7/27/2018

ORI Systems Study - ORI OPTION

Apartment Tower - Tower Only

Average Unit Size	517 sf
Residential Net	225,893
Unit Count	437

DESCRIPTION	Total Cost	Cost Per Unit
Demolition	excluded - Tower Only	
Asbestos Abatement	excluded - Tower Only	
Earthwork	excluded - Tower Only	
Earth Support System	excluded - Tower Only	
Site Paving	excluded - Tower Only	
Site Utilities	excluded - Tower Only	
Landscape & Irrigation	excluded - Tower Only	
Concrete	2,546,699	$5,828
Masonry & Precast Façade	3,137,299	$7,179
Structural Steel	9,423,930	$21,565
Misc. Metals	1,398,886	$3,201
Rough Carpentry	448,259	$1,026
Finish Carpentry	2,768,932	$6,336
Roofing	1,444,344	$3,305
Waterproofing and Caulking	593,684	$1,359
Spray on Fireproofing & Spray Insulation	933,506	$2,136
Doors, Frames, and Hardware	1,510,650	$3,457
Storefronts/Curtainwall & Windows	10,232,170	$23,415
Drywall/Acoustical Ceilings	10,500,094	$24,028
Flooring	5,473,075	$12,524
Painting & VWC	1,277,924	$2,924
Specialties	376,674	$862
Residential Equipment	3,080,850	$7,050
Residential Cabinets & Tops	2,598,208	$5,946
Furnishings	503,424	$1,152

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Average Unit Size	517 sf
Residential Net	225,893
Unit Count	437

DESCRIPTION	Total Cost	Cost Per Unit
Special Construction - Pool	550,000	$1,259
Elevators	1,828,566	$4,184
Plumbing	10,916,838	$24,981
Fire Protection	1,751,230	$4,007
HVAC	10,982,902	$25,132
Electrical	13,802,886	$31,586
Hoisting	975,000	$2,231
Winter Conditions Allowance	637,500	$1,459
General Requirements	1,887,715	$4,320
General Conditions	5,383,806	$12,320
Contingency	3,208,952	$7,343
Subguard	1,523,719	$3,487
GLPD insurance	1,228,675	$2,812
Overhead & Fee	3,387,792	$7,752
TOTAL CONSTRUCTION - ORI OPTION	**$116,314,187**	**$266,165**

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ORI Systems Study - ORI OPTION
Estimate Detail - Tower Only

	DESCRIPTION OF WORK	QNTY	UNIT	COST	TOTAL
	GENERAL REQUIREMENTS				
1000	Temporary Protection & Safety	280,782	sf	0.50	140,391
1000	Dumpsters	765	pulls	575.00	439,731
1000	Engineering & Layout	52	wks	3,500.00	181,860
1000	Fire Watch				N/A
1000	Police Details	138	wks	1,600.00	220,160
1000	Sidewalk / Street Rental - allow	10,200	sf mos	13.00	132,600
1000	Meter Rental	1	ls	12,000.00	12,000
1000	Sidewalk Pedestrian Bridge				N/A
1000	Temporary Electric Consumption	280,782	sf	0.60	168,469
1000	N Star Temp Service Backcharge	1	ls	75,000.00	75,000
1000	Temporary Toilets (not temp on floors)	16	mos	1,500.00	24,000
1000	Security - Watchmen Service				exclude not required
1000	Interim Cleaning - Non Trade	344	md	700.00	240,800
1000	Final Cleaning	280,782	sf	0.90	252,704
	Total General Requirements				**1,887,715**
	DEMOLITION - Building & Foundation				
	Total Demolition				**excluded**
	ASBESTOS ABATEMENT/LEAD PAINT				
	Total Asbestos Abatement/Lead Paint				**excluded**
	EARTHWORK				
	Total Earthwork				**excluded**
	EARTH RETENTION				
	Total Earth Retention				**excluded**
	SITE PAVING/HARDSCAPE				
	Total Site Paving				**excluded**
	SITE UTILITIES				
	Total Site Utilities				**excluded**
	LANDSCAPE & IRRIGATION				
	Total Landscape & Irrigation				**excluded**
	CONCRETE				
3300	Foundations - spread & continuous footings				exclude
3300	Elevator Pits	2	ea	10000.00	exclude
3300	One Sided Concrete Wall - 18"				exclude
3300	Ramp Wall P3				exclude
3300	Encase Columns - allow @ loading	10	ea	1200.00	exclude
3300	Slab on Grade				exclude
3300	Slabs on Metal Deck - Podium				exclude
3300	Slabs on Metal Deck -Tower	284,024	sf	6.54	1,858,500
3300	Penthouse Extra Concrete - allow acoustic	7,496	sf	25.00	187,400
3300	Topping slab - allow over setback				exclude

