Integrated Physical Needs Assessment (IPNA)

Building: Big Six Towers, Inc.
59-10 Queens Blvd, Queens, NY 11377

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OBJECTIVE, PROCEDURES, AND LIMITATIONS

OBJECTIVE

Background:

An **Integrated Physical Needs Assessment (IPNA)** combines the traditional PNA with an energy audit.

A **physical needs assessment (PNA)** identifies building deficiencies and makes recommendations for improvements. These recommendations are accompanied by an implementation timeline and overall cost of each improvement.

An **energy audit** is an assessment of water and energy savings improvements, including their estimated cost, estimated annual energy savings, and estimated annual cost savings.

In addition to combining a traditional PNA with an energy audit, the IPNA also integrates a **Health Overlay** that guides building owners to making changes that will improve the health and safety of tenants. It is possible that additional parts will be added to the IPNA in the future.

Focus:

The end goals of the IPNA are to:

- Identify needed improvements for the building
- Provide expected costs of improvements, along with the cost savings for energy and water improvements, to allow prioritization of improvements for capital planning purposes
- Reduce overall energy and water consumption within the building with suggestions from the results of the energy audit
- Support the search for and acquisition of financing (loans) and funding (grants and tax credits)
- Identify needed improvements to the operations, energy efficiency, and water efficiency of the building, including identifying components nearing the end of their useful life before they fail

PROCEDURES

1. A visual survey was conducted from basement to roof, including, but not limited to, the following: site and public elements; structural frame and building envelope; insulation and roof/wall cavities; mechanical, electrical, and plumbing systems and utilities; life safety/fire protection equipment; and interior elements. This survey included the inspection of 3 units or 10% of the total project's dwelling units, whichever is greater. Units were inspected that contain varying characteristics and conditions, including location (ground floor, top floor, basement, exposed edge and corner units) as well as type, size, and history of rehabilitation.
2. Pertinent documentation was reviewed, including violations issued, Certificate of Occupancy, architectural drawings, maintenance logs, O&M plans, and certifications of training for building maintenance staff.
3. Twenty four months of consecutive energy and water billing statements were reviewed and analyzed to determine the energy and water consumption of the building.
4. Interviews were conducted with the property owner, management, and maintenance staff, and existing O&M logs were reviewed.
5. The energy assessment sought to identify a minimum of 30% energy savings. Energy calculations were interactively calculated, to avoid the double counting of savings.

LIMITATIONS

- Evaluation of building consisted of visual inspection of readily-accessible locations
- No special testing occurred, beyond what can be measured with human faculties, and other than some defined health, water, and energy-related measurements. Examples of measurements taken include boiler efficiency, carbon monoxide levels, and gas leaks; ventilation airflow; relative humidity and indoor temperature; and water flow rates through faucets and showerheads.
- The report represents an extrapolation and is not technically exhaustive, being limited to a specific point in time; also it is not without uncertainty (per ASTM E 2018-15).

Project Info

If this project includes multiple buildings, **please describe how the multiple buildings are being accounted for within this IPNA tool. Describe what information is aggregated and what information is building specific.** Please note, a separate IPNA tool should be used for each building type and for each scope of work. Multiple buildings may be grouped in a single IPNA tool if they are of the same building type with the same scope of work.

7 Residential Towers & Commerical Mall

Project Name	Big Six Towers, Inc.
Address (enter primary address)	59-10 Queens Blvd
City	Queens
Zip Code	11377
Number of Above-Ground Floors (for multi-building projects, enter the height of the tallest building)	18
Building Gross Area (SF) (aggregate for all buildings included in this tool)	1,043,429
Project owner type? (rental or coop/condo)	Co-op/Condo
Non-profit owner?	Yes
Landmarked Building(s)?	No
Is project in a historic district?	No
Construction Type of buildings in this tool	Solid Wall Masonery

	Aggregated information for All buildings included in this IPNA Tool		
Number of Buildings Addressed in this IPNA Tool	8		
	Occupied (# units)	**Vacant (# units)**	**Total**
Studio	0	0	0
1 Bedroom	245	7	252
2 Bedroom	481	7	488
3 Bedroom	244	1	245
4 Bedroom	0	0	0
5 Bedroom	0	0	0
Total Residential Units Only	**970**	**15**	**985**
Commercial Spaces	12	0	12
Total Units (Commercial and Residential)	**982**	**15**	**997**

Total Ground Floor Units	0	0	0
Total Basement Units	0	0	0

Building Info for each building included in this IPNA Tool (add more buildings to the right as necessary)

	Building 1		
Building Address (Street, City, Zip)	59-02 Queens Blvd, Queens NY 11377		
Borough, Block, Lot (BBL) (NYC only)	4023140001		
Date of Last FISP or LL 11/98 Report (NYC only)	2023		
Year Built	1964		
Building Gross Area (SF)	116,948		
Does the building have a basement or cellar?	Yes		
	Occupied (# units)	**Vacant (# units)**	**Total**
Studio	0	0	0
1 Bedroom	29	1	30
2 Bedroom	59	1	60
3 Bedroom	30	0	30
4 Bedroom	0	0	0
5 Bedroom	0	0	0
Total Residential Units Only	**118**	**2**	**120**
Commercial Spaces	0	0	0
Total Units (Commercial and Residential)	**118**	**2**	**120**
Total Ground Floor Units	0	0	0
Total Basement Units	0	0	0

VIOLATIONS NARRATIVE - Building 1					
Violation Type	Issuing agency	Date of Violation	Description of violation	Would the recommended scope address this violation?	Estimated Cost to Remediate
AEUHAZ	DOB	7/27/2016	Class 1	Yes	TBD
FISP	DOB	2/18/2022	Façade	Yes	TBD

	Building 2		
Building Address	59-15 47th Avenue, Queens NY 11377		
Borough, Block, Lot (BBL) (NYC only)	4023140001		
Date of Last FISP or LL 11/98 Report (NYC only)	2023		
Year Built	1964		
Building Gross Area (SF)	132541		
Does the building have a basement or cellar?	Yes		
	Occupied (# units)	**Vacant (# units)**	**Total**
Studio	0	0	0
1 Bedroom	31	1	32
2 Bedroom	67	1	68
3 Bedroom	34	0	34
4 Bedroom	0	0	0
5 Bedroom	0	0	0
Total Residential Units Only	**132**	**2**	**134**
Commercial Spaces	0	0	0
Total Units (Commercial and Residential)	**132**	**2**	**268**
Total Ground Floor Units	0	0	0
Total Basement Units	0	0	0

VIOLATIONS NARRATIVE - Building 2					
Violation Type	Issuing agency	Date of Violation	Description of violation	Would the recommended scope address this violation?	Estimated Cost to Remediate
FISP	DOB	2/18/2022	Façade	Yes	TBD
FISP	DOB	2/18/2022	Façade	Yes	TBD

	Building 3		
Building Address	59-55 47th Avenue, Queens NY 11377		
Borough, Block, Lot (BBL) (NYC only)	4023140001		
Date of Last FISP or LL 11/98 Report (NYC only)	2023		
Year Built	1964		
Building Gross Area (SF)	145468		
Does the building have a basement or cellar?	Yes		
	Occupied (# units)	**Vacant (# units)**	**Total**
Studio	0	0	0
1 Bedroom	37	1	38
2 Bedroom	71	1	72
3 Bedroom	36	0	36
4 Bedroom	0	0	0
5 Bedroom	0	0	0
Total Residential Units Only	**144**	**2**	**146**
Commercial Spaces	0	0	0
Total Units (Commercial and Residential)	**144**	**2**	**292**
Total Ground Floor Units	0	0	0
Total Basement Units	0	0	0

VIOLATIONS NARRATIVE - Building 3					
Violation Type	Issuing agency	Date of Violation	Description of violation	Would the recommended scope address this violation?	Estimated Cost to Remediate
FISP	DOB	2/21/2022	Façade	Yes	TBD
FISP	DOB	2/21/2022	Façade	Yes	TBD
LBLVIO	DOB	6/20/2023	Boiler	No	N/A
LBLVIO	DOB	6/20/2023	Boiler	No	N/A
LBLVIO	DOB	6/20/2023	Boiler	No	N/A
LBLVIO	DOB	6/20/2023	Boiler	No	N/A
LBLVIO	DOB	6/20/2023	Boiler	No	N/A
LBLVIO	DOB	6/20/2023	Boiler	No	N/A
LBLVIO	DOB	6/30/2023	Boiler	No	N/A
LBLVIO	DOB	6/30/2023	Boiler	No	N/A

	Building 4		
Building Address	59-40 Queens Blvd, Queens NY 11377		
Borough, Block, Lot (BBL) (NYC only)	4023140001		
Date of Last FISP or LL 11/98 Report (NYC only)	2023		
Year Built	1964		
Building Gross Area (SF)	145468		
Does the building have a basement or cellar?	Yes		
	Occupied (# units)	**Vacant (# units)**	**Total**
Studio	0	0	0
1 Bedroom	37	1	38
2 Bedroom	71	1	72
3 Bedroom	36	0	36
4 Bedroom	0	0	0
5 Bedroom	0	0	0
Total Residential Units Only	**144**	**2**	**146**
Commercial Spaces	12	0	12
Total Units (Commercial and Residential)	**156**	**2**	**304**
Total Ground Floor Units	0	0	0
Total Basement Units	0	0	0

VIOLATIONS NARRATIVE - Building 4					
Violation Type	Issuing agency	Date of Violation	Description of violation	Would the recommended scope address this violation?	Estimated Cost to Remediate
FISP	DOB	2/18/2022	Façade	Yes	TBD
FISP	DOB	2/18/2022	Façade	Yes	TBD

	Building 5		
Building Address	46-10 61st Street, Queens NY 11377		
Borough, Block, Lot (BBL) (NYC only)	4023140001		
Date of Last FISP or LL 11/98 Report (NYC only)	2023		
Year Built	1964		
Building Gross Area (SF)	145468		
Does the building have a basement or cellar?	Yes		
	Occupied (# units)	**Vacant (# units)**	**Total**
Studio	0	0	0
1 Bedroom	37	1	38
2 Bedroom	71	1	72
3 Bedroom	36	0	36
4 Bedroom	0	0	0
5 Bedroom	0	0	0
Total Residential Units Only	**144**	**2**	**146**
Commercial Spaces			0
Total Units (Commercial and Residential)	**144**	**2**	**292**
Total Ground Floor Units			0
Total Basement Units			0

VIOLATIONS NARRATIVE - Building 5					
Violation Type	Issuing agency	Date of Violation	Description of violation	Would the recommended scope address this violation?	Estimated Cost to Remediate
FISP	DOB	2/18/2022	Façade	Yes	TBD
FISP	DOB	2/18/2022	Façade	Yes	TBD

	Building 6		
Building Address	60-10 47th Avenue, Queens NY 11377		
Borough, Block, Lot (BBL) (NYC only)	4023220001		
Date of Last FISP or LL 11/98 Report (NYC only)	2023		
Year Built	1964		
Building Gross Area (SF)	145468		
Does the building have a basement or cellar?	Yes		
	Occupied (# units)	**Vacant (# units)**	**Total**
Studio	0	0	0
1 Bedroom	37	1	38
2 Bedroom	71	1	72
3 Bedroom	36	0	36
4 Bedroom	0	0	0
5 Bedroom	0	0	0
Total Residential Units Only	**144**	**2**	**146**
Commercial Spaces			0
Total Units (Commercial and Residential)	**144**	**2**	**292**
Total Ground Floor Units			0
Total Basement Units			0

VIOLATIONS NARRATIVE - Building 6					
Violation Type	Issuing agency	Date of Violation	Description of violation	Would the recommended scope address this violation?	Estimated Cost to Remediate
FISP	DOB	6/15/2023	Façade	Yes	TBD
FISP	DOB	11/1/2023	Façade	Yes	TBD
EAGRAD	DOB	12/1/2021	Energy	No	N/A

	Building 7		
Building Address	47-30 61st Street, Queens NY 11377		
Borough, Block, Lot (BBL) (NYC only)	4023220001		
Date of Last FISP or LL 11/98 Report (NYC only)	2023		
Year Built	1964		
Building Gross Area (SF)	145468		
Does the building have a basement or cellar?	Yes		
	Occupied (# units)	**Vacant (# units)**	**Total**
Studio	0	0	0
1 Bedroom	37	1	38
2 Bedroom	71	1	72
3 Bedroom	36	0	36
4 Bedroom	0	0	0
5 Bedroom	0	0	0
Total Residential Units Only	**144**	**2**	**146**
Commercial Spaces			0
Total Units (Commercial and Residential)	**144**	**2**	**292**
Total Ground Floor Units			0
Total Basement Units			0

VIOLATIONS NARRATIVE - Building 7					
Violation Type	Issuing agency	Date of Violation	Description of violation	Would the recommended scope address this violation?	Estimated Cost to Remediate
AEUHAZ	DOB	7/26/2016	Class 1	Yes	TBD
AEUHAZ	DOB	7/7/2021	Class 1	Yes	TBD
AEUHAZ	DOB	10/4/2023	Class 1	Yes	TBD

EXECUTIVE SUMMARY

Project/Building Name (if any) or Address(es)	Big Six Towers, Inc.
# of Buildings	8
# of Total Units	997
Report Prepared For	Melisa Zimonjic - Site Manager - Metro Management
Report Prepared By	
Needs Assessor	William Struth, Ron Mangione, Jose Martinez
Energy Assessor	Parth Patel
Needs Portion Reviewed By	Ronald Mangione, P.E.
Energy Portion Reviewed By	Faisal Taha, P.E., CEM
Additional attendees during site visit (super, etc.)	Mike Olech, Murden Wood, Felipe Mateo
Date of Site Visit	6/11/2024
Date of Report	6/20/2024
Date of Revised Report	9/10/2024

Recommended Energy Efficiency, Water Conservation, Resiliency, and Physical Needs Improvements					
Please note the below recommendations do not take full code compliance into consideration. Please consult with a design profession for implementation.					
Improvement Name	Improvement Description	Improvement Type	Estimated Implementation Cost ($)	Estimated Annual Utility Cost Savings ($/yr)	Potential Health Benefit
Replace Broken/Uplifted Flags	Replace broken and uplifted flags - Survey	Site Work	$ 625,000		Low
Replace shifted cubs	Survey is needed	Site Work	$ 30,000		None
Waste Line Repairs	Residential Buidlings - Repair and Cellar	Building Systems	$ 6,000,000		Low
Replace Roof Exhasut Fans with Timer/VFD	Residential Buidlings	Building Systems	$ 280,000	$ 26,481	High
Replace seating areas	N/A		$ 150,000		None
ACM/Lead Testing	N/A	Healthy/Pest Management	$ 50,000		High
Site Survey for the Site	N/A	Site Work	$ 85,000		None
Landscaping Upgrade	N/A	Site Work	$ 400,000		None
TRVs	Install Digital TRV's - Long term as Heat Pumps are being concidered.	Apartments	$ 1,030,400	$ 67,500	Low
Heating Control System	Residentail Building- Long term as Heat Pumps are being concidered.	Building Systems	$ 490,000	$ 34,500	Low
Steam Traps Replacement	Long term as Heat Pumps are being concidered.	Apartments	$ 736,000	$ 41,850	None
Steam System De-Commission	Heating System only if the building decided	Building Systems	$ 315,000		None
Replace roof railings per building	N/A	Building Envelope	$ 2,800,000		None
Replace roofs per building	N/A	Building Envelope	$ 5,971,875	$ 24,335	None
LL11 cycle 9-10	Façade Repairs	Building Envelope	$ 13,000,000		None
Garage LL126 Repairs	Commercial Parking	Site Work	$ 4,000,000		None
New Fencing for the Property	N/A	Site Work	$ 400,000		None
Repair Roof Tank Structural Beams	Structural Damage	Site Work	$ 280,000		None
Replace Fire Proof Doors	Cellar	Interior Common Space	$ 210,000		None
Replace Electrical Panels	Apartments - Federal Pacific	Apartments	$ 1,476,000		None
Electrical Sub-metering	N/A	Building Systems	$ 595,000		None
Upgrade Electrical Switchboard "Residential"	N/A	Building Systems	$ 180,000		None
Upgrade Electrical Switchboard "Commercial"	N/A	Building Systems	$ 290,000		None
Provide Roof Top Units for the Commerical Mall	12-6 Tons Units	Building Systems	$ 2,400,000		None
Replace Compactors	N/A	Building Systems	$ 595,000		None
DHW Heat Pump	instead of DHW Heater Replacement	Building Systems	$ 1,540,000	$ 48,000	None
Upgrade Electrical System to Connect to Con Edison	N/A	Building Systems	$ 18,000,000		None
Clean & Balance Exhasut System	N/A	Building Systems	$ 85,000		High
Replace Water Tanks & Add Bypass	N/A	Building Systems	$ 135,000		High
Replac Water Main Service	N/A	Building Systems	$ 145,000		Medium
Elevator Modernization (17X)	All Elevators	Building Systems	$ 8,000,000		None
ADA Front Doors	Commerical Mall	Building Systems	$ 50,000		None
Heat Pumps (Air Cooled)	Remove Steam Traps, Heating Controls and	Building Envelope	$ 12,000,000		None
Parking Lots Repairs	N/A	Site Work	$ 389,500		None
Install carbon monoxide / smoke detectors and natural gas detectors	Local Law 157 - Battery Operated	Apartments	$ 492,000		High
Waterproof Basements	Stop Leaks	Interior Common Space	$ 1,050,000		None
Close Illegal Gaps between rail spacing	Balconies	Building Envelope	$ 117,600		None
New CCTV System	Camera to Cover Interior & Exteriors inlcud	Building Systems	$ 380,000		None
GC, Bond & Mobilization	N/A	Special Considerations	$ 15,200,000		None

Recommended Operations and Maintenance Interventions					
General Recommended O&M Interventions	Intervention Type	Why Do It	Frequency	Impact / Cost	Relevant NYC Code and Resources
Inspect fans, fix and clean vents/ventilation ducts, replace filters. Set regular inspection schedule.	Health - Air Quality and Ventilation	Yes	Asthma & respiratory risks	Annual, Filters every 6 mos.	§[C26-1205.1] 27-745 Occupiable rooms. All occupiable rooms shall be ventilated by natural or mechanical means, or by a combination of both. Natural ventilation may be provided except where mechanical ventilation is required by article seven or eight of this subchapter.
Educate tenants about ways to improve ventilation and about reporting fans that don't work and windows that don't open.	Health - Air Quality and Ventilation	Yes	Asthma & respiratory risks	Lease up & annual	
Educate tenants about identifying and reporting problems with central heating/cooling.	Health - Air Quality and Ventilation	Yes	General health; energy efficiency	Lease up & annual	
Ensure regular cleaning of dryers to improve functionality and to reduce fire hazards.	Health - Air Quality and Ventilation	Yes	Respiratory risks & fire hazards	Annual	
Ensure proper venting of dryers.	Health - Air Quality and Ventilation	Yes	Respiratory risks & moisture control	Annual	
Evaluate boiler to ensure proper combustion safety to ensure proper combustion safety and to efficiently manage temperature.	Health - Air Quality and Ventilation	Yes			
Prohibit smoking within units and within 20ft of building. Incorporate no smoking provisions in lease. Note	Health - Air Quality and Ventilation	Yes	Asthma and cancer risks	One time change	https://www1.nyc.gov/site/doh/health/health-topics/smoking-smoke-free-housing.page
Clean mold, eliminate water leaks, clean surfaces and replace surfaces as needed. Fix drainage as needed.	Health - Moisture	Yes	Asthma & respiratory risks; moisture control	As needed	http://www1.nyc.gov/site/doh/health/health-topics/air-quality-indoor-moisture.page
Educate tenants about importance of and ways to report leaks (running toilets, leaking radiators, dripping faucets, moisture problems, and mold issues in the building.	Health - Moisture	Yes	Asthma & respiratory risks; moisture control	Lease up & annual	
Replace or place entry door weather-stripping and door sweeps.	Health - Moisture	Yes	Moisture control; energy efficiency		
Seal holes and cracks, including around plumbing and utility openings and foundation. Install door sweeps to prevent pest entry. Use pest resistant materials during repairs. Accompany pest management professional during each service visit to identify areas in need or repair. Train staff to monitor pest prone places for conditions conducive to pests. Adopt the use of reduced risk pesticides building wide. Review pest proofing tips for building owners, managers and staff in NYC DOHMH IPM Toolkit.	Health - Pests	Yes	Asthma risks, pest control	Rehab, unit turnover, annual inspections	NYC Integrated Pest Management Tool Kit http://www.nyc.gov/html/doh/downloads/pdf/pesticide/ipm-toolkit.pdf
Educate residents on how to minimize food and water sources for pests; identify and report openings for repair; on the use of reduced risk pesticides (gel bait, bait stations). Educate management on implementation of a building-wide Integrated Pest Management (IPM) protocol.	Health - Pests	Yes	Asthma risks, pest control	Lease up & annual	
Adopt an integrated pest management scope of work	Health - Pests	Yes	Asthma risks, pest control	Pest contract	NYCDOHMH Toolkit
Ensure garbage room is properly maintained through maintenance and ensure waste storage capacity meets the needs of the building	Health - Pests	Yes	Asthma risks, pest control	6 months	
Institute an off gassing period for units before occupancy after rehabilitation, especially after carpeting, painting, and floor work	Health - Hazardous Materials and Conditions	Yes	Respiratory and other health risks	Post rehab	NYC Local Law 2 (2012) - VOC Emissions Limits in Carpets and Carpet Cushions: https://www1.nyc.gov/site/doh/health/health-topics/air-quality-vocs-and-carpeting-what-consumers-and-the-public-should-know.page and https://www1.nyc.gov/assets/buildings/local_laws/ll2of2012.pdf Floor Refinishing and Moisture-Cure Urethanes: https://www1.nyc.gov/site/doh/health/health-topics/floor-refinishing.page

Ensure carbon monoxide (CO) detectors are installed pursuant to code. Mitigate sources of CO build-up, i.e. back drafting, unventilated heaters, or other combustion effects. Educate tenants to report if their CO detector is going off.	Health - Hazardous Materials and Conditions	Yes	CO poisoning risks	Annual inspection; Lease up	http://www1.nyc.gov/site/hpd/owners/Smoke-carbon-monoxide-detectors.page
Use green products in cleaning, rehab, repairs, painting. Use low-/no-volatile organic compounds (VOCs), low/no formaldehyde in cleaning products, paint, sealants, adhesives, building materials.	Health - Hazardous Materials and Conditions	Yes	Respiratory and other health risks	Ongoing	http://programs.lisc.org/NYC/Images/Two_Shades_of_Green_-_Green_Cleaning_Toolkit.pdf; Greenseal; Greenshield; EPA Safer Choice; EPA Formaldehyde emissions standards for composite wood products: https://www.epa.gov/formaldehyde/formaldehyde-emission-standards-composite-wood-products
Seal and clean ventilation ducts, can be HVAC or maintenance staff	Health - Hazardous Materials and Conditions	Yes	Respiratory and other health risks	Rehab, energy projects	
Use no-VOC and no-formaldehyde paint, adhesives, sealants, cleaners, and products	Health - Hazardous Materials and Conditions	Yes			EPA Formaldehyde emissions standards for composite wood products: https://www.epa.gov/formaldehyde/formaldehyde-emission-standards-composite-wood-products
Lead: In buildings constructed prior to 1978 (or 1960 in NYC), ensure that lead-safe renovation practices are utilized for any repairs that could disturb lead-based paint. Have building maintenance staff trained and certified in EPA Renovation, Repair and Painting (RRP).	Health - Hazardous Materials and Conditions	Yes	Neurological damage	Rehab, annually for units occupied by young children	In NYC, Local Law 1 of 2004 (the Lead Paint Law) requires owners to annually inspect units occupied by children under the age of six, to identify and fix lead paint hazards.
Ensure indoor and outdoor areas are well lit	Health - Active Design Opportunities to Encourage Physical Activity	Yes	Encourage physical activity	Rehab, ongoing	
Ensure stairs are attractive option over elevators - located close to the entrance and well-lit (with daylight if possible); stair prompt signage	Health - Active Design Opportunities to Encourage Physical Activity	Yes	Encourage physical activity	Ongoing	Stair prompt sign: www1.nyc.gov/assets/doh/downloads/pdf/tcny/takethestairs.pdf or call 311 to order signs in English or Spanish NYC Active Design Guidelines - http://www1.nyc.gov/assets/doh/downloads/pdf/environmental/active-design-guidelines.pdf Center for Active Design Guidelines: https://centerforactivedesign.org/dl/guidelines.pdf
Install hand held and adjustable shower heads	Health - Fall, Trip, and Fire Hazard	Yes	Reduce trip and fall risks	Annual inspection	
Install slip-resistant adhesive in dark or contrasting color at the edge of each stair	Health - Fall, Trip, and Fire Hazard	Yes	Reduce trip and fall risks	Annual inspection	

Recommended Healthy Rehab Interventions		
	Impact / Potential Cost	Relevant NYC Code and Resources
Vent gas combustion appliances (boilers, hot water heater, stove top)	High Impact, Variable Cost	
Remove carpet; make floors smooth and cleanable	Medium Impact, Variable cost	
Replace gas stoves with electric	Medium Impact, High Cost	
New building materials meet green and health standards (VOC, formaldehyde)	Medium Impact, Low Cost	http://living-future.org/redlist
Repair/replace roof top fans, and seal duct work	Medium Impact, Med-Hi Cost	
Install constant airflow regulators w/ continuous exhausts	Medium Impact, Variable cost	Cost decreases with scale
Repair leaks, structural issues, water damage, radiator valves, drainage	High Impact, Variable Cost	NYC Mold Guidelines - http://www1.nyc.gov/assets/doh/downloads/pdf/epi/epi-mold-guidelines.pdf
Repair/install ventilation/fans (bathroom, kitchen, dryer)	Medium Impact, Med-Hi Cost	
Replace carpet with smooth flooring in wet areas (bath, kitchen); meet Enterprise Green Criteria standards	Medium Impact, Medium Cost	
Steam leaks elimination- change radiator valve.	Medium Impact, Med-Hi Cost	
Bath: Minimize moisture hold materials (tub surround, particle board vanity)	Medium Impact, Variable cost	NYC LL13 (2014) - Requires the use of mold-resistant materials in moisture-prone locations: https://www1.nyc.gov/assets/buildings/local_laws/ll13of2014.pdf
Pest proof exterior doorways. Install door sweeps and pest resistant door brushes to all exterior doors and waste storage areas. Ensure entryway thresholds are sealed properly.	High-impact, Low Cost	NYC DOHMH IPM Toolkit, Pest Prevention By Design Guidelines
Prevent pest access from sub-areas into living areas through exclusion and the use of pest resistant materials	High Impact, Low Cost	
Seal all joint penetrations with low VOC caulk.	High Impact, Low cost	
Pest proof units and common areas using guidelines presented in the NYC DOHMH IPM Toolkit “Pest Proofing Tips for Owners and Staff”	High impact, medium cost	
Properly install all unit fixtures, including kitchen cabinetry, radiators, sinks, and flooring to prevent pest access and harborage into and through units. Provide QA on unit interiors to guarantee pest prevention.	High Impact, Low cost	
Seal utility lines entering apartments to prevent pest access into and through units	High Impact, Low cost	
Ensure building has enough storage capacity for waste generated by the building and the means to clean waste storage areas. Renovate waste storage areas to improve capacity and improve waste storage sanitation.	High Impact, Medium-Hi Cost	
Use durable pest resistant materials for all renovation work.	High Impact, Medium Cost	
Hire lead-paint professional to abate or implement lead hazard control measures. For NYC, see Local Law 1 (2004) for building owner requirements.	High Impact, Med-Hi Cost	http://www1.nyc.gov/site/hpd/owners/Lead-Based-Paint.page
Hire asbestos specialists to inspect, test and remove any asbestos in non intact condition or that may be disrupted during other rehab work.	Medium Impact, High Cost	http://www.nyc.gov/html/fdny/pdf/cda/atru_guidance_document_final.pdf
Repair /install carbon monoxide alarms	High Impact, Low Cost per Unit	http://www1.nyc.gov/site/hpd/owners/Smoke-carbon-monoxide-detectors.page
Stairways: improve lighting, access, appeal, safety	Medium Impact, Low Cost	NYC Active Design Guidelines - http://www1.nyc.gov/assets/doh/downloads/pdf/environmental/active-design-
Create added indoor and exterior play areas, exterior gardens	Medium Impact, Med-Hi Cost	
Improve daylighting	Low impact, Variable Cost	
Add vegetation to landscaping plans	Low impact, low cost	
Provide secure, ground-floor parking areas for bicycles	Low impact, low cost	
Install dual stairway handrails; slip resistant stairs	High impact, medium cost	
Repair faulty wiring	High impact, medium cost	

Incorporate age-friendly elements in ground floor units, i.e. accessible walk-in showers with no threshold or compressible rubber threshold; wider doorways; grab bars at tubs, showers and toilets	High impact, high cost	NYC Aging in Place Guide for Building Owners - http://www.nyc.gov/html/dfta/downloads/pdf/publications/AIPGuide2016.pdf
Ensure light switches are located close to room entrances and outlets are placed at accessible height; occupancy sensor bath light	Medium impact, low cost	
Install reinforcements for potential future grab bar installation in bathroom walls. Grab bars must be securely anchored to wall studs or masonry.	Medium impact, medium cost	
Temperature-controlled water faucets	Low impact, low cost	

EXECUTIVE SUMMARY CONTINUED

Scope (major elements per ASTM E2018)	Condition *				Notes
	Poor	Average	Good	Not Applicable	
Site (except lighting)		X			
Structural Frame and Building Envelope (except windows and insulation)		X			
Windows and Insulation		X			
Roofing (except insulation)	X				New Roofs Needed
Plumbing (except domestic hot water)	X				Roof Drains and Waste
Domestic Hot Water		X			
Heating		X			
Air Conditioning				X	
Ventilation		X			
Electrical (except lighting)	X				
Lighting (including controls and site lighting)		X			Need LED Retro-Fit
Vertical Transportation	X				
Life Safety / Fire Protection		X			
Interior Elements		X			

***Good condition**—in working condition and does not require immediate or short term repairs; **Average condition**—in working condition, but may require immediate or short term repairs; **Poor condition**—not in working condition or requires immediate or short term repairs.

