume) of the inflow and infiltration options listed in the report. The City of Yonkers reached/exceeded this goal in accordance with the requirements in the report. The City of Yonkers prepared and sent a number of status reports to the Westchester County Department of Environmental Facilities that describe the remediation work that was accomplished in detail. The City Engineers office has indicated that there are ongoing repairs

¹⁹ See letter from J, Devany, Westchester County Department of Environmental Facilities, to Divney Tung Schwalbe, dated October 16, 2006 in DEIS Appendix__.

²⁰ I&I reduction to be based on a 1.9" baseline rainfall event pursuant to the Westchester County Department of Environmental Facilities "Sewer System Evaluation Survey - Executive Summary" by Dolph Rotfeld Engineering.

²¹ See letter from Divney Tung Schwalbe to T. Lauro, Westchester County Department of Environmental Facilities, dated November 7, 2007 in appendix 3.I of the DEIS.



Note:
The proposed sanitary sewer and storm sewer lines have not yet been designed, but will be provided once coordinated with the City of Yonkers.

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NOTE: BASE SURVEY INFORMATION RECEIVED FROM CITY OF YONKERS ENGINEERING DEPARTMENT

PROPOSED SEWER AND DRAIN LINES

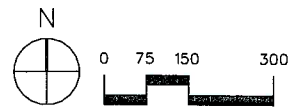
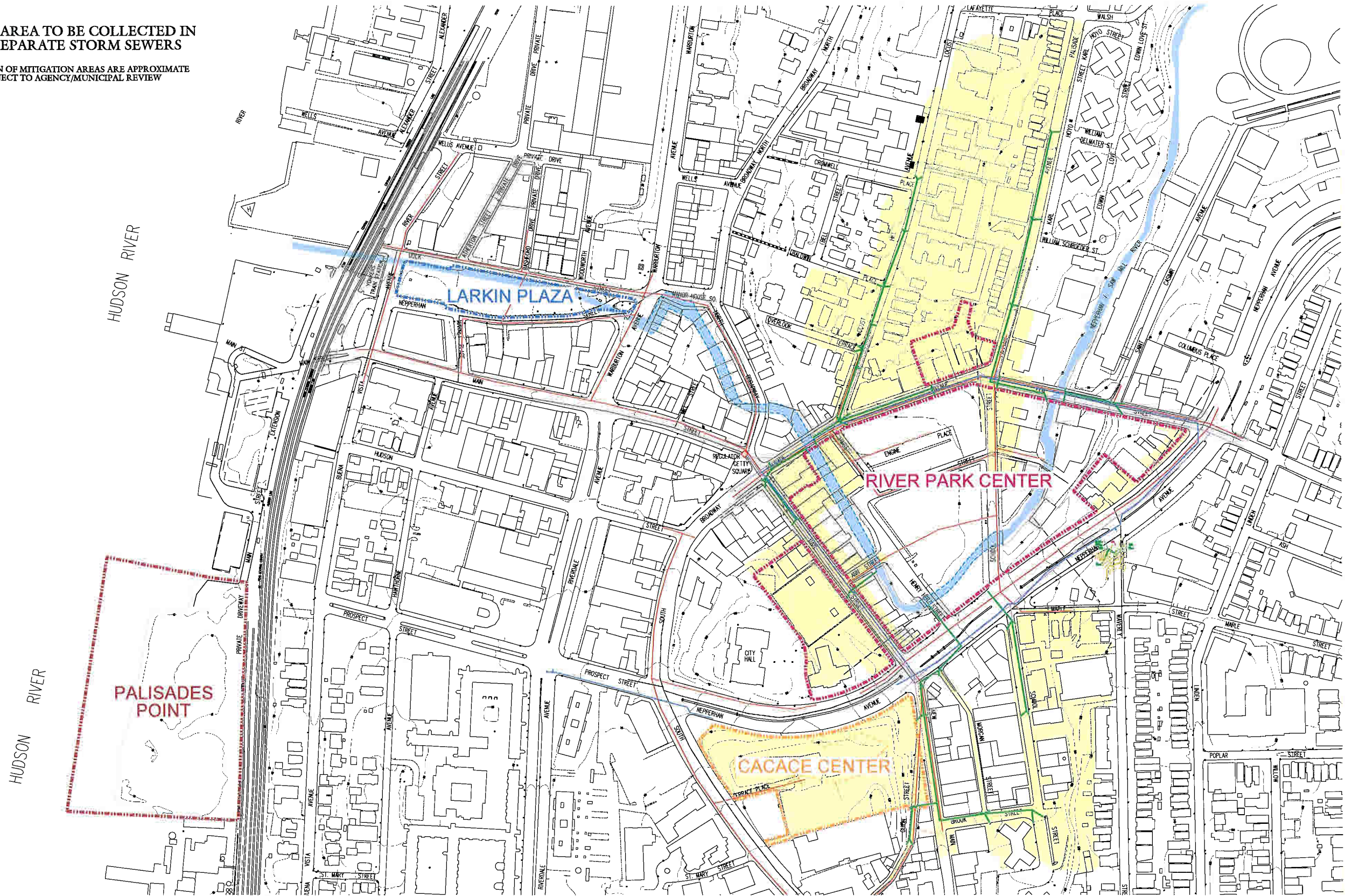
SFC PHASE I SITES
YONKERS, NEW YORK

FIGURE NO. 6



LAND AREA TO BE COLLECTED IN
NEW SEPARATE STORM SEWERS

LOCATION OF MITIGATION AREAS ARE APPROXIMATE
AND SUBJECT TO AGENCY/MUNICIPAL REVIEW



DIVNEY • TUNG • SCHWALBE

COMBINED SEWER MITIGATION

SFC PHASE I SITES
YONKERS, NEW YORK

FIGURE NO. 7

TABLE NO. 4A

SFC - PHASE I PROJECTS
STRUEVER FIDELCO CAPPELLI, LLC
YONKERS, NEW YORK

PROPOSED IMPROVEMENTS - SANITARY SEWER MITIGATION - SUMMARY

PROJECT SUMMARY:

	<u>Land Area</u>	<u>Floor Area</u>	<u>Program</u>
River Park Center:	13.44 acres	1,150,200 sf 722,000 sf	Residential - 950 units Retail, Office, Cinema, Ballpark, Restaurant
Palisade Office	1.07 acres	250,000 sf	Office, College
Government Center	2.31 acres	30,000 sf	Retail, Restaurant
Cacace:	4.5 acres	265,000 sf	Firehouse, Hotel, Office
Palisades Point	9.62 acres	1,143,200 sf	Residential - 436 units, Retail
Totals	<u>30.94 acres</u>	<u>3,560,400 sf</u>	

Proposed Sanitary Flow	494,240 gpd
Existing Sanitary Flow	41,490 gpd
Net Increase San. Flow	452,750 gpd

SANITARY SEWER MITIGATION SUMMARY:

1. Project Site Area (Storm Separation)	12.34 acres	636,604 gpd
2. Adjacent Streets (Storm Separation)	15.92 acres	821,291 gpd
3. West. County Sanitary Rehabilitation Sites:	- acres	542,040 gpd
	<u>28.26 acres</u>	<u>1,999,935 gpd</u>

4. Reduction Ratio (Possible Reduction Increase) **4.42 :1**

Actual Sanitary Sewer Flow reduction resulting from stormwater separation is not confirmed. Amounts subject to final engineering design and survey mapping to confirm areas. Goal of mitigation is to reduce existing sanitary flow by a factor of 3 times that of the proposed increase.

