

APPENDIX

H

PARKING SURVEY RESULTS

5401 Western Avenue, N.W.
Washington, D.C.

Apartment Parking Survey

	<u>Developer/ Manager</u>	<u>Number of Apartments</u>	<u>Number of Parking Spaces</u>	<u>Parking Ratio</u>	<u>Comments</u>
Existing Projects					
Upper Northwest D.C. (recently completed)					
Henry Adams House	LCOR	211	216	1.02	Metrorail Service - Five Blocks
Park Connecticut	Archstone/Smith	142	127	0.89	Metrorail Service - Three Blocks
Bethesda					
The Chasa	Avalon	377	281	0.75	Metrorail/MetroBus Station - One Block
The Metropolitan	Buzzuto	308	160	0.52	Metrorail/MetroBus Station - One Block
The Crescent Plaza	Landow	149	170	1.14	Metrorail/MetroBus Station - Five Blocks Includes Tandem Parking Spaces
Average Northwest D.C.		353	343	0.97	
Average Bethesda		834	611	0.73	
Overall Average		1,187	954	0.80	
Proposed/Under Development Projects					
Northwest D.C. (excludes mixed-use projects)					
14th & N Streets	LCOR	171	153	0.89	Metrorail Service - Four Blocks
16th & Mass.	Post Properties	268	198	0.74	Metrorail Service - Four Blocks
1210 Mass. Ave.	JBG	144	98	0.68	Metrorail Service - Four Blocks
915 E Street	JBG	158	110	0.68	Metrorail Service - Three Blocks
717 6th Street	JBG	52	13	0.25	Metrorail Service - Three Blocks
1300 N Street	JBG	170	101	0.59	Metrorail Service - Five Blocks
450 Mass Ave	Paradigm	452	429	0.93	Metrorail Service - Four Blocks
Bethesda					
The Whitney	Buzzuto	253	280	1.11	Metrorail/MetroBus Station - Three Blocks Includes 93 tandem spaces
Average Northwest D.C.		1,433	1,102	0.77	
Average Bethesda		253	280	1.11	
Overall Average		1,686	1,382	0.82	

5401 Western Avenue, N.W.
Washington, D.C.

Apartment Parking Survey

Combined Existing/Proposed/Under Development				
Average Northwest D.C.		1,786	1,445	0.81
Average Bethesda		1,087	891	0.82
Overall Average		2,873	2,336	0.81

Notes:

1. Representative sample of projects with close proximity to Metrorail service.
2. Excluded due to no proximity to Metrorail service

Allen Towers	Archstone/Smith	229	270	1.18	No Metrorail Service
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SOURCE: STONEBRIDGE ASSOCIATES, INC.

ParkingAnalysis.xls
03/21/2002

APPENDIX

I

**CAPACITY ANALYSIS WORKSHEETS
YEAR 2006 TOTAL TRAFFIC SITUATION
(REFLECTING ONE-WAY SOUTHBOUND
RESTRICTION ON 43RD ST)**

HCS: Signalized Intersections Release 3.2

Inter: Jenifer St @ Wisconsin Ave
 Analyst: ORGA/KM
 Date: 1/24/02 AM Peak Hour
 E/W St: Jenifer Street, NW

City/St: Washington, D.C.
 Proj #: Washington Clinic - NMS
 Period: 8:00 AM - 9:00 AM
 N/S St: Wisconsin Avenue, NW

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	T	T	R	L	T	R	L	T	R	T	T	R
No. Lanes	0	1	0	0	1	0	0	3	0	0	3	0
LG Config	LTR			LTR			LTR			LTR		
Volume	21	79	85	42	24	43	03	1035	26	23	1245	20
Lane Width	11.0			11.0			11.0			11.0		
RTOR Vol	20			5			13			8		

Duration 0.25 Area Type: All other areas
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	0
EB Left	P							
Thru	P							
Right	P							
Peds								
WB Left		P						
Thru		P						
Right		P						
Peds								
NB Right								
SB Right								
Green	35.0				10.0	50.0		
Yellow	4.0				4.0	4.0		
All Red	1.0				1.0	1.0		
Cycle Length:	110.0			secs				

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratio		Lane Group Delay LOS		Approach Delay LOS	
			v/c	g/c				
Eastbound								
LTR	438	1377	0.42	0.318	32.4	C	32.4	C
Westbound								
LTR	392	1232	0.30	0.318	30.2	C	30.2	C
Northbound								
LTR	1579	3473	0.78	0.455	29.2	C	29.2	C
Southbound								
LTR	2680	4536	0.53	0.591	14.2	B	14.2	B
Intersection Delay = 22.2 (sec/veh)					Intersection LOS = C			

HCS: Signalized Intersections Release 3.2

Inter: Jenifer St @ Wisconsin Ave City/St: Washington, D.C.
 Analyst: ORGA/KM Proj #: Washington Clinic - NMS
 Date: 1/24/02 PM Peak Hour Period: 5:00 PM - 6:00 PM
 E/W St: Jenifer Street, NW N/S St: Wisconsin Avenue, NW

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	3	0	0	3	0
LG Config	LTR			LTR			LTR			LTR		
Volume	67	54	110	51	66	131	98	1121	41	8	906	30
Lane Width	11.0			11.0			11.0			11.0		
RTOR Vol	30			12			20			9		

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	P				NB Left	P	P	
Thru	P				Thru	P	P	
Right	P				Right	P	P	
Peds					Peds			
WB Left		P			SB Left		P	
Thru		P			Thru		P	
Right		P			Right		P	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	35.0				10.0		50.0	
Yellow	4.0				4.0		4.0	
All Red	1.0				1.0		1.0	
Cycle Length:	110.0 secs							