MAINTENANCE OVERVIEW

Provide an overview of the maintenance of the property, including existing staff and maintenance and/or janitorial contracts. Document existing practices, products, and outcomes, including the type of products used, and pest management strategies.

Maintenance and/or janitorial contracts:

The building has a maintenance personal capable of doing emergency and general daily repairs as needed. The Super and building staff maintain the building. In addition to that, outside certified contractor provide necessary needed repairs and annual maintenance for the heating plant, elevators, and on site lighting.

Maintenance issues:

The super was interviewed and general daily maintenance issues are fully handeld by the building super. Major repairs are addressed by outside contractors. No issues were reported or observed during the walk-through.

ACCESSIBILITY

Outline the existing ADA accessibility and identify any outstanding accessibility issues.

Existing accessibility:

Building has accessible elevators and ramps.

VIOLATIONS

Provide a summary of any open violations.

Open violations:

The building has open DOB and ECB Violations. Majortiy of the violations are related to façade and construction.

FEMA COMPLIANCE

Provide a summary of any building characteristics that place the building out of compliance with the FEMA National Flood Insurance Program

Compliance Issues:

The building is not on the FEMA Flood Map Flood Area

APPENDIX G COMPLAINCE

Provide a summary of any building characteristics that place the building out of compliance with the Appendix G of New York City Building Code for Substantial Improvement of buildings in Special Flood Hazard Areas

Compliance Issues:

The purpose of this appendix is to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific flood hazard areas through the establishment of comprehensive regulations for management of flood hazard areas. This building is not located in a flood zone and therefore is in complinace with Appendix G of the NYC Building Code.

IMPLEMENTATION

Many resources are available to assist developers in proceeding to implement recommendations in this Integrated Physical Needs Assessment, to upgrade our low and moderate income housing stock, to reduce energy and water use, and improve health and safety in them.

• **Housing finance agencies** provide guidance and oversight for renovation projects and can provide access to financial resources such as tax credits.

• **Financing** can be provided through organizations that specialize in low and moderate income housing, such as CPC and NYCEEC, as well as by traditional banks.

• In New York City, the **NYC Retrofit Accelerator** offers free, personalized advisory services that streamline the process of making energy efficiency improvements to your building that will reduce operating costs, enhance tenant comfort, and improve our environment.

• Across New York State, **NYSERDA** provides a variety of services and support for energy projects. Electric and gas utilities are also under mandate to support energy projects with a variety of incentives.

INSPECTION - PHYSICAL NEEDS

Site Inspection	Material	Condition	Site Inspection Narrative / Recommendations
Sidewalk	Concrete	Average	Along the streets and interior pathways there were several uplifted and cracked concrete flags. These concrete flags need be removed and replace. Thorough out the site there are wood and metal cahin low fecnes, the wood fences are in poor condition and need to be replaced. There area also many semi curcualr seating areas with wood benches that need replacement.
Curbs	Granite	Average	
Yard / Courtyard Concrete	Concrete	Average	
Area / Yard Drains	Cast Iron	Average	
Ramps	Concrete	Average	
Stoop and Stairs	Concrete	Average	
Areaway / Sidewalk Grates	Metal	Average	
Fire Passages	Metal	Average	
Wrought Iron Fence/Gates	Painted Steel	Average	
Chain Link Fences	Steel	Average	
Debris	N/A	Average	
Exterior Stairs	Metal	Average	
Trash Enclosures	Metal	Average	
Landscaping / Vegetation	N/A	N/A	
Open Space / Playground	N/A	N/A	

Structure Inspection	Material	Condition	Structure Inspection Narrative / Recommendations
Foundation	Concrete	Average	N/A
Typical Floor	Concrete Plank	Average	
Roof Deck	Concrete Plank	Average	

Roof Inspection	Material	Condition	Roof Inspection Narrative / Recommendations
Exterior Walls	Masonry	Average	Worn and exposed seciton of roof some blisters and alligatoring. Replace roof.
Type	Brick with Cast Stone	Average	
Membrane	Tar	Good	
Entry Floor	Brick with Cast Stone	Average	
Insulation	Assumed	Poor	
Coatings	N/A	N/A	
Flashings / Pitch Pockets	Not Visible	Good	
Chimney	Metal	Good	
Parapets	Bricks	Good	
Roof Railings	Metal	Average	
Dumbwaiter/Shafts	N/A	N/A	
Bulkhead(s)	Brick Masonry	Average	
Vents	Metal	Average	
Roof Drainage	Wall Brick	Poor	
Bulkhead Drainage	N/A	N/A	
Water Storage	N/A	N/A	
Mechanical Systems on Roof	N/A	N/A	

Exterior Structure Inspection	Quantity	Condition	Exterior Structure Inspection Narrative / Recommendations
Fire Escape	N/A	N/A	N/A
Metal Stairs	N/A	N/A	
Overhang	N/A	N/A	

Exterior Doors Inspection	Quantity	Condition	Exterior Doors Inspection Narrative / Recommendations
Main Entrance	14	Average	The entry consists of a glass entry door with sidelight and transom into the vestibule and a glass entry door with sidelight and transom for the vestibule door into the lobby.
Vestibule	15	Average	
Basement / Cellar	7	Average	
Bulkhead	14	Average	
Other	N/A	N/A	

Interior Common Area

Common Areas	Condition	Common Areas Inspection Narrative / Recommendations
Vestibule	Average	Interiors are well maintained. Lobby and vestibule ceiling are in good condition. Upgrade interior will be needed
Lobby	Average	
Stairs	Average	
Typical Floor	Average	
Doors	Average	
Landing	Average	
Other		

Electrical	Fixtures (#)	Switches (#)	Outlets (#)	General Conditions / Wiring	Electrical Inspection Narrative / Recommendations (Excluding lighting. See "Inspection - Energy and Water" tab for lighting.)
Vestibule	1	0	1	Copper Wiring / Good	LED Upgrade Required
Basement/Cellar	24	4	4	Copper Wiring / Good	
Lobby	28	0	8	Copper Wiring / Good	
First Floor	7	0	2	Copper Wiring / Good	
Laundry Room	6	1	9	Copper Wiring / Good	
Elevator Machine Room	6	1	2	Copper Wiring / Good	

Health-Related Concerns (with particular focus on basement) - *See Health Questionnaire and Healthy Rehab Interventions tabs for details*		
Item of Concern	Notes	Area/Location of Concern
Air Contaminants or Allergens From Interior Sources	None Observed	N/A
Air Contaminants or Allergens From Exterior Sources	Typical Source Such as Trees and Shrubs	N/A
Moisture	None Observed	N/A
Pets	Minor Issues - Issue is under control by building staff.	N/A
Hazardous Materials	None Observed	N/A
Active Design Opportunities	None Observed	N/A
Fall/Trip/Fire Hazard	None Observed	N/A

Apartments				
Apartments Inspected	Unit	Unit Size	Occupied (Y/N)	Apartments Inspection Narrative / Recommendations
Apartment 1	1-5A	2	Yes	The apartments visited have been renovated over the years. All units have circuit breaker panel (Federal Pacific) and none had fused panels. Tenants install new circuit breakers as needed when they install new equipment. The lighting fixtures in the bathrooms, kitchens, and bedrooms are different from one apartment to another but generally seem to be in good condition. majority of the apartments use compact fluorescent lighting with few incandescent and LED lamps in some areas. Majority of the apartments have original lighting fixtures, switches, and outlets but they are all in fair condition. Majority of the outlets in the bathrooms and kitchens arenot GFI outlets which is a safety issue. Finally, it was noted that majority of the apartments have battery operated combination CO/Smoke Detector in the hallways and in the bedrooms. few apartments of the sample visited have wired units.
Apartment 2	1-5B	2	Yes	
Apartment 3	1-6D	1	Yes	
Apartment 4	1-8D	1	Yes	
Apartment 5	1-8E	2	Yes	
Apartment 6	2-2A	2	Yes	
Apartment 7	2-2C	3	Yes	
Apartment 8	2-10E	2	Yes	
Apartment 9	2-8F	2	Yes	
Apartment 10	3-12D	1	Yes	
Apartment 11	3-4C	3	Yes	
Apartment 12	3-5E	2	Yes	
Apartment 13	3-4E	2	Yes	
Apartment 14	4-6E	2	Yes	
Apartment 15	4-8D	1	Yes	
Apartment 16	4-8A	2	Yes	
Apartment 17	5-5A	2	Yes	
Apartment 18	5-8C	3	Yes	
Apartment 19	6-2A	2	Yes	
Apartment 20	7-8E	2	Yes	

Entryway	Material	Condition	Entryway Inspection Narrative / Recommendations
Walls	Painted Gyp Board	Average	N/A
Floor	Wood Flooring	Average	
Ceiling	Painted Gyp Board	Average	
Doors	Levers	Average	
Intercom Panel	Cellular System	Good	

Living / Dining Room	Material	Condition	Livingroom/Dining Room Inspection Narrative / Recommendations
Walls	Painted Gyp Board	Average	N/A
Floor	Wood Flooring	Average	
Ceiling	Painted Gyp Board	Average	
Doors	Levers	Average	

Bathroom(s)	Material	Condition	Bathroom(s) Inspection Narrative / Recommendations
Walls	Painted gyp. Brd. & Tile	Average	N/A
Floor	Ceramic Tile	Average	
Ceiling	Painted gyp. Board	Average	
Doors	Levers	Average	
Toilet	Ceramic with Tank	Average	
Sink / Vanity	Lavatory with vanity	Average	
Tub / Shower	Tub	Average	
Other			

Kitchen	Material	Condition	Kitchen Inspection Narrative / Recommendations
Walls	Painted gyp. Brd. & Tile	Average	N/A
Floor	Ceramic Tile	Average	
Ceiling	Painted gyp. Board	Average	
Doors	N/A	N/A	
Cabinets	Wood	Good	
Countertops	Plastic Laminate	Good	
Sink / Faucet	Stainless	Good	
Other			
Refrigerator	See "Inspection - Energy and Water" tab		
Stove / Range	See "Inspection - Energy and Water" tab		
Dishwasher	See "Inspection - Energy and Water" tab		

Bedrooms	Material	Condition	Bedrooms Inspection Narrative / Recommendations
Walls	Painted Gyp Board	Good	N/A
Floor	Wood Flooring	Good	
Ceiling	Painted Gyp Board	Average	
Doors	Levers	Good	
Closets	Painted Gyp Board	Good	
Other			

Electrical	Fixtures (#)	Switches (#)	Outlets (#)	General Conditions / Wiring	Apartment Electrical Inspection Narrative / Recommendations (Excluding lighting. See "Inspection - Energy and Water" tab for lighting.)
Entryway	1	1	0	Average	Outlets,Lighting fixtures, and exposed wiring are in good condition.
Living / Dining	2	2	4	Average	
Bathroom	1	1	1	Average	
Bedrooms	1	1	4	Average	
Hallway	1	1	0	N/A	
Exterior	0	0	0	N/A	

Electrical Panel	Circuit Breaker Panel - To be Replaced

Health-Related Concerns in Apartments - See "Health Questionnaire" and "Healthy Rehab Interventions" tabs for details	
Air Contaminants or Allergens From Interior Sources	None Observed
Air Contaminants or Allergens From Exterior Sources	Typical Source Such as Trees and Shrubs
Moisture	None Observed
Pets	Minor Issues - Issue is under control by building staff.
Hazardous Materials	None Observed
Active Design Opportunities	N/A
Fall/Trip/Fire Hazard	None Observed

Plumbing	Description	Condition	Plumbing Inspection Narrative / Recommendations
Water Services	(6") Steel Piping w/ 2 Meters	Average	Domestic cold water for drinking and sanitary purposes is provided by one 6" water service that enters the Water Service room in the cellar of building 60 First Avenue and feed three (3) 40 HP house pumps. The water is pumped by centrifugal pumps to a main 10,000 Gallons wooden storage tank located above the roof. The bottom 2,500 Gallons of the tank is used for fire reserve for the sprinkler/standpipe system while the remaining upper section is for domestic water use. Cold water is down fed from the tank to the basement loops back through risers to serve the apartments up to the 21st floor and undergrond to other buildings. There is a main PRV station that feeds the water risers up to the 21st floor. The fire standpipe in the cellars and compactors is down fed from the storage tank in a similar manner and serves the fire valves on each floor. The domestic cold and hot water piping is typically copper. The sanitary and storm drainage piping systems are extra heavy cast iron which exit the buildings and connects to the city sewer. Ejector/Sump pumps in the cellar level handle floor drains and plumbing fixtures by pumping it overhead into the sanitary drainage system. No active plumbing leaks were reported in the apartments. The building staff replaces leaking risers as needed. The waste lines, hot water, hot water recirculation lines, and the cold water lines should be replaced in the next 15-20 years to avoid continuos active leaks.
Sanitary Waste	Cast Iron with 7-12" Traps	Average	
Storm Waste	Combined with Sanitary	Average	
Sump Pumps	Duplex Sewage Ejector Pumps	Average	
House Trap(s)	7-12" Traps Below Ground	Average	
Water/Waste Leaks	Yes - Waste Lines	Poor	

Electrical	Description	Electrical Inspection Narrative / Recommendations
Point of Service	Power Plant to Building 3 (59-55 47th Avenue)	The Big Six complex supplies all of its electrical power and domestic hot water from the six generators (combined heat and power (CHP) units) located in the big six power plant. There is no utility electrical supply to the Big Six complex. The six (6) CHP units consist two (2) diesel powered units each rated 900 kW at 277/480 Vac that are operated at 650 kW, one (1) diesel powered unit rated 1600 kW at 277/480 Vac that is operated at 1000 kW, and three (3) natural gas powered units each rated 650 kW at 277/480 Vac that are operated at 500 kW. The CHP units produce electrical power at 277/480 VAC and then it is transformed down to 120/208 VAC for distribution to the seven (7) buildings. Typical electrical demand for the cooler months, October to May, runs between 800 kW to 1300 kW. Typical demand during the warmer months June to September runs from 1300 kW to a max of 3000 kW on the hottest days. A least one (1) diesel unit must be operating at all times to stabilize the frequency at 60 HZ, but the fuel cost to operate the gas units are typically half the cost to operate the diesel units. Diesel fuel is pumped to the power plant from the main No.2 fuel oil tank located near the boiler room. The fuel oil pumps are located in the boiler room. Domestic Hot Water (DHW) is produced from the engine jacket water via four (4) water to water heat exchangers located within the power plant. There are nine (9) radiators located behind the power plant. These radiators dissipate excessive engine jacket water heat when the supply of jacket water heat exceeds the demand for DHW. There is a waste heat steam boiler associated with each of the six (6) CHP units. Waste heat at 800°F from the engine exhaust system produces steam within these boilers. The steam is used in the winter months to produce hot water for heating the commercial spaces via two (2) steam to hot water heat exchanges. Excess steam is piped to the main boiler room where it supplements the main steam heating system supplying all the residential buildings. In the summer months, the steam produced by the waste heat supplies a steam absorption chiller located in the power plant that provides chilled water for the commercial space. There is an associated induced draft cooling tower on the roof for the chiller. Electrical service to the residential apartments is provided by common risers. Each apartment is provided with a single phase, 120/208 volt subservice off the common riser. The typical riser cable is copper. No aluminum risers were observed on site. Lighting throughout the indoor public areas is typically LED fixtures and some linear fluorescent fixtures and is adequate with some need of upgrading. Exterior lighting is typically hallogen and LED and is adequate with some need of upgrading at the building entrances. The apartment intercom equipment throughout the complex has been replaced within the last 10 years. The apartment interomc system is wirless based.
Meter Bank Location	Each Building has a Service Switachboard to feed Apartments and PL&P Loads	
Service Size	3800 KW 3 Phase 277/480V	
Main Fuse Disconnect	3P-2000A Feeding Building 1 3P-2500A Feeding Building 2 3P-1200A Feeding Building 3 Section A 3P-1200A Feeding Building 3 Section B 3P-2500A Feeding Building 4 3P-2500A Feeding Building 5 3P-2500A Feeding Building 6 3P-2500A Feeding Building 7	
Distribution Panel	Multiple Distribution Panels feeding Apartments & Common Loads	
Emergency Lighting	Stand alone Emergency Fixtures with Battery Backup - Fair	
Wiring	Apartmet and PL&P distriubtion wiring is original - Fair condition	
Intercom	Wirless Call	
Other Elec. Util.		

Elevator	Description/Location	Condition	Elevator Inspection Narrative / Recommendations
Quantity	2 elevator per building	Poor	Each building is equipped with two (2) passenger 20 horsepower AC motor elevators. The elevators and associated VFD controllers were upgraded recently. The elevators are well maintained by the building staff and an outside maintenance company.
Manufacturer	Hollister-Whitney Elevator Corp.	Poor	
Cab	Metal Panels	Poor	
Cab Door	Stainless Steel	Poor	
Hall Door	Stainless Steel	Poor	
Interlocks	N/A	Poor	
Type	N/A	Poor	
If Traction - Cables (Hoist)	350 FPM	Poor	
If Traction - Cables (Gov.)		Poor	
Machine	20 HP	Poor	
Controller	VFD Equipped AC Controller	Poor	

Fire Protection	Description/Location	Condition	Fire Protection Inspection Narrative / Recommendations
Sprinkler	Sprinkler/Standpipe System	Average	The sprinkler/standpipe water is provided thru 6" cold water services. The system feeds sprinkler heads and the standpipe riser in the stairwells, compactor shaft, and the basement. The building has no central fire alarm system. the hallways are equipped with local smoke/CO detectors. The apartments are equipped with baterry operated smoke/co detectors.
Fire Alarm	No Central	Average	
Smoke / CO Detectors	Self-Contained Battery Operated	Average	
Equipment	N/A	Average	
Other	N/A		
Interlocks	N/A		

Compactor	Description	Condition	Compactor Inspection Narrative / Recommendations
Compactor	N/A	Poor	Each building is equipped with one (1) interior compactor. The compactor is located in the cellar levelof each building below the refuse chute. The compactors appeared to be in poor condition and will need to be replaced over the next 5 years.
Chute	N/A	Average	
Hopper Doors	N/A	Average	
Sprinkler	N/A	Average	

Security	Description	Condition	Security Inspection Narrative / Recommendations
Cameras	Digital System	Average	

Monitors	Digital System	Average	The building has CCTV camera system the covers buildings entrances, exits, lobbies, cellars and other common areas. System expansion is required to provide more coverage. All cameras are monitored by security staff in the security office.
DVR	Online Cloud Backup	Average	
Mailboxes	N/A	N/A	
Other			

Utility Areas	Description	Condition	Utility Areas Inspection Narrative / Recommendations
Mechanical Rooms	N/A		N/A
Other - Physical Spaces	N/A		

Special Considerations			
Environmental		Description	Condition
Toxic Materials	Petroleum Storage	2-8000G and 1-3500 Gal #2	Average
	PCBs	N/A	N/A
	Other	N/A	N/A
Unless already tested, assume the presence of asbestos if any window, boiler, facade or roof work is recommended.			
Asbestos Suspected Materials	Boiler	None	
	DHW Heater	None	
	DHW Tank	None	
	Pipe Covering	None	
	Insulation	Assumed	
	Floor tile (e.g. 9" x9")	Assumed	
	Plaster / gyp board	Assumed	
	Roof	None	
	Façade	None	
	Other		
Indicate whether the building has been tested for lead. If no testing was previously conducted, assume the presence of lead.			
Lead-Based Paint Suspected	In-Unit	Assumed	Assumed based on building age
	Common Area	Assumed	Assumed based on building age
	Fire Escape	Assumed	Assumed based on building age
	Entryway	Assumed	Assumed based on building age
	Exterior	Assumed	Assumed based on building age
	Other		
Other Hazardous Materials		N/A	
Call-for-Aid Systems		Description	Condition
System 1			
System 2			

Additional Information

Environmental Narrative

Describe whether any of the following exist at the building: asbestos containing materials, petroleum storage, lead paint, etc.

N/A

Accessibility Issues (Section 504 Compliant, etc.)

Describe whether the building meets all the requirements for persons with disabilities, based on the laws in effect at the time the building was constructed and subsequent renovations.

Each building has elevators that are ADA compliant.

Historic Preservation Issues

Describe any special requirements related to Historic Preservation if a Federal, State, and/or City listed site.

N/A

TABLE 1: FLOOD HAZARD AND HEAT EXPOSURE SCREENING (complete screening for each building being assessed)

	Property Information		Coastal Flood Exposure				Stormwater Exposure		Heat Exposure		
#	Address	BBL	Current Special Flood Hazard Area	Current Shaded X Zone [0.2% Annual Chance Flood] (see note 1)	Base Flood Elevation [BFE] (see note1)	NYC ONLY Future (2050s) Flood Hazard Area (see note 2)	NYC ONLY Stormwater Flood Exposure (see note 3)	Prior Flood History (see note 4)	NYC ONLY Heat Vulnerability Index (see note 5)	NYC ONLY Is project considered High Risk for Heat Vulnerability	**Comments (see note 4)**
1	59-02 Queens Blvd, Queens NY 11377	4023140001	NO	NO	N/A	NO	NO	NO	2	NO	
2	59-15 47th Avenue, Queens NY 11377	4023140001	NO	NO	N/A	NO	NO	NO	2	NO	
3	59-55 47th Avenue, Queens NY 11377	4023140001	NO	NO	N/A	NO	NO	NO	2	NO	
4	59-40 Queens Blvd, Queens NY 11377	4023140001	NO	NO	N/A	NO	NO	NO	2	NO	
5	46-10 61st Street, Queens NY 11377	4023140001	NO	NO	N/A	NO	NO	NO	2	NO	
6	60-10 47th Avenue, Queens NY 11377	4023220001	NO	NO	N/A	NO	NO	NO	2	NO	
7	47-30 61st Street, Queens NY 11377	4023220001	NO	NO	N/A	NO	NO	NO	2	NO	
8											
9											
10											

NOTES:

1 Refer to FEMA Flood Insurance Rate Maps (**2007 FIRM and 2015 PFIRM**). Answer YES if building is within the illustrated current Special Flood Hazard Area (1% Annual Chance Flood) or Shaded X Zone (.2% Annual Chance Flood) and NO if it is not. For YES responses, indicate the BFE noted on the FIRM in next column.

2 **For NYC Properties Only:** Refer to the NYC Flood Hazard Mapper and view map layer **"Future Flood Plain 2050s "**. Answer YES if building is within the 1% Annual Chance Flood Area indicated and NO if it is not.

3 **For NYC Properties Only**: Refer to the NYC Stormwater Flood Maps and view layer **"Extreme Stormwater Flood with 2080s Sea Level Rise"**. Answer YES if building is within or adjacent to a flooded area. indicated.

4 Talk with building manager and on-site staff to determine if the building has experienced flooding of any kind in the past. Indicate YES if it has and NO if it has not and provide descriptions (including flood levels and degree of damage) in the comments column.