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ORI Systems Study - ORI OPTION
Estimate Detail - Tower Only

	DESCRIPTION OF WORK	QNTY	UNIT	COST	TOTAL
3300	Metal Pan Stair Fill - Parking				exclude
3300	Metal Pan Stair Fill - Residential	509	rsrs	90.00	45,776
3300	Misc Concrete	280,782	sf	0.25	70,196
3300	Crane Mat Allow	1	ls	95000.00	95,000
3300	Field Engineering & Layout	30	wks	3700.00	111,000
3300	Façade Transition Curbs - Allow	0	lf	50.00	0
3300	Equipment Pads/Curbs	1	ls	25000.00	25,000
3300	Trade Cleanup	1,709	hrs	90.00	153,827
	Total Concrete				**2,546,699**
	MASONRY/PRECAST				
4400	Stone at Grade level	0	sf	100.00	exclude
4400	Precast Panels - Net SF	28,291	sf	60.00	1,697,460
4400	Premium - Brick Faced	15,763	sf	15.00	236,445
4400	Install Precast Panels -	570	ea	1800.00	1,026,000
4400	Night Lighting - Precast	1	ls	85000.00	85,000
4400	Police Details - Precast Night	14	weeks	1650.00	23,513
4400	UHPC - High Performance Concrete	0	sf	90.00	exclude
4400	Precast treads at exterior ornamental stairs				exclude
4400	Exterior CMU @ Ramp/Vault	3,620	sf	28.00	exclude
4400	CMU Partitions - Loading Dock Areas	5,280	sf	24.00	exclude
4400	Trade Cleanup	810	hrs	85.00	68,881
	Total Masonry				**3,137,299**
	STRUCTURAL STEEL				
5100	Steel F&I - Residential	1,747	tons	3750.00	6,550,292
5100	Metal Deck 3" - Residential	284,024	sf	3.70	1,050,887
5100	Metal Deck 3" - Soffits Not In Above	13,847	sf	3.70	51,234
5100	Precast Connections	1,425	ea	250.00	356,250
5100	Crane Rental for Precast/UHPC	122	days	4000.00	488,000
5100	Screen Wall Support Assumed Not In Steel Allowance	25	tns	6000.00	151,200
5100	Allow Penetrations R	437	units	450.00	196,650
5100	Window washing anchors only	1	ls	40000.00	40,000
5100	Trade Cleanup	6,346	hrs	85.00	539,417
	Total Steel	**4,992**			**9,423,930**
	MISC. METALS				
5500	Misc Metals - Residential	284,024	sf	1.20	340,828
5500	Misc. Railings	1	ls	20000.00	20,000
5500	Exterior Glass guardrails/ stairrails at ornamental stair	176	lf	425.00	exclude
5500	Railings at roof deck	417	lf	450.00	187,650
5500	Glass Balcony Rails	672	lf	450.00	302,400
5500	Balcony Privacy divider - 10th floor terrace	32	lf	450.00	14,175
5500	Elev guide rails support	4	ldgs	5500.00	22,000
5500	Elev Pit Ladders	4	ea	1100.00	4,400
5500	Stairs - Residential	509	rsrs	755.00	384,009
5500	Fire Pump Rm Platform & Stair	1	ls	19500.00	exclude
5500	Fuel Room Platform & Stair	1	ls	19500.00	exclude
8500	Canopy Allowance - Turnkey	1	ls	100000.00	exclude
5500	Areaway Grating	541	sf	85.00	45,985
5500	Trade Cleanup	911	hrs	85.00	77,439
	Total Misc.Metals				**1,398,886**

