NYCHA Comprehensive Modernization

BASIS OF DESIGN

Contents

Introduction

The Comprehensive Modernization Projects are expected to have varied scopes of work due to existing conditions on site, the priorities expressed by the resident community and NYCHA leadership, and different funding opportunities. This Basis of Design is intended to serve as a program-wide guide for designers, applicable to any grouping of scope, and should be used in combination with NYCHA's 2017 publication, *Design Guidelines: Rehabilitation of NYCHA Residential Buildings*.

Each scope area in this Basis of Design includes *Design Guidelines* which describe the baseline work product expected from this program, as well as *Upgrades to Baseline Work* which either augment the level of quality or posit additional elements of scope which have been identified as highly desirable or "wishlist" items for the Housing Authority.

Sources

DG – NYCHA CPD Design Guidelines (https://www1.nyc.gov/assets/nycha/downloads/pdf/nycha-design-guidelines.pdf)

PACT – PACT Procurement "Scope and Underwriting Guidance" document (Exhibit B_Scope and Underwriting Guidance.pdf)

CCG – Connected Communities Guidebook (https://www1.nyc.gov/assets/nycha/downloads/pdf/Connected-Communities-Guidebook.pdf)

Marlboro – Design-Build Services for Building Heating Systems (General Construction and Professional Services) PROJECT No. 4 – (#124851-2) Marlboro Houses, book 4 2021_09_01_RFP_PROJECT 4_BOOK 1_124851-2.pdf

Mold SP – Mold/Mildew Standard Procedure Manual Mold SP.pdf

Haber – Temporary Boilers Spec SECTION 01 50 00 TEMPORARY FACILITIES & CONTROLS (Haber - Temporary Boilers Spec.pdf)

Bridges – Two Bridges – Temporary Boilers Spec Section 01 51 23 (Two Bridges - Temporary Boilers Spec.pdf)

General Design Guidelines

For all areas of scope, the Designer must comply with applicable codes, law, and applicable standards, including but not limited to:

- NYC Building Code & Local Laws
- ADAAG, Section 504 & NYCHA's Voluntary Agreement with HUD
- Mold and Lead abatement Standard Procedures (ask William)
- CPD Standard Notice Design 2019001 – Lead Based Paint Construction Practices
- REVIEW CODE ANALYSIS AND ADD ALL APPLICABLE REFS

Resident Engagement with Design Elements

1. Provide color scheme options for review and input by NYCHA Program Management, Property Management, the Residents, and other stakeholders as required in the **Stakeholder Engagement Scope**.
2. Provide model unit buildout with selected finishes.
3. Review design options with residents, including renderings and material samples, and include documentation (how? Should this be moved to the scoping docs?) that resident input was considered for, at minimum, these areas:
    a. Apartment Interiors
    b. Elevator Cab Interiors
    c. Lobbies, Stairwells, Halls
    d. Community Centers
    e. ?? other

Options for individual residents

Finishes for which multiple options may be offered to residents include:

Kitchen Countertops & backsplashes
Bathroom floor & wall tile
Paint colors (need standard for this)
Resilient flooring
Light fixtures

Finishes for which a single standard should be installed throughout the development include:

Kitchen Cabinets
Appliances & Equipment

Building Interiors

Apartment Kitchens

Design Guidelines:

At a minimum, comply with NYCHA DG 3.5 Kitchen Standards, except as altered below:

1. Provide solid surface resin-based countertops and backsplashes (minimum 4" high) as standard.
    a. Lesson Learned: consider the ability to repair countertops – solid colors are often easier to refinish than faux stone or other patterned surfaces.
2. Provide Stainless Steel Appliances as standard.
3. Floors to be waterproof and slip resistant.
4. Walls & ceilings to be primed with mold-blocking primer per the Mold Standard Procedure
5. Lay out kitchen cabinetry and appliances to maximize the amount of storage space while reducing the number of different cabinet sizes. Use straight runs where possible to avoid corner cabinets and "L-shaped" countertops, which are large and difficult to store attic stock and maneuver replacements.
6. Incorporate resident input to design of apartment kitchens.

