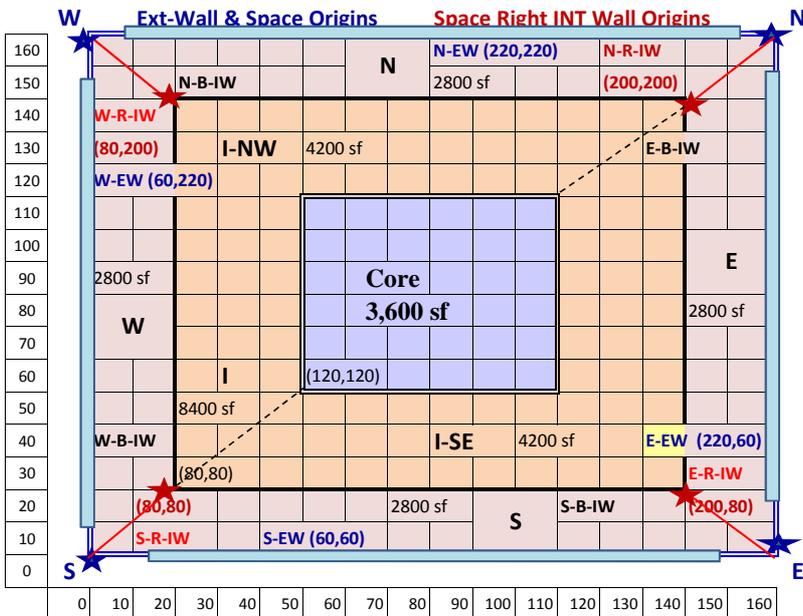


Hotel Systems

L13- L42 (30 Flrs) = Apartments
Flr-Ht = 10'

Level	Flr-Ht	Elev	Service	Level	Flr-Ht	Elev	Service
B2	20	-30	Mech-Electr	L1	15	0	Lobby, Retail
B1	10	-10	UG Parking	L2	15	0	Retail
L4	20	110	Mech-Electr	L3	15	15, 30, 45	Htl Functions
L36	20	445	Mech-Electr	L5-L34	10	130	Hotel-Rooms
L37	*	465	Roof Clg-Twr	L35	15	430	Restaurant

L1 (Lobby) Flr-Flr-H = 15'
L35 (Restaurant)



Walls Coordinates

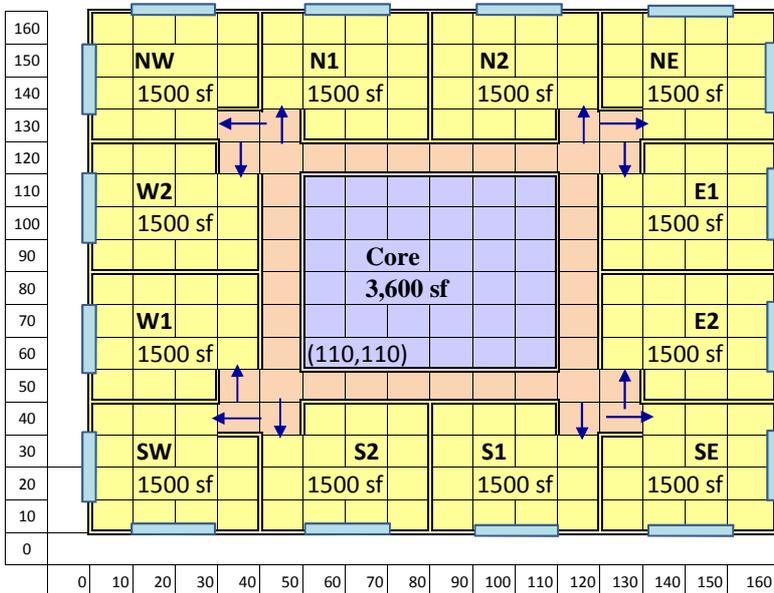
	Exterior		Rgt Inter		Bck Inter	
	x	y	x	y	x	y
N	160	160	140	140	20	140
E	160	0	140	20	140	140
S	0	0	20	20	140	20
W	0	160	20	140	20	20