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

LTR 377 1184 0.59 0.318 38.2 D 38.2 D

Westbound

LTR 424 1334 0.63 0.318 38.7 D 38.7 D

Northbound

LTR 2582 4369 0.52 0.591 14.0 B 14.0 B

Southbound

LTR 2095 4608 0.48 0.455 21.7 C 21.7 C

Intersection Delay = 21.0 (sec/veh) Intersection LOS = C

HCS: Signalized Intersections Release 3.2

Inter: Wisconsin Ave @ Western Ave City/St: Washington, D.C.
 Analyst: ORGA/KM Proj #: Washinton Clinic Site - PUD
 Date: 3/1/02 AM Peak Hour Period: 8:00 AM - 9:00 AM
 E/W St: Western Avenue, NW N/S St: Wisconsin Avenue, NW

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	0	2	1	0	3	0	0	3	0
LGConfig	L	TR		T	R		TR			LTR		
Volume	108	679	50	1056	468		993	139		342	1334	151
lane Width	11.0	11.0		11.0	11.0		11.0			11.0		
RTOR Vol			0			0			24			25

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	P	P						
Thru	P	P						
Right	P	P						
Peds		X						
WB Left								
Thru		P						
Right		P						
Peds		X						
NB Right								
SB Right								
Green	6.0	35.0			32.0	19.0		
Yellow	4.0	4.0			4.0	4.0		
All Red	0.0	1.0			0.0	1.0		
Cycle Length:	110.0 secs							

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	160		0.73	0.409	51.8	D		
TR	1387	3391	0.57	0.409	26.8	C	30.0	C
Westbound								
T	1078	3388	1.00	0.318	65.8	E	53.3	D
R	744	1516	0.65	0.491	25.1	C		
Northbound								
TR	1405	4829	0.83	0.291	42.5	D	42.5	D
Southbound								
LTR	2408	4816	0.81	0.500	26.2	C	26.2	C

Intersection Delay = 37.8 (sec/veh) Intersection LOS = D

HCS: Signalized Intersections Release 3.2

Inter: Wisconsin Ave @ Western Ave City/St: Washington, D.C.
 Analyst: ORGA/KM Proj #: Washinton Clinic Site - PUD
 Date: 3/1/02 PM Peak Hour Period: 5:00 PM - 6:00 PM
 E/W St: Westren Avenue, NW N/S St: Wisconsin Avenue, NW

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	2	0	0	2	1	0	3	0	0	3	0
LGConfig	L	TR		T	R		TR			LTR		
Volume	198	1003	133	809	352		1110	232		381	909	227
Lane Width	11.0	11.0		11.0	11.0		11.0				11.0	
RTOR Vol			0			0			34			38

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	P	P			NB Left			
Thru	P	P			Thru	P		
Right	P	P			Right	P		
Peds		X			Peds	X		
WB Left					SB Left		P	
Thru		P			Thru	P	P	
Right		P			Right	P	P	
Peds		X			Peds	X		
NB Right					EB Right			
SB Right					WB Right		P	
Green		12.0	33.0			37.0	10.0	
Yellow		4.0	4.0			4.0	4.0	
All Red		0.0	1.0			0.0	1.0	
Cycle Length: 110.0 secs								

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	257		0.82	0.445	49.2	D		
TR	1501	3369	0.80	0.445	31.0	C	33.7	C
Westbound								
T	1037	3455	0.85	0.300	45.1	D	41.2	D
R	604	1546	0.64	0.391	32.3	C		
Northbound								
TR	1610	4785	0.88	0.336	41.8	D	41.8	D
Southbound								
LTR	2249	4850	0.69	0.464	24.9	C	24.9	C

Intersection Delay = 35.0+ (sec/veh) Intersection LOS = D

HCS: Signalized Intersections Release 3.2

Inter: Western Ave @ Military Road City/St: Washington, D.C.
 Analyst: ORGA/KM Proj #: Washington Clinic Site - PUD
 Date: 3/1/02 AM Peak Hour Period: 8:00 AM - 9:00 AM
 E/W St: Military Road, NW N/S St: Western Avenue, NW

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	0	0	2	0	1	3	0
LG Config				L	LR			TR		L	T	
Volume				727		55		503	609	106	903	
Lane Width				11.0	11.0			11.0		11.0	11.0	
RTOR Vol						12			150			

Duration 0.25 Area Type: All other areas
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left								
Thru						P		
Right						P		
Peds							X	
WB Left		P						
Thru						P		
Right		P						
Peds		X						
NB Right		P						
SB Right								
Green		32.0				43.0	20.0	
Yellow		4.0				4.0	4.0	
All Red		1.0				1.0	1.0	
Cycle Length:	110.0 secs							

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	504	1731	0.78	0.291	46.8	D		
LR	499	1714	0.88	0.291	56.1	E	51.7	D

Northbound

TR	1267	3240	0.83	0.391	36.4	D	36.4	D
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Southbound

L	317	1745	0.35	0.182	42.4	D		
T	3079	4981	0.31	0.618	10.2	B	13.6	B

Intersection Delay = 32.4 (sec/veh) Intersection LOS = C

HCS: Signalized Intersections Release 3.2

Inter: Western Ave @ Military Road City/St: Washington, D.C.
 Analyst: ORGA/KM Proj #: Washington Clinic Site - PUD
 Date: 3/1/02 PM Peak Hour Period: 5:00 PM - 6:00 PM
 E/W St: Military Road, NW N/S St: Western Avenue, NW

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	0	0	2	0	1	3	0
LGConfig				L	LR			TR		L	T	
Volume				580		62	901	679		109	719	
Lane Width				11.0	11.0		11.0			11.0	11.0	
RTOR Vol						12		288				