Upgrades to Standard Kitchens

1. Provide backsplashes for the full height between countertop and cabinet above.
    a. Lesson Learned: tamperproof mechanical fasteners instead of glue could allow removal of backsplash panels for future access to plumbing chases.
2. Provide larger cooking ranges.
    a. Lesson Learned: The current standard 20" range is a common complaint from residents.

Apartment Bathrooms

Design Guidelines:

At a minimum, comply with NYCHA DG 3.6 Bathroom Standards, except as altered below:

1. Floor tile to be waterproof and slip resistant
2. Use cement board, fiber cement board, or other waterproof surfaces for floors, walls, and ceilings.
3. Ceilings to be painted with mold-resistant paint
4. Lighting to be LED energy efficient lighting
5. Provide fiberglass tub surround, seamless or with waterproof seams, and with no protruding elements.
    a. Lesson Learned: the protruding soap dishes on some shower surrounds are prone to cracking and have caused mold and moisture problems at multiple NYCHA properties.
6. Incorporate resident input to design of apartment bathrooms.

Upgrades to Standard Bathrooms:

1. Provide vented exhaust in bathrooms.
2. Provide rear-discharge toilets and run waste pipes in walls, eliminating the visible wastepipes from floor above.
3. Install extra large or multiple medicine cabinets to provide residents with bathroom storage.

    a. Lesson Learned: under-sink vanity cabinets can cause maintenance problems and are not preferred.
4. Provide waterproof tile on walls, at least to 4" above top of sink.
5. Provide wider sinks with integral space for tenant-supplied soap dish and toothbrush holder, instead of the wall mounted accessories called for in DG 3.6.

Interior Walls, Floors, & Ceilings

Design Guidelines:

At a minimum, comply with NYCHA DG 3.2 Apartment Interiors, except as altered below:

Upgrades to Standard Walls, Floors, & Ceilings:

1. Provide rock wool insulation for sound deadening between apartments.

Lobbies, Stairwells, Halls

Design Guidelines:

At a minimum, comply with NYCHA DG 3.1 Entrances & Lobbies, except as altered below:

1. If residents will be relocated temporarily, provisions must be made for mail pickup which does not require entry back into the building.
2. Use heavy-duty non-proprietary door hardware.
    a. Lesson Learned: proprietary hardware is often more durable, but has caused ongoing problems and delays for repair and maintenance.
3. Incorporate resident input to design of Lobbies, Stairwells, and Halls.

Upgrades to Standard Common Areas:

1. Enclose the area under existing entrance canopies with SS thermally broken frames to create vestibules to reduce heat loss in lobbies.
    a. Note: Zoning analysis is required for expanding building footprint.
    b. Note: This has been demonstrated in NYCHA's *New Entryways Design Pilot* – the first few pilot projects will be 45 Allen Street, Carver Houses, Conlon Lihfe in Queens, & Seth Low houses in Brooklyn
2. Upgrade Mailboxes to current accessible standards.

Community Centers

Design Guidelines:

At a minimum, comply with NYCHA DG 3.1 Entrances & Lobbies, and 3.2 Apartment Interiors except as altered below:

1. Incorporate resident and provider input to design of Community Centers.
2. Do not install new kitchens or security cameras in community centers.

Upgrades to Standard Community Centers:

1. Warming pantries are a coveted feature of Community Centers.

Doors & Door Hardware

Design Guidelines for Apartment Doors:

1. Provide an opportunity for resident choice (apt door color? Closet doors?)
2. Operations Input

Design Guidelines for Doors to Back of House spaces:

1. Headhouse doors xxxxxxx *
2. Elevator machine rooms on roof need xxxx special door/locks*

Signage

To do: Reach out to Dylan in office of design for more info

Design Guidelines:

1. Provide apartment number door signs and floor number signs in stairwells.
2. Provide building identification signage with lighting for nighttime visibility.
3. Provide exterior site identification and wayfinding signage.
4. Provide all exit and emergency signage as required by code.