Floor to Floor Height (ft)	15
Floor to Ceiling Hght (ft)	10
Window Height (ft) per Wall	7
Window Length (ft) per Wall	140
Window Percent	45
Toilet Exhausts = 2000 cfm/floor	
General Exhausts = 1000 cfm/flr	

Windows/Wall = 140'W x 7'H = 980 sf
 Wall Area = 160'W x 15.0'H = 2400 sf
 X = 10 Y = 2.5

Percent Window = 41%

Apartments (flrs 5 to 34 - 30 flrs) Flr-Flr-H = 10'



Exterior-Wall Coords and Origins

Zn #	Azim	Coords		Azim	Coords	
	Wall-1	x	y	Wall-2	x	y
NW	270-W	0	160	0-N	40	160
N1	0-N	80	160			
N2	0-N	120	160			
NE	0-N	160	120	90-E	160	120
E1	90-E	160	80			
E2	90-E	160	40			
SE	90-E	120	0	180-S	120	0
S1	180-S	80	0			
S2	180-S	40	0			
SW	180-S	0	0	270-W	0	40
W1	270-W	0	80			
W2	270-W	0	120			
CR						

Window: X = 5 Y = 3

% Window (each apt.)
 Wall = 40' x 10' = 400 sf
 Window = 30' x 5.5' = 165 sf
Percent Window = 41%

Flr-Clg Hgt = 9'. Flr-Flr-H = 10'.
 Core = 3,600 sf, Corridor = 4,000 sf
 12 Apts 1500 sf each, 18,000 sf total

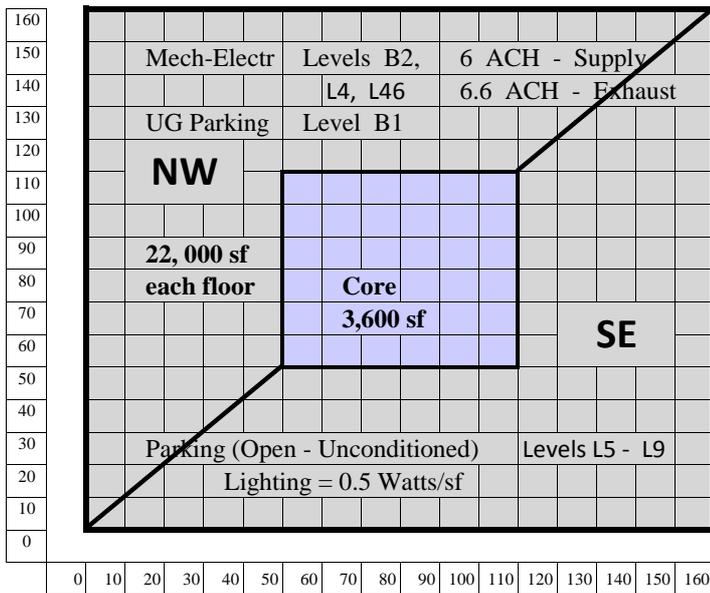
Exhaust (each apt.)

Kitchen (K) = 300 cfm Sch-Ktchn
 Bathroom (B) = 200 cfm Sch-Bthrm
 Laundry (L) = 100 cfm Sch-Lndry
 Core (C) = 900 cm Sch-Core

Indoor Design	DB Temp		Infl cfm/sf	Lighting		Equipment		Occupancy		Ventilation		Exhaust		
	Smmr	Wntr		W/sf	Sch #	W/sf	Sch #	sf/Pers	Sch #	cfm/P	ACH	ACH	Cfm/sf	Sch #
Mech-Electr	*	60	1.00	1.5		3.0		600			6	6.6		
UG-Parking	*	*	*	0.5		0.0		*			6	6.6		
Lobby-Grnd	75	72	0.10	2.0		1.0		50		15			0.1	
Retail	75	72	0.05	3.0		3.0		50		15			0.2	
Htl-Functions	75	72	0.05	3.0		2.0		50		15			0.2	
Restaurant	75	72	0.10	2.0		1.0		50		15			0.3	
Apartments	75	75	0.05	0.5		0.5		500		30			0.1	
Corridors	78	70	0.00	0.5		0.0		900		15			0.1	