ORI Systems Study - ORI OPTION
Estimate Detail - Tower Only

	DESCRIPTION OF WORK	QNTY	UNIT	COST	TOTAL
	ROUGH CARPENTRY				
6100	Allow Blocking/Backboards - BOH/Misc	12	floors	2100.00	25,200
6100	Allow Blocking - Units	437	ea	465.00	203,205
6100	Roof blocking	27,135	sf	3.00	81,405
6100	Window blocking - R	22,558	lf	5.00	112,791
5500	Trade Cleanup	302	hrs	85.00	25,658
	Total Rough Carpentry				**448,259**
	FINISH CARPENTRY				
6200	Main Lobby Desk	1	ls	50000.00	exclude
6200	Main Lobby - Elevator Millwork upgrades	1	Allow	100000.00	exclude
6200	Fitness Center	1	Allow	20000.00	exclude
6200	Mail/Package	1	Allow	5000.00	exclude
6200	Theater	1	Allow	2500.00	exclude
6200	Business Center	1	Allow	15000.00	exclude
6200	Clubhouse	1	Allow	100000.00	exclude
6200	Public Bathroom Countertops	1	Allow	3500.00	exclude
6200	Upper Elevator Lobbies	11	Allow	3000.00	33,000
6200	Wood Base at lobby,clubhouse, business center, mail, fitness	698	lf	10.00	6,980
6200	MDF Base at Leasting, offices, theater,	949	lf	10.00	9,490
6200	MDF Base at Corridors	8,000	lf	9.00	72,000
6200	Door Casings @ Unit Entry	18,354	lf	8.00	146,832
6200	Window Sills with Apron	6,178	lf	30.00	185,346
6200	MDF Base - Units	54,109	lf	8.00	432,868
6200	Closet - Wire Shelf	4,677	lf	35.00	163,680
6200	Half Height Linen Closet	816	lf	200.00	163,200
6200	Full Height Linen Closet	148	lf	350.00	51,800
6200	Install Cabinets	437	ea	1,800.00	786,600
6200	Install unit doors and hardware - interior unit	1,521	ea	290.00	441,090
6200	Install public doors and hardware - public & unit entry	543	ea	310.00	168,330
6200	Trade Cleanup	1,267	hrs	85.00	107,716
	Total Finish Carpentry				**2,768,932**
	ROOFING				
7530	Membrane roofing - Level 12	28,674	sf	32.00	917,568
7530	Membrane roofing at balconies	3,242	sf	40.00	129,660
7530	Membrane roofing at Restaurant Terrace				deleted
7530	Hydrotech Roofing at Plaza (level 1)				w Plaza
7530	Membrane Roofing at Plaza (level 2)				w Plaza
7530	Roof Accessories	1	ls	10,000.00	10,000
7530	Roof Patches/Penetrations	1	ls	8,000.00	8,000
7530	Premium for pavers at Reidential Balconies/Terraces				deleted
7530	Amenity Level Roof Deck	5,600	sf	60.00	336,000
7530	Trade Cleanup	507	hrs	85.00	43,116
	Total Roofing				**1,444,344**
	WATERPROOFING AND CAULKING				
7900	Interior	437	units	450.00	196,650
7900	Exterior Caulking/Insulation/AVB - Metal Panel	10,282	sf	12.00	123,384
7900	Exterior Caulking/Insulation/AVB - Metal Panel Soffits	5,736	sf	12.00	68,832
7900	Exterior Caulking Precast & Punched	66,081	sf	2.75	181,723
7900	Exterior Caulking Windows / CW			in system pricing under glass	
7900	Waterproofing - Concrete Wall				exclude
7900	Waterproof Elevator Pits	3	ea	3500.00	exclude
7900	N Star Vault	2,000	sf	6.00	exclude
7900	Trade Cleanup	272	hrs	85.00	23,095
	Total Waterproofing and Caulking				**593,684**

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ORI Systems Study - ORI OPTION
Estimate Detail - Tower Only