SFC - PHASE I PROJECTS
STRUEVER FIDELCO CAPPELLI, LLC
YONKERS, NEW YORK

PROPOSED IMPROVEMENTS - SANITARY SEWER MITIGATION

TABLE A. LAND AREA TO BE REMOVED FROM COMBINED SEWER SYSTEM

LOCATION	LAND AREA ⁽¹⁾ (ACRE)	REDUCTION ⁽³⁾ (GPD)	VOLUME (Acre-ft)	APPROXIMATE Cost (\$)	COST PER GALLONS REMOVED
Figure #3					
PROJECT SITE AREA					
River Park Center ⁽¹⁾⁽⁹⁾	3.2	165,084	0.507	(INCLUDED IN SITE COSTS)	
Government Center ⁽¹⁾⁽⁹⁾	2.5	128,972	0.396	(INCLUDED IN SITE COSTS)	
Cacace Center ⁽¹⁾⁽⁹⁾	0.51	26,310	0.081	(INCLUDED IN SITE COSTS)	
Elm Street Garage ⁽¹⁾⁽⁹⁾	0.28	14,445	0.044	(INCLUDED IN SITE COSTS)	
Palisade Avenue ⁽⁵⁾	4.97	256,396	0.787	\$559,600	\$2.183
Elm Street ⁽⁵⁾	0.21	10,834	0.033	\$267,550	\$24.696
New Main Street ⁽⁵⁾	0.67	34,564	0.106	\$237,600	\$6.874
Subtotal	12.34	636,604	1.95	\$1,064,750	
Figure #4					
OFFSITE (Adjacent Streets)					
School Street	3.18	164,052	0.504	\$262,000	\$1.597
Morgan Street	0.22	11,350	0.035	\$30,250	\$2.665
New Main Street	2.29	118,138	0.363	\$748,000	\$6.332
Locust Hill Avenue	3.37	173,854	0.534	\$520,250	\$2.992
Palisade Avenue	6.86	353,898	1.086	\$624,800	\$1.765
Subtotal	15.92	821,291	2.521	\$2,185,300	

NOTES FOR TABLE A

1. LAND AREA VALUES ADAPTED FROM STORMWATER POLLUTION PREVENTION PLAN BY MCLAREN ENGINEERING GROUP
2. LAND AREA VALUES INTERPRETED FROM AVAILABLE DATA AND REQUIRE FIELD VERIFICATION IN SOME CASES
3. STORMWATER RUNOFF VALUES BASED ON LAND AREA ARE CALCULATED USING A DESIGN STORM OF 1.9 INCHES TO CORRELATE WITH VALUES IN WESTCHESTER COUNTY SSES REPORT PREPARED BY DOLPH ROTFELD ENGINEERING, P.C. DATED: 12/31/1993
4. VALUES BASED ON NET RUNOFF AREA INCREASE OR DECREASE OF IMPERVIOUS AREA WITHIN SITE
5. STREET AREA VALUES INCLUDE DRAINAGE AREA THAT WILL BE PICKED UP BY NEW STORM DRAINS INSTALLED
6. VALUES INCLUDE ROOF DRAINS AND OTHER RUNOFF
7. APPROXIMATE COST OF CONSTRUCTION SHOWN ON COST ESTIMATE TABLE
8. COST INCREASE ADJUSTMENT FROM 1993 TO 2006 DOLLARS TAKEN FROM RSMEANS SITE WORK AND LANDSCAPE COST DATA 2007
9. COST FOR REMOVAL OF STORMWATER FROM ONSITE DEVELOPMENT NOT INCLUDED IN THIS ESTIMATE
10. COST PER GALLON REMOVED DOES NOT REFLECT STORMWATER CONVEYED BY THE SYSTEM FROM OTHER SOURCES SUCH AS ROOF DRAINS FOR NEW STRUCTURES
11. SOME REMOVAL SOURCES IN THIS REPORT MAY RELY ON ALL OR PART OF OTHER LISTED CONSTRUCTION ITEMS IN ORDER TO FUNCTION PROPERLY

NOTES FOR TABLES B & C

1. SEWER SYSTEM EVALUATION SURVEY REPORT RECEIVED OBTAINED FROM WESTCHESTER COUNTY DEPARTMENT OF ENVIRONMENTAL FACILITIES ON 10/23/2006
2. CONSTRUCTION COSTS FOR PROPOSED ONSITE WORK NOT INCLUDED ON THIS ESTIMATE
3. TABLES B AND C REFER TO TABLES 7-1 AND 7-3 TAKEN FROM WESTCHESTER COUNTY SEWER SYSTEM EVALUATION SURVEY SUMMARY BY DOLPH ROTFELD ENGINEERING, P.C.
4. TABLE 7-2 FROM THE WESTCHESTER COUNTY SEWER SYSTEM EVALUATION SURVEY WAS NOT INCLUDED IN THIS STUDY
5. MANHOLES SHOWN FROM TABLE 7-3 OF THE WESTCHESTER COUNTY SEWER SYSTEM EVALUATION SURVEY WERE SELECTED IN AREAS WITH OTHER SCHEDULED CONSTRUCTION
6. PROJECT SITE AREA INCLUDES ANY CONTRIBUTORY AREA GAINED BY WORK WITHIN PROPOSED PARCELS
7. OFFSITE AREA REFERS TO ANY CONTRIBUTORY AREA GAINED BY WORK OUTSIDE OF PROPOSED PARCELS
8. A COST ADJUSTMENT FACTOR (1993-2006) OF 1.7 WAS BASED ON THE CONSTRUCTION COST INDEXES (CCI) SHOWN IN THE RSMEANS SITEWORK AND LANDSCAPE DESIGN 2007

TABLE B. WESTCHESTER COUNTY RECOMMENDATIONS (INFORMATION FROM TABLE 7-1)

Ref Key	WEST. CO. PAGE #	WEST. CO. PLATE #	MANHOLE FROM	MANHOLE TO	LOCATION	PIPE DIA. (in)	LENGTH (ft)	MATERIAL -	DEPTH (ft)	RECORDED DEFECT	RECOMMENDED REHABILITATION	REDUCTION (gpd)	APPROXIMATE Cost (\$)	COST PER GALLON REMOVED
Figure #5														
1	274	B-11	52164	52151	Ashburton Avenue	28x26	133	BRI	8	Cracked Pipe/Missing Bricks/Mortar	In-line Rehabilitation	130,770	\$45,220	\$0.346
2	275	B-9	50022	50021	School Street	18	110	VCP	10	Leaking Service Line	In-line Rehabilitation of Service Line	12,280	8,500	\$0.692
3	275	F-10	24008	24007	Noble Avenue	30187	187	VCP	15	Leaking Service Line	In-line Rehabilitation of Service Line	11,520	8,500	\$0.738
4	275	B-11	52193	52150	Ashburton Avenue	28x26	50	BRI		Missing Bricks/Mortar	In-line Rehabilitation	96,700	83,980	\$0.868
5	275	C-11	52992	50834	Vineyard Avenue	24	160	BRI	15	Mortar	In-line Rehabilitation	28,110	46,240	\$1.645
6	277	F-11	23892	37507	Palmer Road	36	146	VCP	27	Leaking Service Line/Roots at Joint	In-line Rehabilitation	39,540	72,930	\$1.844
7	277	B-11	51159	51158	Walsh Road	15	161	VCP	12	Broken & Cracked Pipe/Damaged Joint/Mineral Deposits/Protruding Service	In-line Rehabilitation	22,940	43,350	\$1.890
8	279	D-14	1283	1282	Nepperhan Avenue	12	201	VCP	14	Leaking Service/Protruding Service/Mineral Deposits	In-line Rehabilitation/Cut Service	40,600	117,334	\$2.890
9	281	G-11	23818	23716	Palmer Road	36	260	VCP	19	Leaking Service Line/Roots at Joint/Protruding Service	In-line Rehabilitation/Cut Service	41,680	122,570	\$2.941
10	281	C-10	50407	50406	Webster Avenue	12	156	VCP	10	Offset & Damaged Joint/Leaking Service Line/Cracked Pipe/Collapsed Pipe/	Excavate and Replace			
										Roots at Joint/Protruding Service/Roots at Service/Mineral Deposits/Broken pipe	In-line Rehabilitation	18,420	58,990	\$3.202
11	282	A-9	53404	53402	Heriot Street	34x38	230	BRI	11	Cracked Pipe/Protruding service	Excavate and Replace with 36"	63,330	211,140	\$3.334
Subtotal												505,890	\$818,754	

TABLE C. WESTCHESTER COUNTY RECOMMENDATIONS (INFORMATION FROM Table 7-3)