Levels B2, L4 and L36 (Mech-Electr) Flr-Flr-H = 20'

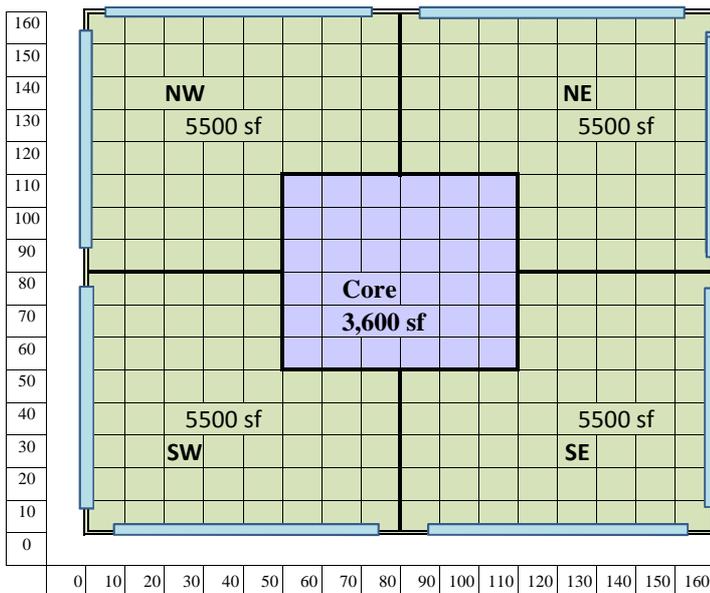
Levels B: L4-L8 (Parking-Open) Flr-Flr-H = 10'



Hotel Functions	
Fitness Center	Retail/Shops
Swimming Pool	Restaurant
Lockers/Toilets	Bar/Night-Club
Meeting Rooms	Kitchen
Ballroom	Laundry
Exhibition	Dry-Cleaners
Offices/Admin	Housekeeping

L2 Hotel Retail	
Merchadise Display	
L3 Hotel Functions	
Restaurant	Kitchen
Bar/Night-Club	
Offices/Admin	
Retail/Shops	
Laundry	Dry-Cleaners
Housekeeping	
Fitness Center	
Swimming Pool	
Lockers/Toilets	
Meeting Rooms	
Exhibition	
Ballroom	

Levels: L2 Retail L3 Hotel Functions Flr-Flr-H = 15'