Laundry Facilities

Provide new laundry facilities in community spaces.

Back of House Spaces

Cellar Areas

Flood Mitigation

Existing Central Heating Plant Adaptive Reuse

If the project includes upgrades to heating which will render the existing central boiler plant partially or fully obsolete, consider renovations to allow alternative uses of the boiler plant building, such as for maintenance workshops, resident storage pods, or flexible community programming.

Upgrade to Existing Central Heating Plant

1. Remove enough equipment from the Central Heating Plant to allow reuse of some or all areas.
2. Include a proposal to reuse or renovate the space to provide an amenity for the residents.

Elevator Replacement:

Design Guidelines:

At a minimum, comply with NYCHA DG 5 Elevators, except as altered below.

1. Comply with STANDARDS CONFIRMED FROM THE ELEVATOR PROGRAM
2. Incorporate resident input to design of interior cab colors.

Upgrade to Standard Elevators:

1. Provide new, larger elevators with improved access for emergency medical services. (PACT_ Exhibit A_WES_WhatWeveHeard.pdf)

Section 504 Accessibility Requirements

1. Adhere to NYCHA's consent decree on 504/ADA.
    a. Verify units that are current meeting accessibility requirements
    b. Retrofit 5% of units to meet the requirements, to the greatest extent possible

Building Exteriors

Various approaches to envelope upgrades will be appropriate and acceptable for different sites. Recommendations for envelope upgrades can be made based on the information available at this time, including through archival architectural drawings, and alternates or allowances can be used to price envelope upgrade options for each scope item.

Exterior Walls:

Design Guidelines:

At a minimum, comply with NYCHA DG 2.1 Facades.

Upgrades to Standard Exterior Walls (PACT):

1. Provide full envelope upgrades (all enclosure walls) with interior or continuous exterior (better) insulation.
    a. When selecting a cladding system, prioritize non-combustible insulation and overall fire resistance, durability, and thermal and moisture performance.
    b. Include cut sheets and warranty information for specific products.
    c. Teams can propose and price an adhesive-applied EIFS product if they choose, but should also propose and price an alternative, prioritizing rainscreen cladding systems with continuous insulation.
    d. Options for rainscreen finish panels include but are not limited to fiber cement, composite, and metal panel.
    e. If EIFS, or any other face-sealed (adhesive-applied) barrier wall system is specified and priced, describe assumptions for moisture management components, and inspection, maintenance, replacement, and removal protocols in detail.
2. Envelope upgrades may not need to ensure thermal performance to code minimum. Code analysis: is this ok?
3. Describe moisture management strategy and components.
    a. Assume a breathable masonry coating at any façade with exposed masonry.

Windows

Design Guidelines:

At a minimum, comply with NYCHA DG 2.2 Windows.

Upgrades to Standard Windows:

1. Provide high-performance, thermally-broken, doublepane, double-hung or casement (better) windows. Include a cut sheet for a specific product.
2. Propose and price an exterior or window-integrated shading strategy.
    a. Options include but are not limited to fins, louvers, brise soleil, external frame sunshades, shutters, screens, or other façade treatment, or between-the-glass shades.

Roofs & Parapets

Design Guidelines:

At a minimum, comply with NYCHA DG 2.3 Roofs, except as altered below.

1. Comply with CPD Design Standard Notice 2016001 (check application)
2. Comply with CPD Design Standard Notice 2016005 (check application)
3. Comply with NYCHA Standard Roof Specifications
3. Headhouse doors are special *
4. Elevator machine rooms on roof need special door/locks*

Upgrade to Standard Roofs:

1. Provide new Energy Star roof.
2. Performance at least to code minimum (R-33/38).

Pest & Waste Management:

Compactors

Design Guidelines:

At a minimum, comply with NYCHA DG _____, except as altered below.

1. Comply with SECTION 11 82 26 WASTE COMPACTORS
2. Section 11 82 31 Auger Exterior Compactor
1. Install new compactors in existing compactor rooms.