	DESCRIPTION OF WORK	QNTY	UNIT	COST	TOTAL
	SPRAY ON FIREPROOFING				
7800	Spray Beams & Columns @ Residential	297,871	sf	1.95	580,847
7800	Patch Days @ Residential	24	ea	1600.00	38,400
7800	Spray Insulate Precast Panels	28,291	sf	5.25	148,528
7800	Spray Insulate Deck at underside of 2nd floor terrace	19,000	sf	5.00	95,000
7800	Spray Insulate Deck - Soffits	5,736	sf	6.00	34,416
7800	Trade Cleanup	427	hrs	85.00	36,315
	Total SOFP				**933,506**
	DOORS, FRAMES, AND HARDWARE				
8100	HM Doors, & Frames & Hardware - Public/BOH	106	ea	1,250.00	132,500
8700	Unit Entry - Door, Frame & Hardware	437	ea	1,250.00	546,250
8700	Interior Prehung Doors	398	ea	350.00	139,300
8700	Sliding Doors	584	ea	900.00	525,600
8700	Sliding Bedroom Doors	102	ea	1,500.00	153,000
8700	Overhead Coiling Doors	1	ea	14,000.00	14,000
	Total Doors, Frames, Hardware				**1,510,650**
	WINDOWS/GLASS/STOREFRONT				
8500	Metal Panel	10,282	sf	90.00	925,380
8500	Storefront/Curtaniwall	9,732	sf	125.00	1,216,515
8500	Punched Windows/Window Wall	37,790	sf	95.00	3,590,050
8500	Window Wall system	26,662	sf	95.00	2,532,871
8500	Metal Panel Soffit - Entry Drive / Under Plaza				in plaza
8500	Metal Panel 3rd Soffits and Balcony ceilings	5,736	sf	90.00	516,240
8500	Operable Lites			in glass pricing above	
8500	Metal Panel at PH screen Wall	2,520	sf	85.00	214,200
8500	Unit Mirrors	490	ea	250.00	122,500
8500	Shower Doors - 1 per unit	437	ea	1300.00	N/A
8500	Balcony Doors	30	ea	5500.00	165,000
8500	Terrace Doors	8	ea	4500.00	36,000
8500	Louvers at Electrical Vault	389	sf	95.00	exclude
8500	Premium for Louvers - PH/Grd	5,003	sf	65.00	325,163
8500	Doors Retail - includes 2nd lvl	10	lfs	5000.00	50,000
8500	G floor - SF doors @ Public Lobby entrance	10	lfs	8000.00	80,000
8500	G floor - SF doors assumed to Innovation space	1	lfs	5000.00	5,000
8500	G floor - SF int vestibule door	6	lfs	4500.00	27,000
8500	Exterior Metal Panel / Column Cover - Main Column	897	sf	100.00	89,700
8500	Aqua Fence at Perimeter of Resid'l Portion of project - Allow	610	lf	500.00	exclude
8500	Trade Cleanup	3,958	hrs	85.00	336,454
	Total Windows and Storefront				**10,232,170**
	DRYWALL AND ACOUSTICAL CEILINGS				
9250	Exterior Wall @ Metal Panel / Precast	82,503	sf	18.00	1,485,054
9250	Exterior Wall @ Curtain Wall / Window Wall	36,394	sf	5.00	181,970
9250	Exterior Soffits - Frame For MP - Entry Drive				in plaza
9250	Exterior Soffits - 3rd Lvl & Balconies	5,736	sf	30.00	172,080
9250	Shaft wall at Stairwell and Elevator Shafts	56,943	sf	16.00	911,082
9250	Rated Walls at Trash/Elect/Tel/Data	11,653	sf	9.00	104,877
9250	Ground Floor Walls - Non CMU	6,880	sf	12.00	exclude
9250	Premium for Mold Resistant Drywall	56,943	sf	2.00	113,885
9250	Amenity / Lobby Partitions	exclude	sf	15.00	0
9250	Penthouse/Mech Space	7,496	sf	15.00	112,440
9250	Misc Drywall/Set Frames	277,735	sf	0.60	166,641