Ref Key	WEST. CO. PAGE #	WEST. CO. PLATE #	MANHOLE	LOCATION	ONSITE	RECORDED DEFECT	RECOMMENDED REHABILITATION	REDUCTION (gpd)	APPROXIMATE Cost (\$)	COST PER GALLON REMOVED
Figure #6										
12	541	B-10	50201	Palisade Ave @ James St	No	Inflow at Chimney	Collar Replacement	3,000	\$1,275	\$0.425
13	541	B-10	50209	John Street	Yes	Inflow at Chimney	Collar Replacement	3,000	0	\$0.000
14	541	B-10	50211	School St @ John St	Yes	Inflow at Chimney	Collar Replacement	3,000	0	\$0.000
15	541	B-10	50216	Palisade Avenue	No	Inflow at Chimney	Collar Replacement	3,000	1,275	\$0.425
16	541	B-10	50217	Palisade Avenue	No	Inflow at Chimney	Collar Replacement	3,000	1,275	\$0.425
17	541	B-10	50230	Palisade Avenue	No	Inflow at Chimney, Wall, and Cover	Replace Collar and Cover/Cement	3,100	2,975	\$0.960
18	542	B-10	50244	John Street	Yes	Inflow at Chimney	Collar Replacement	3,000	0	\$0.000
19	541	B-9	50140	Brook Street	No	Inflow at Chimney	Collar Replacement	3,000	1,275	\$0.425
20	541	B-10	50203	Locust Hill Avenue	No	Inflow at Chimney and Wall	Replace Collar and Cement	3,025	2,550	\$0.843
21	541	B-10	50204	Locust Hill Avenue	No	Inflow at Chimney and Wall	Replace Collar and Cement	3,025	2,550	\$0.843
22	541	B-10	50231	Palisade Avenue	No	Inflow at Chimney	Collar Replacement	3,000	1,275	\$0.425
23	541	B-10	50232	Palisade Avenue	No	Inflow at Chimney	Collar Replacement	3,000	1,275	\$0.425
Subtotal								36,150	\$15,725	

TOTAL1,999,935\$4,084,529

SFC - PHASE I PROJECTS
STRUEVER FIDELCO CAPPELLI, LLC
YONKERS, NEW YORK

CONCEPTUAL COST ESTIMATE - SANITARY SEWER MITIGATION

PROJECT SITE AREA

DESCRIPTION			ELM ST		NEW MAIN STREET		PALISADE AVE	
	UNIT	UNIT COST	QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT
1. Trench Excavation, Bedding & Backfill-Main Flow	CY	\$150	510	\$76,500	420	\$63,000	720	\$108,000
2. Sheeting and Shoring (Allow - 50% of work)	LF	\$220	255	\$56,100	210	\$46,200	360	\$79,200
3. Storm Drain Manhole	EA	\$6,000	4	\$24,000	3	\$18,000	5	\$30,000
4. Storm Drain Inlet	EA	\$5,000	6	\$30,000	6	\$30,000	7	\$35,000
5. Storm Drain Headwall/Rip-Rap Outlet	EA	\$3,500	2	\$7,000	1	\$3,500	2	\$7,000
6. Storm Drain Pipe 15 to 18-inch RCP	LF	\$50	0	\$0		\$0		\$0
7. Storm Drain Pipe 24 to 30 inch RCP	LF	\$110	510	\$56,100	420	\$46,200	720	\$79,200
8. New Building Drain Services	EA	\$8,000	0	\$0	2	\$16,000	10	\$80,000
10. Reline existing Sewer line per City of Yonkers	LF	\$200	0	\$0	0	\$0	580	\$116,000
11. Pavement Repair	LF	\$35	510	\$17,850	420	\$14,700	720	\$25,200
				\$267,550		\$237,600		\$559,600
SUBTOTAL							\$1,064,750	

OFFSITE - ADJACENT TO PROJECT AREA

DESCRIPTION			NEW MAIN STREET		MORGAN STREET		SCHOOL STREET		LOCUST HILL AVE		PALISADE AVE	
	UNIT	UNIT COST	QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT	QUANTITY	AMOUNT
1. Trench Excavation, Bedding & Backfill-Main Flow	CY	\$150	1,600	\$240,000	50	\$7,500	500	\$75,000	1,050	\$157,500	960	\$144,000
2. Sheeting and Shoring (Allow - 50% of work)	LF	\$220	800	\$176,000	25	\$5,500	250	\$55,000	525	\$115,500	480	\$105,600
3. Storm Drain Manhole	EA	\$6,000	10	\$60,000	0	\$0	2	\$12,000	6	\$36,000	4	\$24,000
4. Storm Drain Inlet	EA	\$5,000	8	\$40,000	2	\$10,000	4	\$20,000	7	\$35,000	4	\$20,000
5. Storm Drain Headwall/Rip-Rap Outlet	EA	\$3,500	0	\$0	0	\$0	1	\$3,500	0	\$0	0	\$0
6. Storm Drain Pipe 15 to 18-inch RCP	LF	\$50		\$0		\$0		\$0		\$0		\$0
7. Storm Drain Pipe 24 to 30 inch RCP	LF	\$110	1,600	\$176,000	50	\$5,500	500	\$55,000	1,050	\$115,500	960	\$105,600
8. New Building Drain Services	EA	\$8,000	0	\$0	0	\$0	3	\$24,000	3	\$24,000	24	\$192,000
10. Reline existing Sewer line per City of Yonkers	LF	\$200	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
11. Pavement Repair	LF	\$35	1,600	\$56,000	50	\$1,750	500	\$17,500	1,050	\$36,750	960	\$33,600
				\$748,000		\$30,250		\$262,000		\$520,250		\$624,800
SUBTOTAL											\$2,185,300	

NOTES

1. THIS COST ESTIMATE INCLUDES ONLY THE WORK THAT IS NECESSARY TO COMPLETE STORMWATER INFLOW AND INFILTRATION REMOVAL.
2. COST VALUES ADAPTED FROM RSMEANS SITE WORK AND LANDSCAPE COST DATA 2007 ISSUE
3. TRENCH WIDTH ASSUMED TO BE 4 FEET WIDE, 2' COVER OVER STORM DRAIN
4. TEMPORARY PAVEMENT REPAIR ESTIMATED USING CITY OF YONKERS DETAIL FOR PAVEMENT REPLACEMENT FOR UTILITY INSTALLATIONS
5. TRENCH EXCAVATION ASSUMED TO BE 1 CY PER LF (4' x 6.75' x 1')
6. WESTCHESTER COUNTY OFFSITE RECOMMENDATIONS REFLECTS TOTAL COSTS OF SEWER REHABILITATION, REFER TO SANITARY MITIGATION TABLE NO 1 FOR EXPLANATION OF COSTS
7. COST FOR REMOVING OVERLAND STORM FLOW FROM WITHIN PROPOSED PROPERTY LINES NOT INCLUDED IN COST ESTIMATE

WESTCHESTER COUNTY REHABILITATIONS

Westchester County Sewer Rehabilitation Recommendations	\$818,754.00
Westchester County Manhole Rehabilitation Recommendations	\$15,725.00
SUBTOTAL	\$834,479

SUBTOTAL IMPROVEMENT \$4,084,529

OTHER COSTS

Controlled Inspections & Testing	3%	\$122,535.87
Contingency	20%	\$816,905.80
Design, Legal, Approval, Misc. General Conditions	3%	\$122,535.87
SUBTOTAL		\$1,061,978

PROJECT TOTAL	\$5,146,507
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being made to the sewer system to continue reducing inflow and infiltration to the city sewer infrastructure.

One method of removing excess water from the sewer system is to physically separate stormwater from the sanitary sewer in the area of the River Park Center site. Since the Saw Mill River flows through the Project area, some separation of stormwater from the sewer system within the adjacent streets can be accommodated. This can be accomplished by adding separate storm piping in the streets to collect and discharge directly to the Saw Mill River. An area of approximately 28.3 acres that lies adjacent to the River Park Center site is currently being evaluated for possible stormwater removal. Potential areas for stormwater removal can be seen in Figure No. 6. The City of Yonkers Department of Engineering has indicated that the preferred inflow/infiltration remediation is diversion of stormwater from the existing combined sewer system through the construction of the new stormwater drainage facilities in the Project area.

Stormwater collected within proposed site boundaries will be treated in conformance with all procedures in the New York State DEC Stormwater management Design manual before being discharged in the Saw Mill River. Stormwater collection systems installed in public streets and other off-site areas where improvements are to be made will be installed with deepened sumps to trap sediment.

Another method of removing excess water from the sewer system is to remove known sources of inflow/infiltration as listed on the Sewer System Evaluation Survey. Contributory items from the report within project limits will be remediated during construction. Existing manholes and sewer lines that are scheduled to be taken out of service, listed on the county report, will no longer contribute excess water to the system. Additional items listed on the report around Yonkers will be examined for possible rehabilitation to reduce inflow and infiltration.

