

**New York City Housing Authority
Permanent Affordability Commitment Together (PACT)**

PACT Program Requirements

DESIGN AND CONSTRUCTION

Real Estate Development Department

Revised December 2025



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I. Introduction

This document is intended to assist PACT Partners during the Pre-Development phase in designing and preparing for the construction of PACT Projects. Many of the deliverables described in this document will be submitted to the U.S. Department of Housing and Urban Development (“**HUD**”), the HUD Monitor, NYCHA Compliance, and/or other stakeholders, and will also be attached to transactional closing documents such as the NYCHA Control Agreement and Ground Lease.

This document is only for the purpose of planning, and NYCHA reserves the right to revise or amend the requirements at any time. A description of some applicable regulations, policies and other PACT Project Requirements is included in this document for reference, though PACT Partners and their consultants are responsible for knowing and following all applicable laws and regulations.

II. Program Requirements

This section describes key regulatory documents and policies applicable to the design and construction planning of PACT projects that are not otherwise described later in the document. This list is meant to be used for reference only. PACT Partners should be aware of all applicable regulations and policies and should refer directly to source documents for guidance.

A. HUD Rental Assistance Demonstration Notice (“RAD Notice”)

The HUD RAD Notice, Revision 4 (H-2019-09 PIH-2019-23) provides program instructions for the RAD program, including eligibility and selection criteria. The RAD Notice includes requirements related to rehabilitation and construction, including the requirement, “to perform a detailed physical inspection to determine both short-term rehabilitation needs to be included as a Scope of Work that will be completed as part of the RAD conversion and long-term capital needs to be addressed through a Reserve for Replacement Account”. The RAD Notice requires that these capital improvements (the “**Scope of Work**” or simply the “**Work**”) be performed within a defined period following the conversion and specified in the RAD Conversion Commitment (“**RCC**”) or other RAD conversion documents.

The RAD Notice in its entirety along with Supplemental Notices can be found here: [Statutes, Notices, Regulations & Tools | HUD.gov / U.S. Department of Housing and Urban Development \(HUD\)](#)

B. 2019 HUD Agreement

HUD, NYCHA and the City entered into an agreement on January 31, 2019 (the “**HUD Agreement**”). The HUD Agreement establishes a framework by which NYCHA will continue to evaluate and make progress towards compliance with federal requirements, including amongst other things, compliance with lead-based paint abatement regulations. During the term of the HUD Agreement, an independent monitor will be in place with access to NYCHA information and personnel and will issue quarterly reports on NYCHA’s compliance with the HUD Agreement.

The HUD Agreement in its entirety can be found here: [HUD-NYCHA-Agreement013119.pdf](#)

C. NYCHA Physical Needs Assessment (“PNA”)

The NYCHA Physical Needs Assessment (“**PNA**”) is a technical report commissioned by NYCHA detailing the physical needs of a public housing development following a HUD-specified methodology. The PNA report analyzes the annual physical needs of a development over twenty (20) years. The most recent NYCHA PNA reports were published in 2023. The NYCHA PNA’s are publicly available information and serve as the “starting point” in developing a Scope of Work for PACT Projects.

D. New York City Local Laws

PACT Projects are required to comply with all applicable NYC Local Laws, including but not limited to Local Law 48 of 2020 (“**LL48**”), Local Law 88 of 2009 (“**LL88**”), Local Law 85 of 2023 (“**LL85**”), Local Law 19 of 1989 (“**LL19**”), Local Law 97 of 2019 (“**LL97**”), Local Law 92/94 of 2019 (“**LL92/94**”), Local Law 84 of 2009 (“**LL84**”), and Local Law 87 (“**LL87**”) of 2009, and Local Law 33 (“**LL33**”) of 2018, Local Law 152 of 2016 (“**LL152**”), Local Law 157 of 2016 (“**LL157**”).

NYCHA is mandated to meet LL97 by reducing building-related greenhouse gas emissions 40% by 2030 and 80% by 2050. PACT Projects are required to contribute to NYCHA portfolio emissions and reduction targets to the greatest extent feasible. NYCHA rehabilitation programs, such as the PACT Program, are expected to have the greatest impact on NYCHA's reduction; therefore, individual PACT Projects should target compliance. Energy conservation measures, including systems electrification, should be prioritized where compatible with existing conditions and recent capital improvements.. Please refer to Project Milestone and Deliverables section for further guidance.