5 **For NYC Properties Only**: refer to NYC's Environment and Health Data Portal here: https://a816-dohbesp.nyc.gov/IndicatorPublic/beta/data-explorer/weather-related-illness/?id=2191#display=summary

TABLE 2: PROPERTY RISK ASSESSMENT (complete for all buildings with a YES response for Coastal Flood Exposure or Stormwater Exposure in Table 1)											
#	Property Information		Risk Exposure Type (see note 1)	Coastal Flood Risk					NYC ONLY		Comments (see note 5)
	Address	BBL		First Floor Elevation (FFE) (see note 2)	Design Flood Elevation (DFE) (see note 3)	Is FFE Below DFE?	Are there Residential Uses Below DFE?	Is there Critical Equipment Below DFE?	Residential Use Below Anticipated Flood Level or Below Grade (see note 4)	Critical Equipment Below Anticipated Flood Level or Below Grade? (see note 4)	
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											

NOTES:

1 Choose category based on results of screening in Table 1

2 Provide First Floor Elevation relative to NAVD88m if possible. Use inset Figure 1 to determine DFE at each building.

3 **For NYC Properties Only**: Projects must design to the 2050s Sea-Level-Rise-Adjusted DFE

4 **For NYC Properties Only**: If there are any below grade or first floor residential uses or critical equipment below estimate flood depth (from Table 1) indicate YES

5 **In the comments section**: please note any existing resiliency measures in the building. Also, please note if the building has been flood proofed.

Objective: This tab serves to capture any electrification or electrification-readiness measures that were considered during the scoping process. New York State initiatives have set goals to decarbonize the state's building stock and specifically low- to-moderate income housing. Please consider your building(s') path to electrification, even if there are not currently electrification or electrification-readiness recommendations for a specific project. See Note 1 for definitions of electrification and electrification-readiness upgrades.

		If Recommended				If not Recommended or Evaluated		Cost Factors				
Measure	**Evaluation Status (if measure is "Present", skip all other cells in row)**	**Recommended Work Scope Description**	**Measure Number**	**Measure Name**	**When would you consider installing measure?**	**Explanation of why measure is not recommended**	**Reason for Not Evaluating**	**Was cost considered?**	**Unit Type**	**Quantity**	**Cost Per Unit**	**How did cost impact the evaluation status?**
Electrification Readiness Measures												
Envelope												
Air Sealing (including weather stripping)	Evaluated & Recommended	Weather stripping										
Insulation - Roof Deck or Attic	Evaluated & Recommended	Roof Replacement										
Insulation - Wall	Evaluated & Not Recommended					Not Feasible						
Windows - High Efficiency Windows and/or Storm Windows (when single-pane windows are present)	Evaluated & Not Recommended					Windows are in good condition						
Energy-Efficient Exterior Door Replacements	Evaluated & Recommended	Roof Doors										
HVAC - Distribution												
Insulate All Hot Surfaces (condensate tank, steam & HW piping)	Present											
Heat Recovery Ventilation or Energy Recovery Ventilation	Not Evaluated						N/A					
Onsite Solar												
Solar PV System	Evaluated & Recommended	New Solar System										
Electrical Loads												
Upgrade in-unit panel size for future electrification efforts (installation of heat pump technology or electric appliances)	Evaluated & Not Recommended					High Cost						
Upgrade master panel size for future electrification efforts (installation of heat pump technology, electric appliances, or electric vehicle charging)	Evaluated & Recommended	Electrical Upgrade										
Upgrade Electrical Service for future electrification efforts (installation of heat pump technology, electric appliances, or electric vehicle charging)	Evaluated & Recommended	Electrical Upgrade										
Alternative metering configuration that would encourage electrification (ie. Master metering, sub-metering, or direct metering)	Present											
Heat Pump Water Heater Readiness												
Ventilation to accommodate Heat Pump Water Heaters, such as air intake and exhaust. This may include louvered doors for utility closets or ducting to the outside.	Not Evaluated						No Central Fans					
Additional Electrification Considerations												
Roof space for outdoor heat pump units.	Not Evaluated						No Space					
Utility closet space for Heat Pump Water Heaters or Single Package Vertical Heat Pump.	Not Evaluated						No Space					
Electrification Measures												
Appliances (energy efficient and all-electric)												
ENERGY STAR Refrigerators	Present											
ENERGY STAR Dishwashers	Not Evaluated						No DW					
ENERGY STAR Clothes Washer	Present											
ENERGY STAR Electric Clothes Dryer	Not Evaluated						Gas Dryers					
ENERGY STAR Electric Cooking Appliances (Induction Cooktop or Electric Resistance)	Not Evaluated						Gas Cooking					
ENERGY STAR Window-mounted Air Conditioning	Present											
Heat Pump - HVAC [please select all technologies that apply]												
☐ Low-temp hydronic with Air to Water Heat Pump (AWHP) ☐ Mini/,multi-split Air Source Heat Pump (ASHP) ☐ Packaged Terminal Heat Pump (PTHP) ☐ Single Package Vertical Heat Pump (SPVHP) ☑ Variable Refrigerant Flow (VRF) ☐ Water-to-Water Heat Pump (WWHP) Ground Source Heat	Evaluated & Recommended	Heat Pumps for Units										

Heat Pump - Domestic Hot Water												
DHW - Low-flow Showerheads and Sink Aerators	Present											
Heat Pump Water Heater	Evaluated & Recommended	DHW Heat Pump										

ENERGY AND WATER USE

Project Info

Is this project benchmarking energy and water usage in EPA Portfolio Manager?	**No**

Summary of Metering

APARTMENT USE	Metering Type*	Paid By	Notes
Electricity	Master Metered	Owner	
Gas	Master Metered	Owner	
Water	Master Metered	Owner	

***Direct Metered:** meter for each unit provided by the utility; **Submetered**: meter for each unit provided by the building; **Master Metered**: no unit meters, tenants charged indirectly through rent or other common charges.

OWNER-PAID COMMON AREA ELECTRICITY TARIFF: (only needed for buildings with ConEd electricity)	**EL8**

Summary of Utility Data Analysis

Note:
- If your building is located in NYC and you have benchmarking data that has been submitted to the city for compliance, please use that data.
- These amounts should NOT be normalized for weather- it should be the raw energy data, for example as received from the utility.
- If "Other" is used, populate conversion factors and fill fuel type at bottom of this tab

	Existing Annual Energy Use and Cost									
(All values are total annual values)	Electricity (kwh/yr)	Natural Gas (therms/yr)	Oil #2 (gal/yr)	Oil #4 (gal/yr)	Oil #6 (gal/yr)	District Stream (Mlbs/ yr)	Propane (gal/yr)	Water (gal/yr)	Other (note units)	Total Site Energy Use (kBtu/yr)
Owner-Paid Consumption	0	994,329	372,078	0	0	0	0	46,092,717	0	151,375,015
Aggregated Resident Consumption	0	0	0	0	0	0	0	0	0	0
Whole Building Consumption	0	994,329	372,078	0	0	0	0	46,092,717	0	151,375,015

	Projected Annual Energy Use and Cost										
	Electricity (kwh/yr)	Natural Gas (therms/yr)	Oil #2 (gal/yr)	Oil #4 (gal/yr)	Oil #6 (gal/yr)	District Stream (Mlbs/ yr)	Propane (gal/yr)	Water (gal/yr)	Other (note units)	Total Site Energy Use (kBtu/yr)	% Reduction
Owner-Paid Consumption	5,963,100	108,879	372,078	0	0	0	0	46,092,717	0	83,176,112	45%
Aggregated Resident Consumption	0	0	0	0	0	0	0	0	0	0	-
Whole Building Consumption	5,963,100	108,879	372,078	0	0	0	0	46,092,717	0	83,176,112	45%

	Electricity ($/yr)	Natural Gas ($/yr)	Oil #2 ($/yr)	Oil #4 ($/yr)	Oil #6 ($/yr)	District Stream ($/yr)	Propane ($/yr)	Water ($/yr)	Other (note units)	Total Site Energy Cost ($/yr)
Owner-Paid Costs	$ -	$ 1,541,210.35	$ 1,265,065.20	$ -	$ -	$ -	$ -	$ 279,321.87	$ -	$ 2,806,276
Aggregated Resident Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Whole Building Cost	$ -	$ 1,541,210	$ 1,265,065	$ -	$ -	$ -	$ -	$ 279,322	$ -	$ 2,806,276

	Electricity ($/yr)	Natural Gas ($/yr)	Oil #2 ($/yr)	Oil #4 ($/yr)	Oil #6 ($/yr)	District Stream ($/yr)	Propane ($/yr)	Water ($/yr)	Other (note units)	Total Site Energy Cost ($/yr)	% Reduction
Owner-Paid Costs	$ 1,490,775.00	$ 168,762.85	$ 1,265,065.20	$ -	$ -	$ -	$ -	$ 279,321.87	$ -	$ 2,924,603	-4%
Aggregated Resident Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-
Whole Building Cost	$ 1,490,775	$ 168,763	$ 1,265,065	$ -	$ -	$ -	$ -	$ 279,322	$ -	$ 2,924,603	-4%

Bill Start Date	1/1/2023	1/1/2023	1/1/2023	1/1/2023	1/1/2023	1/1/2023	1/1/2023	1/1/2023	1/1/2023
Bill End Date	12/31/2023	12/31/2023	12/31/2023	12/31/2023	12/31/2023	12/31/2023	12/31/2023	12/31/2023	12/31/2023

Summary of Utility Analysis

Year reported above:	2023		
Site Energy Use Index	145.1	*kBtu/SF/year*	
Source Energy Use Index	150.3	*kBtu/SF/year*	
Heating Index	31.6	*Btu/SF/HDD*	Note: The Heating Index should include one year of heating consumption.
Total HDD in Benchmarked Year	3699	*HDD*	
Energy Cost Index	$2.69	*$/SF/year*	
Water Consumption Index	23,481	*Gal/Bedroom/Day*	
Existing GHG Intensity Index	0.00876	*tCO_2e/SF*	Note: GHG calculations are based on conversion factors and sources below.
Projected GHG Intensity Index	0.00508	*tCO_2e/SF*	Note: GHG calculations are based on conversion factors and sources below.

Blended Utility Rates			
Electricity Rate	$	0.25	**per kWh**
Natural Gas Rate	$	1.55	**per Therm**
Oil #2 Rate	$	3.40	**per Gal**
Oil #4 Rate	$	-	**per Gal**
Oil #6 Rate	$	-	**per Gal**
District Steam Rate	$	-	**per MLb**
Propane Rate	$	-	**per Gal**
Water Rate	$	0.01	**per Gal**

Estimated End Use Breakdown of Energy Consumption

Enter the estimated percent of electricity and/or fossil fuel that is used for each of the following end uses:

Electricity		
Space Heating	40	%
Cooling	25	%
Lighting	20	%
Other	15	%
Total	100	%
Fuel		
Space Heating	70	%
Hot Water / Baseload	30	%
Total	100	%

Department of Housing Preservation & Development

SOLAR FEASIBILITY ANALYSIS RESULTS

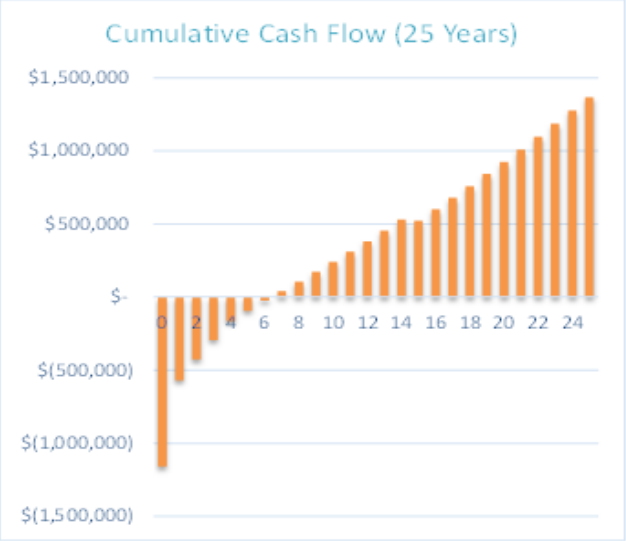
Version 1.9, Updated May 2022

SOLARone

PRELIMINARY SOLAR FINANCIAL ANALYSIS: Big Six Towers, Inc.

Solar electric systems provide electricity bill savings, however they are also eligible for a number of federal, state and local incentives that can significantly improve return on investment. The summary below includes estimated costs, incentives, electricity bill savings, and payback period for a solar energy system on this property.

Solar Energy System Size (kW-DC)		**406.00**
Year One Solar Production (kWh)		**466,900**
Year One Utility Bill Savings	**$**	**57,429**
Total Cost ($/Watt-DC)	$	4.15
Total Cost Estimate	$	1,684,900
NY-SUN Incentive	$	526,000
Upfront Cost Estimate	**$**	**1,158,900**
Cost After Incentives and Taxes	**$**	**387,305**
Payback Period		**7 years**
Internal Rate of Return		**12%**
Lifetime Net Savings	**$**	**1,368,020**
Federal Investment Tax Credit*	$	115,878
Low Income Housing Tax Credit	$	-
NYC Property Tax Abatement	$	231,780
Residential State Income Tax Credits	$	-
Depreciation (Federal and State)*	$	423,937
Federal Taxes Due on State Tax Credit	$	-



**If building owner is not able to benefit from tax incentives directly, third-party ownership may allow the owner to benefit from tax incentives indirectly.*

FEASIBILITY REPORT SUBMITTED BY	
Name	*Faisal Taha*
Company	*Lawless & Mangione Architec*
Email	*Faisalt@lawlessmangione.cor*
HPD ID	

WARNING: incomplete form. Please enter values for all blue fields on the Project Info, Building Info, and Solar Layout tabs.

NEXT STEPS
1. Submit Solar Feasibility Analysis to HPD.
2. HPD approves project, exempts project, or requires a Solar Consultation.
3. Refine solar design as needed.
4. Solicit bids from NYSERDA-qualified solar installation companies.

LOCAL LAW 97 COMPLIANCE REPORT & WORKSHEET - APPLICABLE NYC BUILDINGS ONLY

Project Info	
Project Name	Big Six Towers
Total # of Buildings in Project	7
Total # of Buildings in Project subject to LL97	7

TABLE 1: FILL IN FOR ALL BUILDINGS IN PROJECT > 25,000 SF AND/OR SUBJECT TO LOCAL LAW 97 (add additional rows if necessary)

#	Address	BBL	Building GSF	LL97 Compliance Requirement	Existing GHG intensity (tons CO2e/ sf)	Meets 2024 limits (Y/N)?	Meets 2030 limits (Y/N)?	Primary Fuel Type (heating)	Proposed LL97 Compliance Pathway
1	Big Six Towers	4023140001	1,043,429	Article 320.3.9 (2035 extension)	0.01145	No	No	Gas	Subject to 2035 limits in 2035 (see Table 3)
2									
3									
4									
5									
6									
7									
8									
9									

TABLE 2: FOR ALL BUILDINGS IMPLEMENTING ARTICLE 321 PRESCRIPTIVE MEASURES (select "X" if item is included, "n/a" if item is not applicable to building)

#	Address	Existing Heating Distribution System	Temperature Set-Points	Heating System Leaks	Maintain Heating System	Individual Temp. Controls	Pipe Insulation	Tank Insulation	Heating System Sensors & Controls	Common Area Lighting	Weatherizing & Air Sealing	Exhaust Fan Timers	For Steam Systems Only		
													Inspect/ Repair Steam Traps	Master Venting	Radiant Barriers
1															
2															
3															
4															
5															
6															
7															
8															
9															

TABLE 3: NARRATIVE FOR *ALL* BUILDINGS SUBJECT TO LL97 THAT ARE NOT LISTED IN TABLE 2 OR NOT ALREADY IN COMPLIANCE

#	Address	Primary Fuel Type (heating)	Projected GHG intensity (tons CO2e/ sf)	Scope Narrative: How will buildings meet applicable GHG limits (must match outputs in IPNA including energy savings and scope of work description)
1	Big Six Towers	Gas	0.01145	Heat Pumps
2				
3				
4				
5				
6				
7				
8				
9				

NOTES AND RESOURCES		
1	**Local Law 97 Compliance Requirements for Affordable Housing:**	https://www1.nyc.gov/site/hpd/services-and-information/ll97-guidance-for-affordable-housing.page
2	**DOB's Local Law 97 Page:**	Local Law 97 - Sustainable Buildings (nyc.gov)
3	**DOB's Local Law 97 Reporting Page:**	https://www1.nyc.gov/site/buildings/codes/greenhouse-gas-emission-reporting.page

QUALITY DURING CONSTRUCTION

Include steps that the developer can take during construction to help ensure that projected energy and water savings are achieved (e.g. inspections, documentation, etc.)

Energy Efficiency Measure Savings Quality Control

	Measure Classification	Measure Name	Cost	Site Energy Savings (MMBtu)	Source Energy Savings (MMBtu)	Source Energy Savings (%)	Comment	Response
1	Exhaust Fan Demand Control	Replace Roof Exhasut Fans with Timer/VFD	$280,000	771.5	1,254.8	0.6%		
2	Thermostatic Radiator Valves, install	TRVs	$1,030,400	4,500.0	4,725.0	2.3%		
3	Outdoor Reset Control, Install	Heating Control System	$490,000	2,300.0	2,415.0	1.2%		
4	Steam Traps, Replace	Steam Traps Replacement	$736,000	2,700.0	2,835.0	1.4%		
5	Insulation, Roof Deck or Attic	Replace roofs per building	$5,971,875	1,570.0	1,648.5	0.8%	This measure is being flagged as either falling outside of the cost, site energy savings, or source energy savings typical values. Please refer to the guidance in the above instructions and respond accordingly.	High Cost NYC
6	Other DHW Measure	DHW Heat Pump	$1,540,000	14,417.4	9,764.4	4.8%	This measure is being flagged as either falling outside of the cost, site energy savings, or source energy savings typical values. Please refer to the guidance in the above instructions and respond accordingly.	High Cost NYC
7	Other Heating Measure	Heat Pumps (Air Cooled)	$12,000,000	41,940.0	18,447.0	9.1%	This measure is being flagged as either falling outside of the cost, site energy savings, or source energy savings typical values. Please refer to the guidance in the above instructions and respond accordingly.	High Cost NYC
0				0.0	0.0	0.0%		

OPERATION AND MAINTENANCE MEASURES

General Recommended O&M Interventions	Intervention Type	Why Do It	Frequency	Impact / Cost	Notes
Repair leaks immediately. Any leaking faucet or valve must be repaired immediately. This will not only save water but also reduce hot water consumption, preventing water damage to surrounding areas.	Water Conservation	Conserve Water	Daily	Energy Saving	N/A
Repair all air vents/steam traps to ensure a higher efficiency of the heating system in the building.	Heating and Cooling	Balance Heating System	Daily	Energy Saving	N/A
Encourage the use of low-flow showerheads and faucet aerators. Low-flow fixtures not only reduces water consumption, but also reduces energy required to generate domestic hot water.	Water Conservation	Conserve Water	Annually	Energy Saving	N/A
Encourage the use of low-flow toilets (1.6 gallons per flush). Low-flow toilets use more than 50% less water per flush than standard toilets (3.5 gallons per flush).	Water Conservation	Conserve Water	Annually	Energy Saving	N/A
Ensure that any repairs made to steam and DWH water piping is reinsulated.	Heating and Cooling	Reduce Fuel Usage	Daily	Energy Saving	N/A
Check Fans operation on daily basis	Existing Maintenance	Assure Proper Ventilation	Daily	Energy Saving	N/A
Check DHW Temperature after the mixing valve on daily basis	Heating and Cooling	Conserve Energy	Daily	Energy Saving	N/A
Record water consumption by the Boiler Feed Unit "Fresh Water"	Heating and Cooling	Conserve Energy	Daily	Energy Saving	N/A
Check Condensate Return Temperature	Heating and Cooling	Conserve Energy	Daily	Energy Saving	N/A
Check Common Area Lighting During Operating Hours	Lighting	Conserve Energy	Daily	Energy Saving	N/A
Check Common Area Window Type AC units	Heating and Cooling	Conserve Energy	Daily	Energy Saving	N/A
Check and Clean Master Traps	Heating and Cooling	Conserve Energy	Annually	Energy Saving	N/A
Check operation of exterior lighitng fixtures	Lighting	Conserve Energy	Weekly	Energy Saving	N/A
Walk the grounds to check for uplifted flags	Other	Safety	Daily	Energy Saving	N/A
Conduct Check on all windows	Heating and Cooling	Conserve Energy	Annually	Energy Saving	N/A
Check Roof using a thermal camera	Heating and Cooling	Conserve Energy	Annually	Energy Saving	N/A

Health Related O&M Interventions to Evaluate	Intervention Type	Applies to This Building (Y/N)	Why Do It	Frequency	Impact / Cost	Relevant NYC Code and Resources	Enterprise Green Communities Criteria
Inspect fans, fix and clean vents/ventilation ducts, replace filters. Set regular inspection schedule.	Health - Air Quality and Ventilation	Yes	Asthma & respiratory risks	Annual, Filters every 6 mos.	High impact, low cost	§[C26-1205.1] 27-745 Occupiable rooms. All occupiable rooms shall be ventilated by natural or mechanical means, or by a combination of both. Natural ventilation may be provided except where mechanical ventilation is required by article seven or eight of this subchapter.	5.1a Building Performance Standard 5.3 Sizing of Heating and Cooling Equipment 6.10 Asthmagen-Free Materials 7.1 Ventilation 7.2 Clothes dryer exhaust 7.3 Combustion Equipment
Educate tenants about ways to improve ventilation and about reporting fans that don't work and windows that don't open.	Health - Air Quality and Ventilation	Yes	Asthma & respiratory risks	Lease up & annual	High Impact, low cost		
Educate tenants about identifying and reporting problems with central heating/cooling.	Health - Air Quality and Ventilation	Yes	General health; energy efficiency	Lease up & annual	High Impact, Low cost		
Ensure regular cleaning of dryers to improve functionality and to reduce fire hazards.	Health - Air Quality and Ventilation	Yes	Respiratory risks & fire hazards	Annual	High Impact, low cost		
Ensure proper venting of dryers.	Health - Air Quality and Ventilation	Yes	Respiratory risks & moisture control	Annual	Medium Impact, High Cost		
Evaluate boiler to ensure proper combustion safety to ensure proper combustion safety and to efficiently manage temperature.	Health - Air Quality and Ventilation	Yes			Low Impact, Low cost		

Prohibit smoking within units and within 20ft of building. Incorporate no smoking provisions in lease. Note	Health - Air Quality and Ventilation	Yes	Asthma and cancer risks	One time change	High Impact, Low Cost	https://www1.nyc.gov/site/doh/health/health-topics/smoking-smoke-free-housing.page	
Clean mold, eliminate water leaks, clean surfaces and replace surfaces as needed. Fix drainage as needed.	Health - Moisture	Yes	Asthma & respiratory risks; moisture control	As needed	High impact, low cost	http://www1.nyc.gov/site/doh/health/health-topics/air-quality-indoor-moisture.page	4.3 Leaks and Water Metering 6.7a,b Environmentally Preferable Flooring: 6.8 Mold Prevention: Surfaces 6.9 Mold Prevention: Tub and Shower Enclosures 7.5 Vapor Retarder Strategies 7.7 Mold Prevention: Water Heaters
Educate tenants about importance of and ways to report leaks (running toilets, leaking radiators, dripping faucets, moisture problems, and mold issues in the building.	Health - Moisture	Yes	Asthma & respiratory risks; moisture control	Lease up & annual	High Impact, Low cost		
Replace or place entry door weather-stripping and door sweeps.	Health - Moisture	Yes	Moisture control; energy efficiency		Medium Impact, Low Cost		
Seal holes and cracks, including around plumbing and utility openings and foundation. Install door sweeps to prevent pest entry. Use pest resistant materials during repairs. Accompany pest management professional during each service visit to identify areas in need or repair. Train staff to monitor pest prone places for conditions conducive to pests. Adopt the use of reduced risk pesticides building wide. Review pest proofing tips for building owners, managers and staff in NYC DOHMH IPM Toolkit.	Health - Pests	Yes	Asthma risks, pest control	Rehab, unit turnover, annual inspections	High impact, low cost	NYC Integrated Pest Management Tool Kit http://www.nyc.gov/html/doh/downloads/pdf/pesticide/ipm-toolkit.pdf	7.10 Integrated Pest Management
Educate residents on how to minimize food and water sources for pests; identify and report openings for repair; on the use of reduced risk pesticides (gel bait, bait stations). Educate management on implementation of a building-wide Integrated Pest Management (IPM) protocol.	Health - Pests	Yes	Asthma risks, pest control	Lease up & annual	High Impact, Low Cost		
Adopt an integrated pest management scope of work	Health - Pests	Yes	Asthma risks, pest control	Pest contract	High impact, Low Cost	NYCDOHMH Toolkit	

Ensure garbage room is properly maintained through maintenance and ensure waste storage capacity meets the needs of the building	Health - Pests	Yes	Asthma risks, pest control	6 months	Medium Impact, Low Cost		
Institute an off gassing period for units before occupancy after rehabilitation, especially after carpeting, painting, and floor work	Health - Hazardous Materials and Conditions	Yes	Respiratory and other health risks	Post rehab	High impact, low cost	NYC Local Law 2 (2012) - VOC Emissions Limits in Carpets and Carpet Cushions: https://www1.nyc.gov/site/doh/health/health-topics/air-quality-vocs-and-carpeting-what-consumers-and-the-public-should-know.page and https://www1.nyc.gov/assets/buildings/local_laws/ll2of2012.pdf Floor Refinishing and Moisture-Cure Urethanes: https://www1.nyc.gov/site/doh/health/health-topics/floor-refinishing.page	3.1 Environmental Remediation 5.4 ENERGY STAR Appliances 6.1 Low / No VOC Paints, Coatings and Primers 6.2 Low / No VOC Adhesives and Sealants 6.6 Composite Woods Products that Emit low/No Formaldehyde 6.7 Environmentally Preferable Flooring 6.10 Asthmagen-Free materials 7.1 Ventilation 7.3 Combustion Equipment 7.8 Radon Mitigation 7.15 Reduce Lead Hazards 7.16 Smoke-Free Building 8.3 Resident Manual 8.4 Resident and Property Staff Orientation
Ensure carbon monoxide (CO) detectors are installed pursuant to code. Mitigate sources of CO build-up, i.e. back drafting, unventilated heaters, or other combustion effects. Educate tenants to report if their CO detector is going off.	Health - Hazardous Materials and Conditions	Yes	CO poisoning risks	Annual inspection; Lease up	Med-Hi Impact, Low Cost	http://www1.nyc.gov/site/hpd/owners/Smoke-carbon-monoxide-detectors.page	
Use green products in cleaning, rehab, repairs, painting. Use low-/no-volatile organic compounds (VOCs), low/no formaldehyde in cleaning products, paint, sealants, adhesives, building materials.	Health - Hazardous Materials and Conditions	Yes	Respiratory and other health risks	Ongoing	Medium Impact, Low Cost	http://programs.lisc.org/NYC/Images/Two_Shades_of_Green_-_Green_Cleaning_Toolkit.pdf; Greenseal; Greenshield; EPA Safer Choice; EPA Formaldehyde emissions standards for composite wood products: https://www.epa.gov/formaldehyde/formaldehyde-emission-standards-composite-wood-products	
Seal and clean ventilation ducts, can be HVAC or maintenance staff	Health - Hazardous Materials and Conditions	Yes	Respiratory and other health risks	Rehab, energy projects	Medium Impact, Medium Cost		
Use no-VOC and no-formaldehyde paint, adhesives, sealants, cleaners, and products	Health - Hazardous Materials and Conditions	Yes			Medium Impact, Medium Cost	EPA Formaldehyde emissions standards for composite wood products: https://www.epa.gov/formaldehyde/formaldehyde-emission-standards-composite-wood-products	
Lead: In buildings constructed prior to 1978 (or 1960 in NYC), ensure that lead-safe renovation practices are utilized for any repairs that could disturb lead-based paint. Have building maintenance staff trained and certified in EPA Renovation, Repair and Painting (RRP).	Health - Hazardous Materials and Conditions	Yes	Neurological damage	Rehab, annually for units occupied by young children		In NYC, Local Law 1 of 2004 (the Lead Paint Law) requires owners to annually inspect units occupied by children under the age of six, to identify and fix lead paint hazards.	
Ensure indoor and outdoor areas are well lit	Health - Active Design Opportunities to Encourage Physical Activity	Yes	Encourage physical activity	Rehab, ongoing	Med-hi impact, low cost		3.4 Landscaping 5.5 Lighting 7.12,13 Active Design 7.14 Interior and Outdoor Activity Spaces for