Duration 0.25 Area Type: All other areas
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
SB Left					NB Left			
Thru					Thru	P		
Right					Right	P		
Peds					Peds		X	
WB Left		P			SB Left		P	
Thru					Thru	P	P	
Right		P			Right			
Peds		X			Peds			
NB Right		P			EB Right			
SB Right					WB Right			
Green		32.0				48.0	15.0	
Yellow		4.0				4.0	4.0	
All Red		1.0				1.0	1.0	
Cycle Length:		110.0		secs				

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	508	1745	0.66	0.291	40.7	D		
LR	500	1720	0.78	0.291	47.2	D	44.2	D

Northbound

TR	1454	3331	0.94	0.436	42.0	D	42.0	D
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Southbound

L	238	1745	0.49	0.136	51.1	D		
T	3100	5014	0.25	0.618	9.7	A	15.1	B

Intersection Delay = 34.5 (sec/veh) Intersection LOS = C

HCS: Unsignalized Intersections Release 3.2

TWO-WAY STOP CONTROL SUMMARY

Intersection: 43rd Street @ Military Road
 Analyst: ORGA/KM
 Project No.: Washington Clinic NMS
 Date: 1/24/02 AM Peak (Background)
 East/West Street: Military Road, NW
 North/South Street: 43rd Street, NW
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound			Westbound		
		1 L	2 T	3 R	4 L	5 T	6 R
Volume			663	38	41	778	
Hourly Flow Rate, HFR			683	39	42	810	
Percent Heavy Vehicles			--	--	0	--	--
Median Type	Undivided						
RT Channelized?							
Lanes		1	0		0	1	
Configuration			TR		LT		
Upstream Signal?		No			No		

Minor Street:	Approach Movement	Northbound			Southbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		2		22			
Hourly Flow Rate, HFR		2		23			
Percent Heavy Vehicles		0		0			
Percent Grade (%)			0			0	
Median Storage	1						
Flared Approach:	Exists? Storage	No					
RT Channelized?							
Lanes		0		0			
Configuration		LR					

Delay, Queue Length, and Level of Service

Approach Movement Lane Config	EB	WB	Northbound			Southbound		
	1	4 LT	7	8 LR	9	10	11	12
v (vph)		42		25				
C(m) (vph)		889		357				
v/c		0.05		0.07				
95% queue length		0.00		0.11				
Control Delay		9.3		15.8				
LOS		A		C				
Approach Delay				15.8				
Approach LOS				C				

HCS: Unsignalized Intersections Release 3.2

TWO-WAY STOP CONTROL SUMMARY

Intersection: 43rd Street @ Military Road
 Analyst: ORGA/KM
 Project No.: Washington Clinic NMS
 Date: 1/24/02 PM Peak (Background)
 East/West Street: Military Road, NW
 North/South Street: 43rd Street, NW
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound			Westbound		
		1 L	2 T	3 R	4 L	5 T	6 R
Volume			670	60	28	615	
Hourly Flow Rate, HFR			705	63	29	647	
Percent Heavy Vehicles			--	--	3	--	--
Median Type	Undivided						
RT Channelized?							
Lanes		1	0		0	1	
Configuration			TR			LT	
Upstream Signal?		No				No	

Minor Street:	Approach Movement	Northbound			Southbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume		18		63			
Hourly Flow Rate, HFR		18		66			
Percent Heavy Vehicles		0		0			
Percent Grade (%)			0			0	
Median Storage	1						
Flared Approach: Exists?			No				
Storage							
RT Channelized?							
Lanes		0		0			
Configuration			LR				

Delay, Queue Length, and Level of Service

Approach Movement Lane Config	EB	WB	Northbound			Southbound		
	1	4 LT	7	8 LR	9	10	11	12
v (vph)		29		84				
C(m) (vph)		841		297				
v/c		0.03		0.28				
95% queue length		0.00		1.17				
Control Delay		9.4		21.8				
LOS		A		C				
Approach Delay				21.8				
Approach LOS				C				

APPENDIX

I

**CAPACITY ANALYSIS WORKSHEETS
YEAR 2006 TOTAL TRAFFIC SITUATION
(REFLECTING ONE-WAY SOUTHBOUND
RESTRICTION ON 43RD ST)**

HCS: Unsignalized Intersections Release 3.2

TWO-WAY STOP CONTROL SUMMARY

Intersection: 43rd Street @ Military Road
 Analyst: ORGA/KM
 Project No.: Washington Clinic NMS
 Date: 1/24/02 AM Peak (Background)
 East/West Street: Military Road, NW
 North/South Street: 43rd Street, NW
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement:	Eastbound			Westbound		
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		585	38		41	778	
Hourly Flow Rate, HFR		706	39		42	810	
Percent Heavy Vehicles		--	--		0	--	--
Median Type	Undivided						
RT Channelized?							
Lanes		1	0		0	1	
Configuration			TR			LT	
Upstream Signal?		No				No	

Minor Street:	Approach Movement	Northbound			Southbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume							
Hourly Flow Rate, HFR							
Percent Heavy Vehicles							
Percent Grade (%)			0			0	
Median Storage	1						
Flared Approach:	Exists? Storage						
RT Channelized?							
Lanes							
Configuration							

Delay, Queue Length, and Level of Service

Approach Movement	EB 1	WB 4	Northbound			Southbound		
			7	8	9	10	11	12
Lane Config		LT						
v (vph)		42						
C(m) (vph)		872						
v/c		0.05						
95% queue length		0.00						
Control Delay		9.3						
LOS		A						
Approach Delay								
Approach LOS								