E. Environmental Review

As authorized by the National Environmental Policy Act (“**NEPA**”), under 24 CFR parts 50 and 58, an NEPA environmental review is required for all HUD-funded activities, and all HUD assisted or to be HUD assisted project site(s). NEPA requires federal agencies to consider the environmental impact of proposed project activities early in the planning phase, to avoid and mitigate negative impacts on human health and the environment. HUD requires agencies to secure “environmental clearance,” or the final approval given by the HUD Approving Official, prior to the start of proposed project activities for federally assisted housing, which directly supports HUD’s goal to provide decent safe, and sanitary affordable housing.

Real Estate Development transactions often require compliance with various levels of environmental review under the NEPA; reviews typically require completion of NEPA Categorical Exclusion (“**Cat Ex**”), NEPA Environmental Assessment (“**EA**”), or potentially an NEPA Environmental Impact Statement (“**EIS**”). These reviews often necessitate various types of technical and field analyses, leveraging the expertise of environmental professionals experienced in Phase I Environmental Site Assessments and Phase II Environmental Site Investigations (“**ESI**”), Remedial Action Plans (“**RAP**”), Community Health and Safety Plans (“**CHASP**”), Coastal Assessments, Flood Management Processes, Section 106 Consultations, and Noise Assessments, among others. Additionally, citywide notifications for the proposed project are typically an integral component of NEPA environmental reviews.

Pursuant to 24 CFR Part 58.2(a)(7)(ii)(B), for public housing agencies a Responsible Entity (“**RE**”) may be the local unit of government within which the project is located that exercises land use responsibility. For NYCHA NEPA environmental reviews that are required for any approvals on behalf of HUD, the New York City Department of Housing Preservation and Development (“**HPD**”) serves as the RE for PACT projects.

NYCHA is a New York State public-benefit corporation, with discretionary actions subject to NYCHA Board approval; therefore, NYCHA’s disposition action or any other state discretionary actions are also subject to State Environmental Quality Review Act (“**SEQRA**”). In addition, the issuance of construction funding or permitting from New York City Housing

Development Corporation (“HDC”) or HPD, approval of any potential Mayoral Zoning Overrides, or other city discretionary actions are subject to City Environmental Quality Review (“CEQR”).

PACT Partners are expected to be familiar with the environmental review requirements applicable for RAD projects, which can be found at:

<https://www.radresource.net/output.cfm?id=0204ER>

The PACT partner must work with NYCHA to ensure compliance with any federal, state, or city environmental regulations.

F. Environmental Hazards

Planning for the evaluation, mitigation and abatement of environmental hazards is critical for PACT Projects. The primary four (4) environmental hazards of concern for PACT Projects are described below, and further guidance is available on each hazard. Prior to proceeding with environmental hazards evaluations, the PACT Partner must submit evaluation proposals to NYCHA for approval.

1. Lead-Based Paint

A property constructed before 1978 may contain lead-based paint and is subject to federal, state, and local laws. Lead-based paint is the most commonly identified source of childhood lead poisoning.

PACT Partners are required to comply with NYCHA’s policies for lead-based paint testing, abatement and hazards control, as set forth in Attachment M - PACT Lead Procedure Memo (the “**PACT Lead Procedures**”), as well as all applicable federal, state, and local laws concerning lead-based paint and lead hazards, including NYC Local Law 1 of 2004 as may be amended, NYC Local Law 31 of 2020 as may be amended and federal regulations per 24 CFR Part 35 and 40 CFR Part 745. NYCHA may amend the **PACT Lead Procedures** at any time at NYCHA’s sole discretion.

As described in the **PACT Lead Procedures**, the PACT Partner is required to test all units and common areas (interior and exterior) for lead-based paint using the city standard of 0.5 mg/cm² as a part of the pre-development process. All lead-based paint found must be included in the Project’s lead-based paint abatement plan. If a Project requires abatement of lead-based paint and lead hazards, the PACT Partner must account for the cost of abatement in the Rehabilitation Scope of Work and may not defer abatement or pay for abatement through replacement reserves. Prior to closing on the financing of the Projects, NYCHA will provide PACT Partner with existing lead-based paint test results and other related information, as available.

The RAD Notice requires that the Partner complete a lead-based paint risk assessment of the Project. The RAD Notice requires that the risk assessment be less than 12 months old at the time of closing. The intent of this RAD requirement is to ensure that any lead-based paint hazards are included in the rehabilitation scope. NYCHA has confirmed with HUD that NYCHA’s requirement to comprehensively test all lead-based paint and include full abatement of all lead-based paint in the rehabilitation scope is stricter than the lead-based paint risk assessment requirement outlined in the RAD Notice. Therefore, the Partner may not be required to complete the risk assessment during the pre-development

process. However, pursuant to HUD regulation, risk assessments are required to be completed biennially by both the PHA pre-conversion and by the Partner post-conversion as a part of ongoing maintenance requirements until all lead-based paint has been removed and the schedule for the required risk assessment should not be interrupted or delayed. NYCHA will provide the Partner with the most recent risk assessment performed by the PHA and will guide the Partner on if the Partner will need to complete a risk assessment during the pre-development process in order to ensure the biennial schedule is maintained.