Ensure stairs are attractive option over elevators - located close to the entrance and well-lit (with daylight if possible); stair prompt signage	Health - Active Design Opportunities to Encourage Physical Activity	Yes	Encourage physical activity	Ongoing	Low Impact, High Cost	Stair prompt sign: www1.nyc.gov/assets/doh/downloads/pdf/tcny/takethestairs.pdf or call 311 to order signs in English or Spanish NYC Active Design Guidelines - http://www1.nyc.gov/assets/doh/downloads/pdf/environmental/active-design-guidelines.pdf Center for Active Design Guidelines: https://centerforactivedesign.org/dl/guidelines.pdf	Children and Adults 8 2.9 Improving Connectivity to the Community 8.1 Building Operations & Maintenance (O&M) Manual and Plan
Install hand held and adjustable shower heads	Health - Fall, Trip, and Fire Hazard	Yes	Reduce trip and fall risks	Annual inspection	Medium impact, Low cost		5.5 Lighting 7.11a,b Beyond ADA: Universal Design 7.12, 13 Active Design 8.1 Building Operations & Maintenance (O&M) Manual and Plan
Install slip-resistant adhesive in dark or contrasting color at the edge of each stair	Health - Fall, Trip, and Fire Hazard	Yes	Reduce trip and fall risks	Annual inspection	Medium Impact, Low Cost		

HEALTHY REHAB INTERVENTIONS			
Intervention- Rehab	Applies to This Building (Y/N)	Impact / Potential Cost	Relevant NYC Code and Resources
Air Contaminants or Allergens From Indoor Sources			
Vent gas combustion appliances (boilers, hot water heater, stove top)	Yes	High Impact, Variable Cost	
Remove carpet; make floors smooth and cleanable	Yes	Medium Impact, Variable cost	
Replace gas stoves with electric	Yes	Medium Impact, High Cost	
New building materials meet green and health standards (VOC, formaldehyde)	Yes	Medium Impact, Low Cost	http://living-future.org/redlist
Repair/replace roof top fans, and seal duct work	Yes	Medium Impact, Med-Hi Cost	
Install constant airflow regulators w/ continuous exhausts	Yes	Medium Impact, Variable cost	Cost decreases with scale
Air Contaminants or Allergens From Outdoor Sources			
Install enhanced air filtration in building ventilation/HVAC	No	High impact, medium cost	
Locate exterior intake grilles to minimize intake of contaminants	No	Medium Impact, Variable Cost	
Moisture			
Repair leaks, structural issues, water damage, radiator valves, drainage	Yes	High Impact, Variable Cost	NYC Mold Guidelines - http://www1.nyc.gov/assets/doh/downloads/pdf/epi/epi-mold-guidelines.pdf EPA Mold/Moisture Guide - https://www.epa.gov/sites/production/files/2016-10/documents/moldguide12.pdf
Repair/install ventilation/fans (bathroom, kitchen, dryer)	Yes	Medium Impact, Med-Hi Cost	
Replace carpet with smooth flooring in wet areas (bath, kitchen); meet Enterprise Green Criteria standards	Yes	Medium Impact, Medium Cost	
Steam leaks elimination- change radiator valve.	Yes	Medium Impact, Med-Hi Cost	
Bath: Minimize moisture hold materials (tub surround, particle board vanity)	Yes	Medium Impact, Variable cost	NYC LL13 (2014) - Requires the use of mold-resistant materials in moisture-prone locations: https://www1.nyc.gov/assets/buildings/local_laws/ll13of2014.pdf
Pests			
Pest proof exterior doorways. Install door sweeps and pest resistant door brushes to all exterior doors and waste storage areas. Ensure entryway thresholds are sealed properly.	Yes	High-impact, Low Cost	
Prevent pest access from sub-areas into living areas through exclusion and the use of pest resistant materials	Yes	High Impact, Low Cost	
Seal all joint penetrations with low VOC caulk.	Yes	High Impact, Low cost	

Pest proof units and common areas using guidelines presented in the NYC DOHMH IPM Toolkit “Pest Proofing Tips for Owners and Staff”	Yes	High impact, medium cost	NYC DOHMH IPM Toolkit, Pest Prevention By Design Guidelines
Properly install all unit fixtures, including kitchen cabinetry, radiators, sinks, and flooring to prevent pest access and harborage into and through units. Provide QA on unit interiors to guarantee pest prevention.	Yes	High Impact, Low cost	
Seal utility lines entering apartments to prevent pest access into and through units	Yes	High Impact, Low cost	
Ensure building has enough storage capacity for waste generated by the building and the means to clean waste storage areas. Renovate waste storage areas to improve capacity and improve waste storage sanitation.	Yes	High Impact, Medium-Hi Cost	
Use durable pest resistant materials for all renovation work.	Yes	High Impact, Medium Cost	

Hazardous Materials			
Hire lead-paint professional to abate or implement lead hazard control measures. For NYC, see Local Law 1 (2004) for building owner requirements.	Yes	High Impact, Med-Hi Cost	http://www1.nyc.gov/site/hpd/owners/Lead-Based-Paint.page
Hire asbestos specialists to inspect, test and remove any asbestos in non intact condition or that may be disrupted during other rehab work.	Yes	Medium Impact, High Cost	http://www.nyc.gov/html/fdny/pdf/cda/atru_guidance_document_final.pdf
Repair /install carbon monoxide alarms	Yes	High Impact, Low Cost per Unit	http://www1.nyc.gov/site/hpd/owners/Smoke-carbon-monoxide-detectors.page
Active Design to Encourage Physical Activity; Healthy Living			
Stairways: improve lighting, access, appeal, safety	Yes	Medium Impact, Low Cost	NYC Active Design Guidelines - http://www1.nyc.gov/assets/doh/downloads/pdf/environmental/active-design-guidelines.pdf Center for Active Design Guidelines: https://centerforactivedesign.org/dl/guidelines.pdf
Create added indoor and exterior play areas, exterior gardens	Yes	Medium Impact, Med-Hi Cost	
Improve daylighting	Yes	Low impact, Variable Cost	
Add vegetation to landscaping plans	Yes	Low impact, low cost	
Provide secure, ground-floor parking areas for bicycles	Yes	Low impact, low cost	
Fall/Trip/Fire Hazard			
Install dual stairway handrails; slip resistant stairs	Yes	High impact, medium cost	
Repair faulty wiring	Yes	High impact, medium cost	
Incorporate age-friendly elements in ground floor units, i.e. accessible walk-in showers with no threshold or compressible rubber threshold; wider doorways; grab bars at tubs, showers and toilets	Yes	High impact, high cost	NYC Aging in Place Guide for Building Owners - http://www.nyc.gov/html/dfta/downloads/pdf/publications/AIPGuide2016.pdf
Ensure light switches are located close to room entrances and outlets are placed at accessible height; occupancy sensor bath light	Yes	Medium impact, low cost	
Install reinforcements for potential future grab bar installation in bathroom walls. Grab bars must be securely anchored to wall studs or masonry.	Yes	Medium impact, medium cost	
Temperature-controlled water faucets	Yes	Low impact, low cost	

COMPLETENESS CHECK

Quality Control Check Type	Comment
Measure Quantity Check	OK - All measure quantities entered.
Measure Unit Check	OK - All measure units entered.
Measure Lives Check	OK - All measure lives entered.
Baseline Year of Manufacture Check	OK – Baseline years of manufacture entered as required.
Quality Control Check	OK - Responses provided on Quality Control tab.

PROJECT SAVINGS SUMMARY

	OWNER PAID						
	Total Annual Consumption (use/yr)	Total Annual Cost ($/yr)	Total Annual Savings	Total Annual Cost Savings ($)	Total Annual Energy Savings %	Total Energy Cost Savings %
Electric	0 kWh/yr	$ -	-5,963,100 kWh/yr	$ (1,490,775)	0%	0.0%
Fuel	151,375 MMBtu/yr	$ 2,806,276	88,545 MMBtu/yr	$ 1,372,447.50	58%	48.9%
Water	46,092,717 Gal/yr	$ 279,322	0 Gal/yr	$ -	0%	0.0%
TOTAL	**151,375,015 kBtu/yr**	**$ 3,085,597**	**68,198,903 kBtu/yr**	**$ (118,328)**	**45%**	**-3.8%**

	TENANT PAID						
	Total Annual Consumption (use/yr)	Total Annual Cost ($/yr)	Total Annual Savings	Total Annual Cost Savings ($)	Total Annual Energy Savings %	Total Energy Cost Savings %
Electric	0 kWh/yr	$ -	0 kWh/yr	$ -	0%	0.0%
Fuel	0 MMBtu/yr	$ -	0 MMBtu/yr	$ -	0%	0.0%
TOTAL	**0 kBtu/yr**	**$ -**	**0 kBtu/yr**	**$ -**	**0%**	**0.0%**

	PROJECT TOTAL						
	Total Annual Consumption (use/yr)	Total Annual Cost ($/yr)	Total Annual Savings	Total Annual Cost Savings ($)	Total Annual Energy Savings %	Total Energy Cost Savings %
Electric	0 kWh/yr	$ -	-5,963,100 kWh/yr	$ (1,490,775)	0%	0.0%
Fuel	151,375 MMBtu/yr	$ 2,806,276	88,545 MMBtu/yr	$ 1,372,448	58%	48.9%
Water	46,092,717 Gal/yr	$ 279,322	0 Gal/yr	$ -	0%	0.0%
TOTAL	**151,375,015 kBtu/yr**	**$ 3,085,597**	**68,198,903 kBtu/yr**	**$ (118,328)**	**45%**	**-3.8%**

SUMMARY BY SCOPE AREA					
	Total Cost	Projected Annual Electricity Savings (kWh/yr)	Project Annual Fuel Savings (MMBtu/yr)	Projected Annual Cost Savings ($/yr)	Simple Payback
Site Work	$ 6,359,500	0	0	$ -	0.0
Building Envelope	$ 33,889,475	-5,000,000	60,570	$ (161,165)	(210.3)
Interior Common Space	$ 1,260,000	0	0	$ -	0.0
Apartments	$ 3,734,400	0	7,200	$ 109,350	34.2
Building Systems	$ 39,480,000	-963,100	20,775	$ 108,981	362.3
Environmental	$ -	0	0	$ -	0.0
Special Considerations	$ 15,200,000	0	0	$ -	0.0
Health/Pest Management	$ -	0	0	$ -	0.0

TOTAL COST BY MEASURE TYPE	
Total Capital Cost	**$ 77,896,975**
Total EEWC Incremental Cost	**$ -**
Total EEWC-Only Cost	**$ 22,076,400**
Total Health Cost	**$ -**
TOTAL COST	**$ 99,973,375**

HEALTH QUESTIONNAIRE

Common Areas (Interior Focus, Some exterior)
Air Quality: Air Contaminants of Allergens from Indoor Sources
Adequate functional mechanical ventilation in laundry?
Are dryers vented properly to the outside?
Exhaust or central fans function properly?
Combustion equipment properly vented to outside?
HVAC filtration maintained and sufficient?
Carpet in wet or heavy use areas?

Air Quality: Air Contaminants of Allergens from Exterior Sources
Exterior fans, vents working and not near air pollution sources (heavy traffic, combustion)?
Exterior intake grilles located to minimize outdoor contaminant sources (vehicle idling, other combustion)?

Moisture
Evidence of significant moisture or musty smells?
Evidence of water leaks or damage?
Ground water seepage?
Signs of sewage backup?
Sump pump present and functional?
Wet/moisture problems with carpet?
Fluid leaks (e.g. oils, lubricants, antifreeze, etc.)?

Pests
Evidence of rodents (droppings, chew marks, sightings)?
Evidence of cockroaches (body parts, frass, live roaches)?
Evidence of the use of rodenticide in interior areas? Is rodenticide containerized or not?
Evidence of the use of spray pesticides during regular pest management services?
Evidence of reduced risk pesticides (gel baits, cockroach bait stations)?
Trash accumulation on trash chute?

Hazardous Materials
Lead: Flaking, chipping, peeling paint (pre-1978 bldgs)?
Asbestos: Potential asbestos?

Active Design Opportunities (to encourage health & wellness, physical activity, safety)
Stairways: good lighting , accessible, appealing, safe?
Bike storage?
Exterior areas that could be used for resident space (garden, play equipment, etc.)
Other underutilized building spaces that could be used for resident programs, projects?

Fall, Trip, Fire Hazards
Sufficient dual handrails, slip resistant stairs?
Sufficient stairway lighting?
Are there any potential fire hazards that inspectors should be looking for in common areas, exterior, basement?
Should there be smoke detectors in common areas?

Apartments
Air Quality: Air Contaminants of Allergens from Interior Sources
Sufficient ventilation: operable windows or mechanical system?
Exhaust fan in bathroom?
Does bath fan work?
Is there fan dust needing cleaning?
Exhaust grille (central syst.) in bathroom, with sufficient air flow?
Stove type (Gas, Elec)
Operable kitchen fan above range?
Does the kitchen fan exhaust outside?
Exhaust grille (central syst.) in kitchen functions or needs repairs?
Visual evidence of tobacco smoke?

Moisture
Dehumidifier present and in use?
Dehumidifier properly maintained?
Water damage, current moisture issues, or musty smells?
Floor?

Ceiling?
Interior wall?
Exterior wall?
Significant evidence of moisture on walls, ceiling above tub surround?
Water damage near plumbing (e.g. tub, sink, shower)?
Significant moisture issues on shower walls, tiles, ceiling?
Significant moisture issues under bathroom sink?
Plumbing pipe penetrations under bathroom sink sealed?
Water damage on floor (esp. at toilet flange)?
Water, moisture problems with carpet?
Dryers vented to exterior?
Radiator valve leaks?

Pests
Evidence of cockroaches or other insects?
Evidence of rodents or rats?
Is exterior door undercut large enough for vermin?
Pipe or other penetrations sealed?
Pest exclusion/entry issues?
Entry door bottom (Sweep, Auto, N)
Door jamb w-strip?

Hazardous Materials
Lead: Peeling, chipping, flaking paint, pre-1978 building?
CO alarms present and working?
Asbestos: Potential asbestos?

Trip, Fall, Fire Hazards
Senior units baths (walk in shower, higher toilets, grab bars, lighting on sensor)?
Sufficient lighting?
Smoke detectors present and working?

INSPECTION - ENERGY AND WATER

Building Envelope

General Building/Envelope Description	The primary facades are comprised of concrete blocks surrounding the building. From visual inspection, the building walls consist of 4-6" face bricks, 4" low-weight concrete blocks, and gypsum boards inside the apartments with an average U-value of 0.28.
Envelope Components	
Above Grade Exterior Walls	: The primary facades are comprised of concrete blocks surrounding the building. From visual inspection, the building walls consist of 4-6" face bricks, 4" low-weight concrete blocks, and gypsum boards inside the apartments with an average U-value of 0.28.
Floor Perimeter/ Rim Joists	: Construction Description : Estimated Total R-Value : Verification method : Additional Notes
Below Grade Walls	: 4-6" face bricks, 4" low-weight concrete blocks, and gypsum boards : 3.6 : Confirmed
Floor Above Unconditioned Space	: 4-6" face bricks, 4" low-weight concrete blocks, and gypsum boards : 3.6 : Confirmed
Slab On/Below Grade	: 4-6" face bricks, 4" low-weight concrete blocks, and gypsum boards : 3.6 : Confirmed
Roof	: Partially Insulated Concrete Floors : 3.2 : Reported by Site Staff
Ceilings to Unconditioned Attics	: Partially Insulated Concrete Floors : 3.2 : Reported by Site Staff
Wall to Unconditioned Space	: Black Membrane with 2" Insulation : 18 : Reported by Site Staff
	: N/A
	: N/A
Windows	
Window Type 1	
Window Type 2	: Location : Operation Type : Framing Material : Thermal Break : # of Panes : Glass Coating : Gas Filled : U-value : Weather-stripping : Qty. : Condition : Additional Notes
Window Type 3	: In-Unit : Double Hung : Aluminum : Yes : Double : None : No : 0.55 : Average : 4270 : Average
Window Type 4	: Common Area : Double Hung : Aluminum : Yes : Double : None : No : 0.55 : Average : 100 : Average

Window Type 5	: Bulkhead : Casement : Aluminum : Yes : Double : None : No : 0.55 : Average : 14 : Average

Exterior Doors	
Door Type 1	
Door Type 2	: Location : Material : % Glazing : Glazing Type : Weather-stripping : Qty. : Condition : Additional Notes
Door Type 3	: In unit : Hollow Wood : N/A : None : 2944 : Average
Door Type 4	: Main Door to Units : Metal, Insulated Core : N/A : None : 984 : Average
Door Type 5	: Common Areas : Metal, Insulated Core : N/A : None : 244 : Average
Air Infiltration	
Measurable Infiltration	
	: Location of Leakage : Tightness : Additional Notes
	: Open Window : Low leakage
	: Broken Window : N/A
	: Stairwell : Low leakage
Common Area Windows	: Elevator : Low leakage
	: Other : Low leakage
In-unit Windows	: Frame : Low leakage
	: Moving Surfaces : Low leakage
Exterior Doors	: Frame : Low leakage
	: Moving Surfaces : Low leakage
Laundry Room	: Frame : Low leakage
	: Moving Surfaces : Low leakage
Attic	: Dryer Vent : Low leakage
	: Exhaust Fans : Low leakage
	: Hatch Frame : N/A
	: Hatch Door : N/A
	: Pipe Penetrations : N/A
	: Electrical Boxes : N/A
	: Recessed Lights : N/A
	: Wall Caps : N/A
	: Exhaust Fans : N/A
	: Open Chases : N/A
	: Chimney and Vents : N/A
	: Duct Penetrations : N/A

Apartments	: Party/firewalls : N/A
	: Other : N/A
	: Pipe Penetrations : Low leakage
	: Exhaust Fans : Low leakage
Room Air Conditioner	: Electrical Boxes : N/A
	: Patio Doors : Some Leakage

Basement Penetrations	: Sleeve-to-wall Junction : Low leakage
	: Unit Fit in Sleeve : Low leakage
	: Doors : Low leakage
	: Sill plates : Low leakage
	: Windows : Low leakage
Roof Penetrations	: Vents : Low leakage
Elevator Penthouses	: Other : Low leakage
Stairwells	: N/A
Stack Effect	: N/A
	: N/A
	: Abandoned chimneys/chases : Low leakage
	: Pipe penetrations into chases : Low leakage
	: Duct riser leakage : Low leakage
	: Floor-to-floor openings : Low leakage
	: Stairwell Doors : Low leakage
	: Openings between building interior and mechanical room, if mechanical room has an operating chimney : Low leakage
	: Other : Low leakage
Blower Door Test, CFM50 (OPTIONAL)	
Assumed or Modeled ACH	

Appliances

Common Area Appliances	
Refrigerator	
Stove/Range	: Location of Equipment : Manufacturer : Model No. : EStar? : Qty. : Year Manufactured : Capacity (ft.3) : Annual kWh/unit : Fuel Source : Condition : Additional Notes
Vending Machine	
Clothes Washer	
Clothes Dryer	
240V Washers	: Common Area, Other : Maytag : MFR18PDCWS : Yes : 42 : 2020 : 3.42 : 151 : Good
	: Common Area, Other : Maytag : MLG52PDA : No : 56 : 2020 : 3 : 20 : Natural Gas : Good
Apartment Appliances	

	Common Area, Other: List Apartment Numbers Maytag: Manufacturer MFR24PDCWS: Model No. No: EStar? 14: Qty. 2020: Year Manufactured 5.6: Capacity (ft.3) 222: Annual kWh/unit : Fuel Source Good: Condition : Additional Notes
	Common Area, Other: 1-5A Maytag: Varies MFR24PDCWS: Varies 14: 1 2020: 2020 5.6: Varies 222: Varies
Refrigerators	Common Area, Other: 1-5B Maytag: Varies MFR24PDCWS: Varies 14: 1 2020: 2020 5.6: Varies 222: Varies
	Common Area, Other: 1-6D Maytag: Varies MFR24PDCWS: Varies 14: 1 2020: 2020 5.6: Varies 222: Varies
	Common Area, Other: 1-8D Maytag: Varies MFR24PDCWS: Varies 14: 1 2020: 2020 5.6: Varies 222: Varies
Dishwashers	Common Area, Other: 1-8E Maytag: Varies MFR24PDCWS: Varies 14: 1 2020: 2020 5.6: Varies 222: Varies
	Common Area, Other: 2-2A Maytag: Varies MFR24PDCWS: Varies 14: 1 2020: 2020 5.6: Varies 222: Varies
Stove/Range	Common Area, Other: N/A Maytag: Varies MFR24PDCWS: Varies 14: 1 2020: 2020 222: Varies
	Common Area, Other: 1-8D Maytag: Varies MFR24PDCWS: Varies 14: 1 2020: 2020 222: Varies
	Common Area, Other: 1-8E Maytag: Varies MFR24PDCWS: Varies 14: 1 2020: 2020 222: Varies
	Common Area, Other: 2-2A Maytag: Varies MFR24PDCWS: Varies 14: 1 2020: 2020 222: Varies

Mechanical Systems

Heating Components	
Primary Heating System	
Heating System	Combustion Testing: •: Draft •: Stack Temp. •: % O2 •: % CO2 •: CO/CO air free •: Combustion Efficiency Controls: •: Heat Timer •: Energy Mgt. System (EMS) •: Outdoor Air Reset •: Night Setback •: Sequencing Controls •: Aquastat/ Pressuretrol
Burner	
Oil Storage Tanks	: Steam Boiler : 3 : Boiler Room : Entire Building : No : Federal : FST-400 : 2017 : Natural Gas : FST-400 : Et : 0.8 : Atmospheric : 13800 : 13390 : Black Pipe Combustion Testing: •: 0.01 •: 368 •: 0.05 •: 0.091 •: 48 •: 0.81 : 220 : 188 Controls: •: Yes •: No •: Yes •: Yes •: Yes •: Yes : 55 : Fair
End Use Equipment	: Full Modulation - Set to Modulate : 3 : Johnson Burner : FD68CA : 2022 : FD68CA : Fair
Secondary Heating System	
Heating System	: Baseboard : 2944 : Apartments and Common Areas : Entire Building : N/A : N/A : 1964 : N/A Controls: •: On/Off Valve : Fair
Burner	
End Use Equipment	
Tertiary Heating System	
Heating System	
Burner	
End Use Equipment	
Other Equipment	
	: Location of Equipment : Description : Condition
Heating Distribution	
Heating System Distribution	

Primary Heating System Distribution	: Central Distribution Type : Operation Control : Description of Zones : Qty. of Zones : Condensate Return Tanks : In-Unit Heating : In-Unit Heating Controls : Hot Water Return Temp (F°) : Piping Description : Insulation Material : Insulation Thickness : Linear ft. un-insulated : TRV's : Valve Type/Condition : Radiator Type/Condition : Steam Traps : Master Venting : Other : Other Equipment/Additional Notes : Condition
Secondary Heating System Distribution	: .
Tertiary Heating System Distribution	: 2-pipe Steam : HT SRC : 2 Zone Per Building : 14 : Yes : None : N/A : 180 : Insulated : Fiberglass Insulation : 1" : None : Fair : Fair : 1/2" : N/A : Traps Need Replacement

Cooling Components	
Primary Cooling System	
Secondary Cooling System	: Equipment Type : Qty. : Location of Equipment : Spaces Served : Manufacturer : Model No. : EStar? : Year Installed : Fuel Source : Btu/h : Rated Efficiency : Rated Efficiency Units : Controls : Thermostat Setpoints : Ownership : % of Apartments w/ Cooling : Additional Notes : Condition
Tertiary Cooling System	: Window A/C : 2400 : Windows (Apartments) : Apartments : Varies : Varies : Yes : 2018 : Electric : 12000 : 9 : SEER : Thermostat : 70-75 : Resident Owned : 1 : Good
DHW System	
DHW System 1	: Equipment Description : Qty. : DHW from Space Heating Boiler? : External Heat Exchanger? : Tankless Coil? : Mixing Valve? : Recirc. Pump? : Expansion Tank? : Storage Tank : Location of Equipment : Spaces Served : EStar? : Manufacturer : Model No. : Year Installed : Fuel Source : Rated Efficiency : Rated Efficiency (units) : Venting Type : Input (Mbh) : Output (Mbh) Combustion Testing: •: Combustion Testing : Controls : Thermostat Setpoints : Condition : Additional Notes
DHW System 2	: Storage Tank? •: Heating Element? •: Capacity •: Water Temp. •: Insulated? •: Insulation Thickness Combustion Testing: •: Draft •: Stack Temp. •: % O2 •: % CO2 •: CO/CO air free •: Combustion Efficiency
DHW Distribution	
DHW System 1 Distribution	