HCS: Unsignalized Intersections Release 3.2

TWO-WAY STOP CONTROL SUMMARY

Intersection: 43rd Street @ Military Road
 Analyst: ORGA/KM
 Project No.: Washington Clinic NMS
 Date: 1/24/02 PM Peak (Background)
 East/West Street: Military Road, NW
 North/South Street: 43rd Street, NW
 Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street:	Approach Movement	Eastbound			Westbound		
		1 L	2 T	3 R	4 L	5 T	6 R
Volume		733	60		28	615	
Hourly Flow Rate, HFR		771	63		29	647	
Percent Heavy Vehicles		--	--		3	--	--
Median Type	Undivided						
RT Channelized?							
Lanes		1	0		0	1	
Configuration			TR			LT	
Upstream Signal?		No			No		

Minor Street:	Approach Movement	Northbound			Southbound		
		7 L	8 T	9 R	10 L	11 T	12 R
Volume							
Hourly Flow Rate, HFR							
Percent Heavy Vehicles							
Percent Grade (%)			0			0	
Median Storage	1						
Flared Approach: Storage	Exists?						
RT Channelized?							
Lanes							
Configuration							

Delay, Queue Length, and Level of Service

Approach Movement Lane Config	EB	WB	Northbound			Southbound		
	1	4	7	8	9	10	11	12
v (vph)		29						
C(m) (vph)		795						
v/c		0.04						
95% queue length		0.00						
Control Delay		9.7						
LOS		A						
Approach Delay								
Approach LOS								

HCS: Signalized Intersections Release 3.2

Inter: Jenifer St @ Wisconsin Ave City/St: Washington, D.C.
 Analyst: ORGA/KM Proj #: Washington Clinic - NMS
 Date: 1/24/02 AM Peak Hour Period: 8:00 AM - 9:00 AM
 E/W St: Jenifer Street, NW N/S St: Wisconsin Avenue, NW

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	3	0	0	3	0
LGConfig	LTR			LTR			LTR			LTR		
Volume	21	79	85	42	24	43	83	1035	26	23	1245	20
Lane Width	11.0			11.0			11.0			11.0		
RTOR Vol	20			5			13			8		

Duration 0.25 Area Type: All other areas
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		P			NB Left		P	
Thru		P			Thru		P	
Right		P			Right		P	
Peds					Peds			
WB Left		P			SB Left	P	P	
Thru		P			Thru	P	P	
Right		P			Right	P	P	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	35.0				10.0	50.0		
Yellow	4.0				4.0	4.0		
All Red	1.0				1.0	1.0		
Cycle Length:	110.0			secs				

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	438	1377	0.42	0.318	32.4	C	32.4	C
Westbound								
LTR	392	1232	0.30	0.318	30.2	C	30.2	C
Northbound								
LTR	1579	3473	0.78	0.455	29.2	C	29.2	C
Southbound								
LTR	2680	4536	0.53	0.591	14.2	B	14.2	B

Intersection Delay = 22.2 (sec/veh) Intersection LOS = C

HCS: Signalized Intersections Release 3.2

Inter: Jenifer St @ Wisconsin Ave City/St: Washington, D.C.
 Analyst: ORGA/KM Proj #: Washington Clinic - NMS
 Date: 1/24/02 PM Peak Hour Period: 5:00 PM - 6:00 PM
 E/W St: Jenifer Street, NW N/S St: Wisconsin Avenue, NW

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	3	0	0	3	0
LGConfig	LTR			LTR			LTR			LTR		
Volume	67	54	110	51	66	131	98	1121	41	8	906	30
Lane Width	11.0			11.0			11.0			11.0		
RTOR Vol	30			12			20			9		

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		P			NB Left	P	P	
Thru		P			Thru	P	P	
Right		P			Right	P	P	
Peds					Peds			
WB Left		P			SB Left		P	
Thru		P			Thru		P	
Right		P			Right		P	
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	35.0				10.0	50.0		
Yellow	4.0				4.0	4.0		
All Red	1.0				1.0	1.0		
Cycle Length:	110.0 secs							

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/c	Delay	LOS	Delay	LOS

Eastbound

L/TR 377 1184 0.59 0.318 38.2 D 38.2 D

Westbound

L/TR 424 1334 0.63 0.318 38.7 D 38.7 D

Northbound

L/TR 2582 4369 0.52 0.591 14.0 B 14.0 B

Southbound

L/TR 2095 4608 0.48 0.455 21.7 C 21.7 C

Intersection Delay = 21.0 (sec/veh) Intersection LOS = C

HCS: Signalized Intersections Release 3.2

Inter: Wisconsin Ave @ Western Ave City/St: Washington, D.C.
 Analyst: ORGA/KM Proj #: Washinton Clinic Site - PUD
 Date: 3/1/02 AM Peak Hour Period: 8:00 AM - 9:00 AM
 E/W St: Western Avenue, NW N/S St: Wisconsin Avenue, NW

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound			
	L	T	R	L	T	R	L	T	R	L	T	R	
No. Lanes	1	2	0	0	2	1	0	3	0	0	3	0	
LGConfig	L	TR			T	R		TR			LTR		
Volume	108	679	50		1056	468		993	139		342	1334	151
Lane Width	11.0	11.0			11.0	11.0		11.0			11.0		
RTOR Vol			0			0			24				25

Duration 0.25 Area Type: All other areas
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		P			NB Left			
Thru		P			Thru	P		
Right		P			Right	P		
Peds			X		Peds	X		
WB Left					SB Left		P	
Thru			P		Thru	P	P	
Right			P		Right	P	P	
Peds			X		Peds	X		
NB Right					EB Right			
SB Right					WB Right		P	
Green		6.0	35.0			32.0	19.0	
Yellow		4.0	4.0			4.0	4.0	
All Red		0.0	1.0			0.0	1.0	
Cycle Length:	110.0		secs					