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	DESCRIPTION OF WORK	QNTY	UNIT	COST	TOTAL
9250	Perimeter Firesafing/Smoke Seal	9,482	lf	13.00	123,263
9250	Acoustic Ceilings - BOH	7,862	sf	4.00	31,448
9250	Acoustic Ceilings - Public Spaces - $5/sf L&M Per Spec	exclude	sf	5.00	0
	Unit Resi Floors:				
9250	Corridor / Elev Lobby Ceilings	27,030	sf	10.00	270,300
9250	Unit Corridor Walls	78,010	sf	13.50	1,053,135
9250	Unit: Demising Walls	94,240	sf	18.00	1,696,320
9250	Unit: Drywall - Interior	25,046	sf	9.50	237,941
9250	Unit: Premium @ Wall Tile	57,625	sf	2.25	129,655
9250	Unit: Shaft Walls	36,708	sf	16.00	587,328
9250	Unit: Ceilings	225,893	sf	10.00	2,258,932
9250	Unit: Soffits	22,589	sf	32.00	722,858
	Retail / office				
9250	Misc Wall at 1st level office/retail	0	sf	11.00	exclude
9250	Shaft Walls - office/retail	2,625	sf	15.00	exclude
9250	ACT @ Ceiling Innovation Office	16,300	sf	4.00	exclude
9250	Gyp Ceiling at Public Lobby space	exclude	sf	15.00	exclude
9250	Trade Cleanup	1,657	hrs	85.00	140,885
	Total Drywall and Acoustical				**10,500,094**
	FLOORINGS/TILE/STONEWORK				
9680	Sealed Concrete and Vinyl Base - BOH Spaces 1st & 2nd Floors				exclude
9680	Sealed Concrete and Vinyl Base - Elect rooms each floor	1,080	sf	5.00	5,400
9680	VCT and Vinyl Base - Service Elevator lobbies/ Trash room	2,142	sf	5.00	10,710
9680	LVT Wood Look Floating Floor	220,512	sf	9.50	2,094,864
9680	Carpeting -Corridor at $25./yd mat'l	3,304	sy	55.00	181,702
9680	Tile Shower Surround	43,700	sf	26.45	1,155,865
9680	Tile Tub Surround	3,710	sf	26.45	98,130
9680	Tile - Bath Floor	26,512	sf	23.00	609,776
9680	Tile - Bath Base	11,307	lf	26.00	293,985
9680	Kitchen Backsplash	5,301	sf	46.00	243,847
9680	Accent Wall Tile	10,215	sf	46.00	469,868
9680	Bath - Stone Thresholds	490	ea	75.00	36,750
6200	Laminate at lobby,clubhouse, fitness Allowance	4,190	sf	15.00	exclude
9680	Flooriing Allowance - Leasing office,Mail	1	ls	50000.00	exclude
9680	Liquid Applied Flooring in PH	7,496	sf	9.00	67,464
9680	Allow Flooring at Public Lobby	4,113	sf	60.00	exclude
9680	**Retail / office**				
9680	Sealed concrete at Restaurants	13,072	sf	2.00	exclude
9680	Trade Cleanup	2,408	hrs	85.00	204,713
	Total Floorings				**5,473,075**
	PAINTING/WALLCOVERING				
9900	Lobby /Amenity	exclude	sf	10.00	exclude
9900	General Painting - Resi	277,735	sf	0.35	97,207
9900	Corridor Paint - Walls	105,040	sf	0.80	84,032
9900	Unit Painting Walls	706,489	sf	0.80	565,191
9900	Unit Painting Ceilings	225,893	sf	0.80	180,715
9900	Doors/Frames/Casing	941	ea	95.00	89,395
9900	Trim	86,641	lf	2.10	181,945
9900	Stairs	509	rsrs	95.00	48,319
9900	CMU	10,560	sf	2.00	21,120
9900	Misc Painting - Roof	1	ls	10000.00	10,000
	Retail/ Office:				
9900	General Painting - Retail	exclude	sf		exclude
9900	Allow Office	exclude	sf	1.00	exclude
	Total Painting				**1,277,924**