Waste chutes

Design Guidelines:

At a minimum, comply with NYCHA DG _____, except as altered below.

1. Replace hopper doors. Size new doors as large as possible and include back pan to prevent larger objects from entering chutes.

Upgrade to Standard Waste Chutes:

1. Install new waste chutes on exterior of buildings.
    a. Provide the ability to separate waste at the apartment level into recycling, trash, and compost.
    b. Existing waste chutes could be used for MEP risers
2. Install composting facilities
    a. Include provisions for training and ongoing maintenance.

In-unit food disposals

Design Guidelines:

At a minimum, comply with NYCHA DG _____, except as altered below.

1. Install under-sink garbage disposer in unit kitchens.
2. Operations: Provide one comprehensive training session to address new technologies and procedures.

Recycling Organization

Design Guidelines:

At a minimum, comply with NYCHA DG 1.5 Waste Management, except as altered below.

Upgrade to Standard Recycling:

1. In-unit recycling zone – dedicate cabinet space to recycling in unit kitchens, provide pull-out frame with blue and green recycling bins, including infographic sticker.
2. Lobby-level recycling zone

Pest Elimination

Design Guidelines:

At a minimum, comply with NYCHA DG 3.4 Integrated Pest Management except as altered below.

1. Replace hopper doors. Size new doors as large as possible and include back pan to prevent larger objects from entering chutes.
2. Comply with section 3.4 of NYCHA design guidelines Integrated Pest Management
3. See the NYC Health IPM Toolkit. (look into this – any particular pest management strategies we want to push for Compmod?)

Mechanical, Electrical, & Plumbing Systems

Guidance:

For all sites and building types, it is a NYCHA priority to evaluate options to invest in systems that contribute to the energy-efficiency, performance, and resiliency of buildings and identify options beyond repairs-in-kind to existing under-performing, obsolete, or costly and difficult-to maintain systems. Converting systems from fuel-fired to electric is essential to meet NYCHA's decarbonization goals, and CompMod is committed to maximizing achievable electrification at each development.

For each of the below systems scope items, teams should ensure their proposal identifies a Baseline approach that includes functional upgrades essential to bringing developments in line with expectations for systems performance, resiliency, and resident comfort. For each site, a Comprehensive scope scenario should also be evaluated and priced that identifies specific typology- and existing-conditions-appropriate strategies to electrify systems. Recommendations can be made based on information available to your team at this time. Teams are welcome to propose using a hierarchical approach to electrification where appropriate. Information about existing systems and any recent upgrades to building systems can be found in each project's due diligence folder on the Sharepoint.

Additional guidance includes but is not limited to:

1. LL97 – GHG emission reductions by 2030/2050, no steam heating replacements
2. CLCPA – carbon-free electrical by 2040
3. 2021 Gas Ban
4. comply with the ASHRAE Standards 15/34
5. Educate residents about the type of heating system their building will have (see resident xxxxxx).
6. Training Plan
7. Reuse existing piping to the greatest extent possible after thorough inspection and verification of serviceable condition.
8. Use existing chases to the greatest extent possible.
9. New equipment should be roof mounted to the greatest extent possible.
10. Assessment of interim maintenance of existing heating systems and/or any temporary heating systems to be coordinated with NYCHA

Space Heating and Cooling:

Design Guidelines:

At a minimum, comply with NYCHA DG 4.1 Mechanical Systems, except as altered below.

Residential Buildings Optimal Equipment Sizing:

- Equipment sizing must be as per ACCA Manual S: Heating and Cooling equipment of a residential job application must be sized in accordance with ACCA Manual S based on building loads calculated per ACCA Manual J, or other approved calculation methodologies.

- Sizing statement: The drawings must include a statement indicating the total heating and Cooling design loads have been determined as such.

- Duct sizing per ACCA Manual D: Ducts in a residential job application must be sized in accordance with ACCA Manual D.