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/c	Delay	LOS	Delay	LOS
Eastbound								
L	160		0.73	0.409	51.8	D		
TR	1387	3391	0.57	0.409	26.8	C	30.0	C
Westbound								
T	1078	3388	1.00	0.318	65.8	E	53.3	D
R	744	1516	0.65	0.491	25.1	C		
Northbound								
TR	1405	4829	0.83	0.291	42.5	D	42.5	D
Southbound								
L/TR	2408	4816	0.81	0.500	26.2	C	26.2	C

Intersection Delay = 37.8 (sec/veh) Intersection LOS = D

HCS: Signalized Intersections Release 3.2

Inter: Wisconsin Ave @ Western Ave City/St: Washington, D.C.
 Analyst: ORGA/KM Proj #: Washinton Clinic Site - PUD
 Date: 3/1/02 PM Peak Hour Period: 5:00 PM - 6:00 PM
 E/W St: Westren Avenue, NW N/S St: Wisconsin Avenue, NW

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound			
	L	T	R	L	T	R	L	T	R	L	T	R	
No. Lanes	1	2	0	0	2	1	0	3	0	0	3	0	
LGConfig	L TR			T R			TR			LTR			
Volume	198	1003	133		809	352		1110	232		381	909	227
Lane Width	11.0	11.0			11.0	11.0		11.0				11.0	
RTOR Vol			0			0			34				38

Duration 0.25 Area Type: All other areas
 Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left		P			NB Left			
Thru		P			Thru	P		
Right		P			Right	P		
Peds			X		Peds	X		
WB Left					SB Left		P	
Thru			P		Thru	P	P	
Right			P		Right	P	P	
Peds			X		Peds	X		
NB Right					EB Right			
SB Right					WB Right		P	
Green		12.0	33.0			37.0	10.0	
Yellow		4.0	4.0			4.0	4.0	
All Red		0.0	1.0			0.0	1.0	
Cycle Length:	110.0 secs							

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	257		0.82	0.445	49.2	D		
TR	1501	3369	0.80	0.445	31.0	C	33.7	C
Westbound								
T	1037	3455	0.85	0.300	45.1	D	41.2	D
R	604	1546	0.64	0.391	32.3	C		
Northbound								
TR	1610	4785	0.88	0.336	41.8	D	41.8	D
Southbound								
LTR	2249	4850	0.69	0.464	24.9	C	24.9	C

Intersection Delay = 35.0+ (sec/veh) Intersection LOS = D

HCS: Signalized Intersections Release 3.2

Inter: Western Ave @ Military Road City/St: Washington, D.C.
 Analyst: ORGA/KM Proj #: Washington Clinic Site - PUD
 Date: 3/1/02 AM Peak Hour Period: 8:00 AM - 9:00 AM
 E/W St: Military Road, NW N/S St: Western Avenue, NW

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	0	0	2	0	1	3	0
LGConfig				L	LR			TR		L	T	
Volume				727		55		503	609	106	903	
Lane Width				11.0	11.0			11.0		11.0	11.0	
RTOR Vol						12			150			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left					NB Left			
Thru					Thru	P		
Right					Right	P		
Peds					Peds		X	
WB Left		P			SB Left		P	
Thru					Thru	P	P	
Right		P			Right			
Peds		X			Peds			
NB Right		P			EB Right			
SB Right					WB Right			
Green		32.0				43.0	20.0	
Yellow		4.0				4.0	4.0	
All Red		1.0				1.0	1.0	
Cycle Length:		110.0		secs				

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group	Approach	
			v/c	g/c	Delay	LOS	Delay LOS

Eastbound

Westbound

L	504	1731	0.78	0.291	46.8	D	
LR	499	1714	0.88	0.291	56.1	E	51.7 D

Northbound

TR	1267	3240	0.83	0.391	36.4	D	36.4 D
----	------	------	------	-------	------	---	--------

Southbound

L	317	1745	0.35	0.182	42.4	D	
T	3079	4981	0.31	0.618	10.2	B	13.6 B

Intersection Delay = 32.4 (sec/veh) Intersection LOS = C

HCS: Signalized Intersections Release 3.2

Inter: Western Ave @ Military Road City/St: Washington, D.C.
 Analyst: ORGA/KM Proj #: Washington Clinic Site - PUD
 Date: 3/1/02 PM Peak Hour Period: 5:00 PM - 6:00 PM
 E/W St: Military Road, NW N/S St: Western Avenue, NW

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	0	0	1	0	0	0	2	0	1	3	0
IGConfig				L	LR			TR		L	T	
Volume				580		62		901	679	109	719	
Lane Width				11.0	11.0			11.0		11.0	11.0	
RTOR Vol						12			288			

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left								
Thru								
Right								
Peds								
WB Left		P						
Thru								
Right		P						
Peds		X						
NB Right		P						
SB Right								
Green		32.0				48.0	15.0	
Yellow		4.0				4.0	4.0	
All Red		1.0				1.0	1.0	
Cycle Length:	110.0 secs							

Intersection Performance Summary

Appr/Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/c	Delay	LOS	Delay	LOS

Eastbound

Westbound

L	508	1745	0.66	0.291	40.7	D		
LR	500	1720	0.78	0.291	47.2	D	44.2	D

Northbound

TR	1454	3331	0.94	0.436	42.0	D	42.0	D
----	------	------	------	-------	------	---	------	---

Southbound

L	238	1745	0.49	0.136	51.1	D		
T	3100	5014	0.25	0.618	9.7	A	15.1	B

Intersection Delay = 34.5 (sec/veh) Intersection LOS = C

BOLAN SMART ASSOCIATES, INC.