DHW System 2 Distribution	The domestic hot water for the residential buildings is generated by a cogeneration system consisting of six (6) primary electrical supply generators and four (4) main hot water heat exchangers. The hot water from the four (4) main heat exchangers is circulated by means of four (4) loops throughout the complex to each building. The hot water then circulates through an individual heat exchanger in each building which produces domestic hot water. One 10-hp pump is used to circulate the hot water from the main heat exchanger to the individual heat exchangers in buildings 1, 2, and 4. Another 10-hp pump is used to circulate the hot water from the main heat exchanger to the individual heat exchangers in buildings 6 and 7. The hot water is circulated between the main heat exchangers and the individual heat exchanger in building 3 and 5 by two 7.5-hp pumps. The hot water in each building is then sent to a Holby mixing valve where it is mixed with fresh water to achieve a supply water temperature of 120˚F. The DHW return is circulated with one 1/6–hp circulator pump. Domestic hot water piping is well insulated where visible. : Insulation Material : Insulation Thickness 6: Linear ft. un-insulated No: Additional Notes
Gas	
Meters	Fiberglass: Description 0: Location : Condition : Additional Notes
Piping	
Gas Leaks	Fiberglass: Gas to the boilers, apartment cooking, laundry equipment, and the CHP unit is provided by a dedicated low-pressure service located indoor in the basement gas room in building 6 for the boiler/CHP and building 7 for the cooking/laundry. The gas service and gas meters feeding the boilers, laundry room, and cooking appear to be in good condition. 0: Gas Room : Good

Other/Advanced Systems

Name of System	
N/A	: Description : Location : Condition : Additional Notes
N/A	
N/A	: N/A : N/A : N/A
N/A	: N/A : N/A : N/A

Building Lighting

Space	
Common Area	
Example: Corridor	: Lamp Watts : Lamps per Fixture : Watts per Fixture : Number of Fixtures : Floor Area (SF) : Lighting Power Density (LPD) (Divide total watts by floor area - w/SF) : Control : Hours per Year : Lamp Type : Ballast Type : Condition : Age (Years) : Back-up Battery? : Additional Notes
Basement Stairs	
Basement	
Basement	: Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B
Basement Supers Office	: Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B
Basement Boiler Room	: Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B

Basement Bath	: Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B
1st Floor Entry Vest	: Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B
1st Floor Lobby Hall	: Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B
2nd Floor Hall	: Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B
3rd Floor Hall	: Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B
4th Floor Hall	: Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B

Exterior	: Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B

Apartments	
Example: Apt5l Kitchen	
Lighting: Apartments	
Lighting: Apartments	
Lighting: Apartments	: Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B : Appendix B
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Diagnostic Testing Results

Carbon Monoxide Testing	
CO Test 1	
CO Test 2	: Appliance : Location : CO Concentration (ppm)
CO Test 3	: Boilers : Boiler Room : 62
Natural Gas Leaks	
Tested for leaks with a gas detector a long the length of visible gas pipes in all common areas?	45
Tested for leaks with a gas detector along the length of visible gas pipes in a sample of apartments, if apartments have gas appliances (minimum three apartments)?	
Leaks were detected?	Yes
If Yes, the building owner was notified in writing?	Yes

Fans (OPTIONAL SECTION - only required if there is a recommended upgrade)

System/Equipment Type	
Exhasut Fans	
Exhasut Fans	: Motor Type : Spaces/Systems Served : Qty : Location : Annual Hours : Controls : Setpoints : Condition of Fans : Condition of Ducts : Type of Ductwork : Motor HP : Phase : CFM at Fan : CFM Data Source : CFM at Registers : CFM Data Source : CAR Dampers? : Motor Efficiency : NEMA Premium? : Annual kWh : Additional Notes

Exhasut Fans	: Single Speed : Building 1 : 9 : Roof : 8760 : In-Unit Switch : N/A : Good : Fair : Metal : 1 : 1 : 2000 : Mfr. Calcs. : 25 : Measured : N/A : 80 : N/A : 600 : N/A
Exhasut Fans	: Single Speed : Building 2 : 9 : Roof : 8760 : In-Unit Switch : N/A : Good : Fair : Metal : 1 : 1 : 2000 : Mfr. Calcs. : 25 : Measured : N/A : 80 : N/A : 600 : N/A
Exhasut Fans	: Single Speed : Building 3 : 9 : Roof : 8760 : In-Unit Switch : N/A : Good : Fair : Metal : 1 : 1 : 2000 : Mfr. Calcs. : 25 : Measured : N/A : 80 : N/A : 600 : N/A

Exhasut Fans	: Single Speed : Building 4 : 9 : Roof : 8760 : In-Unit Switch : N/A : Good : Fair : Metal : 1 : 1 : 2000 : Mfr. Calcs. : 25 : Measured : N/A : 80 : N/A : 600 : N/A
Exhasut Fans	: Single Speed : Building 5 : 9 : Roof : 8760 : In-Unit Switch : N/A : Good : Fair : Metal : 1 : 1 : 2000 : Mfr. Calcs. : 25 : Measured : N/A : 80 : N/A : 600 : N/A
	: Single Speed : Building 6 : 9 : Roof : 8760 : In-Unit Switch : N/A : Good : Fair : Metal : 1 : 1 : 2000 : Mfr. Calcs. : 25 : Measured : N/A : 80 : N/A : 600 : N/A

	: Single Speed : Building 7 : 9 : Roof : 8760 : In-Unit Switch : N/A : Good : Fair : Metal : 1 : 1 : 2000 : Mfr. Calcs. : 25 : Measured : N/A : 80 : N/A : 600 : N/A

Pumps (OPTIONAL SECTION - only required if there is a recommended upgrade)

System/Equipment Type	
	: Motor Type : Spaces/Systems Served : Qty : Location : Annual Hours : Controls : Setpoints : Motor HP : Phase : GPM at Pump : GPM Data Source : Motor Efficiency : NEMA Premium? : Annual kWh : Additional Notes

Other Motors (OPTIONAL SECTION - only required if there is a recommended upgrade)

System/Equipment Type	
	: Motor Type : Spaces/Systems Served : Qty : Location : Annual Hours : Controls : Setpoints : Motor HP : Phase : Motor Efficiency : NEMA Premium? : Annual kWh : Additional Notes

Measurement Testing	
Moisture Testing	
Location / Apartment Number	: Measurement 1 : Measurement 2 : Measurement 3 : Measurement 4 : Measurement 5 : Measurement 6 : Measurement 7 : Measurement 8 : Measurement 9 : Measurement 10 : Measurement 11 : Measurement 12 : Measurement 13 : Measurement 14 : Measurement 15 : Measurement 16 : Measurement 17 : Measurement 18 : Measurement 19 : Measurement 20
Relative Humidity	
Note standing water, water damage, mold, etc.	: 1-5A : 1-5B : 1-6D : 1-8D : 1-8E : 2-2A : 2-2C : 2-10E : 2-8F : 3-12D : 3-4C : 3-5E : 3-4E : 4-6E : 4-8D : 4-8A : 5-5A : 5-8C : 6-2A : 7-8E
Interior Temperatures	
Location / Apartment Number	: No : No : No : No : No : No : No : No : No : No : No : No : No : No : No : No : No : No : No : No : No : No
Measured Room Temperature	

Overheating Observations	: 1-5A : 1-5B : 1-6D : 1-8D : 1-8E : 2-2A : 2-2C : 2-10E : 2-8F : 3-12D : 3-4C : 3-5E : 3-4E : 4-6E : 4-8D : 4-8A : 5-5A : 5-8C : 6-2A : 7-8E
Outdoor Temp. at Time of Measurements	: 73 : 81 : 82 : 77 : 81 : 82 : 74 : 82 : 81 : 72 : 75 : 72 : 76 : 72 : 75 : 81 : 72 : 79 : 75 : 73
Was heating/cooling system in operation at time of measurements?	: Yes : Yes
Avg. Indoor Temp. in Heating Season	: 52
DHW Temperatures/ Fixture Flow Rates	
Location / Apartment Number	Yes: 74

Measured Tap Temperature	Yes: Measurement 1 : Measurement 2 : Measurement 3 : Measurement 4 : Measurement 5 : Measurement 6 : Measurement 7 : Measurement 8 : Measurement 9 : Measurement 10 : Measurement 11 : Measurement 12 : Measurement 13 : Measurement 14 : Measurement 15 : Measurement 16 : Measurement 17 : Measurement 18 : Measurement 19 : Measurement 20
Toilets (rated GPF)	Yes: 1-5A : 1-5B : 1-6D : 1-8D : 1-8E : 2-2A : 2-2C : 2-10E : 2-8F : 3-12D : 3-4C : 3-5E : 3-4E : 4-6E : 4-8D : 4-8A : 5-5A : 5-8C : 6-2A : 7-8E
Showerhead Flow Rate (GPM)	Yes: 122 : 128 : 125 : 125 : 124 : 123 : 122 : 126 : 125 : 126 : 123 : 128 : 122 : 126 : 128 : 122 : 122 : 123 : 126 : 127
Kitchen Faucet Flow Rate (GPM)	Yes: 1.6 : 1.6 : 1.6 : 1.6 : 1.6 : 1.6 : 1.6 : 1.6 : 1.6 : 1.6 : 1.6 : 1.6 : 1.6 : 1.6 : 1.6 : 1.6 : 1.6 : 1.6 : 1.6 : 1.6

Bathroom Faucet Flow Rate (GPM)	Yes: 2.5 : 2.5 : 2.5 : 2.5 : 2.5 : 2.5 : 2.5 : 2.5 : 2.5 : 2.5 : 2.5 : 2.5 : 2.5 : 2.5 : 2.5 : 2.5 : 2.5 : 2.5
Additional Notes	Yes: 2.1 : 2.1 : 2.1 : 2.1 : 2.1 : 2.1 : 2.1 : 2.1 : 2.1 : 2.1 : 2.1 : 2.1 : 2.1 : 2.1 : 2.1 : 2.1 : 2.1 : 2.1
DHW Summary	
Toilets	1.6: Number of Fixtures : Average Flow (gpf, gpm) 1.6: Toilets: Average flushes per day Shower/Faucets: Average minutes per day 1.6: Savings (gallons/year)
Showers	: Existing : Proposed
Kitchen Faucets	1.6: 1228 : 1.6 : 1.28 1.6: 2 1.6: 286860.8
Bathroom Faucets	1.6: 984 : 2.5 : 2 1.6: 2 1.6: 359160
Total Savings per year (gallons)	1.6: 984 : 2.1 : 1.8 1.6: 2 1.6: 215496
Guidelines	
Fixture	
Toilet	
Shower	: NYC Multifamily Conservation Program (MCP) : EPA WaterSense : Better Practice
Kitchen Faucet	: 1.6 gpf : 1.28 gpf : 0.8/1.6 gpf (dual flush)
Bathroom Faucet	: 2.5 gpm : 2.0 gpm : 1.5 gpm

SCOPE AND PRELIMINARY COST ESTIMATES

Measure Data

If one of the following measures is in your workscope, you must provide the following:

Gas Furnace AFUE	90 AFUE
Chiller Type/Capacity	
Central AC/HP SEER	

Measure Name	Measure Description	Important Assumptions	Scope Area	Energy Efficiency Measure?	Measure Category	Measure Classification	Urgency	Measure Type	Unit Type {Default}	Unit Type {user entry}	Unit Type	Qty	Cost Per Unit	Cost Source (e.g. 2017 R.S. Means, contractor quote, etc.)	Total Cost
Replace Broken/Uplifted Flags	Replace broken and uplifted flags - Survey	N/A	Site Work	No			Short Term (< 3 years)	Capital		EA	EA	250	$ 2,500	Estimated	$ 625,000
Replace shifted cubs	Survey is needed	N/A	Site Work	No			Short Term (< 3 years)	Capital		LS	LS	1	$ 30,000	Estimated	$ 30,000
Waste Line Repairs	Residential Buidlings - Repair and Cellar	N/A	Building Systems	No			Long Term (3 to 20 years)	EEWC-Only		LS	LS	1	$ 6,000,000	Estimated	$ 6,000,000
Replace Roof Exhasut Fans with Timer/VFD	Residential Buidlings	N/A	Building Systems	Yes	Ventilation	Exhaust Fan Demand Control	Short Term (< 3 years)	EEWC-Only	each		each	56	$ 5,000	Estimated	$ 280,000
Replace seating areas	N/A	N/A	Site Work	No			Long Term (3 to 20 years)	Capital		LS	LS	1	$ 150,000	Estimated	$ 150,000
ACM/Lead Testing	N/A	N	Healthy/Pest Management	No			Long Term (3 to 20 years)	Capital		LS	LS	1	$ 50,000	Estimated	$ 50,000
Site Survey for the Site	N/A	N/A	Site Work	No			Long Term (3 to 20 years)	Capital		LS	LS	1	$ 85,000	Estimated	$ 85,000
Landscaping Upgrade	N/A	N/A	Site Work	No			Long Term (3 to 20 years)	Capital		LS	LS	1	$ 400,000	Estimated	$ 400,000
TRVs	Install Digital TRV's - Long term as Heat Pumps are being concidered.	N/A	Apartments	Yes	Heating/Cooling	Thermostatic Radiator Valves, install	Long Term (3 to 20 years)	EEWC-Only	each		each	2944	$ 350	Estimated	$ 1,030,400
Heating Control System	Residentail Building- Long term as Heat Pumps are being concidered.	N/A	Building Systems	Yes	Heating/Cooling	Outdoor Reset Control, Install	Long Term (3 to 20 years)	EEWC-Only	each		each	14	$ 35,000	Estimated	$ 490,000

Measure Name	Measure Description	Important Assumptions (cont.)	Scope Area (cont.)	Energy Efficiency Measure? (cont.)	Measure Category (cont.)	Measure Classification (cont.)	Urgency (cont.)	Measure Type (cont.)	Unit Type {Default}	Unit Type {user entry}	Unit Type (cont.)	Qty (cont.)	Cost Per Unit (cont.)	Cost Source (e.g. 2017 R.S. Means, contractor quote, etc.) (cont.)	Total Cost (cont.)
Steam Traps Replacement	Long term as Heat Pumps are being concidered.	N/A	Apartments	Yes	Heating/Cooling	Steam Traps, Replace	Long Term (3 to 20 years)	EEWC-Only	each		each	2944	$ 250	Estimated	$ 736,000
Steam System De-Commission	Heating System only if the building decided to proceed with Heat Pump	Inlcude Vacuum Pumps and	Building Systems	No			Short Term (< 3 years)	Capital		EA	EA	7	$ 45,000	Estimated	$ 315,000
Replace roof railings per building	N/A	N/A	Building Envelope	No			Critical	Capital		EA	EA	7	$ 400,000	Estimated	$ 2,800,000
Replace roofs per building	N/A	N/A	Building Envelope	Yes	Envelope	Insulation, Roof Deck or Attic	Critical	Capital	Ins. Sqft	EA	Ins. Sqft	56875	$ 105	Estimated	$ 5,971,875
LL11 cycle 9-10	Façade Repairs	N/A	Building Envelope	No			Critical	Capital		EA	EA	7	$ 1,857,143	Estimated	$ 13,000,000
Garage LL126 Repairs	Commercial Parking	N/A	Site Work	No			Critical	Capital		LS	LS	1	$ 4,000,000	Estimated	$ 4,000,000
New Fencing for the Property	N/A	N/A	Site Work	No			Long Term (3 to 20 years)	Capital		LS	LS	1	$ 400,000	Estimated	$ 400,000
Repair Roof Tank Structural Beams	Structural Damage	N/A	Site Work	No			Critical	Capital		LS	LS	1	$ 280,000	Estimated	$ 280,000
Replace Fire Proof Doors	Cellar	N/A	Interior Common Space	No			Long Term (3 to 20 years)	Capital		EA	EA	70	$ 3,000	Estimated	$ 210,000
Replace Electrical Panels	Apartments - Federal Pacific	N/A	Apartments	No			Critical	Capital		EA	EA	984	$ 1,500	Estimated	$ 1,476,000
Electrical Sub-metering	N/A	N/A	Building Systems	No			Short Term (< 3 years)	Capital		EA	EA	7	$ 85,000	Estimated	$ 595,000
Upgrade Electrical Switchboard "Residential"	N/A	N/A	Building Systems	No			Critical	Capital		LS	LS	1	$ 180,000	Estimated	$ 180,000
Upgrade Electrical Switchboard "Commercial"	N/A	N/A	Building Systems	No			Critical	Capital		LS	LS	1	$ 290,000	Estimated	$ 290,000

Measure Name	Measure Description	Important Assumptions (cont.)	Scope Area (cont.)	Energy Efficiency Measure? (cont.)	Measure Category (cont.)	Measure Classification (cont.)	Urgency (cont.)	Measure Type (cont.)	Unit Type {Default}	Unit Type {user entry}	Unit Type (cont.)	Qty (cont.)	Cost Per Unit (cont.)	Cost Source (e.g. 2017 R.S. Means, contractor quote, etc.) (cont.)	Total Cost (cont.)
Provide Roof Top Units for the Commerical Mall	12-6 Tons Units	N/A	Building Systems	No			Short Term (< 3 years)	Capital		EA	EA	12	$ 200,000	Estimated	$ 2,400,000
Replace Compactors	N/A	N/A	Building Systems	No			Long Term (3 to 20 years)	Capital		EA	EA	7	$ 85,000	Estimated	$ 595,000
DHW Heat Pump	instead of DHW Heater Replacement	Optional	Building Systems	Yes	DHW	Other DHW Measure	Long Term (3 to 20 years)	EEWC-Only		EA	EA	7	$ 220,000	Estimated	$ 1,540,000
Upgrade Electrical System to Connect to Con Edison	N/A		Building Systems	No			Short Term (< 3 years)	Capital		LS	LS	1	$ 18,000,000	Estimated	$ 18,000,000
Clean & Balance Exhasut System	N/A	N/A	Building Systems	No			Short Term (< 3 years)	Capital		LS	LS	1	$ 85,000	Estimated	$ 85,000
Replace Water Tanks & Add Bypass	N/A	N/A	Building Systems	No			Short Term (< 3 years)	Capital		LS	LS	1	$ 135,000	Estimated	$ 135,000
Replac Water Main Service	N/A	N/A	Building Systems	No			Short Term (< 3 years)	Capital		LS	LS	1	$ 145,000	Estimated	$ 145,000
Elevator Modernization (17X)	All Elevators	N/A	Building Systems	No			Short Term (< 3 years)	Capital		EA	EA	16	$ 500,000	Estimated	$ 8,000,000
ADA Front Doors	Commerical Mall	N/A	Building Systems	No			Short Term (< 3 years)	Capital		EA	EA	2	$ 25,000	Estimated	$ 50,000
Heat Pumps (Air Cooled)	Remove Steam Traps, Heating Controls and TRVS if this option is selected.	EPOCHA Wall Mounted Units	Building Envelope	Yes	Heating/Cooling	Other Heating Measure	Short Term (< 3 years)	EEWC-Only		EA	EA	2400	$ 5,000	Estimated	$ 12,000,000
Parking Lots Repairs	N/A	N/A	Site Work	No			Short Term (< 3 years)	Capital		SF	SF	77900	$ 5	Estimated	$ 389,500
Install carbon monoxide / smoke detectors and natural gas detectors	Local Law 157 - Battery Operated	N/A	Apartments	No			Critical	Capital		EA	EA	984	$ 500	Estimated	$ 492,000
Waterproof Basements	Stop Leaks	N/A	Interior Common Space	No			Critical	Capital		EA	EA	7	$ 150,000	Estimated	$ 1,050,000

Measure Name	Measure Description	Important Assumptions (cont.)	Scope Area (cont.)	Energy Efficiency Measure? (cont.)	Measure Category (cont.)	Measure Classification (cont.)	Urgency (cont.)	Measure Type (cont.)	Unit Type {Default}	Unit Type {user entry}	Unit Type (cont.)	Qty (cont.)	Cost Per Unit (cont.)	Cost Source (e.g. 2017 R.S. Means, contractor quote, etc.) (cont.)	Total Cost (cont.)
Close Illegal Gaps between rail spacing	Balconies	N/A	Building Envelope	No			Short Term (< 3 years)	Capital		EA	EA	588	$ 200	Estimated	$ 117,600
New CCTV System	Camera to Cover Interior & Exteriors inlcuding Cellar, Stairwells, Cellars, Roof and Exteriors	N/A	Building Systems	No			Short Term (< 3 years)	Capital		LS	LS	1	$ 380,000	Estimated	$ 380,000
GC, Bond & Mobilization	N/A	N	Special Considerations	No			Short Term (< 3 years)	Capital		LS	LS	1	$ 15,200,000	Estimated	$ 15,200,000
Total															**$ 99,973,375**

																		Incentives Available		
Measure Name	**Measure Description**	**Projected Annual Electricity Savings (kWh/yr) Cooling**	**Projected Annual Electricity Savings (kWh/yr) Non-Cooling**	**Project Annual Fuel Savings (MMBtu/yr) Heating**	**Project Annual Fuel Savings (MMBtu/yr) Non-Heating**	**Affected Fuel (for MMBtu Savings)**	**Projected Annual Cost Savings ($/yr)**	**SIR**	**Simple Payback**	**Savings Accrue to Tenants?**	**Measure Life (years) {Default}**	**Measure Life (years) {user entry}**	**Measure Life**	**Full or Incremental Savings**	**Existing Equipment Year of Manufacture**	**Projected Annual Water Savings (gal/yr)**	**Potential Health Benefit Impact**	**Incentive #1**	**Incentive #2**	**Incentive # 3**
Replace Broken/Uplifted Flags	Replace broken and uplifted flags - Survey						$ -	0.0				15	15		2000	0	Low			
Replace shifted cubs	Survey is needed						$ -	0.0				15	15		2000	0	None			
Waste Line Repairs	Residential Buidlings - Repair and Cellar						$ -	0.0				30	30		1964	0	Low			
Replace Roof Exhasut Fans with Timer/VFD	Residential Buidlings	86900	0	475	0	Natural Gas	$ 26,481	0.8	10.6	No	10	10	10	Full		0	High			
Replace seating areas	N/A						$ -	0.0				30	30		2000	0	None			
ACM/Lead Testing	N/A						$ -	0.0				10	10		2000	0	High			
Site Survey for the Site	N/A						$ -	0.0				15	15		2000	0	None			
Landscaping Upgrade	N/A						$ -	0.0				15	15		2000	0	None			
TRVs	Install Digital TRV's - Long term as Heat Pumps are being concidered.	0	0	4500	0	Natural Gas	$ 67,500	0.6	15.3	No	12	10	10	Full		0	Low			
Heating Control System	Residentail Building- Long term as Heat Pumps are being concidered.	0	0	2300	0	Natural Gas	$ 34,500	0.8	14.2	No	15	15	15	Full		0	Low			

Measure Name (cont.)	**Measure Description (cont.)**	**Projected Annual Electricity Savings (kWh/yr) Cooling**	**Projected Annual Electricity Savings (kWh/yr) Non-Cooling**	**Project Annual Fuel Savings (MMBtu/yr) Heating**	**Project Annual Fuel Savings (MMBtu/yr) Non-Heating**	**Affected Fuel (for MMBtu Savings)**	**Projected Annual Cost Savings ($/yr)**	**SIR**	**Simple Payback**	**Savings Accrue to Tenants?**	**Measure Life (years) {Default}**	**Measure Life (years) {user entry}**	**Measure Life**	**Full or Incremental Savings**	**Existing Equipment Year of Manufacture**	**Projected Annual Water Savings (gal/yr)**	**Potential Health Benefit Impact**	**Incentive #1**	**Incentive #2**	**Incentive # 3**
Steam Traps Replacement	Long term as Heat Pumps are being concidered.	0	0	2700	0	Natural Gas	$ 41,850	0.5	17.6	No	5	10	10	Full		0	None			
Steam System De-Commission	Heating System only if the building decided to proceed with Heat Pump						$ -	0.0				10	10		2000	0	None			
Replace roof railings per building	N/A						$ -	0.0				30	30		1978	0	None			
Replace roofs per building	N/A	0	0	680	890	Natural Gas	$ 24,335	0.1	245.4	No	30	30	30	Full		0	None			
LL11 cycle 9-10	Façade Repairs						$ -	0.0				20	20		1964	0	None			
Garage LL126 Repairs	Commercial Parking						$ -	0.0				20	20		1964	0	None			
New Fencing for the Property	N/A						$ -	0.0				20	20		2000	0	None			
Repair Roof Tank Structural Beams	Structural Damage						$ -	0.0				30	30		1964	0	None			
Replace Fire Proof Doors	Cellar						$ -	0.0				20	20		1964	0	None			
Replace Electrical Panels	Apartments - Federal Pacific						$ -	0.0				30	30		1964	0	None			
Electrical Sub-metering	N/A						$ -	0.0				5	5		1978	0	None			
Upgrade Electrical Switchboard "Residential"	N/A						$ -	0.0				5	5		1978	0	None			
Upgrade Electrical Switchboard "Commercial"	N/A						$ -	0.0				15	15			0	None			

Measure Name (cont.)	**Measure Description (cont.)**	**Projected Annual Electricity Savings (kWh/yr) Cooling**	**Projected Annual Electricity Savings (kWh/yr) Non-Cooling**	**Project Annual Fuel Savings (MMBtu/yr) Heating**	**Project Annual Fuel Savings (MMBtu/yr) Non-Heating**	**Affected Fuel (for MMBtu Savings)**	**Projected Annual Cost Savings ($/yr)**	**SIR**	**Simple Payback**	**Savings Accrue to Tenants?**	**Measure Life (years) {Default}**	**Measure Life (years) {user entry}**	**Measure Life**	**Full or Incremental Savings**	**Existing Equipment Year of Manufacture**	**Projected Annual Water Savings (gal/yr)**	**Potential Health Benefit Impact**	**Incentive #1**	**Incentive #2**	**Incentive # 3**
Provide Roof Top Units for the Commerical Mall	12-6 Tons Units						$ -	0.0				5	5		0	0	None			
Replace Compactors	N/A						$ -	0.0				15	15		0	0	None			

DHW Heat Pump	instead of DHW Heater Replacement	0	-1050000	18000	0	Natural Gas	$ 48,000	0.4	32.1	No		15	15	Full		0	None			
Upgrade Electrical System to Connect to Con Edison	N/A						$ -	0.0				40	40		1964	0	None			
Clean & Balance Exhasut System	N/A						$ -	0.0				40	40		1964	0	High			
Replace Water Tanks & Add Bypass	N/A						$ -	0.0				20	20		1964	0	High			
Replac Water Main Service	N/A						$ -	0.0				20	20		1964	0	Medium			
Elevator Modernization (17X)	All Elevators						$ -	0.0				20	20		1964	0	None			
ADA Front Doors	Commerical Mall						$ -	0.0				20	20		2000	0	None			
Heat Pumps (Air Cooled)	Remove Steam Traps, Heating Controls and TRVS if this option is selected.	-2200000	-2800000	48000	11000	Natural Gas	$ (185,500)	-0.2	-64.7	No		15	15	Full		0	None			
Parking Lots Repairs	N/A						$ -	0.0				15	15		2000	0	None			
Install carbon monoxide / smoke detectors and natural gas detectors	Local Law 157 - Battery Operated						$ -	0.0				15	15		N/A	0	High			
Waterproof Basements	Stop Leaks						$ -	0.0				20	20		1978	0	None			