- Minimum efficiency: New or replacement heating and cooling equipment must meet or exceed the minimum efficiency rating required by Federal law.

- Drawings must include an energy analysis and/or mechanical compliance certificate.

For all proposed HVAC and Service Water Heating (SWH) equipment, the equipment schedule on construction drawings must clearly list the equipment efficiency or performance rating along with the type, size, capacity, and fuel type of all equipment and any additional specifications pertaining to the energy use of the equipment. For all Energy-Code regulated equipment, their rated efficiency/performance ratings identified in the equipment schedule must meet or exceed the corresponding Code-prescribed value.

Specific residential requirements:

- Systems serving multiple dwelling units must comply with the Commercial Buildings sections of the ECC in lieu of the Residential sections.

- At least one thermostat for each separate heating and cooling system must be provided, Controls must conform to the mandated ECC sections.

- Heat pumps having supplementary electric-resistance heat must have controls that prevent unnecessary supplemental heat operation.

- Hot water boilers that supply heat to the building through one- or-two-pipe heating systems must have controls as mandated by regulating Codes.

- Duct systems in alterations must satisfy the minimum R-values in the residential section of the ECC code, depending on the location of the ducts.

- For heating/cooling systems pipes carrying fluids, drawings must specify the pipe insulation thickness in accordance with applicable Code tables. Piping insulation R-values must conform to Code prescriptions.

- A narrative must be provided of each mandatory control system describing its function and operation and specifying proper setpoints of equipment and controls.

1. Installation of new high-efficiency gas-fired condensing boilers.
    a. Provide a preliminary cost estimate for hydronic conversion for steam systems where applicable.
    b. Provide a preliminary cost estimate for decentralizing where applicable.
    c. For sites that have recent or ongoing boiler replacement work, as identified in each development's Modernization Report, teams can additionally price a scenario assuming retaining these existing boilers and give an estimate for remaining repairs-in-kind to other components of the existing heating system (assuming items and quantities identified in the PNA). If this option is pursued, teams should identify a path to electrification including a timeline. Highlight in your narrative response all costs associated with repairs-in-kind as well as costs associated with electrification-ready-infrastructure anticipating future electrification. Include Remaining Useful Life estimates for all items to be repaired-in-kind.
2. Assume one programmable thermostat in each unit.
3. Assume a cooling strategy for all residential units and community facilities.
    a. Identify specific systems and manufacturers.

Upgrade to Standard Decoupling of Residential Heating:

1. Install gas-fired condensing domestic hot water boilers at each building using existing piping networks.
    a. *Acceptable only at sites with high pressure gas lines adjacent to site*. Where high pressure gas lines nearby warrant the consideration of decentralized hydronic condensing natural gas fired boilers for heating.
    b. If possible, facilitate future apartment cooling. A hydronic chiller can be added in the basement or on the roof and use the same hydronic loop, requiring the use of fan coils in the apartments rather than fin tubes.
    c. All new boilers must be specified with outdoor temperature setback control, hot-water temperature reset controls, modulating burner, boiler turndown and entering water temperature as prescribed by Code.

Upgrade to Standard Electrification of Residential Heating:

At this time most of NYCHA's electrification jobs have added a new CT panel and service switch in an adjacent space to the existing electrical room (which likely doesn't meet current Code including sharing gas service). Then feed back down to the existing panels and out to new panels.

1. Install electric air source heat pump systems for space heating and cooling for all buildings.
    a. Identify specific systems and manufacturers.
    b. System can be centralized or unitized. Teams can propose multi-function (heat/DHW) or integrated (HVAC) systems as well.
    c. Include summary of assumptions for lifecycle maintenance, service, & replacement.
    d. Consider using existing steam risers for condensate drains.
2. VRF Heating System
    a. Identify specific systems and manufacturers
    b. Identify required area on roof and propose alternative options
    c. Prepare a comprehensive controls package for future connectivity to central BMS.
    d. Evaluate and demonstrate strategies for carbon monoxide reduction
    e. Consider using existing steam risers for condensate drains
    f. Present different options for the location and protection of outdoor equipment.
    g. Include a summary of the manufacturer's required maintenance, service, personnel training, and equipment replacement guidelines.