Exterior-Wall Coords and Origins

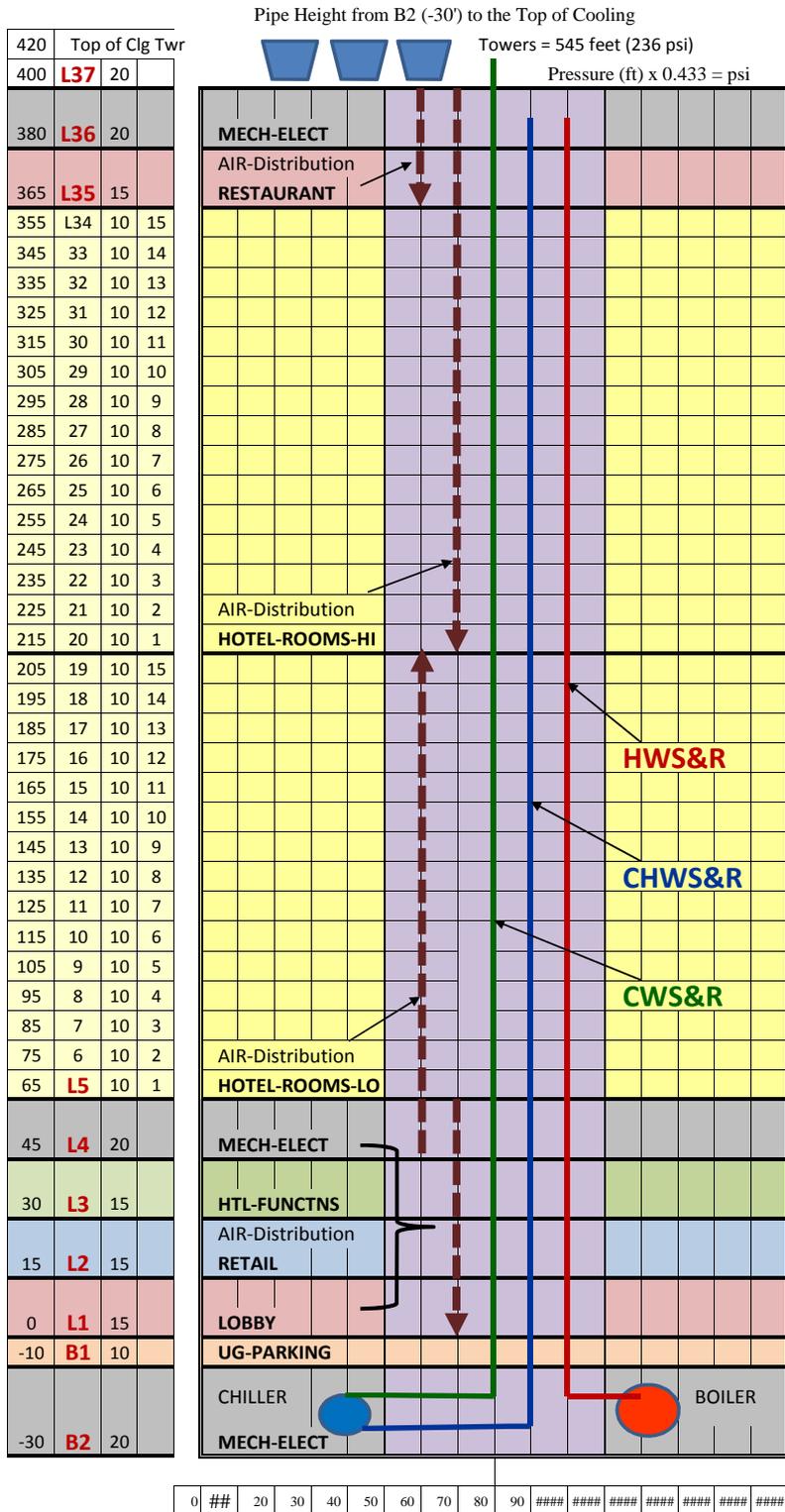
Zone #	Azim	Coordinates		Azim	Coordinates	
		Wall-1	X		Y	Wall-2
NW	270-W	0	160	0-N	80	160
NE	0-N	160	160	90-E	160	80
SE	90-E	160	0	180-S	80	0
SW	180-S	0	0	270-W	0	80

% Window (each Zone) Coordinates

Wall = 80' x 15' = 1,200 sf Y = 5 Y = 2
 Window = 70' x 7' = 490 sf

Percent Window = 41%

Hotel Systems



Envelope

ROOF
STD90 U-Value = 0.064
Proposed U-Value = 0.056
3/8" Built-Up Roofing
2" HeavyWeight Concr
3" Polyurethane Insul
1/2" Ceiling Panel