Measure Name (cont.)	**Measure Description (cont.)**	**Projected Annual Electricity Savings (kWh/yr) Cooling**	**Projected Annual Electricity Savings (kWh/yr) Non-Cooling**	**Project Annual Fuel Savings (MMBtu/yr) Heating**	**Project Annual Fuel Savings (MMBtu/yr) Non-Heating**	**Affected Fuel (for MMBtu Savings)**	**Projected Annual Cost Savings ($/yr)**	**SIR**	**Simple Payback**	**Savings Accrue to Tenants?**	**Measure Life (years) {Default}**	**Measure Life (years) {user entry}**	**Measure Life**	**Full or Incremental Savings**	**Existing Equipment Year of Manufactur e**	**Projected Annual Water Savings (gal/yr)**	**Potential Health Benefit Impact**	**Incentive #1**	**Incentive #2**	**Incentive # 3**
Close Illegal Gaps between rail spacing	Balconies						$ -	0.0				20	20		1978	0	None			
New CCTV System	Camera to Cover Interior & Exteriors inlcuding Cellar, Stairwells, Cellars, Roof and Exteriors						$ -	0.0				20	20		2000	0	None			
GC, Bond & Mobilization	N/A						$ -	0.0				0	0		0	0	None			
Total		**-2113100**	**-3850000**	**76655**	**11890**		**$ 57,166**											**$ -**	**$ -**	**$ -**

REPLACEMENT COST SCHEDULE

Scope Name	Description of Work	EUL	Age	RUL	Unit Type	Qtv.	Cost Per Unit	Critical Costs	Short Term Costs	Y1	Y2	Y3	Y4	Y5	Y6	Y7
Replace Broken/Uolifted Flaes	Replace broken and uplifted flags - Survey	15	15	0	EA	250	$ 2.500	Short Term (< 3 years)	$ 625.000	$ 50.000	$ -	$ 50.000	$ -	$ 55.000	$ -	$ 55.000
Replace shifted cubs	Survey is needed	15	15	0	LS	1	$ 30.000	Short Term (< 3 years)	$ 30.000	$ 30.000	$ -	$ -	$ -	$ -	$ -	$ -
Waste Line Repairs	Residential Buidlings - Repair and Cellar	30	60	-30	LS	1	$ 6.000.000	Long Term (3 to 20 years)	$ 6.000.000	$ 300.000	$ 300.000	$ 300.000	$ 300.000	$ 300.000	$ 300.000	$ 300.000
Roolace Roof Exhaust Fans with Timer/VFD	Residential Buidlings	10	15	-5	each	56	$ 5.000	Short Term (< 3 years)	$ 280.000	$ 280.000	$ -	$ -	$ -	$ -	$ -	$ -
Replace seating areas	N/A	30	30	0	LS	1	$ 150.000	Long Term (3 to 20 years)	$ 150.000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
ACM/Lead Testing	N/A	10	10	0	LS	1	$ 50.000	Long Term (3 to 20 years)	$ 50.000	$ 50.000	$ -	$ -	$ -	$ -	$ -	$ -
Site Survey for the Site	N/A	15	0	15	LS	1	$ 85.000	Long Term (3 to 20 years)	$ 85.000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Landscaeine Userable	N/A	15	30	-15	LS	1	$ 400.000	Long Term (3 to 20 years)	$ 400.000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TRVs	Install Digital TRV's - Long term as Heat Pumps are being concidered	10	0	10	each	2944	$ 350	Long Term (3 to 20 years)	$ 1.030.400	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Heating Control System	Residential Building- Long term as Heat Pumps are being concidered	15	0	15	each	14	$ 35.000	Long Term (3 to 20 years)	$ 490.000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Steam Traps Replacement	Long term as Heat Pumps are being concidered	10	20	-10	each	2944	$ 250	Long Term (3 to 20 years)	$ 736.000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Steam System De-Commission	Heating System only if the building decided to proceed with Heat Pump	10	20	-10	EA	7	$ 45.000	Short Term (< 3 years)	$ 315.000	$ 315.000	$ -	$ -	$ -	$ -	$ -	$ -
Replace roof railings per building	N/A	30	30	0	EA	7	$ 400.000	Critical	$ 2.800.000	$ 2.800.000	$ -	$ -	$ -	$ -	$ -	$ -
Replace roofs per building	N/A	30	30	0	EA	56875	$ 105	Critical	$ 5.971.875	$ 3.000.000	$ 2.971.875	$ -	$ -	$ -	$ -	$ -
LL11 cycle 9-10	Facade Repairs	20	20	0	EA	7	$ 1.857.143	Critical	$ 13.000.000	$ 6.500.000	$ 6.500.000	$ -	$ -	$ -	$ -	$ -
Garaee LL126 Reoairs	Commercial Parkine	20	0	20	LS	1	$ 4.000.000	Critical	$ 4.000.000	$ 2.000.000	$ 2.000.000	$ -	$ -	$ -	$ -	$ -
New Fencing for the Property	N/A	20	0	20	LS	1	$ 400.000	Long Term (3 to 20 years)	$ 400.000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Repair Roof Tank Structural Beams	Structural Damage	30			LS	1	$ 280.000	Short Term (< 3 years)	$ 280.000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Replace Fire Proof Doors	Cellar	20	60	-40	EA	70	$ 3.000	Long Term (3 to 20 years)	$ 210.000	$ 210.000	$ -	$ -	$ -	$ -	$ -	$ -
Replace Electrical Panels	Apartments - Federal Pacific	30	60	-30	EA	984	$ 1.500	Critical	$ 1.476.000	$ 700.000	$ 776.000	$ -	$ -	$ -	$ -	$ -
Electrical Sub-metering	N/A	5	0	5	EA	7	$ 85.000	Short Term (< 3 years)	$ 595.000	$ 595.000	$ -	$ -	$ -	$ -	$ -	$ -
Upgrade Electrical Switchboard "Residential"	N/A	5	60	-55	LS	1	$ 180.000	Critical	$ 180.000	$ 180.000	$ -	$ -	$ -	$ -	$ -	$ -
Upgrade Electrical Switchboard "Commercial"	N/A	15	60	-45	LS	1	$ 290.000	Critical	$ 290.000	$ 290.000	$ -	$ -	$ -	$ -	$ -	$ -
Provide Roof Top Units for the Commerical Mall	12-6 Tons Units	5	20	-15	EA	12	$ 200.000	Critical	$ 2.400.000	$ -	$ -	$ -	$ 1.200.000	$ 1.200.000	$ -	$ -
Replace Compactors	N/A	15	60	-45	EA	7	$ 85.000	Long Term (3 to 20 years)	$ 595.000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
DHW Heat Pump	instead of DHW Heater Reolacement	15	0	15	EA	7	$ 220.000	Long Term (3 to 20 years)	$ 1.540.000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Upgrade Electrical System to Connect to Con Edison	N/A	40	60	-20	LS	1	$ 18.000.000	Short Term (< 3 years)	$ 18.000.000	$ -	$ -	$ 6.000.000	$ 6.000.000	$ 6.000.000	$ -	$ -
Clean & Balance Exhaust System	N/A	40	50	-10	LS	1	$ 85.000	Short Term (< 3 years)	$ 85.000	$ 85.000	$ -	$ -	$ -	$ -	$ -	$ -
Replace Water Tanks & Add Bypass	N/A	20	20	0	LS	1	$ 135.000	Short Term (< 3 years)	$ 135.000	$ 135.000	$ -	$ -	$ -	$ -	$ -	$ -
Replac Water Main Service	N/A	20	30	-10	LS	1	$ 145.000	Short Term (< 3 years)	$ 145.000	$ 145.000	$ -	$ -	$ -	$ -	$ -	$ -
Elevator Modernization (17X)	All Elevators	20	50	-30	EA	16	$ 500.000	Short Term (< 3 years)	$ 8.000.000	$ 4.000.000	$ 4.000.000	$ -	$ -	$ -	$ -	$ -
ADA Front Doors	Commerical Mall	20	24	-4	EA	2	$ 25.000	Short Term (< 3 years)	$ 50.000	$ 50.000	$ -	$ -	$ -	$ -	$ -	$ -
Heat Pumos (Air Cooled)	Remove Steam Traps, Heating Controls and TRVS if this ootion is selected.	15	0	15	EA	2400	$ 5.000	Short Term (< 3 years)	$ 12.000.000	$ 12.000.000	$ -	$ -	$ -	$ -	$ -	$ -
Parking Lots Repairs	N/A	15	15	0	SF	77900	$ 5	Short Term (< 3 years)	$ 389.500	$ 389.500	$ -	$ -	$ -	$ -	$ -	$ -
Install carbon monoxide / smoke detectors and natural gas detectors	Local Law 157 - Battery Operated	15	0	15	EA	984	$ 500	Critical	$ 492.000	$ 492.000	$ -	$ -	$ -	$ -	$ -	$ -
Waterproof Basements	Stop Leaks	20	60	-40	EA	7	$ 150.000	Critical	$ 1.050.000	$ 1.050.000	$ -	$ -	$ -	$ -	$ -	$ -
Close Illegal Gaps between rail soacine	Balconies	20	60	-40	EA	588	$ 200	Short Term (< 3 years)	$ 117.600	$ 117.600	$ -	$ -	$ -	$ -	$ -	$ -
New CCTV System	Camera to Cover Interior & Exteriors inlcuding Cellar, Stairwells, Cellars, Roof and Exteriors	20	25	-5	LS	1	$ 380.000	Short Term (< 3 years)	$ 380.000	$ 380.000	$ -	$ -	$ -	$ -	$ -	$ -
GC. Bond & Mobilization	N/A	0	0	0	LS	1	$ 15.200.000	Short Term (< 3 years)	$ 15.200.000	$ 15.200.000	$ -	$ -	$ -	$ -	$ -	$ -
								Total - Uninflated		$ 99.973.375	$ 51.344.100	$ 22.547.875	$ 7.550.000	$ 7.500.000	$ 355.000	$ 300.000	$ 355.000
								Factor			1.00	1.03	1.06	1.09	1.12	1.15	1.18
								Total - Inflated		$ 99.973.375	$ 51.344.100	$ 23.224.311	$ 8.003.000	$ 8.175.000	$ 397.600	$ 345.000	$ 418.900

Scope Name	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	Y19	Y20	Total Lone Term
Replace Broken/Uolifted Flaes	$ -	$ 55.000	$ -	$ 65.000	$ -	$ 65.000	$ -	$ 65.000	$ -	$ 65.000	$ -	$ 65.000	$ 35.000	$ 625.000
Replace shifted cubs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 30.000
Waste Line Repairs	$ 300.000	$ 300.000	$ 300.000	$ 300.000	$ 300.000	$ 300.000	$ 300.000	$ 300.000	$ 300.000	$ 300.000	$ 300.000	$ 300.000	$ 300.000	$ 6.000.000
Roolace Roof Exhaust Fans with Timer/VFD	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 280.000
Replace seating areas	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 150.000	$ 150.000
ACM/Lead Testing	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 50.000
Site Survey for the Site	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 85.000	$ 85.000
Landscaeine Userable	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 400.000	$ 400.000
TRVs	$ -	$ -	$ 1.030.400	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.030.400
Heating Control System	$ -	$ -	$ 490.000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 490.000
Steam Traps Replacement	$ -	$ -	$ 736.000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 736.000
Steam System De-Commission	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 315.000
Replace roof railings per building	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2.800.000
Replace roofs per building	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5.971.875
LL11 cycle 9-10	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 13.000.000
Garaee LL126 Reoairs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4.000.000
New Fencing for the Property	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 400.000	$ 400.000
Repair Roof Tank Structural Beams	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Replace Fire Proof Doors	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 210.000
Replace Electrical Panels	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.476.000
Electrical Sub-metering	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 595.000
Upgrade Electrical Switchboard "Residential"	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 180.000
Upgrade Electrical Switchboard "Commercial"	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 290.000
Provide Roof Top Units for the Commerical Mall	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2.400.000
Replace Compactors	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 595.000	$ 595.000
DHW Heat Pump	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.540.000	$ 1.540.000
Upgrade Electrical System to Connect to Con Edison	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 18.000.000
Clean & Balance Exhaust System	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 85.000
Replace Water Tanks & Add Bypass	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 135.000
Replac Water Main Service	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 145.000
Elevator Modernization (17X)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 8.000.000
ADA Front Doors	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 50.000
Heat Pumos (Air Cooled)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 12.000.000
Parking Lots Repairs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 389.500
Install carbon monoxide / smoke detectors and natural gas detectors	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 492.000
Waterproof Basements	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.050.000
Close Illegal Gaps between rail soacine	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 117.600
New CCTV System	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 380.000
GC. Bond & Mobilization	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 15.200.000
	$ 300.000	$ 355.000	$ 2.556.400	$ 365.000	$ 300.000	$ 365.000	$ 300.000	$ 365.000	$ 300.000	$ 365.000	$ 300.000	$ 365.000	$ 3.505.000	$ 99.693.375
	1.21	1.24	1.27	1.30	1.33	1.36	1.39	1.42	1.45	1.48	1.51	1.54	1.57	
	$ 363.000	$ 440.200	$ 3.246.628	$ 474.500	$ 399.000	$ 496.400	$ 417.000	$ 518.300	$ 435.000	$ 540.200	$ 453.000	$ 562.100	$ 5.502.850	$ 205.729.464

Cell #	Cell Contents	Note
B23	Measure/ Package ID	*Assign a reference ID*
B25	Itemized Measures	*, **Enter each measure that was evaluated** in the study, including measures not recommended for implementation* *If additional rows are needed, click the **+** symbol next to row 64 below* ***If the study includes packaged measures,*** *list each individual measure here AND* *unhide the **Packaged Measures** section below (at row 76) and include a line item for each package option. Additional packaged measure guidance is in a note in cell A65*
B65	Measure Packages	*, If applicable, **list each package of measures** that were evaluated in the study **as separate line items**, including packages not recommended for implementation* *Include interactive savings effects of the measures within each packaged line item* ***Also list all individual measures** that were evaluated in the study in the **Itemized Measures** section above. Exclude interactive savings from the individual measures* . ***Measure Status designation guidance** for studies that include packaged measures:* *, Mark the recommended package as RME (recommended mutually exclusive)* *, Mark the not recommended package or packages as NR (not recommended)* *In the **Itemized Measures** section above, mark the measures that are included in the recommended package(s) as ME (mutually exclusive)* *In the **Itemized Measures** section above, mark the measures that are not included in the recommended package(s) with the most appropriate measure status from these options: I, R, NR, RNE, or RS (see the note in cell F23)*
C2	PROJECT:	*Enter project identifier (NYSERDA Project Number, Project Name, Address, Client, ETC.)*
C3	BUILDING:	*Enter building identifier (Building Name, Address, ETC.)*
C23	Measure/Package Name	*Provide a concise description of the measure. For measure packages, summarize the measures within the package*
D17	Electric (kWh) Baseline Energy Use	*Report value in **kWh***
D18	Electric (kWh) Rate Type	*Use the dropdown to select the rate type used in the analysis* ***Marginal/Itemized Rate Analysis:*** ***Total electric cost savings = kWh cost savings + kW cost savings*** *· Measure cost savings are isolated by kWh and kW and then added together* *· kWh cost savings = kWh rate * kWh savings* *· kW cost savings = kW rate * kW savings* *· kWh rate = kWh cost (including kWh associated taxes, fees, etc.) / kWh consumption* *· kW rate = kW cost (including kW associated taxes, fees, etc.) / kW consumption* *· Use case: preferred for all energy studies, required for studies other than Level 1+* ***Blended Rate Analysis:*** ***Total electric cost savings = kWh rate * kWh savings*** *· Measure cost savings are not isolated by kWh and kW* *· kWh rate = Total electric cost / kWh consumption* *· This method implies that any measure with kWh energy impacts will also have a direct impact on utility demand charges (kW).* *· Use case: acceptable for Level I studies or when there are no demand charges on an electric utility bill*
E18	Electric (kWh) Average Utility Rate	*Enter the electric rate used in the calculations*
F17	Electric Demand (kW) Baseline Energy Use	*Report value in **kW***
F18	Electric Demand (kW) Average Utility Rate	*Report as the rate per **kW***
F23	Measure/Package Status	***I:** Installed* ***NR:** Not Recommended* ***R:** Recommended* ***RNE:** Recommended Non-Energy is for measure(s) that are recommended for a justifiable reason other than energy savings and/or a favorable financial payback (ex. equipment end of life, compliance/code requirement, comfort, measures without energy savings, etc.)* ***RME:** Recommended Mutually Exclusive is a recommended measure that is mutually exclusive to an alternative analyzed option(s) that directly impacts the same system(s)/equipment (i.e. the RME measure is the best option compared to the other analyzed option(s). A RME measure must be accompanied by one or more mutually exclusive (ME) measures.* ***ME:** Mutually Exclusive is a not recommended measure(s) that has a corresponding alternative option that was analyzed and recommended over the mutually exclusive option(s). ME measure(s) must be accompanied by a RME measure.* ***RS:** Recommended for Further Study is a measure that requires additional analysis beyond the project's approved scope of work in order to fully evaluate the merits of the measure.*
G22	Energy Savings	*All savings should be reported as **ANNUAL savings**, including kW.*
G24	Supply Savings (kWh)	*Report any and all electric savings in **kWh***
H17	Natural Gas (Therms) Baseline Energy Use	*Report value in **Therms***
H18	Natural Gas (Therms) Average Utility Rate	*Report as the rate per **Therm***
I24	Fuel Savings Type	*If the fuel savings derive from more than one fuel source (electric excluded), select 'Multiple' and complete the breakout section to the right (columns V:AB)*
J16	Oil [Select Type]	*Use the dropdown to select the type of Oil (#2, #4, #6)*
J17	Oil [Select Type] Baseline Energy Use	*Select the Oil Type in cell J16* *Report value in **Gallons***

J18	Oil [Select Type] Average Utility Rate	*Report as the rate per* ***Gallon***
J24	Fuel Savings (MMBtu)	*Convert savings to* ***MMBtu*** *Do not include electric savings. Report electric savings in column F* ***If the Fuel Savings Type is "Multiple", this cell will auto calculate from the Fuel Savings Breakout section.***
K24	Energy Savings to Total Baseline Use (%)	***Energy Savings to Total Fuel Baseline Use*** *is a comparison of the total electric & fuel savings to the total baseline energy use*
L17	Purchased Steam (Mlbs.) Baseline Energy Use	*Report value in* ***Mlbs****.*
L18	Purchased Steam (Mlbs.) Average Utility Rate	*Report as the rate per* ***Mlbs****.*
M24	Energy Cost Savings to Total Annual Cost (%)	***Energy Cost Savings to Total Annual Cost*** *is a comparison of the total annual cost savings to the total baseline annual energy cost*
N17	Propane (Gallons) Baseline Energy Use	*Report value in* ***Gallons***
N18	Propane (Gallons) Average Utility Rate	*Report as the rate per* ***Gallon***
P17	Coal (Tons) Baseline Energy Use	*Report value in* ***Tons***
P18	Coal (Tons) Average Utility Rate	*Report as the rate per* ***Ton***
R16	Other [Indicate] (MMBtu)	*ex. Chilled water from a central plant with unknown fuel source.* ***Indicate the other fuel source(s) in cell Y16.***
R17	Other (MMBtu) Baseline Energy Use	*Report value in* ***MMBtu***
R18	Other (MMBtu) Average Utility Rate	*Report as the rate per* ***MMBtu***
S23	Other Cost Savings (Annual)	*Include any additional cost savings desired such as potential incentives/rebates, avoided penalties, etc.*
T16	Total Baseline Use (MMBtu)	*Includes all electric and fuel baseline use* *MMBtu conversion factors used are indicated to the right*
X24	Fuel Type 1 Fuel Savings (MMBtu)	*Convert all fuel source savings to* ***MMBtu*** *Do not include electric savings. Report electric savings in column F*
Z24	Fuel Type 2 Fuel Savings (MMBtu)	*Convert all fuel source savings to* ***MMBtu*** *Do not include electric savings. Report electric savings in column F*
X16	Other Fuel Source(s)	*See the note in cell R16*
AB24	Fuel Type 3 Fuel Savings (MMBtu)	*Convert all fuel source savings to* ***MMBtu*** *Do not include electric savings. Report electric savings in column F*

APPENDIX A
Pictures

Typical building.

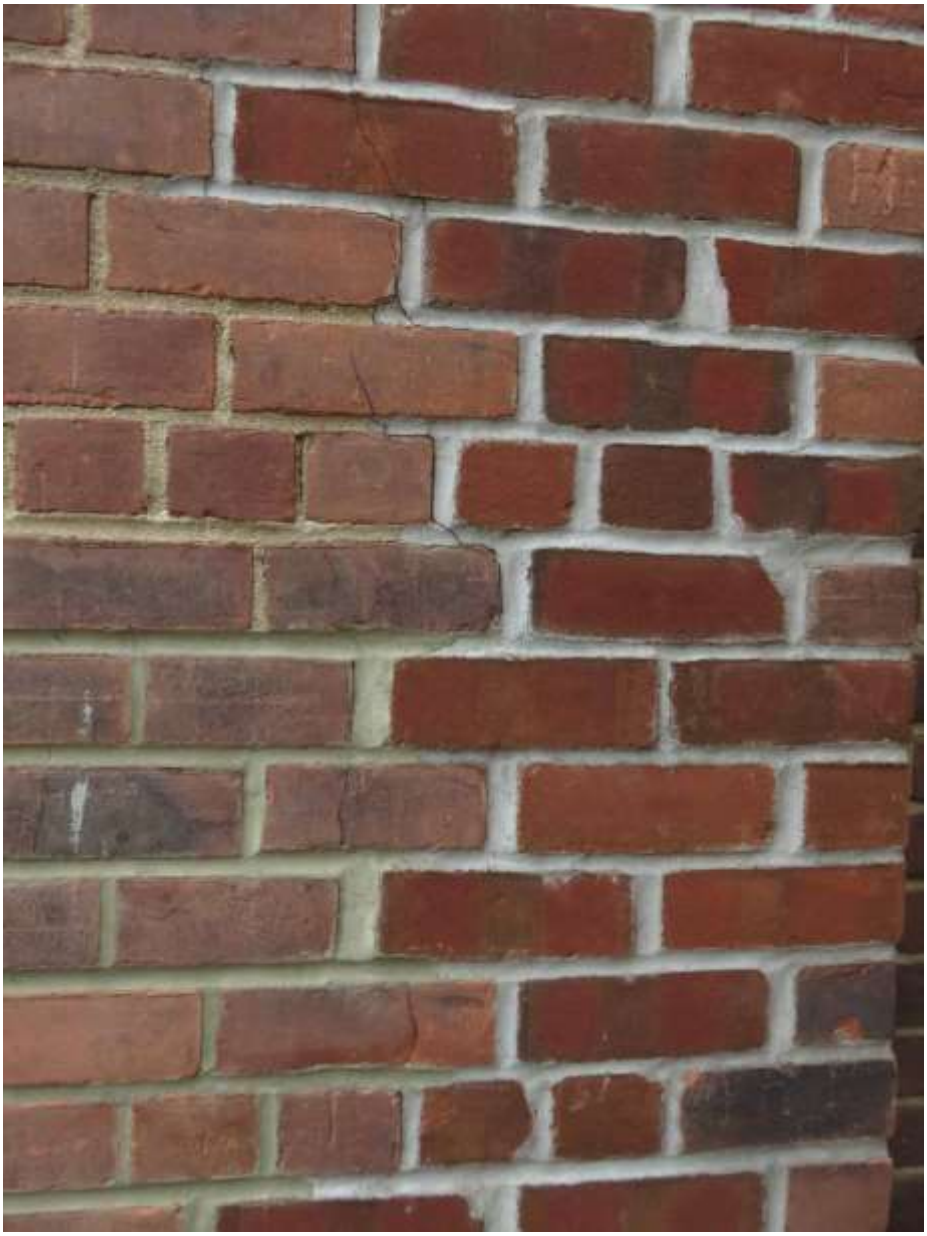
Typical building

Peeling coating with spalled patching

Spalled brick

Spalled brick

Spalled brick



Cracked brick

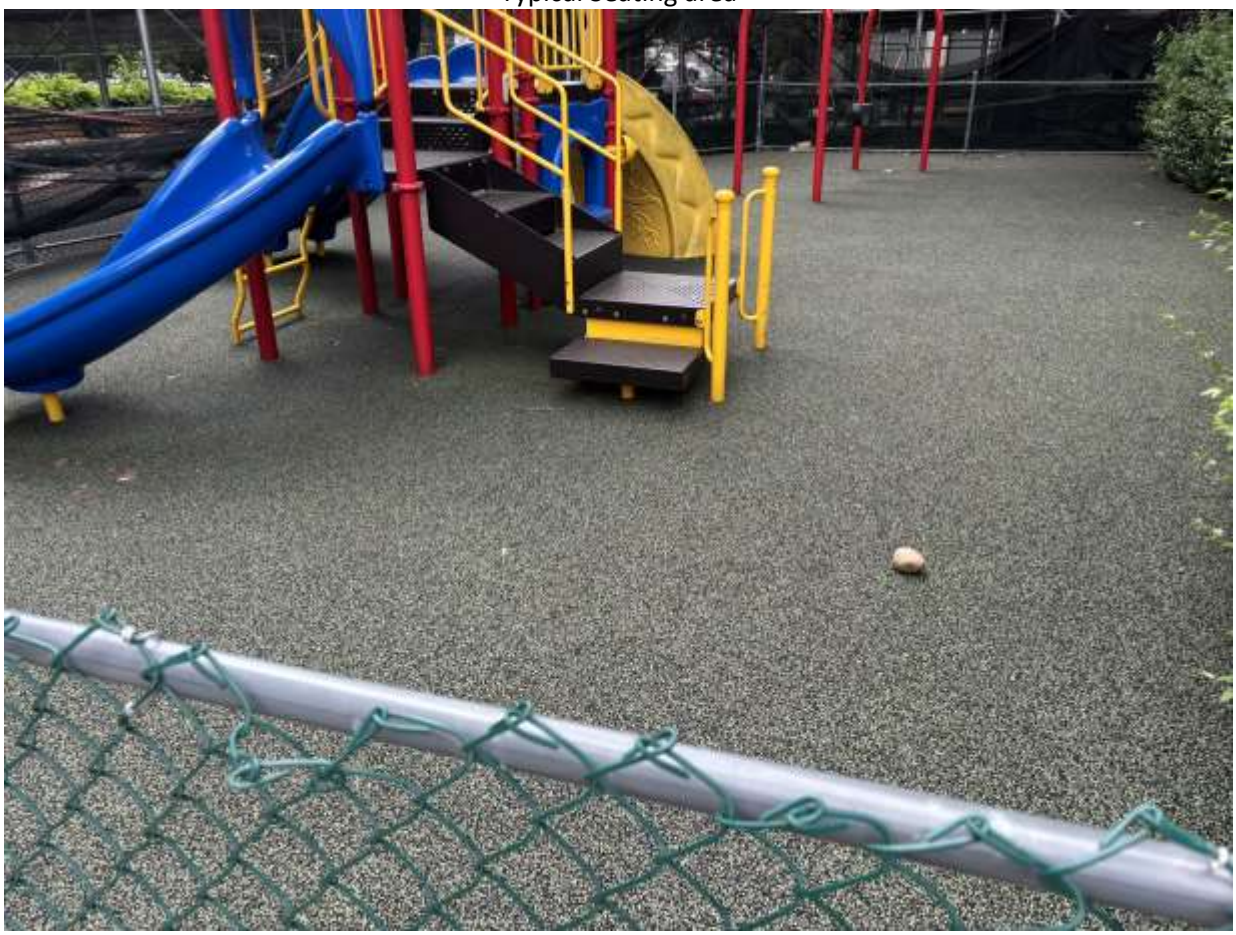
Loose AC grille

Spalled bricks

Open mortar joints

Walkway with wood fences

Typical Seating area



Playground

Cracked walkway flag

Broken bench

Typical exterior stair with railing

Exterior stair

Typical roof drain

Typical pitch pocket

Roof blister with open seam

Typical bulkhead

Open mortar joints and spalled brick at bulkhead

Apartment renovation for turnover.