Ventilation

(speak to Mold group)

Design Guidelines:

At a minimum, comply with NYCHA DG 4.1 Mechanical Systems, except as altered below.

Existing system upgrades:

1. Assume comprehensive sealing, cleaning, and repair to existing exhaust-only mechanical ventilation systems.
2. Assume exhaust-system upgrades where units are not code compliant.
3. Assume replacing all existing exhaust registers.
4. Assume replacing all rooftop fans with high-efficiency fans. Fans used to provide mechanical ventilation must meet or exceed the minimum system efficacies of the NYCECC.

5. Outdoor intake and exhaust must have gravity dampers that close when the ventilation system is not operating.

Supply:

1. Assume trickle vents in all unit windows.
2. Assume balanced mechanical ventilation in all community facilities.
3. Provide a preliminary cost estimate for 100% outdoor air supply in corridors and common areas (lobbies, etc.) in residential buildings. Air-sealing and compartmentalization:
1. Assume comprehensive air-sealing and unit compartmentalization.
2. Drawings must include a statement specifying that duct leakage testing shall be performed at either rough-in or post-construction, and the leakage shall be as prescribed by regulating Codes.

Upgrade to Standard Mechanical Ventilation Systems:

4. Assume balanced mechanical ventilation in all residential units, corridors, common areas, and in all community facilities.
    a. Include in-unit supply registers in all bedrooms and living spaces.
    b. System(s) can be centralized or unitized (per unit or per floor) in residential buildings.
    c. For spaces larger than 500sf and with an average occupant load of at least 25pp/1000 sf of floor area, demand control ventilation must be specified.
5. Assume comprehensive air-sealing and unit compartmentalization.

General Plumbing Systems

Design Guidelines:

At a minimum, comply with NYCHA DGs 3.3 Water Conservation, and DG 4.3 Plumbing Systems, except as altered below:

1. Provide valves at kitchen water supply to allow easy installation of resident-purchased washing machines.
2. Identify locations where existing insulation on domestic cold and hot water piping is worn out or missing and provide insulation, Provide insulation on all horizontal storm drainage piping and roof drains to avoid condensation,.
3. State the extent to which domestic water supply piping, waste lines, including stormwater (roof drainage) stacks will be replaced, repaired, etc.

Gas Risers

Design Guidelines:

At a minimum, comply with NYCHA DG 4.3 Plumbing Systems except as altered below.

1. If gas risers are to be exposed due to other work in the building, the NYCHA preference is to remove existing piping, rather than abandoning in place.

Domestic Hot Water:

Design Guidelines:

At a minimum, comply with NYCHA DG 4.3 Plumbing Systems, except as altered below.

1. Assume high-efficiency gas-fired heaters and pressure boosters.

a. Provide a preliminary cost estimate for decoupling domestic hot water systems where applicable.

Upgrade to Standard DHW Systems – Electrification:

1. Assume electric heat pump heaters for all buildings.
    a. Identify a specific system and manufacturer.
2. Prioritize decentralized and/or distributed domestic hot water systems (per building).

Upgrade to Standard Wastewater Heat Exchanger:

1. Install Heat exchanger from waste lines
    a. Note: more feasible if replacing waste lines.
2. Identify specific systems and manufacturers.

General Electrical:

Design Guidelines:

At a minimum, comply with NYCHA DG 4.2 Electrical Systems, except as altered below.

1. Evaluate electrical panel at each residential unit for spare capacity. Assume electrical upgrades to each residential unit electrical panel as necessary to support the electric heating/cooling, electric cooking, and other scope item upgrades indicated in this document, accommodating power requirements.
2. Evaluate existing electrical service spare capacity. Assume electrical upgrades at building infrastructure level to accommodate the additional electrification related loads indicated in this document, including new electrical risers to each residential unit to accommodate the above.
3. Confirm the condition of existing wiring. Replace any old, fabric-insulated cable with new PVC-insulated cable.