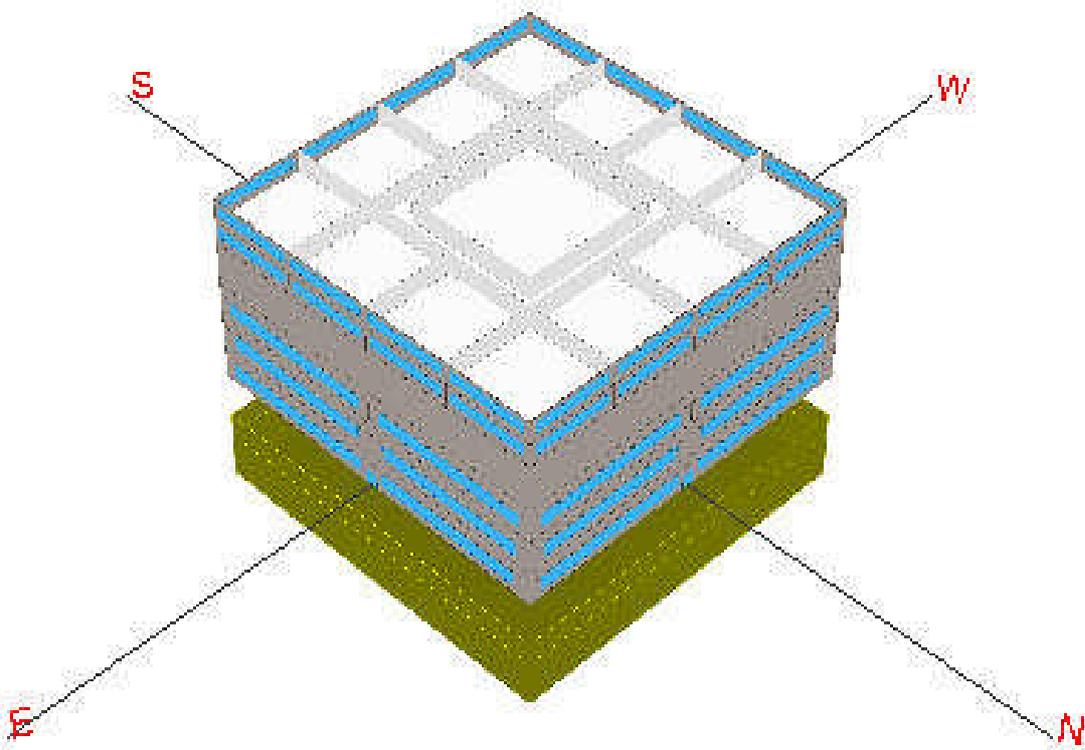
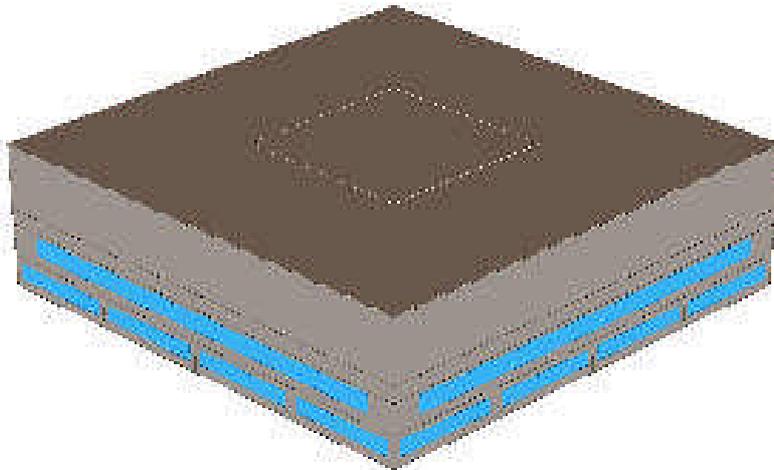
WALL
STD90 U-Value = 0.124
Proposed U-Value = 0.084
1/4" Spandrel Glass
2" Polystrene Insul
1/2" Covering Material
1/2" Gypsum Board

GLASS	U	SC	VLT	DOE2
Lbby-Grnd	0.29	0.48	0.68	2664
Htl-Functns	0.23	0.32	0.41	2668
Restaurnt	0.23	0.32	0.41	2668
Htl-Rooms	0.23	0.32	0.41	2668

System	Hours	System	
Operation	Start	End	Type
Mech-Elect	24 Hours		Ht + Vent
UG-Parkng	24 Hours		Ventil
Lbby-Grnd	24 Hours		VAVS+FPIU
Htl-Functns	9 AM	11 PM	ACU, CW-Rj
Restaurnt	6 AM	11 PM	VAVS+FPIU
Apartment	24 Hours		Apt Systms
Corridors	24 Hours		CV - OA

System	Fan Static Pressure		
Operation	Sup	Ret	Exh
Mech-Elect	1.5	*	1.0
UG-Parkng	1.5	*	1.0
Lbby-Grnd	3.5	1.5	
Htl-Functns	3.5	1.5	
Restaurnt	3.5	1.5	
Apartment	See Apt Systems		
Corridors	3.0	*	