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	DESCRIPTION OF WORK	QNTY	UNIT	COST	TOTAL
	SPECIALTIES				
10160	Toilet Accessories	490	bath	300.00	147,000
10000	Postal Specialties - Allow R	437	units	240.00	exclude
10000	Loading Dock Equipment	1	ea	15000.00	exclude
10000	Chain Link Storage Units - allow 15%				exclude
10440	Signage - Code - R	280,782	sf	0.25	70,196
10500	Fire Ext Cabinets	280,782	sf	0.10	28,078
12000	Bike Storage	437	ea	250.00	exclude
12000	Trash Chute	12	flrs	10950.00	131,400
	Total Specialties				**376,674**
	RESIDENTIAL APPLIANCES				
11000	Allowance - Range/DW/Micro/Fridge	437	ea	4600.00	2,010,200
11000	Allowance - W/D Stacked / Ventless	437	ea	2000.00	874,000
11000	Composite Union Crew Install	437	units	450.00	196,650
	Total Residential Appliances				**3,080,850**
	RESIDENTIAL CABINETS & TOPS				4,293
11500	Mobile Island	65	ea	500.00	32,500
11500	Fixed Island	49	ea	550.00	26,950
11500	Lower Cabinets	3,534	lf	200.00	706,804
11500	Uppers Cabinets	3,266	lf	165.00	538,892
11500	30" Bath Vanity	313	vanities	300.00	93,900
11500	36" Bath Vanity	81	vanities	315.00	25,515
11500	48" Bath Vanity	10	vanities	350.00	3,500
11500	60" Bath Vanity	86	vanities	400.00	34,400
11500	Install Cabinets and Vanities				w/ Finish Carpentry
11500	Granite Counters w/ 4" backsplash	7,068	sf	110.00	777,484
11500	Bathroom Counter top with integral bowl FOB				incl w vanity
11500	Install Tops	437	units	810.00	353,970
	Total Residential Cabinets & Tops				**2,598,208**
	Furnishings				
12500	Window Treatments - R	437	allow	1,100.00	480,700
12500	Window Treatments - R	437	ea	52.00	22,724
12500	Entrance Mats	1	ls	5,500.00	exclude
12500	Compactor				exclude
	Total Furnishings				**503,424**
	SPECIAL CONSTRUCTION				
13000	Pool	1	ea	550,000.00	550,000
	Total Special Construction				**550,000**
	ELEVATORS				
14200	Elevators - Passenger - 2 ea/500 fpm / MRL / 3,500 lb	3	ea	414000.00	1,242,000
14200	Elevators - Service - 1 ea/400 fpm / MRL / 4,000 lb	1	ea	456000.00	456,000
14200	Elevators - Passenger Cab Allowance	4	ea	25000.00	100,000
14200	Trade Cleanup	360	hrs	85.00	30,566
	Total Elevators				**1,828,566**
	PLUMBING				
15400	Retail Areas / Office Future Services	3,047	sf	6.00	exclude
15400	Temporary Bathrooms/Heat Trace	4	ea	3500.00	14,000
15400	Gas To Roof	350	lf	175.00	61,250

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	DESCRIPTION OF WORK	QNTY	UNIT	COST	TOTAL
15400	Roof Drainage System / Distribution	277,735	sf	2.25	624,904
15400	Allow Amenity	16	ea	4800.00	76,800
15400	Unit Tub / Shower	53	ea	4800.00	254,400
15400	Unit Shower	437	ea	4800.00	2,097,600
15400	Unit Vanity, Full Bath	490	ea	4300.00	2,107,000
15400	Unit Water Closet	490	ea	4800.00	2,352,000
15400	Unit Kitchen Sink	437	ea	4800.00	2,097,600
15400	Unit Laundry Hookups	437	ea	1500.00	655,500
15400	Unit Refridge/Dishwasher Hookups	437	ea	900.00	393,300
15400	Allow Premium - Metering				NA - not in base
15400	Trade Cleanup	2,147	hrs	85.00	182,484
	Total Plumbing				**10,916,838**
	FIRE PROTECTION				
15500	Residential	277,735	sf	6.20	1,721,957
15500	Retail / Office	3,047	sf	5.25	exclude
15500	Trade Cleanup	344	hrs	85.00	29,273
	Total Fire Protection				**1,751,230**
	HEATING, VENTILATING, & AIR CONDITIONING				
15600	Infrastructure, Condenser Water Plant - Residential Only'	700	ton	1500.00	1,050,000
15600	Infrastructure, Boiler Plant	15,000	mbth	50.00	750,000
15600	Infrastructure, Fuel Oil Storage & Distribution System	1	ls	106,875	106,875
15600	Infrastructure, Penthouse Ventilation/Combustion Air	7,496	sf	8.00	59,968
15600	Infrastructure, Elevator Pressurization				exclude - assume doors on hold opens
15600	Infrastructure, Stairway Pressurization	24	ldgs	3000.00	72,000
15600	Infrastructure, Smoke Vestibule Supply & Exhaust - R				not required with 8th edition
15600	Infrastructure, NSTAR Vault Ventilation/Exhaust	1	ls	35000.00	35,000
15600	Infrastructure, Main Switchgear Room Ventilation	1	ls	15000.00	15,000
15600	Infrastructure, Fuel Oil Storage Room Exhaust	1	ls	5000.00	5,000
15600	Infrastructure, DDC Temperature Controls	280,782	sf	1.30	365,017
15600	2hr Fire Wrap - allow	1	ls	75,000.00	75,000
15600	Retail, Condenser Water Future S&R	179	lf	108.00	19,305
15600	Retail, Welded Black Iron Future Cook Hood Exhaust per riser	275	lf	265.00	72,875
15600	Retail, Future Aluminum Dishwasher Exhaust per riser	275	lf	135.00	37,125
15600	Misc. Unit Heaters	1	ls	20,000.00	20,000
15600	Units, Secondary Condenser Water Distribution	277,735	sf	2.60	722,111
15600	Units, Vertical Stacked Heat Pumps	497	ea	8,000.00	3,976,000
15600	Lobby / Amenity Heat Pumps	exclude	ea	8,500.00	exclude
15600	Units, Toilet Exhaust	490	ea	2,100.00	1,029,000
15600	Units, Kitchen Exhaust				N.I.C.
15600	Units, Laundry Exhaust;	-	ea		NA - assume ventless dryer
15600	Units, BTU Metering	437	ea	2,000.00	874,000
15600	ERU-s - Rooftop w/ Energy Recovery	20,000	cfm	12.50	250,000
15600	**Duct**				
15600	Corridor - Suppy Risers Serving Corridors/Units	4,027	lbs	13.00	52,355
15600	Toilet Exhaust Collection Duct to ERU	6,671	lbs	13.00	86,720
15600	Unit Feed From Corridor Supply	13,110	lbs	13.00	170,430
15600	Corridor Horizontal Supply For Unit Feeds	38,913	lbs	13.00	505,869
15600	Units, Trash Chute Rooms Exhaust System	12	ea	2,400.00	28,800
15600	Units, Electric & Tel-Data Room Transfer Air	24	ea	2,400.00	57,600
15600	Units, Temperature Controls - assume unit mounted T Stats	497	ea	200.00	99,400
15600	Main Lobby/Amenity Distribution	exclude	sf	22.00	0
15600	Innovation Office Allowance	10,789	sf	8.00	86,312
15600	Trade Cleanup	4,249	hrs	85.00	361,140
	Total HVAC				**10,982,902**