Upgrade to Standard Electrical Systems:

1. Electrical panel and branch circuit wiring upgrades necessary to support at minimum all-electric appliances as well as heating & cooling system and DHW system electrification at each residential unit
2. Electrical distribution system upgrades necessary to support heating & cooling system and DHW system electrification, including possible service increase requests to the utility company (ConEd).

Apartment Electric

Design Guidelines:

At a minimum, comply with NYCHA DG 4.2 Electrical Systems except as altered below.

1. See Apartment Kitchens section & HVAC section above. Modify electrical panel and branch circuits wiring to accommodate.
2. Confirm the condition of existing wiring. Replace any old, fabric-insulated cable with new PVC-insulated cable.
3. Confirm the condition of existing receptacles. Replace old/damaged receptacles with new. Replace old 2-prong receptacles with 3-prong (equipment grounded) receptacles.

4. Replace existing bathroom, kitchen counter receptacles and receptacles withing 6Ft of a sink, without ground fault circuit interrupting (GFCI), with new GFCI receptacles – as per NEC article 210.8 (NYC 2011 EC)
5. Replace existing branch circuits supplying outlets or devices installed in apartments with arc flash circuit interrupter (AFCI) means – as per NEC article 210.12.

Interior Lighting:

Design Guidelines:

At a minimum, comply with NYCHA DG 4.2 Electrical Systems except as altered below.

1. Use LED-type light fixtures. Re-lamp existing with LED bulbs or replace.
2. Consider replacing wall switches with dimmers where practical.
3. Consider replacing wall switches with occupancy sensors where occupant safety is not compromised.

Upgrade to Standard Interior Lighting:

1. Provide dimmer switches in bedrooms and living rooms.
2. Provide occupancy sensors in closets, storage rooms, laundry rooms where applicable.

Appliances:

Design Guidelines:

At a minimum, comply with NYCHA DG 4.2 Electrical Systems and 3.5 Kitchen Standards, except as altered below.

1. See Apartment Kitchens section.

Upgrade to Standard Appliances:

1. Install all electric dryers in laundry facilities. Modify electrical panel and branch circuit to accommodate.

Exterior and Site Lighting:

Design Guidelines:

At a minimum, comply with NYCHA DG 1.3 Exterior Lighting except as altered below.

1. Ensure functioning exterior lighting control. Assume new programmable time clock with photocell input.

Upgrade to Standard Exterior Lighting:

1. Replace non-LED fixtures/lamps with LED retrofits.

On-Site Generation, Storage, and Back-up Generators:

Design Guidelines:

At a minimum, comply with NYCHA DG _____, except as altered below.

Upgrade to Standard Solar PV:

1. Install solar PV only on buildings that will maximize investment.
2. Provide back-up power generators for all community facilities.

3. Assume battery storage or community microgrid where possible.

Upgrade to Standard Electric Vehicle Charging:

1. Provide Electric Vehicle Charging

1. Community solar
    a. Panels are installed on NYCHA's roof, but power is returned to the grid and NYCHA receives the proceeds of that power
    b. Where a whole development is fed by a single POE (like at Todt Hill,) it is difficult to feed the power back to the grid
2. Solar Canopy
    a. (over parking areas? Pedestrian paths? Playground areas?)
    b. NYCHA's RetrofitNY pilot project, which aims to transform one building at Ravenswood into a near-net-zero building using electrification and exterior panelized insulation, is including a solar canopy above a portion of the roof. Parking lot canopies have also been considered at NYCHA sites but are generally difficult due cost, shading considerations, and other conflicting uses of the space.
3. Solar panels on roofs
    a. Often done along with roof replacements for longer maintenance-free life – does not make sense to install solar on a roof that is expected to be replaced in less than 10 years.
    b. Less feasible for buildings over 100 feet (like Saint Nicholas,) which are difficult to reach by crane and also require additional material for conduits, etc. Additionally, projects over 100 feet in NYC generally require that systems be anchored to the roof rather than ballasted, which can be more expensive and increases risk of issues with roof lifetime, integrity, warranties, etc.
    c. Less feasible where high voltage transformers are located in the development (like Todt Hill) stepping down the feed from the utility. (Additionally, front of the meter community solar projects need each building to be served directly by its own meter in order to avoid trenching)
    d. Where a lot of mechanical equipment is located on the roof, the PV's need to be lifted up above (more expensive,) or reduced in number (less production)- potential conflict with new roof HVAC equipment
    e. Potential to install PVs on some but not all buildings in a development (Todt Hill could have an efficiency where foam roofs need to be replaced)
4. Other financing options – it is often advantageous, especially on public property, for a third party to own the system so that they can take advantage of the federal investment tax credit, which is a major source of capital for solar development. Options for solar development include:
    a. own and operate behind the meter (simple contracting, but more expensive due to no ITC and labor costs, and likely does not make financial sense given NYCHA's low NYPA electric rates
    b. third-party-owned power purchase agreement (PPA): similar to option A but can take advantage of investment tax credit
    c. community solar where NYCHA purchases the solar credits- we are currently exploring whether this may be feasible for our next round of projects
    d. third-party lease for community solar- lowest cost and risk for NYCHA, but also low on-site benefits. Note that community solar incentive levels have changed and there is still some uncertainty as to what options will be most financially advantageous for the developer, system owner, and NYCHA.

5. It is recommended that comp mod RFPs allow the DB teams flexibility to explore various ownership options as listed above and select whichever option is most advantageous at the time.

Fire Alarm Systems

Design Guidelines:

At a minimum, comply with NYCHA DG _____, except as altered below.

1. Create a Fire Command Center in the main building office
2. Ensure each residential unit has operational combination carbon monoxide/ smoke detector(s) outside of any room used for sleeping purposes and in any room used for sleeping purposes - as per 2022 NYC Building Code chapter 907.2.11.1 & 915.1.1.1.1.
3. Provide hard wired detectors with battery back-up – as per NYC BC Ch. 907.2.11.2.
4. Ensure Institutional (I group occupancies) within the R-2 occupancy have an operational fire alarm system meeting the requirements of Ch. 907.2.6 of the NYC BC.

Upgrade to Standard Fire Alarm Systems:

1. Install Fire Alarm system with central station dial out (or stand-alone reporting to a constantly attended location) to accommodate new sprinkler systems monitoring, triggered as per the fire protection upgrade section in this document.

Sprinklers

Design Guidelines:

At a minimum, comply with NYCHA DG _____, except as altered below.

Safety & Security Systems

Layered Access Control

Design Guidelines:

At a minimum, comply with NYCHA DG _____, except as altered below.

1. Typical Existing entry has Stainless Steel Doors with 2 magnetic locks at the jam, using proprietary hardware. These sustain damage and are difficult to repair.

Upgrade to Standard Entryway:

1. Install Aluminum doors with heavy duty non-proprietary hardware. *Consider using less institutional-looking hardware if possible.*
2. Install entry sidelights or storefront systems using stainless steel thermally broken frames.
3. Install door stops to prevent damage
4. Install building name signage at entryways, including LED lighting for legibility at night.

CCTV Cameras

Design Guidelines:

At a minimum, comply with NYCHA DG _____, except as altered below.

Upgrade to Standard CCTV Cameras:

1. Install CCTV System.
2. Install in-unit intercom system.

Landscape/Site

Design Guidelines:

At a minimum, comply with NYCHA DG 1.1 Site Work, 1.2 Site Amenities, 1.3 Exterior Lighting, 1.5 Waste Management, and 1.6 Erosion and Stormwater Control.

Upgrades to Standard Site:

1. Upgrade wayfinding systems around campus. *NYCHA CCG Wayfinding.*
2. Additional tree planting and maintenance. *NYCHA CCG Heat Mitigation.*