Apartment renovation for turnover.

Lobby

Elevator lobby

Mail room

Cellar corridor

Laundry Room

Storage Doors

Old storage room doors

New storage room doors

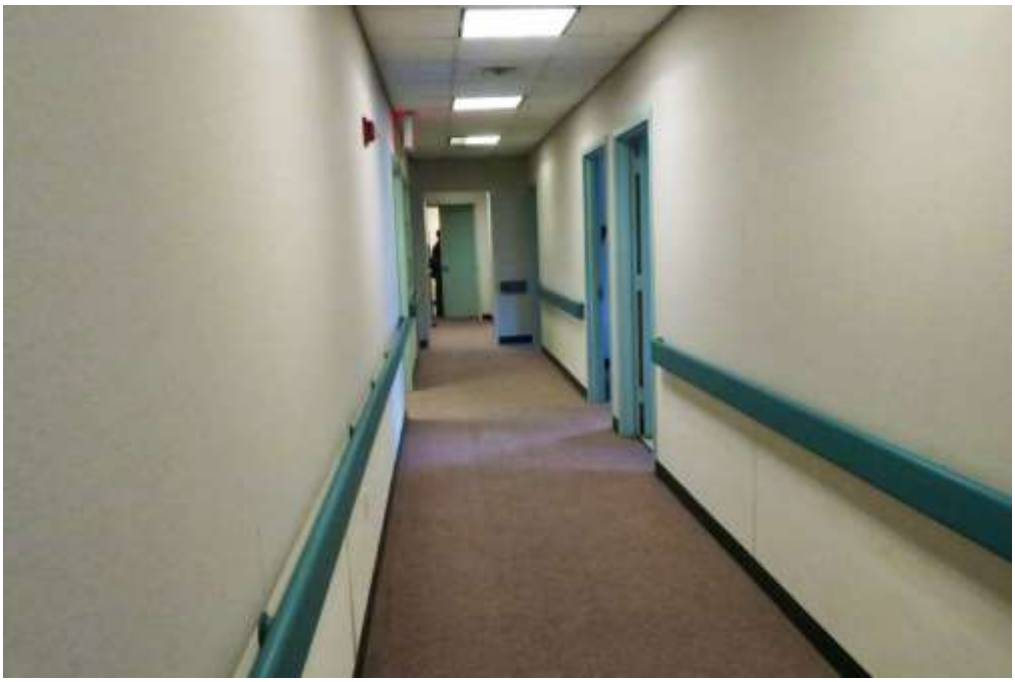
Commercial space reception

Commercial space

Commercial space

Commercial space

Commercial space



Commercial space

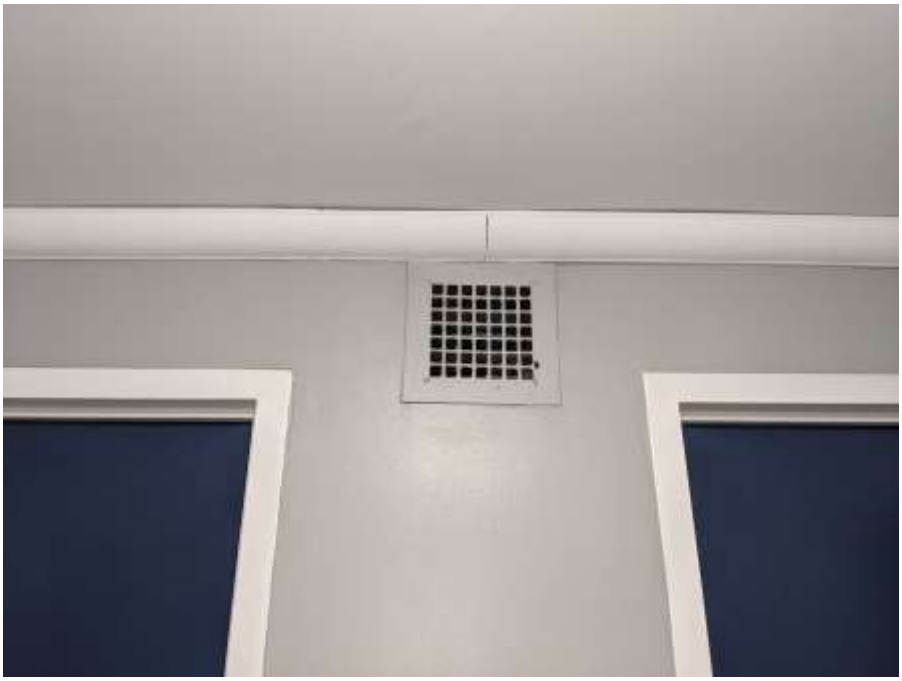
Commercial space

Typical Boiler and Burner

Heating System Control Panels

Typical Roof Exhaust Fan Original – Roof

Typical Roof Exhaust Fan Upgraded – Roof



Typical Hallway Exhaust Grille

Kitchen Exhaust Grille

Typical Bathroom Exhaust Grille

Typical Apartment Heating Convector with Manual Shut-off Valve & Steam Trap

Domestic Water Services with Water Meters

House Pump

House Pump Control Panel

Main Domestic Water Tank

Typical Gas Service Shut-off Valve

Typical Gas Meters

Typical Sanitary Waste Line with replaced portion

Typical Waste Lines

Typical Plumbing Piping (Gas, water, and Sanitary Waste) in Kitchen

Typical Fire Standpipe Manifold at Roof

Power Plant Generators

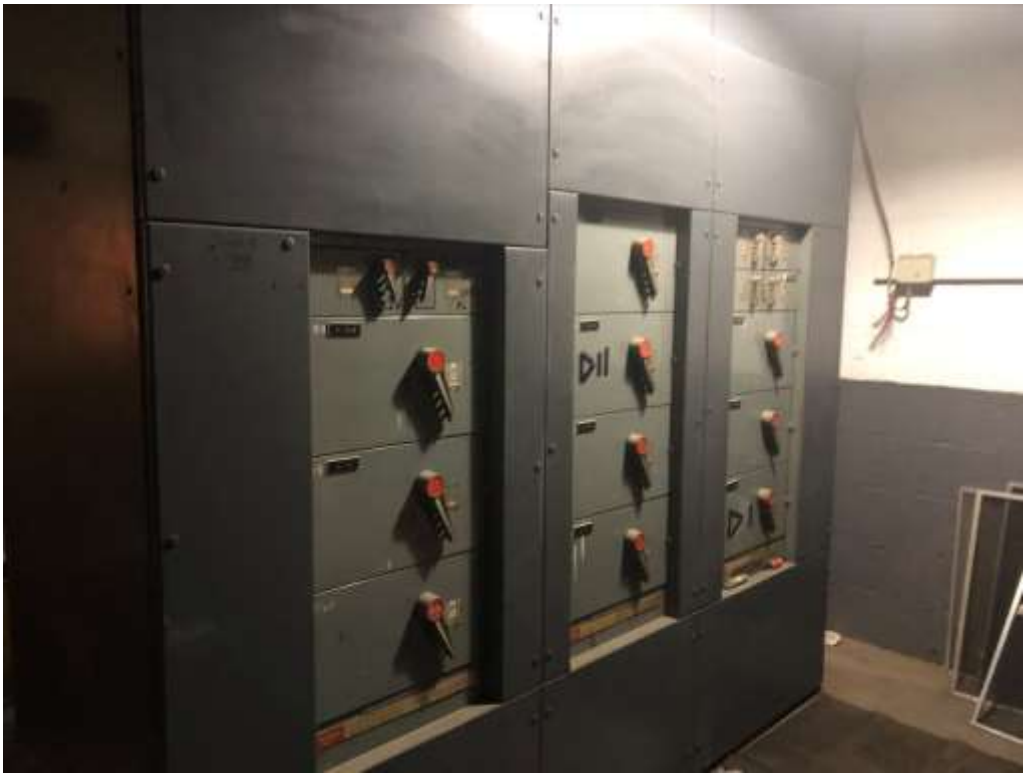
Power Plant Radiators

Diesel Generator

Buildings' Main Distribution Panel Section 1

Buildings' Main Distribution Panel Section 2

Supply Feeders From Power Plant



Typical Apartments Distribution Panel

Typical Compactor Machine – No Name Plate

Typical Compactor Compressor

Typical Elevator Motor

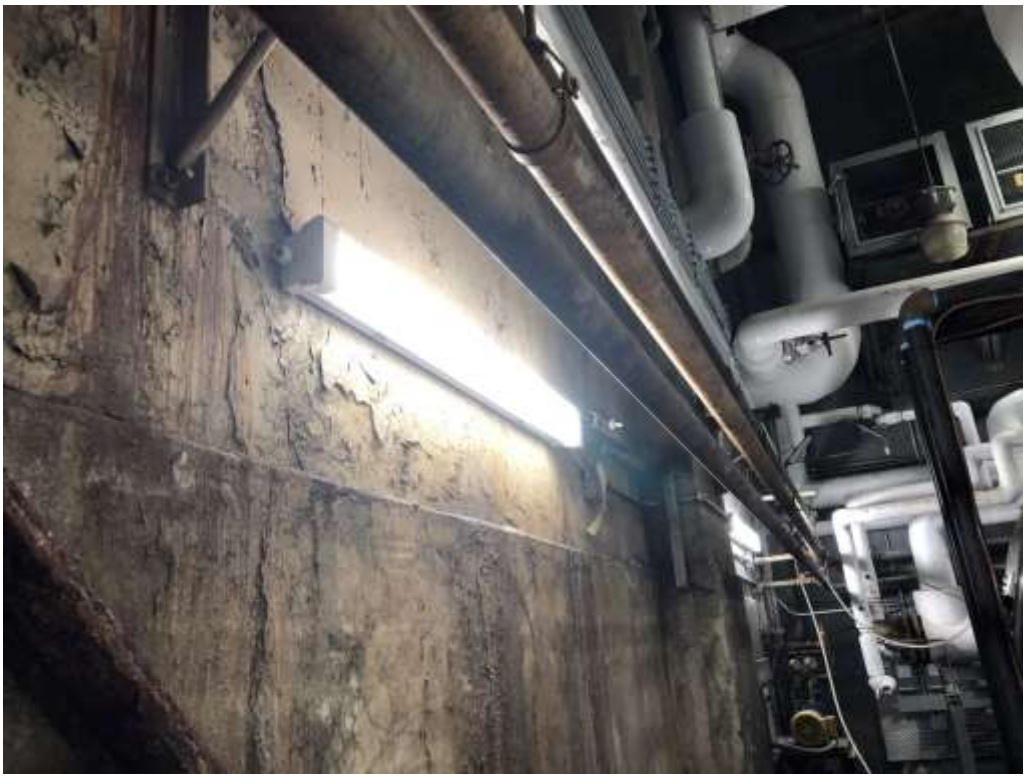
Typical Elevator Control Panel

Typical Stairwell Lighting Fixture with Battery Backup

Typical LED Exit Sign – Hallway

Typical Hallway Lighting Fixture

Typical LED Exit Sign – Common Areas



Boiler Room Linear LED Lighting Fixture

Boiler Room High-Hat LED Lighting Fixture

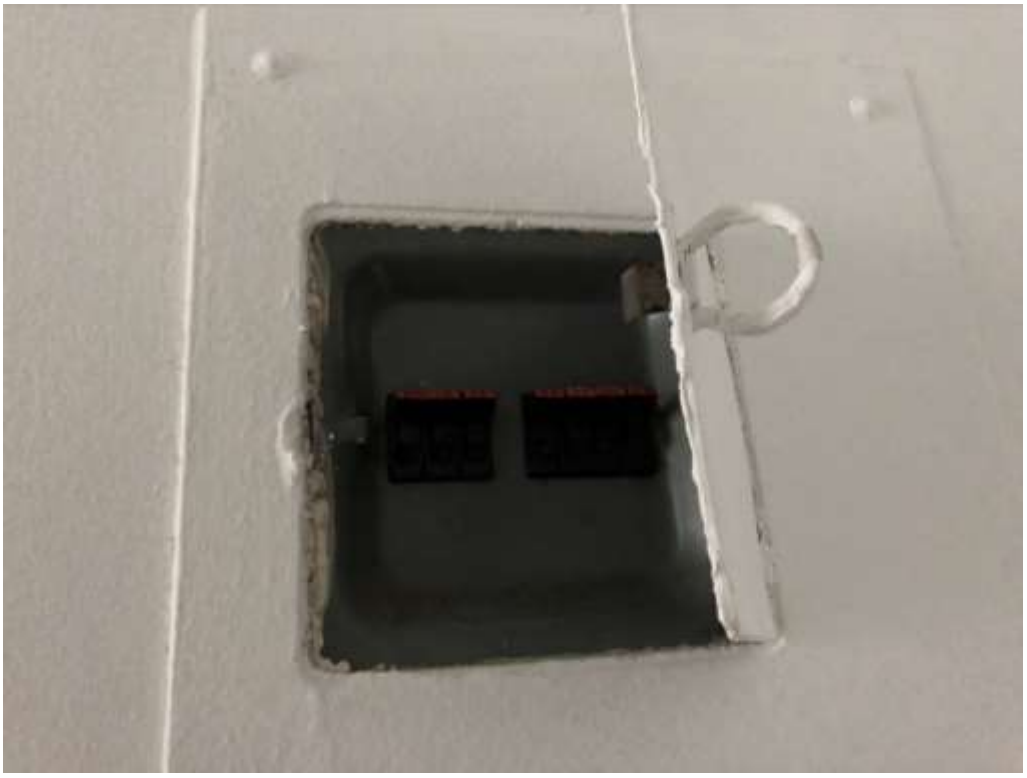
Typical Hallway Smoke Detector

Typical Interior Camera

Typical Exterior Camera

Intercom System – Wireless Based

Typical Kitchen GFI Circuit Breaker



Typical Federal Pacific Circuit Breaker Panel

Typical Apartment Lighting Fixture (Under Renovation)

APPENDIX B
Lighting
Schedule

Existing Fixtures Building#1					
Area	**Fixture Type**	**Ballast Type**	**Watt**	**Qty.**	**Control**
15th-2nd Floor	CFL13/2	Electronic	31	70	None
1st Floor	CFL13/2	Electronic	31	4	None
Compactor Closet	CFL13/2	Electronic	31	15	Switch
Lobby	F44SS	Magnetic	188	3	None
	CFL13/1	Electronic	17	7	None
	F46SS	Magnetic	282	1	None
	CFL13/1	Electronic	17	18	Timer
Elevators	CFL13/2	Electronic	31	8	None
Mailroom	F42ILL	Electronic	59	4	Motion
Stairwell 'A'	CFL13/2	Electronic	31	16	None
Stairwell 'B'	CFL13/2	Electronic	31	18	None
Basement Hall	CFL13/2	Electronic	31	5	None
	F41SS	Magnetic	57	1	None
Laundry Room	F82SS	Magnetic	173	2	Switch
	CFL13/1	Electronic	17	2	Switch
Maintenance Shop	F42SS	Magnetic	94	8	Switch
	F84SS	Magnetic	346	1	Switch
	F82SS	Magnetic	173	8	Switch
	F41SS	Magnetic	57	1	Switch
	CFL13/1	Electronic	17	1	Switch
Super's Office	F84SS	Magnetic	346	1	Switch
	F42SS	Magnetic	94	2	Switch
	F82SS	Magnetic	173	1	Switch
Compactor Rooms	CFL45/1	Electronic	48	1	Switch
Pump Room	F84SS	Magnetic	346	2	Switch
Electric Room	CFL13/1	Electronic	17	1	Switch
Storage Room	CFL13/1	Electronic	17	6	Switch
	CFL45/1	Electronic	48	2	Switch
	F42SS	Magnetic	94	1	Switch
Elevator Machine Room	F42ILL	Electronic	59	4	Switch
	CFL13/1	Electronic	17	4	Switch
Roof Stairwell	CFL13/1	Electronic	17	2	Switch
Fan Control Room	CFL13/1	Electronic	17	4	Switch
Building Exterior	HPS400/1	Magnetic Reactor Ballast	465	11	Photo-Sensor
	CFL13/1	Electronic	17	2	Timer
Exterior Parking	HPS400/1	Magnetic Reactor Ballast	465	15	Timer
Exit Signs	EI15/2	N/A	30	35	None

Existing Fixtures Building#2					
Area	**Fixture Type**	**Ballast Type**	**Watt**	**Qty.**	**Control**
17-2nd Floor	CFL13/2	Electronic	31	80	None
1st Floor	CFL13/2	Electronic	31	3	None

Existing Fixtures Building#2					
Area	**Fixture Type**	**Ballast Type**	**Watt**	**Qty.**	**Control**
Compactor Closets	CFL13/2	Electronic	31	17	Switch
Lobby	F44SS	Magnetic	188	3	None
	CFL13/1	Electronic	17	7	None
	F46SS	Magnetic	282	1	None
	CFL13/1	Electronic	17	18	Timer
Mailroom	F42ILL	Electronic	59	4	Motion
Elevators	CFL13/2	Electronic	31	8	None
Stairwell 'A'	CFL13/2	Electronic	31	18	None
Stairwell 'B'	CFL13/2	Electronic	31	20	None
Bike Room	CFL34/1	Electronic	34	4	Switch
Basement Hall	CFL13/2	Electronic	31	2	None
	CFL45/1	Electronic	48	1	None
	F41SS	Magnetic	57	1	None
	F21SS	Magnetic	28	1	None
Laundry Room	F82SS	Magnetic	173	4	Switch
Community Room	CFL13/2	Electronic	31	5	Switch
	CFL13/1	Electronic	17	7	Switch
	F44SS	Magnetic	188	16	Switch
	F42SS	Magnetic	94	4	Switch
Compactor Room	F42SS	Magnetic	94	2	Switch
	CFL13/1	Electronic	17	2	Switch
	CFL45/1	Electronic	48	2	Switch
Electric Room	F84SS	Magnetic	346	1	Switch
	F82SS	Magnetic	173	2	Switch
	CFL13/1	Electronic	17	6	Switch
Storage Room	CFL13/1	Electronic	17	7	Switch
Wood Shop	F42SS	Magnetic	94	2	Switch
	F82SS	Magnetic	173	1	Switch
	CFL45/1	Electronic	48	1	Switch
Elevator Machine Room	F82SS	Magnetic	173	2	Switch
	CFL13/1	Electronic	17	4	Switch
Roof Stairwell	CFL13/1	Electronic	17	2	Switch
Fan Control Room	CFL13/1	Electronic	17	4	Switch
Building Exterior	HPS400/1	Magnetic Reactor Ballast	465	7	Photo
	CFL13/1	Electronic	17	2	Timer
Exterior Parking	HPS400/1	Magnetic Reactor Ballast	465	15	Timer
Exit Signs	EI15/2	N/A	30	40	None

Existing Fixtures Building#3					
Area	**Fixture Type**	**Ballast Type**	**Watt**	**Qty.**	**Control**
18-2nd Floor	CFL13/2	Electronic	31	68	None
1st Floor	CFL13/2	Electronic	31	3	None
Compactor Closets	CFL13/2	Electronic	31	18	Switch
Lobby	F42SS	Magnetic	94	3	None
	CFL13/1	Electronic	17	7	None

Existing Fixtures Building#3					
Area	**Fixture Type**	**Ballast Type**	**Watt**	**Qty.**	**Control**
	F46SS	Magnetic	282	1	None
	CFL13/1	Electronic	17	18	Timer
Mailroom	F42ILL	Electronic	59	4	Motion
Elevators	CFL13/2	Electronic	31	8	None
Stairwell 'A'	CFL13/2	Electronic	31	19	None
Stairwell 'B'	CFL13/2	Electronic	31	21	None
Bike Room	CFL13/1	Electronic	17	4	Switch
Basement Hall	FC32/1	Pre-Heat	40	4	None
	FC22/1	Pre-Heat	20	4	None
	CFL13/2	Electronic	31	2	None
	F41SS	Magnetic	57	1	None
	CFL13/1	Electronic	17	1	None
Laundry Room	CFL13/1	Electronic	17	3	Switch
	CFL13/2	Electronic	31	1	Switch
	F82SS	Magnetic	173	2	Switch
Compactor Room	CFL13/1	Electronic	17	2	Switch
Electric Room	F84SS	Magnetic	346	3	Switch
	CFL13/1	Electronic	31	7	Switch
Storage Room	CFL13/1	Electronic	31	5	Switch
	F82SS	Magnetic	173	2	Switch
	F42SS	Magnetic	94	2	Switch
Boiler Room	F84SS	Magnetic	346	11	Switch
	F42SS	Magnetic	94	1	Switch
	CFL13/1	Electronic	17	6	Switch
Elevator Machine Room	F82SS	Magnetic	173	2	Switch
	CFL13/1	Electronic	17	4	Switch
Roof Stairwell	CFL13/1	Electronic	17	2	Switch
Fan Control Room	CFL13/1	Electronic	17	4	Switch
Building Exterior	HPS400/1	Magnetic Reactor Ballast	465	8	Photo
	CFL13/1	Electronic	17	2	Timer
Exterior Parking	HPS400/1	Magnetic Reactor Ballast	465	15	Timer
Management Office	F42SS	Magnetic	94	28	Switch
	F44SS	Magnetic	188	2	Switch
	CFL13/2	Electronic	31	4	Switch
	CFL13/1	Electronic	17	11	Switch
	FC32/1	Pre-Heat	40	1	Switch
	FC22/1	Pre-Heat	20	1	Switch
Exit Signs	EI15/2	N/A	30	40	None

Existing Fixtures Building#4					
Area	**Fixture Type**	**Ballast Type**	**Watt**	**Qty.**	**Control**
18-2nd Floor	CFL13/2	Electronic	31	68	None
1st Floor	CFL13/2	Electronic	31	3	None
Compactor Closets	CFL13/2	Electronic	31	18	Switch
Lobby	F44SS	Magnetic	188	3	None

Existing Fixtures Building#4					
Area	**Fixture Type**	**Ballast Type**	**Watt**	**Qty.**	**Control**
	CFL13/1	Electronic	17	7	None
	F46SS	Magnetic	282	1	None
	CFL13/1	Electronic	17	18	Timer
Mailroom	F42ILL	Electronic	59	4	Motion
Elevators	CFL13/2	Electronic	31	8	None
Stairwell 'A'	CFL13/2	Electronic	31	19	None
Stairwell 'B'	CFL13/2	Electronic	31	21	None
Library	CFL13/2	Electronic	31	2	Switch
	F84SS	Magnetic	346	2	Switch
Bike Room	CFL13/1	Electronic	17	4	Switch
Basement Hall	CFL13/2	Electronic	31	5	None
Laundry Room	CFL13/1	Electronic	17	2	Switch
	F42ILL	Electronic	59	1	Switch
	F82SS	Magnetic	173	2	Switch
Compactor Room	CFL45/1	Electronic	48	2	Switch
	CFL13/1	Electronic	17	2	Switch
Electric Room	CFL23/1	Electronic	29	2	Switch
Storage Room #1	F82SS	Magnetic	173	4	Switch
Storage Room #2	F82SS	Magnetic	173	2	Switch
Storage Room #3	CFL13/1	Electronic	17	8	Switch
	CFL34/1	Electronic	34	1	Switch
Pump Room	F84SS	Magnetic	346	5	Switch
Elevator Machine Room	F82SS	Magnetic	173	2	Switch
	CFL13/1	Electronic	17	4	Switch
Roof Stairwell	CFL13/1	Electronic	17	2	Switch
Fan Control Room	F42SS	Magnetic	94	4	Switch
	CFL13/1	Electronic	17	4	Switch
Building Exterior	HPS400/1	Magnetic Reactor Ballast	465	6	Photo
	CFL13/1	Electronic	17	2	Timer
Exterior Parking	HPS400/1	Magnetic Reactor Ballast	465	15	Timer
Exit Signs	EI15/2	N/A	30	40	None

Existing Fixtures Building#5					
Area	**Fixture Type**	**Ballast Type**	**Watt**	**Qty.**	**Control**
18-2nd Floor	CFL13/2	Electronic	31	68	None
1st Floor	CFL13/2	Electronic	31	3	None
Compactor Closets	CFL13/2	Electronic	31	18	Switch
Lobby	F44SS	Magnetic	188	2	None
	F44ILL	Electronic	108	1	None
	CFL13/1	Electronic	17	7	None
	F46SS	Magnetic	282	1	None
	CFL13/1	Electronic	17	18	Timer
Mailroom	F42ILL	Electronic	59	4	Switch
Elevators	CFL13/2	Electronic	31	8	None
Stairwell 'A'	CFL13/2	Electronic	31	19	None