The City Engineer's office has requested that the Palisade Avenue brick lined trunk sewer from Getty Square to Elm Street be relined to improve and extend the life of the sewer. The City Engineer's office has indicated that the New Main Street trunk sewer has recently been relined for similar reasons. As noted above, it is anticipated that primary responsibility for construction of the recommended utility improvements will be undertaken by the Applicant in consultation with the City. Tax increment financing is proposed to fund the cost of the necessary utility improvements.

In addition, as was outlined in the Proposed Water Demand and Sanitary Load table, using water conservation measures will reduce the proposed sanitary load by 20%. The adjusted sanitary load for the proposed Project is estimated to have an average daily flow of 494,240 gallons per day, with a peak flow rate of 1,030 gallons per minute. The mixed use nature of the development will lead to a number of different peaks at different times during the day leading to a lower peaking factor of 3 is used, instead of 4.

Flows were monitored by New England Pipe Cleaning Co. between October and December of 2006²². The meters were originally installed at all three locations on October 27th. The Palisades Point meter was scheduled for two weeks of data collection. The New Main Street and Palisade Avenue meters were installed for six weeks of data collection. Due to a system malfunction, the Palisade Avenue meter data collection did not begin for two weeks after the original installation date. During the monitoring period it rained during 17 of the days. The largest storm (by depth) was recorded on Wednesday, November 8th during which approximately 4.0 inches of rain fell. The average of the recorded rainfall depths during the monitoring period was approximately 0.75 inches. During the monitoring period no rainfall occurred that caused an overflow into the County system. It appears that the sewers have sufficient capacity during most operating conditions. During extreme stormwater events, it is expected that sewage will continue to overflow to the

²² NEPCCO report "Flow Monitoring; City of Yonkers; Fall 2006"

Hudson River. However, since the Project will reduce stormwater infiltration and inflow by a factor of 3 to 1, the Project will not impact the existing sewer systems.

As discussed above, the results of the sanitary sewer monitoring conducted in the fall of 2006 at three representative locations in the sewer system indicate that the sewer mains should have the capacity for the proposed projects under normal conditions. It is noted that although a number of rainfall events occurred during the aforementioned monitoring period, no significant rainfall events occurred that caused overflow into the sewer regulators. The results of the sanitary testing are summarized in Table No. 5, *Summary of Combined Sewer Monitoring*.

During the monitoring period no rainfall occurred that caused an overflow into the County system. Since there were no extreme (100-year storm) rainfall events during the monitoring period it can not be certain that the sewer mains would have capacity during these large storm events; however it does appear that the sewers have sufficient capacity during normal operating conditions. During extreme storm events it is expected that sewage will continue to overflow into the county system, however with the installation of new storm sewers rainfall stormwater causing the overflow into the County system will be reduced and lead to less occurrences of overflow into the County system.

As part of the Larkin Plaza day lighting Project, there is the opportunity to provide for the separation of the stormwater runoff in the adjacent streets from the existing combined sewers. This will require the installation of new inlets and storm drains within Dock and Nepperhan Streets and the extension of outlet pipes to the open day lighted portion of the River. This will reduce flow into combined sewer system and improve drainage within the adjacent streets during storm events. This would allow the connection of existing or future buildings in the adjacent area to the new storm drain system, instead of the existing combined sewers.

The day lighting of Larkin Plaza will not impact the existing combined sewers in the adjacent streets. However, the sewer overflow pipes which connect to the existing arch pipe will need to be rerouted to the day lighted/open section of the river. To minimize the impact of the overflow sewers on the new Larkin Plaza park, the overflow pipes should be rerouted to discharge directly into the enclosed section of the river at the western end of the park. This will minimize the visual and potential odor impacts of the pipes discharging into the park.

SUMMARY OF COMBINED SEWER MONITORING
Summary of New England Pipe Cleaning Results

Day Date Rain (in) ¹			DAILY MAXIMUM RECORDED																		
			AVERAGE PEAK w/o RAINFALL	MAXIMUM RECORDED	MINIMUM RECORDED	THEORETICAL CAPACITY ⁽³⁾	Saturday 10.28.06	Sunday 10.29.06	Monday 10.30.06	Tuesday 10.31.06	Wednesday 1/6/2011	Thursday 2/6/2011	Friday 3/6/2011	Saturday 4/6/2011	Sunday 5/6/2011	Monday 6/6/2011	Tuesday 7/6/2011	Wednesday 8/6/2011	Thursday 9/6/2011	Friday 10/6/2011	
							3.1	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
METER A	Flow	gpm	1,276	16,819	1,162	39,676	13,698	1,518	1,232	1,236	1,266	3,314	1,205	1,264	1,319	1,346	1,329	16,819	2,051	1,249	
36 INCH	Velocity	ft/s	6.7	13.3	6.1	13.3	12.7	7.1	6.7	6.7	6.7	9.1	6.6	6.6	6.7	6.1	6.2	13.3	7.4	6.7	
CIRCULAR - BRICK	Depth	in	4.1	16.7	3.8	36.0	16.7	4.3	3.9	3.9	4.0	6.2	3.9	4.0	4.1	4.4	4.5	15.1	5.1	3.9	
% Change from Average Peak			1219%				974%	19%	-3%	-3%	-1%	160%	-6%	-1%	3%	6%	4%	1219%	61%	-2%	
METER B	Flow	gpm	3,730	24,231	2,907	51,059	NO DATA - SYSTEM MALFUNCTION 10-28-2006 TO 11-10-2006														3,580
48 INCH	Velocity	ft/s	3.1	12.2	3.6	11.3															4.6
CIRCULAR - BRICK	Depth	in	8.1	20.8	8.9	48.0															9.5
% Change from Average Peak			550%																	-4%	
METER C	Flow	gpm	108	324	75	588	195	80	90	79	82	124	324	76	75	86	84	129	METER REMOVED		
12 INCH	Velocity	ft/s	2.2	10.0	1.1	1.8	1.9	1.2	1.2	1.5	1.2	3.3	10.0	1.1	1.1	1.2	1.1	1.7			
CIRCULAR - CIP	Depth	in	3.1	6.5	2.9	12.0	6.5	3.0	3.2	3.0	3.2	3.2	3.4	3.0	2.9	3.2	3.1	3.4			
% Change from Average Peak			199%				80%	-26%	-17%	-27%	-24%	14%	199%	-30%	-31%	-20%	-23%	19%			
Day Date Rain (in) ¹			DAILY MAXIMUM RECORDED																		
			AVERAGE PEAK w/o RAINFALL	MAXIMUM RECORDED	MINIMUM RECORDED	THEORETICAL CAPACITY ⁽³⁾	Saturday 11/6/2011	Sunday 12/6/2011	Monday 11.13.06	Tuesday 11.14.06	Wednesday 11.15.06	Thursday 11.16.06	Friday 11.17.06	Saturday 11.18.06	Sunday 11.19.06	Monday 11.20.06	Tuesday 11.21.06	Wednesday 11.22.06	Thursday 11.23.06	Friday 11.24.06	
							0.0	0.1	0.2	0.2	0.0	0.8	0.0	0.1	0.0	0.0	0.0	0.1	1.7	0.1	
							0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
METER A	Flow	gpm	1,276	16,819	1,162	39,676	1,258	5,532	2,924	7,120	1,245	12,641	1,418	1,210	1,230	1,247	1,230	1,337	7,662	5,895	
36 INCH	Velocity	ft/s	6.7	13.3	6.1	13.3	6.8	10.6	6.7	11.4	6.7	12.2	6.6	6.7	6.7	6.6	6.6	6.7	11.3	10.5	
CIRCULAR - BRICK	Depth	in	4.1	16.7	3.8	36.0	3.9	8.0	5.9	9.1	3.9	13.0	4.4	3.8	3.9	4.0	3.9	4.2	9.6	8.2	
% Change from Average Peak			1219%				-1%	334%	129%	458%	-2%	891%	11%	-5%	-4%	-2%	-4%	5%	501%	362%	
METER B	Flow	gpm	3,730	24,231	2,907	51,059	3,481	9,343	6,460	15,844	4,107	20,323	5,285	3,870	4,422	3,916	3,898	3,725	16,698	15,140	
48 INCH	Velocity	ft/s	3.1	12.2	3.6	11.3	4.5	8.1	6.6	10.0	4.2	10.5	5.2	4.4	4.3	4.0	3.9	3.8	10.1	10.1	
CIRCULAR - BRICK	Depth	in	8.1	20.8	8.9	48.0	9.6	12.5	11.3	15.6	11.2	20.8	11.3	10.6	11.4	11.0	11.2	11.0	16.1	15.0	
% Change from Average Peak			550%				-7%	150%	73%	325%	10%	445%	42%	4%	19%	5%	5%	0%	348%	306%	
METER C	Flow	gpm	108	324	75	588	METER REMOVED 11-10-2006														
12 INCH	Velocity	ft/s	2.2	10.0	1.1	1.8															
CIRCULAR - CIP	Depth	in	3.1	6.5	2.9	12.0															
% Change from Average Peak			199%																		