Apartment Systems	Fan
Distributed Systems per Unit	S.P.
1 - Pckgd Trmnl Unit (PTAC)	1.5
2 - 2-Pipe FCU + Elctrc-Basebd	0.5
3 - 2-Pipe FCU + HW-Basebd	0.5
4 - 4-Pipe FCU HW	0.7
3 - Dstrbd CHW, OA to AHU/Flr	2.5
4 - Dstrbtd CW, OA to ACU/Flr	3.5
5 - WLHP, Ht-Rej to Clg-Twr	1.5



PEPCO : Potomac Electric Power Company, Washington DC
Year 2000

Summer Rates: Jun 1 to Oct 31		Winter Rates : Nov 1 to May 31		
PEAK	Mon-Fri	12 Noon	8 PM	
INTERMED	Mon-Fri	8 AM	12 Noon	
		8 PM	12 Night	
OFF-PEAK	Mon-Fri	12 Night	8 AM	
	Sat, Sun, Hol	1 AM	12 Night	
Minim Charge per Month = \$ 20.93				

ENERGY CHARGE per KW		Peak	Intermed	Off-Peak
SUMMER	Distribution	0.01029	0.01029	0.01029
	Transmission	0.00219	0.00219	0.00219
	Generation	0.02253	0.02253	0.02253
	TOTAL	0.03501	0.03501	0.03501
ENERGY CHARGE per KW		Peak	Intermed	Off-Peak
WINTER	Distribution	0.01029	0.01029	0.01029
	Transmission	0.00219	0.00219	0.00219
	Generation	0.02110	0.02110	0.02110
	TOTAL	0.03358	0.03358	0.03358
DEMAND CHARGE per KW		Peak	Intermed	Off-Peak
SUMMER	Distribution	4.80	4.80	4.80
	Transmission	0.71	0.59	0.59
	Generation	10.41	3.70	3.70
	TOTAL	15.92	9.09	9.09
DEMAND CHARGE per KW		Peak	Intermed	Off-Peak
WINTER	Distribution	4.80	4.80	4.80
	Transmission	0.71	0.59	0.59
	Generation	10.41	3.70	3.70
	TOTAL	15.92	9.09	9.09

Washington Gas & Light Co.

Minimum Monthly Charge = \$25					
Summer Rates: Jun 1 to Oct 31					
Balance Charge \$/therm = \$0.00					
Winter Rates : Nov 1 to May 31					
Balance Charge \$/therm = \$0.0741					
2000	Cost		2001	Cost	
Mon	\$/th	\$/m3	Mon	\$/th	\$/m3
Jan	0.78	0.27	Jul	0.64	0.23
Feb	0.75	0.26	Aug	0.64	0.23
Mar	0.69	0.25	Sep	0.52	0.18
Apr	0.78	0.28	Oct	0.52	0.18
May	0.78	0.28	Nov	0.52	0.18
Jun	0.64	0.23	Dec	0.58	0.20

Steam Rates for New York

Consolidated Edison, General Service				
Min Charge / Month \$367.78, 125 psig				
Time of Use : All hours of the year				
Usage Range		k-lb	\$/k-lb	\$/kg
For the first		20	7.5	0.017
For the next		30	19.8	0.044
For the next		950	15.8	0.035
For excess over		1000	15.3	0.034

Washington Water & Sewer

DC	\$/ft3	\$/M3
Water	0.0179	0.632
Sewer	0.0271	0.957

Beijing Utility Rates

Building Area = 454,133			
Exchange Rate			
\$ 1.00 to RMB =		8.1	
District Hot Water			
Ht 250F-140F		110	
RMB /m2/ yr =		30	
RMB / Year =		1,265,669	
\$ / Yr =		156,255	
m3 / Yr =		30,824	
Avg \$ / m3 =		5.07	
\$ / 1000 lbs =		2.30	
Natural Gas			
RMB / m3 =		1.7	
\$ / m3 =		0.21	
\$ / therm =		0.59	
Electricity			
RMB / kwh =		0.597	
\$ / kwh =		0.07	
Water & Sewer			
RMB/T	\$/M-Ton	\$/ft3	\$/M3
2.4	0.2963	0.0084	0.29630
0.8	0.0988	0.0028	0.09877

E