Existing Fixtures Building#5					
Area	**Fixture Type**	**Ballast Type**	**Watt**	**Qty.**	**Control**
Stairwell 'B'	CFL13/2	Electronic	31	21	None
Library	CFL13/2	Electronic	31	2	Switch
	F84SS	Magnetic	346	2	Switch
Bike Room	CFL13/2	Electronic	31	2	Switch
	CFL13/1	Electronic	17	4	Switch
Carriage Room	I75/3	N/A	75	2	Switch
Basement Hall	F41SS	Magnetic	57	1	None
	FC32/1	Pre-Heat	40	5	None
	FC22/1	Pre-Heat	20	5	None
Laundry Room	CFL13/1	Electronic	17	3	Switch
	F82SS	Magnetic	173	2	Switch
Compactor Room	CFL45/1	Electronic	48	1	Switch
	CFL13/2	Electronic	31	1	Switch
	CFL13/1	Electronic	17	1	Switch
	HPS100/1	Magnetic Reactor Ballast	138	1	Switch
Pump Room	F84SS	Magnetic	346	2	Switch
	F82SS	Magnetic	173	1	Switch
	CFL13/1	Electronic	17	2	Switch
Storage Room #1	CFL13/1	Electronic	17	10	Switch
Storage Room #2	F82SS	Magnetic	173	1	Switch
	CFL13/1	Electronic	17	6	Switch
Storage Room #3	F82SS	Magnetic	173	3	Switch
Elevator Machine Room	F82SS	Magnetic	173	2	Switch
	CFL13/1	Electronic	17	4	Switch
Roof Stairwell	CFL13/1	Electronic	17	2	Switch
Fan Control Room	CFL13/1	Electronic	17	4	Switch
Building Exterior	HPS400/1	Magnetic Reactor Ballast	465	8	Photo
	CFL13/1	Electronic	17	2	Timer
Exterior Parking	HPS400/1	Magnetic Reactor Ballast	465	15	Timer
Exit Signs	EI15/2	N/A	30	40	None

Existing Fixtures Building#6					
Area	**Fixture Type**	**Ballast Type**	**Watt**	**Qty.**	**Control**
18-2nd Floor	CFL13/2	Electronic	31	68	None
1st Floor	CFL13/2	Electronic	31	3	None
Compactor Closets	CFL13/2	Electronic	31	18	Switch
Lobby	F44SS	Magnetic	188	2	None
	F44ILL	Electronic	108	1	None
	CFL13/1	Electronic	17	7	None
	F46SS	Magnetic	282	1	None
	CFL13/1	Electronic	17	18	Timer
Mailroom	F42ILL	Electronic	59	4	Motion
Stairwell 'A'	CFL13/2	Electronic	31	19	None
Stairwell 'B'	CFL13/2	Electronic	31	21	None
Bike Room	CFL13/2	Electronic	31	2	Switch

Existing Fixtures Building#6					
Area	**Fixture Type**	**Ballast Type**	**Watt**	**Qty.**	**Control**
	CFL13/1	Electronic	17	4	Switch
Carriage Room	F42SS	Magnetic	94	2	Switch
Basement Hall	F41SS	Magnetic	57	1	None
	CFL13/1	Electronic	17	1	None
	CFL13/2	Electronic	31	2	None
Laundry Room	CFL13/1	Electronic	17	1	Switch
	F42ILL	Electronic	59	1	Switch
	F82SS	Magnetic	173	2	Switch
Compactor Room	CFL45/1	Electronic	48	2	Switch
	CFL13/1	Electronic	17	3	Switch
Electric Room	F82SS	Magnetic	173	4	Switch
	CFL13/1	Electronic	17	3	Switch
	F84SS	Magnetic	346	1	Switch
Storage Room #1	CFL13/1	Electronic	17	10	Switch
Storage Room #2	CFL13/1	Electronic	17	5	Switch
	CFL45/1	Electronic	48	1	Switch
	F82SS	Magnetic	173	4	Switch
Elevator Machine Room	F82SS	Magnetic	173	2	Switch
	CFL13/1	Electronic	17	4	Switch
Roof Stairwell	CFL13/1	Electronic	17	2	Switch
Fan Control Room	CFL13/1	Electronic	17	4	Switch
Daycare	CFL13/1	Electronic	17	4	Switch
	F42SS	Magnetic	94	25	Switch
	CFL13/2	Electronic	31	3	Switch
	F44SS	Magnetic	188	3	Switch
	I60/1	N/A	60	4	Switch
Building Exterior	HPS400/1	Magnetic Reactor Ballast	465	8	Photo
	CFL13/1	Electronic	17	2	Timer
Exterior Parking	HPS400/1	Magnetic Reactor Ballast	465	15	Timer
Exit Signs	EI15/2	N/A	30	40	None

Existing Fixtures Building#7					
Area	**Fixture Type**	**Ballast Type**	**Watt**	**Qty.**	**Control**
18-2nd Floor	CFL13/2	Electronic	31	68	None
1st Floor	CFL13/2	Electronic	31	3	None
Compactor Closets	CFL13/2	Electronic	31	18	Switch
Lobby	F44SS	Magnetic	188	2	None
	F44ILL	Electronic	108	1	None
	CFL13/1	Electronic	17	7	None
	F46SS	Magnetic	282	1	None
	CFL13/1	Electronic	17	18	Timer
Mailroom	F42ILL	Electronic	59	4	Motion
Elevators	CFL13/2	Electronic	31	8	None
Stairwell 'A'	CFL13/2	Electronic	31	19	None
Stairwell 'B'	CFL13/2	Electronic	31	21	None
Bike Room	CFL13/2	Electronic	31	2	Switch

Existing Fixtures Building#7					
Area	**Fixture Type**	**Ballast Type**	**Watt**	**Qty.**	**Control**
	CFL13/1	Electronic	17	4	Switch
Carriage Room	CFL13/1	Electronic	17	2	Switch
Basement Hall	F41SS	Magnetic	57	1	None
	CFL13/2	Electronic	31	3	None
Laundry Room	CFL13/1	Electronic	17	1	Switch
	F82SS	Magnetic	173	2	Switch
Compactor Room	CFL45/1	Electronic	48	1	Switch
	F82SS	Magnetic	173	1	Switch
	CFL13/1	Electronic	17	2	Switch
Electric Room	F82SS	Magnetic	173	1	Switch
	CFL13/1	Electronic	17	3	Switch
	F84SS	Magnetic	346	2	Switch
Storage Room #1	CFL45/1	Electronic	48	4	Switch
	CFL13/1	Electronic	17	7	Switch
Storage Room #2	F44SS	Magnetic	188	4	Switch
Elevator Machine Room	F42SS	Magnetic	94	4	Switch
	CFL13/1	Electronic	17	4	Switch
Roof Stairwell	CFL13/1	Electronic	17	2	Switch
Fan Control Room	CFL13/1	Electronic	17	4	Switch
Building Exterior	HPS400/1	Magnetic Reactor Ballast	465	8	Photo
	CFL13/1	Electronic	17	2	Timer
Exterior Parking	HPS400/1	Magnetic Reactor Ballast	465	15	Timer
Exit Signs	EI15/2	N/A	30	40	None

Existing Fixtures Shopping Center					
Area	**Fixture Type**	**Ballast Type**	**Watt**	**Qty.**	**Control**
Elevator Machine Room	F42SS	Magnetic	94	2	Switch
Roof Parking	HPS400/1	Magnetic Reactor Ballast	465	29	Timer
3rd Floor (Center)	F44SS	Magnetic	188	5	None
Stair "D"	F44SS	Magnetic	188	2	None
	F42SS	Magnetic	94	3	None
2nd Floor	F44SS	Magnetic	188	7	None
Storage	F82SS	Magnetic	173	1	Switch
Air Handling Room	F42SS	Magnetic	94	3	Switch
Supply Room	F43ILL	Electronic	78	2	Switch
1st Floor	F44SS	Magnetic	188	3	None
Ground Parking	HPS100/1	Magnetic Reactor Ballast	138	36	None
Stair "B"	F42SS	Magnetic	94	4	None
	F44SS	Magnetic	188	1	None
1st Floor (Right)	F44SS	Magnetic	188	15	None
Community Room	CFL13/1	Electronic	17	6	Switch
	CFL13/3	Electronic	51	2	Switch

Existing Fixtures Shopping Center					
Area	**Fixture Type**	**Ballast Type**	**Watt**	**Qty.**	**Control**
	FU2SS	Magnetic	96	20	Switch
Ramp Exit	F44SS	Magnetic	188	4	None
	F24SS	Magnetic	112	4	None
	F82SS	Magnetic	173	3	None
Basement Hall	F44SS	Magnetic	188	18	None
Elevator Room	F42SS	Magnetic	94	1	Switch
Air Handling Room	CFL13/1	Electronic	17	1	Switch
2nd Floor	F44SS	Magnetic	188	2	None
Electric Room	F42SS	Magnetic	94	2	Switch
Air Handling Room	F82SS	Magnetic	173	2	Switch
	F42SS	Magnetic	94	2	Switch
Breezeway	F44SS	Magnetic	188	9	None
Stair "E"	F42SS	Magnetic	94	2	None
	F44SS	Magnetic	188	4	None
Back Parking	HPS400/1	Magnetic Reactor Ballast	465	11	Timer
Exit Signs	EI15/2	N/A	30	10	None

Existing Fixtures Power Plant					
Area	**Fixture Type**	**Ballast Type**	**Watt**	**Qty.**	**Control**
Power Plant	F82SS	Magnetic	173	10	Switch
	F84SS	Magnetic	346	29	Switch
	F44SS	Magnetic	188	1	Switch
	CFL13/1	Electronic	17	2	Switch
Exterior	HPS400/1	Magnetic Reactor Ballast	465	6	Timer

APPENDIX C
Utility Data

ENERGY STAR® Data Verification Checklist

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ENERGY STAR ® Score[1]

Big Six Towers

Registry Name: Big Six Towers
Property Type: Multifamily Housing
Gross Floor Area (ft²): 1,112,839
Built: 1964

For Year Ending: Dec 31, 2023
Date Generated: Jun 19, 2024

1. The ENERGY STAR score is a 1-to-100 assessment of a building's energy efficiency as compared with similar building nationwide, adjusting for climate and business activity.

Property & Contact Information

Property Address
Big Six Towers
59-10 Queens Boulevard
Woodside, New York 11377

Property Owner
_____
,
(____)____-_____

Primary Contact
____ _____
,
(____)____-_____
_____

Property ID: 20636747
NYC Borough, Block and Lot (BBL):
4-02314-0001;4-02322-0001
NYC Building Identification Number (BIN):
4432195;4432196;4432197;4432198;4432199;4830911;4437383;4432207;4432208;4805942

1. Review of Whole Property Characteristics

Basic Property Information

1) Property Name: Big Six Towers ☐ **Yes** ☐ **No**

Is this the official name of the property?

If "No", please specify: _____

2) Property Type: Multifamily Housing ☐ **Yes** ☐ **No**

Is this an accurate description of the primary use of this property?

3) Location: ☐ **Yes** ☐ **No**

59-10 Queens Boulevard
Woodside, New York 11377

Is this correct and complete?

4) Gross Floor Area: 1,112,839 ft² ☐ **Yes** ☐ **No**

Is value an accurate account of the gross floor area for the property?

5) Average Occupancy (%): 100 ☐ **Yes** ☐ **No**

Is this occupancy percentage accurate for the entire 12 month period being assessed?

6) Number of Buildings: 6 ☐ **Yes** ☐ **No**

Does this number accurately represent all structures?

7) Whole Property Verification: ☐ **Yes** ☐ **No**

Does this application represent the entire property? If any space or energy use has been excluded from this property, please describe it in the notes section below.

Notes:

Indoor Environmental Quality

1) Outdoor Air Ventilation ☐ **Yes** ☐ **No**

Were measurements and/or calculations taken and recorded under normal building operating conditions using an allowable method as described in the Licensed Professional's Guide which demonstrate this property meets the minimum ventilation rates according to ANSI/ ASHRAE Standard 62?

[NOTE: In the case of an audit of this application, Appendix A: IEQ Measurement Form from the LP Guide, will be required to be completed and submitted to EPA. Failure to submit measurements will result in a denial of the application.]

2) Thermal Environmental Conditions ☐ **Yes** ☐ **No**

Were measurements taken and recorded per the Licensed Professional's Guide which demonstrate this property meets the acceptable thermal environmental conditions according to ANSI/ASHRAE Standard 55, Thermal Environmental Conditions for Human Occupancy?

[NOTE: In the case of an audit of this application, Appendix A: IEQ Measurement Form from the LP Guide, will be required to be completed and submitted to EPA. Failure to submit measurements will result in a denial of the application.]

3) Illumination ☐ **Yes** ☐ **No**

Were measurements taken and recorded per the LP Guide which demonstrate this property meets minimum recommended illumination levels according to the most recent version of the Illuminating Engineering Society of North America (IESNA) Lighting Handbook?

[NOTE: In the case of an audit of this application, Appendix A: IEQ Measurement Form from the LP Guide, will be required to be completed and submitted to EPA. Failure to submit measurements will result in a denial of the application.]

Notes:

2. Review of Property Use Details

Multifamily Housing: Building Use

This Use Detail is used to calculate the 1-100 ENERGY STAR Score.

1) Gross Floor Area: 1,112,839 ft² ☐ Yes ☐ No

Is this the total size, as measured between the outside surface of the exterior walls of the building(s)? This includes all areas inside the building(s) such as: occupied tenant areas, common areas, meeting areas, break rooms, restrooms, elevator shafts, mechanical equipment areas, and storage rooms. Gross Floor Area should not include interstitial plenum space between floors, which may house pipes and ventilation. Gross Floor Area is not the same as rentable, but rather includes all area inside the building(s). Leasable space would be a sub-set of Gross Floor Area. In the case where there is an atrium, you should count the Gross Floor Area at the base level only. Do not increase the size to accommodate open atrium space at higher levels. The Gross Floor Area should not include any exterior spaces such as balconies or exterior loading docks and driveways.

2) Total Number of Residential Living Units: 988 ☐ Yes ☐ No

Is this the total count of all individual private apartments/ condominiums, including both occupied and unoccupied units?

3) Number of Residential Living Units in a Low-rise Building (1-4 stories): 0 ☐ Yes ☐ No

Is this the count of all individual private apartments/ condominiums (both occupied and unoccupied) located in individual buildings that are 1 to 4 stories in height?

4) Number of Residential Living Units in a Mid-rise Building (5-9 stories): 0 ☐ Yes ☐ No

Is this the count of all individual private apartments/ condominiums (occupied and unoccupied) located in individual buildings that are 5 to 9 stories in height?

5) Number of Residential Living Units in a High-rise Building (10 or more stories): 988 ☐ Yes ☐ No

Is this the count of all individual private apartments/ condominiums (both occupied and unoccupied) located in individual buildings that are 10 or more stories in height?

6) Number of Bedrooms: 1,575 ☐ Yes ☐ No

Is this the total number of bedrooms located in each individual apartment unit at the property. The value should reflect current operational conditions, which reflect additions/

modifications to the original unit(s). Please note that efficiency and studio apartments count as having one (1) bedroom. A junior one bedroom (a unit with a separate space for sleeping that is usually separated by a half wall or temporary wall), should be also be counted as one (1), the same as an efficiency unit. If your property is in the design phase, use your best estimate for the intended conditions when the property is fully operational.

7) Common Entrance: 100% Yes ☐ **Yes** ☐ **No**

Does the building(s) have a common entrance? A common entrance is a door that leads from the exterior of the building to interior common hallways that allows access to all the individual residential units. Typically, the mailboxes and buzzers are located at the common entrance. Buildings can still have individual exterior doors to units as long as there is a common entrance. In the case of campuses, every building included in the property must meet this definition.

8) Resident Population Type: No specific resident population ☐ **Yes** ☐ **No**

Does this selection describe the specific resident population, if any, to which the multifamily housing property is marketed and/or dedicated? The type of housing selected should apply to the majority (more than 50%) of the residents. The following options are available: No specific resident population: The property is not inhabited by any dedicated population. Dedicated Student: Privately owned, off-campus housing -- not affiliated with a college or university -- that is primarily occupied by undergraduate or graduate students. Dedicated Military: Off-base housing primarily occupied by persons serving in or employed by the military. Dedicated Senior/Independent Living: Housing that is restricted to the elderly that also provides limited programs of assistance with domestic activities (meals, housekeeping, activities, transportation, etc.). Typically, a unit in an Independent Living Community resembles a standard market unit, though the community may offer amenities or communal dining facilities not typical in multifamily apartment buildings. Independent Living Communities generally are not licensed and generally do not provide assistance with Activities of Daily Living (ADLs) or healthcare, such as the management of medications and assistance with bathing, dressing, toileting, ambulating, eating and other similar activities. Dedicated Special Accessibility Needs: Residents living in the property are covered by the American Disabilities Act. Other Dedicated housing (please specify): - Use this selection to indicate another type of dedicated resident population. Please note that Portfolio Manager contains separate property use designations for Senior Living Communities, Residence Halls/Dormitories, and Barracks. Please refer to the definitions for these property uses to benchmark a property that is used for nursing/assisted living or as a student or military residence hall.

9) Government Subsidized Housing: No ☐ **Yes** ☐ **No**

Is this the correct answer to whether the property receives some type of local, state, or federal affordable housing subsidy for some or all units? Examples include Federal Housing Association (FHA) Insured; Public Housing; Agricultural Housing; Veterans Affairs (VA) Housing; Department of Defense (DoD) Housing; Low Income Housing Tax Credit (LIHTC); Project Based Housing Assistance Payment (HAP) (including Section 8), or another type of local, state or federal subsidy.

10) Number of Laundry Hookups in All Units: 0 ☐ **Yes** ☐ **No**

Is this the count of all laundry hookups located in individual apartment units? You should include all hookups that are available, even if the machine is inoperable or absent. For the purposes of counting hookups, each machine (individual washer, individual dryer, or combination/stacked unit) should be counted as one hookup.

11) Number of Laundry Hookups in Common Area(s): 40 ☐ **Yes** ☐ **No**

Is this the count of all laundry hookups located in common areas, which may be either pay-per-use or free machines? You should include all hookups that are available, even if the machine is inoperable or absent. For the purposes of counting hookups, each

machine (individual washer, individual dryer, or combination/stacked unit) should be counted as one hookup.

12) Percent That Can Be Heated: 100 ☐ **Yes** ☐ **No**

Is this the total percentage of the property that can be heated by mechanical equipment?

13) Percent That Can Be Cooled: 100 ☐ **Yes** ☐ **No**

Is this the total percentage of the property that can be cooled by mechanical equipment? This includes all types of cooling from central air to individual window units.

Notes:

3. Review of Energy Consumption

Data Overview

Site Energy Use Summary

Natural Gas (kBtu)	99,432,926.2 (66%)
Fuel Oil (No. 2) (kBtu)	51,346,804.6 (34%)
Total Energy (kBtu)	150,779,730.9

Energy Intensity

Site (kBtu/ft²)	135.5
Source (kBtu/ft²)	140.4

National Median Comparison

National Median Site EUI (kBtu/ft²)	110.8
National Median Source EUI (kBtu/ft²)	114.8
% Diff from National Median Source EUI	22.3%

Emissions (based on site energy use)

Total (Location-Based) GHG Emissions (Metric Tons CO2e)	9,091.8

Power Generation Plant or Distribution Utility:
Consolidated Edison Co-NY Inc

Note: All values are annualized to a 12-month period. Source Energy includes energy used in generation and transmission to enable an equitable assessment.

Summary of Energy Meters Used in Metrics

The following meters are associated with the property, meaning that they are added together to get the total energy use for the property. Please see additional tables in this checklist for the exact meter consumption values. **Note: please review all meter entries, making note of any unusual entries, and, if they are correct, provide a manual note to explain.**

Meter Name	Fuel Type	Start Date	End Date	Associated With:
Gas Cooking Meter	Natural Gas	01/01/2021	In Use	59-10 Queens Boulevard; Big Six Towers
07745-71410	Natural Gas	03/23/2022	In Use	Big Six Towers; 59-50 61 Street
07745-71380	Natural Gas	11/23/2020	In Use	Big Six Towers; 59-50 61 Street
Fuel Oil (No. 2)	Fuel Oil (No. 2)	01/01/2021	In Use	59-10 Queens Boulevard; Big Six Towers
Natural Gas Main Meter	Natural Gas	01/01/2021	In Use	59-10 Queens Boulevard; Big Six Towers

Total Energy Use

☐ **Yes** ☐ **No**

Do the meters shown above account for the total energy use of this property during the reporting period of this application?

Additional Fuels

☐ **Yes** ☐ **No**

Do the meters above include all fuel types at the property? That is, no additional fuels such as district steam, generator fuel oil have been excluded.

On-Site Solar and Wind Energy

☐ **Yes** ☐ **No**

Are all on-site solar and wind installations reported in this list (if present)? All on-site systems must be reported.

Notes:

Natural Gas Meter: Gas Cooking Meter (therms)

Associated With: 59-10 Queens Boulevard; Big Six Towers

Start Date	End Date	Usage
01/01/2023	01/31/2023	557
02/01/2023	02/28/2023	499
03/01/2023	03/31/2023	526
04/01/2023	04/30/2023	506
05/01/2023	05/31/2023	522
06/01/2023	06/30/2023	494
07/01/2023	07/31/2023	485
08/01/2023	08/31/2023	493
09/01/2023	09/30/2023	501
10/01/2023	10/31/2023	595
11/01/2023	11/30/2023	718
12/01/2023	12/31/2023	1,058
	Total Consumption (therms):	6,954
	Total Consumption (kBtu (thousand Btu)):	695,400

Total Energy Consumption for this Meter

☐ **Yes** ☐ **No**

Do the fuel consumption totals shown above include consumption of all energy tracked through this meter that affect energy calculations for the reporting period of this application (i.e., do the entries match the utility bills received by the property)?

Notes:

Natural Gas Meter: 07745-71410 (therms)

Associated With: Big Six Towers; 59-50 61 Street

Start Date	End Date	Usage
12/19/2022	01/20/2023	46,356
01/20/2023	02/22/2023	52,805
02/22/2023	03/23/2023	41,148
03/23/2023	04/25/2023	50,450
04/25/2023	05/24/2023	32,715
05/24/2023	06/20/2023	66,754
06/20/2023	07/20/2023	66,622
07/20/2023	08/19/2023	62,888
08/19/2023	09/20/2023	54,037
09/20/2023	10/19/2023	55,920
10/19/2023	11/16/2023	50,348
11/16/2023	12/18/2023	58,020
12/18/2023	01/19/2024	56,298
	Total Consumption (therms):	694,361
	Total Consumption (kBtu (thousand Btu)):	69,436,100

Total Energy Consumption for this Meter

☐ **Yes** ☐ **No**

Do the fuel consumption totals shown above include consumption of all energy tracked through this meter that affect energy calculations for the reporting period of this application (i.e., do the entries match the utility bills received by the property)?

Notes:

Natural Gas Meter: 07745-71380 (therms)

Associated With: Big Six Towers; 59-50 61 Street

Start Date	End Date	Usage
04/26/2022	03/30/2023	113,925
03/30/2023	04/24/2023	37,640
04/24/2023	05/19/2023	31,206
05/19/2023	06/20/2023	11,617
06/20/2023	07/20/2023	9,406
07/20/2023	08/19/2023	11,389
08/19/2023	09/20/2023	11,597
09/20/2023	10/19/2023	21,011
10/19/2023	11/16/2023	50,068
11/16/2023	12/18/2023	83,592
12/18/2023	01/19/2024	101,079
	Total Consumption (therms):	482,530
	Total Consumption (kBtu (thousand Btu)):	48,253,000

Total Energy Consumption for this Meter

☐ **Yes** ☐ **No**

Do the fuel consumption totals shown above include consumption of all energy tracked through this meter that affect energy calculations for the reporting period of this application (i.e., do the entries match the utility bills received by the property)?

Notes:

Fuel Oil (No. 2) Meter: Fuel Oil (No. 2) (Gallons (US))

Associated With: 59-10 Queens Boulevard; Big Six Towers

Delivery Date	Quantity
01/02/2023	7,003
01/09/2023	6,978
01/16/2023	6,980
01/28/2023	7,024
02/05/2023	6,985
02/10/2023	7,000.2
02/21/2023	7,000
02/27/2023	6,990
03/10/2023	7,126
03/18/2023	7,081
03/28/2023	6,994
04/07/2023	7,004.1
04/15/2023	7,012
04/24/2023	8,013
05/02/2023	6,500
05/11/2023	7,050
05/20/2023	7,030
05/26/2023	7,044
05/31/2023	7,034
06/09/2023	7,014
06/17/2023	2,000
06/20/2023	7,015
06/24/2023	7,028
06/28/2023	7,024
07/01/2023	6,990
07/07/2023	6,999
07/10/2023	7,000
07/14/2023	7,020
07/19/2023	7,020
07/24/2023	6,993
07/28/2023	6,499
08/01/2023	7,000
08/07/2023	6,499
08/11/2023	7,000
08/14/2023	5,999
08/17/2023	7,030
08/22/2023	7,006
08/26/2023	6,981

Delivery Date	Quantity
09/01/2023	7,008
09/06/2023	6,997
09/07/2023	6,997
09/11/2023	7,000
09/16/2023	6,970
09/21/2023	6,981
09/30/2023	7,021
10/09/2023	6,977
10/19/2023	7,001
10/28/2023	7,070
11/07/2023	7,010
11/18/2023	7,010
11/28/2023	7,000
12/07/2023	6,989
12/16/2023	7,002
12/23/2023	7,080

Total Consumption (Gallons (US)):	372,078.3
Total Consumption (kBtu (thousand Btu)):	51,346,805.4

Total Energy Consumption for this Meter

☐ **Yes** ☐ **No**

Do the fuel consumption totals shown above include consumption of all energy tracked through this meter that affect energy calculations for the reporting period of this application (i.e., do the entries match the utility bills received by the property)?

Notes:

Natural Gas Meter: Natural Gas Main Meter (therms)

Associated With: 59-10 Queens Boulevard; Big Six Towers

Start Date	End Date	Usage
01/01/2023	01/31/2023	185
02/01/2023	02/28/2023	171
03/01/2023	03/31/2023	195
04/01/2023	04/30/2023	182
05/01/2023	05/31/2023	186
06/01/2023	06/30/2023	174
07/01/2023	07/31/2023	159
08/01/2023	08/31/2023	152
09/01/2023	09/30/2023	157
10/01/2023	10/31/2023	172
11/01/2023	11/30/2023	181
12/01/2023	12/31/2023	191
	Total Consumption (therms):	2,105
	Total Consumption (kBtu (thousand Btu)):	210,500

Total Energy Consumption for this Meter

☐ **Yes** ☐ **No**

Do the fuel consumption totals shown above include consumption of all energy tracked through this meter that affect energy calculations for the reporting period of this application (i.e., do the entries match the utility bills received by the property)?

Notes:

4. Signature & Stamp of Verifying Licensed Professional

_____ (Name) visited this site on _____ (Date). Based on the conditions observed at the time of the visit to this property, I verify that the information contained within this application is accurate and in accordance with the Licensed Professional Guide.

Signature _____

Date _____

Licensed Professional

____ _____
,
(____)____-_____
_____

NOTE: When applying for the ENERGY STAR, the signature of the Verifying Professional must match the stamp.

Professional Engineering Stamp

(if applicable)