SUMMARY OF COMBINED SEWER MONITORING
Summary of New England Pipe Cleaning Results

Day Date			<u>AVERAGE PEAK w/o RAINFALL</u>	<u>MAXIMUM RECORDED</u>	<u>MINIMUM RECORDED</u>	<u>THEORETICAL CAPACITY ⁽³⁾</u>	<u>DAILY MAXIMUM RECORDED</u>														
							Saturday 11.25.06	Sunday 11.26.06	Monday 11.27.06	Tuesday 11.28.06	Wednesday 11.29.06	Thursday 11.30.06	Friday 1/6/2012	Saturday 2/6/2012	Sunday 3/6/2012	Monday 4/6/2012	Tuesday 5/6/2012	Wednesday 6/6/2012	Thursday 7/6/2012	Friday 8/6/2012	
							0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0		
Rain (in) ¹							0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
<u>METER A</u> 36 INCH CIRCULAR - BRICK	Flow Velocity Depth	gpm ft/s in	1,276 6.7 4.1	16,819 13.3 16.7	1,162 6.1 3.8	39,676 13.3 36.0	1,241 6.7 3.9	1,250 6.6 3.9	1,234 6.6 3.9	1,248 6.6 3.9	1,231 6.6 3.9	1,273 6.6 4.0	4,028 9.3 7.0	1,245 6.6 4.0	1,211 6.7 3.8	1,186 6.6 3.8	1,162 6.6 3.8	1,193 6.6 3.9	1,252 6.5 4.0	1,234 6.4 4.0	
% Change from Average Peak			1219%				-3%		-2%	-3%	-2%	-3%	0%	216%	-2%	-5%	-7%	-9%	-6%	-2%	-3%
<u>METER B</u> 48 INCH CIRCULAR - BRICK	Flow Velocity Depth	gpm ft/s in	3,730 3.1 8.1	24,231 12.2 20.8	2,907 3.6 8.9	51,059 11.3 48.0	3,685 4.6 9.8	3,913 4.4 10.4	4,110 4.2 11.0	4,003 4.1 11.0	4,032 3.9 11.4	3,791 3.8 11.2	10,819 7.8 16.4	4,232 4.3 11.1	3,812 4.0 10.8	3,681 3.9 10.7	3,508 3.9 10.4	3,220 3.7 10.1	3,288 3.8 10.2	3,255 3.7 10.2	
% Change from Average Peak			550%				-1%		5%	10%	7%	8%	2%	190%	13%	2%	-1%	-6%	-14%	-12%	-13%
<u>METER C</u> 12 INCH CIRCULAR - CIP	Flow Velocity Depth	gpm ft/s in	108 2.2 3.1	324 10.0 6.5	75 1.1 2.9	588 1.8 12.0	METER REMOVED 11-10-2006														
% Change from Average Peak			199%																		
Day Date			<u>AVERAGE PEAK w/o RAINFALL</u>	<u>MAXIMUM RECORDED</u>	<u>MINIMUM RECORDED</u>	<u>THEORETICAL CAPACITY ⁽³⁾</u>	<u>DAILY MAXIMUM RECORDED</u>														
							Saturday 9/6/2012	Sunday 10/6/2012	Monday 11/6/2012	Tuesday 12/6/2012	Wednesday 12.13.06	Thursday 12.14.06	Friday 12.15.06	Saturday 12.16.06	Sunday 12.17.06	Monday 12.18.06	Tuesday 12.19.06	Wednesday 12.20.06	Thursday 12.21.06	Friday 12.22.06	
							0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	
Rain (in) ¹							0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<u>METER A</u> 36 INCH CIRCULAR - BRICK	Flow Velocity Depth	gpm ft/s in	1,276 6.7 4.1	16,819 13.3 16.7	1,162 6.1 3.8	39,676 13.3 36.0	1,333 6.5 4.2	1,347 6.6 4.2	1,288 6.5 4.1	1,219 6.5 3.9	2,892 8.3 6.0	1,197 6.5 3.9	1,174 6.6 3.8	1,287 6.6 4.0	1,250 6.6 3.9	1,254 6.6 4.0	1,217 6.5 3.9	1,222 6.5 3.9	1,181 6.4 3.9	3,594 9.1 6.6	
% Change from Average Peak			1219%				4%		6%	1%	-4%	127%	-6%	-8%	1%	-2%	-2%	-5%	-4%	-7%	182%
<u>METER B</u> 48 INCH CIRCULAR - BRICK	Flow Velocity Depth	gpm ft/s in	3,730 3.1 8.1	24,231 12.2 20.8	2,907 3.6 8.9	51,059 11.3 48.0	3,139 3.7 10.1	3,371 3.7 10.5	3,357 3.6 10.6	3,242 3.7 10.4	7,412 4.9 15.0	3,208 3.8 10.2	3,335 3.8 10.3	3,183 3.7 10.0	3,291 3.8 10.1	3,124 3.8 9.9	2,952 3.7 9.7	3,118 3.7 9.9	3,070 3.7 9.8	9,128 7.4 16.0	
% Change from Average Peak			550%				-16%		-10%	-10%	-13%	99%	-14%	-11%	-15%	-12%	-16%	-21%	-16%	-18%	145%
<u>METER C</u> 12 INCH CIRCULAR - CIP	Flow Velocity Depth	gpm ft/s in	108 2.2 3.1	324 10.0 6.5	75 1.1 2.9	588 1.8 12.0	METER REMOVED 11-10-2006														
% Change from Average Peak			199%																		

SUMMARY OF COMBINED SEWER MONITORING

Summary of New England Pipe Cleaning Results

Day Date	Rain (in) ^{1 2}	<u>AVERAGE PEAK w/o RAINFALL</u>	<u>MAXIMUM RECORDED</u>	<u>MINIMUM RECORDED</u>	<u>THEORETICAL CAPACITY ⁽³⁾</u>	<u>DAILY MAXIMUM RECORDED</u>								
						Saturday 12.23.06	Sunday 12.24.06	Monday 12.25.06	Tuesday 12.26.06	Wednesday 12.27.06	Thursday 12.28.06	Friday 12.29.06	Saturday 12.30.06	Sunday 12.31.06
						0.9	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0
<u>METER A</u> 36 INCH CIRCULAR - BRICK	Flow Velocity Depth	gpm ft/s in	1,276 6.7 4.1	16,819 13.3 16.7	1,162 6.1 3.8	39,676 13.3 36.0	METER REMOVED 12-23-2006							
% Change from Average Peak			1219%											
<u>METER B</u> 48 INCH CIRCULAR - BRICK	Flow Velocity Depth	gpm ft/s in	3,730 3.1 8.1	24,231 12.2 20.8	2,907 3.6 8.9	51,059 11.3 48.0	24,231 12.2 18.6	3,205 4.3 9.3	7,592 7.8 11.0	5,737 6.7 10.0	2,958 4.3 8.9	2,907 4.1 9.2	METER REMOVED 12-28-2006	
% Change from Average Peak			550%			550%	-14%	104%	54%	-21%	-22%			
<u>METER C</u> 12 INCH CIRCULAR - CIP	Flow Velocity Depth	gpm ft/s in	108 2.2 3.1	324 10.0 6.5	75 1.1 2.9	588 1.8 12.0	METER REMOVED 11-10-2006							
% Change from Average Peak			199%											

Formatting Nomenclature:

	Maximum Value Recorded
	Minimum Value Recorded
	Rainfall Occurrence

12.75 Maximum Weekly Value
12.72 Minimum Weekly Value

- Notes:
1. Precipitation provided by NEPCCo's American Sigma InSight rain gauge. Meter at DPW Sewer Department on Saw Mill River Road.
 2. Precipitation data after December 22nd provided by Rain Gauge operated by Westchester County at the North Yonkers Pump Station
 3. Theoretical Values calculated at 75% pipe depth, using Mannings Formula, and basing pipe slope on invert information from site specific surveys

IV. ELECTRIC & GAS SERVICE

A. Existing Service Connection and Distribution

Consolidated Edison Company, Inc. (Con Edison) provides electricity to the City of Yonkers, and would provide electric service to the Project.