900 NINETENTH ST. NW, SUITE 600, WASHINGTON, DC 20006 • (202) 371-1333 • FAX (202) 371-1334

March 2002

District of Columbia Zoning Commission
Washington, DC

**RE: 5401 Western Avenue Application for a Consolidated Planned Unit Development
Economic Impact Analysis**

Dear Members of the Zoning Commission:

Bolan Smart Associates has been asked to analyze the probable economic impact on the District of Columbia of constructing the proposed 200 to 225-unit apartment building. This proposed project is a strong market based opportunity to better utilize this strategically located property.

Based on evaluating a 100% completed project, assuming a mid-point number of 210 apartments, 7,200 square feet of on-site retail, plus requisite parking, our findings are summarized as follows:

1. **Direct Annual District Tax Revenue:** The principal direct tax revenues to the District of Columbia resulting from the completion of 5401 Western Avenue -- calculated in \$2002 per the attached Table 2, ANNUAL DIRECT DC TAX REVENUE -- total approximately \$2,337,000 per year. The primary components of this sum are estimated to be comprised of:
 - a) \$606,000 per year in real estate taxes, based on a finished property valuation of \$60,000,000 (valued @ \$300 per rentable square foot for apartments);
 - b) \$1,178,000 per year in new DC resident income taxes (based on an average required household gross income of \$96,200 to qualify to rent @ 30% rent to income ratios);
 - c) \$284,000 per year in apartment based new DC resident retail sales tax revenues, attributable to \$3,781,000 in DC based taxable sales (65% DC capture of new DC resident retail sales);
 - d) \$87,300 per year in new DC resident related use taxes and fees (apartment building operations, resident DMV fees, utility and telecommunications fees, etc.);

- e) \$169,700 per year in net additional DC retail sales tax revenues not related to new residents, attributable to \$2,880,000 in overall annual on-site taxable retail sales minus 15% on-site new resident related retail sales @80% net new DC sales; and
- f) \$11,800 in parking fee revenue from 18 commercially designated parking spaces.

The debt capitalization value of this total annual potential District of Columbia tax revenue of \$2.34 million, employing a District of Columbia 20-year bond rating in the vicinity of 5.5%, is in excess of \$34 million.

2. **One-Time Construction Related Benefits:** The combination of significant land and mortgage debt recordation and transfer fees associated with the proposed land sale for development, coupled with development processing fees and permits, could generate well in excess of \$600,000 of direct District of Columbia fee revenues during the early stages of development. In addition, close to 150 direct construction jobs are estimated to be created as part of a two year, \$34+ million construction budget. (See Table 1 for estimated job impacts.) The economic multipliers directly benefiting the District associated with this size of construction expenditure -- while not explicitly quantified as part of this report -- can be readily seen to be very substantial.
3. **Additional Project Related DC Residents:** Per a broad based District goal, the proposed apartment building should result in the addition of a valuable number of new, relatively high income residents to the District. By creating additional supply of highly desired apartment units at this location, not only will new residents currently living outside of the District be attracted to relocate, but those existing DC residents that choose to relocate will free up badly needed inventory for other prospective DC residents. We estimate that the net effect of

developing new homes for the approximately 300 residents (1.5 persons per household) projected for 5401 Western Avenue would be to facilitate the equivalent of a 270 person increase in the District population, representing a 90% population gain, as well as a 90% effective net gain in DC tax paying households (183 households).

4. **Long Term Employment Benefits**: While perhaps not the most directly important aspect of the economic impact of the proposed project, there are nonetheless a range of employment benefits which accrue from the completion of a mixed use apartment development at 5401 Western Avenue. As portrayed on the attached Table 1, these include the creation of at least 26 direct apartment and retail related jobs. This job generation is in addition to the 147 construction related jobs estimated to be created covering an approximate two-year construction period. Assuming 50.0% of these permanent jobs are held by District residents (13 persons), and applying a typical economic multiplier of 1.25 of additional District induced resident related jobs, results in upwards of 30 District resident employees being supported directly by the 5401 Western Avenue development. (Clearly, extrapolating the potential employment generated to support the household service needs of over 200 households with collective earnings projected in excess of \$20.0 million suggested would indeed be very substantial.)

5. **Neighborhood Enhancement**: Apart from any street oriented and security related enhancements resulting from the higher use of the currently underdeveloped existing Washington Clinic site, the proposed development will accrue a number of business benefits to the Washington side of Western Avenue. The vitality of the retail offerings and the hotel located near to 5401 will benefit not only from the combination of resident and visitor traffic generated but will be enhanced as well by the visual details and quality 24 hour management of the proposed project.

6. **Net Washington Clinic Relocation Benefits**: Given the expectation of the Washington Clinic relocating elsewhere within the District of Columbia, there should be no net loss of existing DC revenues currently associated with this operation. In practice, part of the Washington Clinic proceeds realized from redeveloping the existing site that are applied to build anew elsewhere should in fact add value to the recipient location.