ORI Systems Study - ORI OPTION
Estimate Detail - Tower Only

	DESCRIPTION OF WORK	QNTY	UNIT	COST	TOTAL
	ELECTRICAL				
16000	Infrastructure, Primary Power Cabling & Gear				by utility
16000	Infrastructure. Primary Power Ductbank w.Pullstring	250	lf	300.00	75,000
16000	Infrastructure. Secondary Distribution	280,782	sf	3.50	982,737
16000	Infrastructure, Primary Power Vault Secondaries	1	ls	55,000.00	55,000
16000	Infrastructure, Emergency Generator System	1,000	kw	450.00	450,000
16000	Infrastructure, Lightning Protection	1	ls	75,000	75,000
16000	Infrastructure, Mechanical Equipment	280,782	sf	0.80	224,626
16000	Infrastructure, Elevators	3	ls	25,000.00	75,000
16000	Infrastructure, Façade Lighting Allowance	1	ls	110,000.00	110,000
16000	Infrastructure, Tele-Data Closet Sleeves	60	ea	250.00	15,000
16000	Infrastructure, Telecommunication Grounding & Bonding	1	ls	14,400.00	14,400
16000	Infrastructure, Fire Alarm	280,782	sf	2.50	701,955
16000	N Star Backcharge - Temp Service Only				in GR's
16000	Temporary Electric Consumption	280,782	sf	0.60	168,469
16000	Electrical - Retail Conduit / Primary Gear	3,047	sf	5.00	exclude
16000	**RESIDENTIAL ONLY**				
16000	Units, Distribution Equipment	225,893	sf	3.50	790,626
16000	Units, Normal & Emergency Feeders	225,893	sf	2.75	621,206
16000	Units; Lighting, Panalettes, & Wiring Devices	437	units	17,000.00	7,429,000
16000	Units, Telecommunication Allowance			assumed to be in CCTV	
16000	Units, CCTV Allowance	437	units	2,200.00	961,400
16000	Corridors; Lighting Premiums	10	flrs	25,000.00	250,000
16000	Security Allowance	437	units	800.00	349,600
16000	Main Lobby / Amenity	exclude	sf	60.00	0
16000	Innovation Office Allowance	10,789	sf	6.00	exclude
16000	Trade Cleanup	5,340	hrs	85.00	453,867
	Total Electrical				**13,802,886**