Con Edison's distribution electrical system is generally installed within the Public Rights-of-Way in the City of Yonkers, in both underground and overhead configurations. Con Edison's distribution electrical system is present in all streets surrounding the Cacace Center, Government Center, River Park Center and Larkin Plaza. A high voltage distribution feeder crosses Larkin Plaza and the Saw Mill River Flume near Bashford Drive. The Palisades Point site is undeveloped, and it is anticipated that electrical service will be extended from the Con Edison electrical system installed to serve adjacent parcels which have recently been redeveloped (i.e., Scrimshaw House). All electrical services will be finalized in coordination with Con Edison's engineering analysis of the Project's electrical loads. It is anticipated that existing distribution systems will require improvements to serve the electrical needs of the Project.

Con Edison also provides natural gas service to the City of Yonkers, and would provide natural gas service to the Project.

Con Edison's natural gas distribution system is generally installed within the Public Rights-of-Way in the City of Yonkers. Gas distribution mains are located in the streets adjacent to Cacace Center, Government Center, River Park Center and Larkin Plaza. The existing distribution mains range from 4 inches to 12 inches diameter and are configured as high pressure, medium pressure and low pressure distribution systems. The availability of high pressure, medium pressure and low pressure distribution is a function of Con Edison's natural gas distribution network, and all classes of pressure may not be available at all locations. A final determination of pressure class availability will be accomplished by Con Edison as the Project design and loads are finalized. A 6-inch gas main currently exists in the vicinity of the Palisades Point site which is serving the Scrimshaw House. Con Edison will

determine the feasibility of extending the existing gas main to serve Palisades Point subject to their final engineering analysis of the Palisades Point natural gas loads. All natural gas services will be finalized in coordination with Con Edison's engineering analysis of the Project's natural gas loads. It is anticipated that the natural gas distribution system will require improvements to serve the natural gas needs of the Project.

See Figure No. 8 for the location of existing Electric and Gas utilities near the respective sites. The Applicant is currently seeking information from the City of Yonkers regarding existing electric and natural gas consumption levels in the Project area and will incorporate this information as it becomes available.²⁵

B. Proposed Project Demand

Preliminary energy demand loads for natural gas and electric for the proposed Project have been estimated and submitted to Con Edison. They are shown on Table No. 6 below.

Natural gas will be used to create space heating, domestic hot water and food preparation. Electric will be used for interior and exterior lighting, air-conditioning, motors and appliances. Con Edison will review the loads to determine the locations of service connections available and potential off-site utility improvements that may be required.

While Con Edison has indicated that they will provide gas and electric service to the proposed Project, there will be some offsite improvements required to their electric feeder and gas lines that service this area of the City. Con Edison has indicated that the extent of improvements is not yet known and will be determined as the project design is further developed. However, to obtain a preliminary indication of the types of improvements that may be necessary to accommodate the proposed Project, the Applicant has sent an information request letter to Con Edison, and will incorporate any information furnished by Con Edison into the DEIS as it becomes available.²⁶

²⁵ See letter from Divney Tung Schwalbe to City of Yonkers dated November 7, 2007 in appendix 3.I of the DEIS.

²⁶ See letter from Divney Tung Schwalbe to Con Edison, dated November 7, 2007 in Appendix 3.I of this DEIS.

Table No. 6
Preliminary Estimate of Utility Loads

Proposed Program Components		Electricity (KVA)	Gas (MBH)
<u>River Park Area</u>			
River Park Center:	Residential	18,500	95,000
	Retail, Office, Cinema, Restaurant, Ballpark	12,500	50,000
Palisade Office	Office, College	2,500	22,500
Government Center:	Retail, Restaurant	2,000	11,000
Cacace Center:	Firehouse, Hotel, Office	2,780	19,500
River Park Area Total		38,280	198,000
Palisades Point:	Residential, Retail, Office	10,000	54,000
Project Building Area		48,280	252,000
Project Parking Area		7,500	0
Project Totals (Build Area and Parking)		55,780	252,000

As part of the proposed Project, efficiency measures to reduce demand will be taken in the form of energy conservation features and appliances.

Energy efficiency will be pursued as part of the Project's environmental sustainability objectives through potential use of measures such as higher efficiency heat pump systems and advanced cooling tower controls for residences (if a water loop heat pump system is selected) as well as other measures that are appropriate to the specific buildings. These HVAC systems have a 10%-25% higher cooling efficiency than typical through-the-wall incremental units (PTACs) and can be 10% to 20% more efficient in heating. The design of the buildings and facilities will incorporate systems that will exceed the minimum requirements of the New York State Building Code.

The above table is a summary of a preliminary load estimate created by ACE Engineering²⁷.

Con Edison will provide electric and gas services to the respective sites. Electric and gas services serving the new development are proposed to be located underground. The proposed underground utilities will be grouped in common utility trenches where possible and approved by the respective utility companies.

C. Potential Impacts

Con Edison will provide electric and gas service to the respective parcels and will include off-site improvements, switch gear, transformers, trenching and associated conduit and rigs. Electric and gas services serving the new development are proposed to be located underground in a common utility trench.

The electric line crossing Larkin Plaza will need to be relocated. The proposed conduits could be routed around the eastern end of the park or hung from the pedestrian or vehicular bridge that may be provided in the park. The final location of the relocated electric line will be decided during detailed design of the site and will require coordination with Con Edison.

D. Mitigation Measures

The construction of the new, modern underground electric and gas system to the Project sites will result in greater reliability, with reduced pollution potential due to the use of gas as opposed to oil.

Con Edison is currently planning a 9.5 mile oil-filled high voltage distribution feeder from the Sprain Brook high voltage distribution station to a new substation in northern Manhattan, south of the City of Yonkers. The high voltage distribution feeder is routed in Nepperhan and Riverdale Avenue for a majority of the route. Construction was anticipated to commence in December of 2006 and take approximately two years to complete construction activities in the public rights-of-way. The Applicant is presently seeking

²⁷ See preliminary load letter from ACE Engineering prepared by Larry Colavito, P.E. at the end of this section.

information from Con Edison regarding the current status of the planned high voltage distribution feeder, and will incorporate this information as it becomes available.²⁸

The new electric and gas infrastructure by Con Edison will be constructed in accordance with the requirements of the City of Yonkers Department of Public Works, and traffic will be controlled during the installation of facilities as required to mitigate potential impacts to traffic flow, and to assure public safety. As previously noted, the proposed Project includes the installation of new underground electric and gas services to each building and may require new service lines in the streets.

“Environmental Sustainability Objectives”, energy efficiency will be pursued by potentially using higher efficiency heat pump systems and advanced cooling tower controls for residences (if a water loop heat pump is selected) as well as other measures that are appropriate to the specific buildings. These HVAC systems have 10%-25% higher cooling efficiency than the typical through-the-wall incremental units (PTACs) and can be 10%-20% more efficient in heating.

According to the project mechanical and electrical engineer, the design of the buildings and facilities will include a number of systems that will exceed the minimum requirements of the New York State Building Code. Some of these measures will include:

1. High efficiency central chiller and boiler plants exceeding ASHRAE 90.1 and the energy code performance requirements.
2. All premium efficiency motors exceeding ASHRAE 90.1 and the energy code.
3. Water source heat pumps (apartments) meeting NYSERDA performance which exceeds ASHRAE 90.1 and the energy code.
4. All variable air flow and variable water flow systems will have variable speed drives.
5. Central chiller plants will have condenser water optimization control and minimal chilled water reset control.

²⁸ See letter from Divney Tung Schwalbe to Con Edison, dated November 7, 2007 in appendix 3.I of the DEIS.

6. Central boiler plants will have low NO_x emissions and will have discharge temperature reset control.
7. Where appropriate outside air ventilation will have demand control based on CO₂.
8. Garage ventilation systems will have variable air volume control using variable speed drives based on CO setpoint control.
9. The building envelope energy performance characteristics (U, SC) for the walls, glass and roof will be better than the energy code.
10. Lighting power densities for all public spaces will be better than ASHRAE 90.1 and the energy code.
11. All plumbing fixtures will be of the low flow type conserving water and hot water energy.
12. Appliances for apartments will be of the high efficiency type without using CFC based refrigerants and will use HFC 134a.
13. Building siting will consider orientation to minimize seasonal energy use.