(If for purposes of statistical analysis, it was assumed that the current Washington Clinic use closed down, or relocated outside of the District, the loss of direct tax revenues accruing to the District of Columbia would be minimal compared with the proposed project. The Clinic property is currently assessed at a minor fraction of the estimated value of the new project (\$2.0 million vs. \$60 million, generating less than \$40,000 per year in real estate tax revenues vs. over \$600,000 for the proposed development), and imparts virtually none of the extensive DC higher income resident expenditure benefits onto the District economy that a new luxury apartment development would accrue. Assuming an average additional DC direct tax revenue ratio of \$1.50 per square foot of generic office space – akin to the existing 30,000 gross square foot Clinic building – would total to \$45,000 per year in District tax receipts comprised of business profit taxes, personal property taxes, utility and telecommunications fees, and other office related operating licenses and fees. Liberally extrapolated to approximate \$100,000 per year in direct DC tax revenues derived from the existing office use of the property means that the existing use generates less than 5% of the equivalent direct DC tax revenues expected from the proposed apartment use.)

We hope this overview and the attached tables are helpful in framing the magnitude of economic impact that the completion of 5401 Western Avenue would have on the District of Columbia.

Sincerely,



Eric Smart
Principal, Bolan Smart Associates, Inc.

Table 1

**ECONOMIC IMPACT SUMMARY - \$2002
5401 WESTERN AVENUE, WASHINGTON, DC**

Direct Annual District Tax Revenues

1) Real Estate Tax	\$606,060
2) New DC Resident Income Tax	\$1,178,063
3) New DC Resident Retail Sales Tax	\$283,608
4) Other New DC Resident Use Taxes and Fees	\$87,264
5) Net Additional DC Retail Sales Tax Not Related To New Residents	\$169,690
6) Parking Revenue Tax (commercial related)	<u>\$11,826</u>
7) Total Direct Annual District Tax Revenue	\$2,336,510

One-time District Revenue

8) Recordation and Transfer Fees	\$500,000+
9) Development Fees & Permits	\$100,000+
10) Construction Related Sales Tax	not calculated

Additional Project Related DC Residents

11) Estimated Average Project Household Size	1.5	persons
12) Average Occupied Apartment Units (@ 96% occupancy)	202	units
13) Total Additional DC Residents @ 100% Net New	303	persons
14) Total Additional DC Residents @ 90% Net New	273	persons
15) Total Additional Income Taxpaying DC Households @ 90% New	182	households

Direct Project Employment

	<u>DC Jobs</u>		<u>DC Residents</u>
16) Direct Apartment FTE Jobs (a)	6	(50%)	3
17) Direct Retail FTE Jobs (one job per 350 rsf)	<u>20</u>	(50%)	<u>10</u>
18) Indirect Apartment and Retail FTE Jobs		not calculated	
19) Total Permanent FTE Jobs	26		13
20) Temporary Construction FTE Jobs (b)	<u>147</u>	(35%)	<u>51</u>
21) Indirect Temporary Construction FTE Jobs		not calculated	
22) Total Temporary FTE Jobs	<u>147</u>		<u>51</u>
23) Total FTE Jobs	173		64

Notes:

(a) FTE - full time equivalent job

(b) Construction employment: \$34,000,000 (development cost @ \$150 per gsf) x 40% direct labor divided by \$46,000 average annual income, equaling 295 person years divided by 2.0 years for project completion, realizing 147 construction full time equivalent jobs.

Table 2
ANNUAL DIRECT DC TAX REVENUE NET OF MULTIPLIERS - \$2002
5401 WESTERN AVENUE, WASHINGTON, DC

Project Description

1)	Rental Apartments	210 units
2)	Average Apartment Size	925 rsf
3)	Total Apartment RSF	194,250 rsf
4)	Mixed Retail	7,200 rsf
5)	Residential Parking	210 spaces
6)	Retail Parking	18 spaces

Real Estate Tax

		one rsf	total rsf
7) Apartment Real Estate Value		\$300.00	\$58,275,000
8) Retail Real Estate Value		\$350.00	\$2,520,000
9) Parking (included above)			NA
10) Total Real Estate Value			\$60,795,000
11) Residential Real Estate Tax	0.96% residential tax rate	\$2.88	\$559,440
12) Commercial Real Estate Tax	1.85% commercial tax rate	\$6.48	\$46,620
13) Total Real Estate Taxes			\$606,060

Residential Direct Tax Revenues

		one apartment	210 apartments
14) Monthly Rent	\$2.60 per rsf	\$2,405	
15) Required Gross HH Income	333.3% multiple of rent	\$96,190	\$20,199,980
16) Taxable Income	75.0% of gross	<u>\$72,143</u>	<u>\$15,149,985</u>
17) Taxable Income Adjusted for Average Occupancy	96.0% occupancy	\$69,257	\$14,543,985
18) Potential DC Income Tax from New DC Residents	9.0% DC tax rate	\$6,233	\$1,308,959
19) Income Tax Revenue Adjusted for Resident Status	90.0% new taxpaying residents	\$5,610	\$1,178,063
20) New Resident Retail Expenditures Subject to Sales Tax	40.0% of taxable income	\$27,703	\$5,817,594
21) District of Columbia Resident Sales Capture	65.0% of expenditures	\$18,007	\$3,781,436
22) DC Average Applicable Sales Tax (a)	7.5% blend of categories	\$1,351	\$283,608
23) Other Resident Related Use Taxes and Fees (b)	0.6% of taxable income	\$415.54	\$87,264
24) Personal Property Tax (not applicable) (c)			NA
25) Total Residential Direct Tax Revenues		\$7,376	\$1,548,934

Other Retail Direct Tax Revenues

		one rsf	total rsf
26) On-site Taxable Retail Sales (adjusted for 15% vacancy)	\$400 per rsf	\$400.00	\$2,880,000
27) DC Average Applicable Sales Tax (a)	7.5% blend of categories	<u>\$30.00</u>	<u>\$216,000</u>
28) Sales Tax Net of On-Site Residents	85.0% not on-site consumers	\$25.50	\$183,600
29) DC Corporate Tax of Retail Sales	9.9% on 10% profit on gross	<u>\$3.96</u>	<u>\$28,512</u>
30) Total Retail Related Taxes		\$29.46	\$212,112
31) Net New DC Retail Sales Tax Capture	80.0% net new DC sales	\$23.57	\$169,690