Existing facilities that are impacted by the proposed Project, requiring relocation, will be relocated to new locations in coordination with the Applicant, the City of Yonkers and the respective utility companies. During construction, area roads will experience varying degrees of disruption based on activities being undertaken. In order to accommodate the construction work, temporary and newly relocated electric and gas Con Edison facilities will be installed in a sequence that will ensure operational conditions are maintained at all times, particularly service connections to City Hall, the Fire Department headquarters, Cacace Justice Center and especially the health Center Building (in which the City's data and communications center is located.)

V. TELEPHONE COMMUNICATIONS & CABLE SERVICE

A. Existing Service Connection and Distribution

Verizon currently provides telephone and data services in the City of Yonkers, and has recently been approved to provide their Fiber Optic (FIOS) service in the City of Yonkers, which will also allow Verizon to provide cable television services in the City of Yonkers in addition to their current offerings of telephone and data services.

Cablevision/Optimum Cable currently provides telephone, data, and cable television services in the City of Yonkers.

It is anticipated that both Verizon and Cablevision will serve the Project improvements.

The respective Verizon distribution system and Cablevision distribution system are generally located within the Public Rights-of-Way in the City of Yonkers. The respective systems are distributed in underground and overhead configurations. It is anticipated that both Verizon and Cablevision will improve their respective distribution systems to serve the telephone services, data services, and cable television services required for the Project.

In the vicinity of the downtown project sites, existing telephone and communication systems are located within the Elm Street, Palisade Avenue, School Street, Nepperhan Avenue and the New Main Street public Rights-of Way. In addition to telephone lines owned by Verizon, the City of Yonkers also maintains communication lines between City Hall, 87 Nepperhan Avenue, and the Government Center Garage in the vicinity of the project site for operational and emergency communications. All offices in City Hall and the Health Center Building are currently able to communicate in a “campus environment” because they are connected by direct fiber. Two main conduits exist containing fiber cable, which run underground between the buildings. These conduits are in two different paths so as to allow for protection against potential damage or service disruption. With respect to traffic management, the City’s Traffic Engineering Department is able to manage traffic flows through the intelligent signal system they have installed in various parts of the City.

Existing Verizon and Cablevision distribution systems may be impacted by the proposed Project development and will require relocation when conflicts cannot be avoided.. The Project Sponsor and the City of Yonkers will work with the respective utility companies impacted by the proposed development to coordinate the relocation of facilities if so required.

See Figure No. 8 for the location of existing utilities near the respective sites.

B. Potential Impacts

The proposed Project includes the installation of new underground telephone and cable services to each building and may require new service lines in the streets.

In order to serve the telephone services, data services and cable television services of the Project, it is anticipated that Verizon and Cablevision will undertake improvements to their existing distribution systems. The system improvements will be located in underground distribution systems and may include installation of new duct and manhole systems in the Public Rights-of-Way to facilitate service to the Project.

Existing facilities that are impacted by the proposed Project, requiring relocation, will be relocated to new locations in coordination with the Applicant, the City of Yonkers and the respective utility companies. During construction, area roads will experience varying degrees of disruption based on activities being undertaken. In order to accommodate the construction work, temporary and newly relocated telephone and City of Yonkers fiber optic communication facilities will be installed in a sequence that will ensure operational conditions are maintained at all times, particularly service and communication connections to City Hall, the Fire Department headquarters, Cacace Justice Center and especially the health Center Building (in which the City's data and communications center is located.)

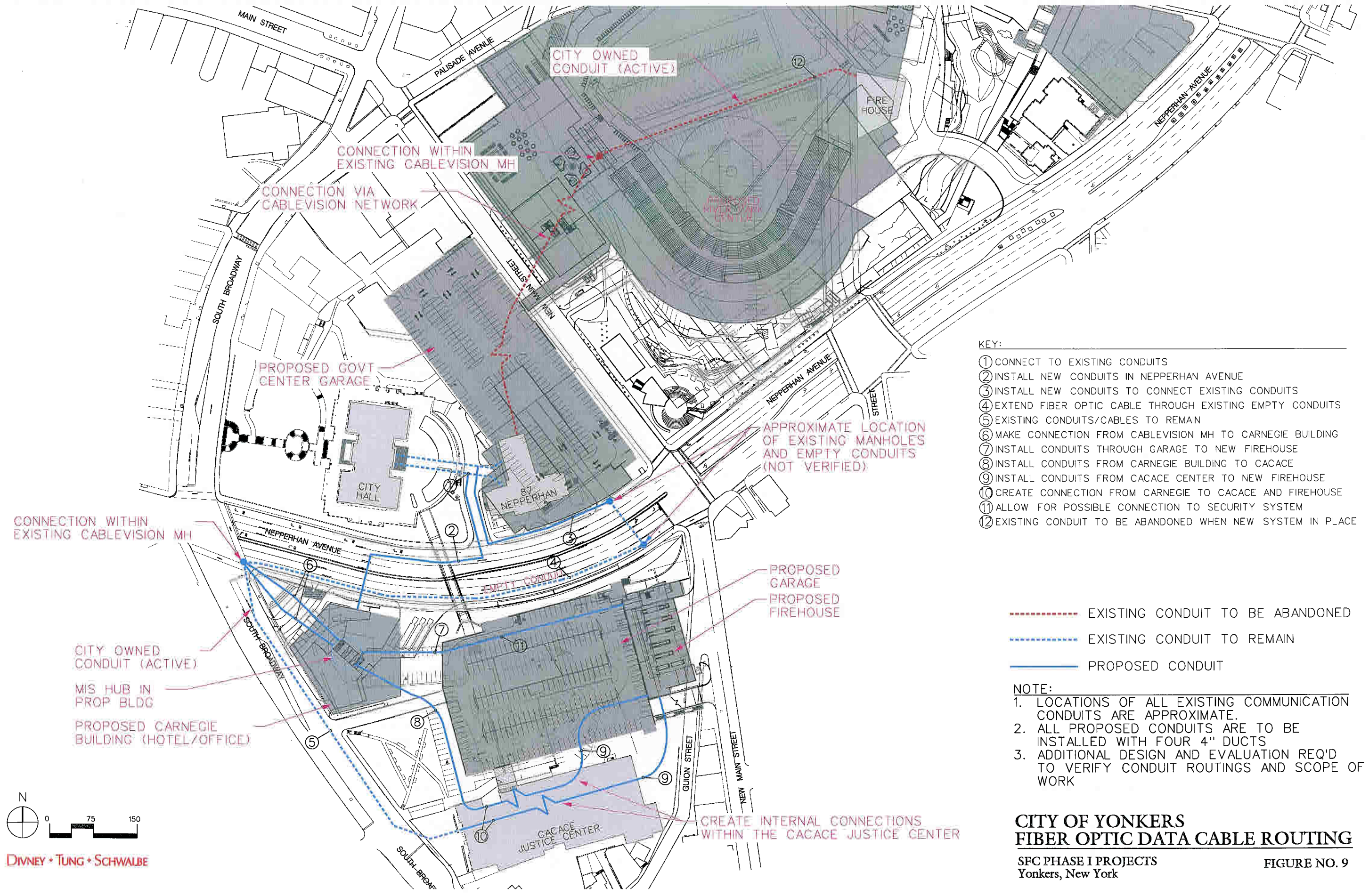
C. Mitigation Measures

The telephone, electric and cable services to each building will be coordinated with the respective utility company and coordinated with other infrastructure work that will be undertaken so as to minimize the construction impacts to the surrounding street systems and businesses. This may require the installation of temporary services.

The existing Fire Department Headquarters and City operations at the Health Center Building will be relocated prior to the move of the MIS department from the Health Center to the Carnegie Building and the Fire Department Headquarters to the new firehouse so as to ensure that operational and emergency service communications are maintained at all times. In order to minimize disruption of these services, the exact locations of the lines is being determined and a schematic relocation plan has been prepared for City review and approval prior to any construction.¹ See Figure No. 9, "City of Yonkers Fiber Optic Cable Routings", for a copy of the plan that has been forwarded to the City's MIS Department for their approval. The relocation plan and the timing of this work will be finalized as part of the detailed construction phasing plan to be provided to the City prior to the start of work in these areas. A similar plan will be developed with Verizon to minimize disruption to the public communications systems.

The Palisades Point project located on the waterfront is currently a vacant site except for parking and other non-communications utilities. As such, no impacts to the MIS system are anticipated at this waterfront site.

¹ Relocation Plan developed with the help of City officials in the City Engineering and MIS Departments during a meeting held with the Applicant's Engineer on September 6, 2007.



- KEY:
- ① CONNECT TO EXISTING CONDUITS
 - ② INSTALL NEW CONDUITS IN NEPPERHAN AVENUE
 - ③ INSTALL NEW CONDUITS TO CONNECT EXISTING CONDUITS
 - ④ EXTEND FIBER OPTIC CABLE THROUGH EXISTING EMPTY CONDUITS
 - ⑤ EXISTING CONDUITS/CABLES TO REMAIN
 - ⑥ MAKE CONNECTION FROM CABLEVISION MH TO CARNEGIE BUILDING
 - ⑦ INSTALL CONDUITS THROUGH GARAGE TO NEW FIREHOUSE
 - ⑧ INSTALL CONDUITS FROM CARNEGIE BUILDING TO CACACE
 - ⑨ INSTALL CONDUITS FROM CACACE CENTER TO NEW FIREHOUSE
 - ⑩ CREATE CONNECTION FROM CARNEGIE TO CACACE AND FIREHOUSE
 - ⑪ ALLOW FOR POSSIBLE CONNECTION TO SECURITY SYSTEM
 - ⑫ EXISTING CONDUIT TO BE ABANDONED WHEN NEW SYSTEM IN PLACE

- EXISTING CONDUIT TO BE ABANDONED
- EXISTING CONDUIT TO REMAIN
- PROPOSED CONDUIT

- NOTE:
- 1. LOCATIONS OF ALL EXISTING COMMUNICATION CONDUITS ARE APPROXIMATE.
 - 2. ALL PROPOSED CONDUITS ARE TO BE INSTALLED WITH FOUR 4" DUCTS
 - 3. ADDITIONAL DESIGN AND EVALUATION REQ'D TO VERIFY CONDUIT ROUTINGS AND SCOPE OF WORK

PHILIP A. AMICONE
MAYOR

JOHN A. LISZEWSKI
COMMISSIONER



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OFFICE OF THE COMMISSIONER OF PUBLIC WORKS
CITY OF YONKERS

January 11, 2008

Mr. Gerhard M. Schwalbe, P.E.
Divney Tung Schwalbe, LLP
One North Broadway
White Plains, New York 10601

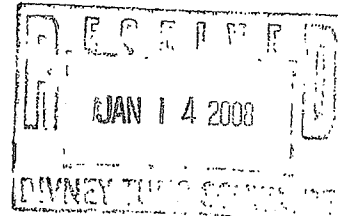
Re: SFC pDEIS Completeness Review - Utilities

Dear Mr. Schwalbe:

In response to your letter of November 8, 2007 to our department regarding the utility-related pDEIS Completeness comments by AKRF, the Yonkers Water Bureau reviewed your questions and offer the following responses for your use in the preparation of the DEIS.

AKRF Comment 1: "Page III.H-1, Section a – The description of the water supply for the City of Yonkers should be further clarified in the DEIS. In the pDEIS, it appears that all water is obtained from the New York City Reservoir System. However, in a subsequent paragraph, connection to Westchester County Water District #1 is mentioned, although no description of capacity or the portion of the water supply this district contributes is included. What is the source of water for the Westchester County District?"

Water Bureau Response to Comment 1: The Westchester County Water District # 1 is the owner of the pipeline that runs from Kensico Reservoir south to the termination point located on McLean Avenue at southern boundary of City of Yonkers.



The source of the water for this pipeline is Kensico Reservoir and Shaft #22 which is also a part of New York City Reservoir System.

Majority of water supply to City's downtown area is from New York City Hillview Reservoir. This supply is augmented by the New York City Catskill Aqueduct.

AKRF Comment 2: "Page III.H-1, Section a – Water consumption is described for the City of Yonkers, but no description of the capacity of the water supply network or its current condition is included, as required by the scope. The DEIS should discuss water pressure issues related to the summer months, as required by the scope."

AKRF Comment No. 5: "The DEIS should discuss water pressure issues related to the summer months, as required by the scope."

Water Bureau Response to Comment No. 2 and Comment No. 5: Although the Applicant proposes a program to upgrade water mains in and around the project site that was identified from the initial water modeling performed by George Lackowitz but the hydraulic analysis was performed only for fire flow conditions, did not include water demand for Cacase/Government Center, Larkin Plaza and other planned developments identified by the Yonkers Department of Planning.

To assess if the current Yonkers Water Distribution System have the capacity to serve the SFC projects, as well as the other planned development projects, our department is agreeable to you including text in the DEIS acknowledging that the Applicant will evaluate and perform an comprehensive hydraulic analysis of the existing water distribution system affected by proposed developments and its ability to handle the significant increase in water demand and fire flow for proposed developments, both year round and summer months during peak hour water demand.

Based on the results of the analysis, the Applicant must revise and incorporate all upgrades necessary to satisfy the additional water demand.

Since the hydraulic analysis will require a number of months to complete, our department finds it acceptable to include text in the DEIS (in lieu of the full hydraulic water study) indicating that the comprehensive evaluation of the water system and hydraulic study be performed as a next step. The evaluation, analytical results and all necessary improvements to the existing Water Distribution System must be included within the SFC, FEIS.

The text you suggested in your November 8, 2007 letter for inclusion in the DEIS has been revised.

The text below is acceptable to Yonkers Water Bureau for purposes of DEIS completeness, with understanding that a comprehensive hydraulic study will be provided and all necessary upgrades to Yonkers Water Distribution System be incorporated in the FEIS for the SFC projects.

Text for DEIS Section III.H (Utilities)

"The significant increase in water demand for the SFC Project sites as well as other planned development projects in the area will require the City of Yonkers to supply additional amounts of water to Yonkers downtown area through both the low and high pressure service zones from New York City Aqueduct System.

The initial and limited water modeling determined limitations in the hydraulic capacity of the existing water mains located in New Main Street, Palisade Avenue, Elm Street, Main Street, Nepperhan Avenue and along the waterfront. The City has indicated that improvements to those water mains will be required to partially improve water flow capacity to the Project sites but may not satisfy the significant increase of water demand for proposed SFC and other planned developments in the downtown area. Proposed improvements in pDEIS are listed in Section 3 under "Mitigation Measures".

In order to quantify the effect that new developments will have on both Yonkers' High and Low Pressure Service Zones, the Yonkers Water Bureau has indicated that as part of the SFC FEIS, the Applicant will be required to:

- Perform all necessary hydrant flow tests in the vicinity of proposed developments;
- Evaluate and perform a comprehensive hydraulic analysis of the existing water distribution system affected by proposed developments in downtown area;
- Determine the effect of proposed developments on our water system under average day water demand, maximum day water demand and maximum day plus fire flow;
- Assess the ability of the system to provide adequate water supply and fire protection to SFC and other planned development projects which will significantly increase water demand upon the existing water system.

Page 4 of 4

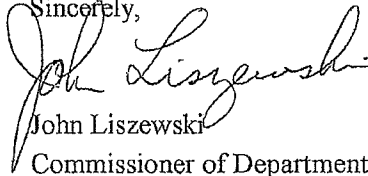
Based on the assessment of the system and results of the analysis, all necessary water system's improvements will be identified.

The Applicant shall revise the current program of water mains' upgrades as indicated in pDEIS and **incorporate all improvements** to existing water system necessary to satisfy the additional domestic water and fire flow demands for proposed developments in the downtown area".

Lastly, pursuant to our meeting of September 11, 2007, we have reviewed the information provided by your office regarding the detailed water demand estimate of the SFC projects using NYSDEC design flow standards rather than AWWA criteria. Based on our review of the materials provided, we find the use of the NYSDEC standards appropriate and acceptable for use in the DEIS.

Please do not hesitate to contact our office should you have any questions.

Sincerely,

A handwritten signature in cursive script, appearing to read "John Liszewski".

John Liszewski

Commissioner of Department of Public Works

CC: Mayor Phil Amicone

William Regan, Deputy Mayor

Lou Kirven, Commissioner of Planning & Development

Lee Ellman, Director of Planning

John Speight, Superintendent of Water

Albina Glaz, Water Engineer