Parking (commercial related)

		one space	18 spaces
32) Parking Income	\$15 per space per day		
33)	\$5,475 per space per yr.	\$5,475	\$98,550
34) DC Parking Revenue Tax	12.0% of gross revenue	\$657	\$11,826

Total Direct Annual Tax Revenue

\$2,336,510

Notes:

- (a) Based on blend of 5.75% sales tax on general goods and services and 10.0% sales tax rate on restaurant related sales.
- (b) Apartment building operations purchases, resident DMV fees, utility and telecommunications fees, other licensing fees and charges.
- (c) Apartment fixtures, etc. included in real property value; residents assumed not to exceed \$50,000 personal property exemption.

Certificate of Notice

I HEREBY CERTIFY that a copy of the Notice of Intent to File a Zoning Application for a Consolidated Planned Unit Development and Zoning Map Amendment for Lot 805 and a portion of Lot 7 in Square 1663 was mailed to Advisory Neighborhood Commission 3E and to the owners of all property within 200 feet of the perimeter of the project site on March 12, 2002, at least ten (10) calendar days prior to the filing of the application for a Planned Unit Development as required by the Zoning Regulations of the District of Columbia, 11 DCMR §2406.7.

A copy of the Notice is attached hereto as Exhibit A.

Christine Shiker
Christine Moseley Shiker, Esq.

March 12, 2002
Date

March 12, 2002

NOTICE OF INTENT TO FILE A ZONING APPLICATION

**Application to the
District of Columbia Zoning Commission
for a
Consolidated Planned Unit Development
and
Zoning Map Amendment**

Stonebridge Associates 5401, LLC, on behalf of 5401 Western Avenue Associates, LLP, and the Abraham and Louise Lisner Home, (collectively, the "Applicant") hereby gives notice of its intent to file an application for consolidated review and approval of a Planned Unit Development ("PUD") and Zoning Map Amendment in accordance with the District of Columbia Zoning Regulations, 11 DCMR (July 1995). The application will be filed with the Zoning Commission not less than ten (10) days from the date of this notice. This notice is given pursuant to Section 2406.7 of the Zoning Regulations.

The property that is the subject of this application consists of Lot 805 and the adjacent portion of Lot 7 in Square 1663 (the "Property"). The Property is located at the intersection of Western Avenue, N.W., and Military Road, N.W., in Ward 3 and is adjacent to the Friendship Heights Metrorail and Metrobus stations. The Property currently is improved by a three story building devoted to the Washington Clinic's use and adjacent open area on the Lisner Home's site. Lot 805 is currently zoned R-5-B and the portion of Lot 7 is zoned R-2. The Property consists of approximately 60,000 square feet of land area.

The Applicant proposes to construct a new apartment house with approximately 200 to 225 units and with approximately 234,750 square feet of gross floor area. The proposed building will also include approximately 7,200 square feet devoted to commercial/retail use on the ground floor level facing Western Avenue. The proposed building will incorporate two wings at an angle separated by an open plaza along Military Road. The Western Avenue wing will have a maximum height of ninety feet, stepping down to seventy feet. The eastern wing will have a maximum height of fifty-two feet, eight inches, stepping down to a height of forty-two feet, eight inches at the southeast corner facing Military Road at 43rd Street. There will be limited above-grade construction on the portion of the Property now owned by the Lisner Home. A play area will be included on that property for use by the Chevy Chase Plaza Children's Center. The proposed building will include a three level, underground parking garage with approximately 220 to 250 parking spaces on a self park basis. All access to the parking garage and loading docks will be from Western Avenue; no access will be permitted from Military Road.

The Applicant will also seek an amendment to the Zoning Map to rezone the entire site to R-5-D. This request is consistent with the Comprehensive Plan's

EXHIBIT A

designation of the Property in a housing opportunity area, in a regional center and in the institutional land use category.

The developer for this proposal is Stonebridge Associates, Inc; the architect is Shalom Baranes Associates, PC; and the land use counsel is Holland & Knight LLP.

Should you need any additional information regarding the proposed PUD application, please contact Whayne S. Quin, Esq., of Holland & Knight LLP at (202) 955-3000.

ESTIMATED QUANTITY OF POTABLE WATER:

<u>USE</u>	<u>DAILY USAGE¹</u>
RESIDENTIAL	60 GAL PER PERSON 60 GAL. X 300 PERSONS = 18,000 GAL
RETAIL	400 GAL PER TOILET ROOM 400 GAL X 2 TOILET ROOMS = 800 GAL

TOTAL QUANTITY OF POTABLE WATER PER DAY = 18,800 GAL

ESTIMATED QUANTITY OF SANITARY SEWAGE:

INFLOW LESS 10% (DUE TO HVAC SYSTEM EVAPORATION)
18,800 GAL X .90 = 16,920 GAL

ESTIMATED QUANTITY OF STORM WATER RUN-OFF:

BUILDING FOOTPRINT AREA (INCL. IMPERVIOUS AREAS OF COURTYARD /24.3²)
38,890 SF/24.3 = 1,600 GAL/MIN

NOTES:

- 1) FROM BOCA NATIONAL PLUMBING CODE -- APPENDIX E, TABLE E-4A
- 2) FACTOR WHICH ASSUMES LOCAL RAINFALL RATE OF 3.2 IN/HOUR FROM BOCA NATIONAL PLUMBING CODE -- APPENDIX D.