PACT Partners must draft a **Lead-Based Paint Operations and Maintenance Plan** and, if applicable, a **Lead-Based Paint Abatement Plan** for NYCHA's approval.

2. Mold & Excessive Moisture Control

To control mold and excessive moisture, it is essential to identify and correct underlying sources of water intrusion or condensation.

PACT Partners are required to comply with NYCHA's policies for mold and excessive moisture, as set forth in Attachment N - PACT Mold Procedure Memo (the "**PACT Mold Procedure**"), as may be updated by NYCHA. The PACT Mold Procedure are intended for consistency with *Baez v. NYCHA*, No. 13 Civ. 8916 ("**Baez**"), specifically that certain "**Agreement Regarding Settlement of Section 8 Claims**" entered on December 20, 2021, 2021 WL 6125802, S.D.N.Y., Dec. 28, 2021, and the HUD Agreement.

Among other things, the PACT Partners must conduct comprehensive inspections as part of the pre-development process to identify mold and moisture issues, address underlying sources of mold and leaks as a part of the Rehabilitation Scope of Work, and prepare and operate Properties in accordance with an approved **Mold and Excessive Moisture Operations and Maintenance Plan**.

PACT Partners must account for the cost of addressing underlying sources of mold and leaks in the Rehabilitation Scope of Work and may not defer the performance of the work to remove and correct the root causes of such mold and leaks either through funding of replacement reserves or any other means. In order to capture how the Rehabilitation Scope of Work will mitigate current and future mold and leak conditions at the Project, the Partner is required to submit a **Mold and Excessive Moisture Capital Plan** to NYCHA for approval. The focus areas for this plan are outlined in the **PACT Mold Procedure**.

Prior to closing the financing of the Project(s), NYCHA will provide PACT Partners with existing mold and leak work orders and other related information, as available. PACT Partners are responsible for ensuring that all mold and leak work orders open at the time of conversion are addressed in a timely manner following the conversion as outlined in the **PACT Mold Procedure**.

3. Asbestos Containing Materials

Asbestos is a natural mineral. It is made up of fibers, is very durable, and is extremely heat-resistant. Low levels of asbestos are present in the air, water and soil. Everyone is exposed to asbestos at some time during their life, but most people do not become ill from

their exposure. People who breathe in asbestos fibers are at risk for several serious diseases.

PACT Partners are required to comply with NYCHA's policies for asbestos containing materials ("**ACM**"), as set forth in Attachment O - PACT Asbestos Containing Materials Procedure Memo ("**PACT ACM Procedure Memo**"). This includes but is not limited to surveying, planning, and handling ACM in compliance with federal, state, and local requirements.

To be consistent with the most stringent standards, PACT projects will abate impacted asbestos containing materials ("**ACM**") during the construction period. The removal and/or abatement of ACM from structures must occur in strict compliance with federal, state, and local regulations.

PACT Partners must draft an **ACM Operations and Maintenance Plan** and, if applicable, an **ACM Abatement Plan**, for NYCHA's approval.

4. Radon

Radon is a colorless, odorless, and inert radioactive substance found in soil, rocks, and groundwater. Radon becomes part of the air and can accumulate in buildings. There is no known safe level of radon. The U.S. Environmental Protection Agency ("**EPA**") established 4 picocuries per liter of air (pCi/L) as the "action level" for radon, although radon levels below 4 pCi/L can still pose health risks. According to EPA, New York City is located in Zone 3, a low-radon potential zone, however EPA acknowledges that testing is the only way to determine indoor radon levels at individual properties. The potential health risks posed to residents of HUD-assisted housing have drawn congressional interest. 24 CFR (Code of Federal Regulations) Parts 50 and 58 state that "it is HUD policy that all properties proposed for use in HUD programs be free of hazardous materials, contamination, toxic chemicals and gasses, and radioactive substances where a hazard could affect the health and safety of occupants or conflict with HUD's intended use of the property." NYCHA, in collaboration with the PACT Partners, is committed to addressing any known radon risks, through the incorporation of radon-resistant features into building rehabilitation scopes when needed.

The HUD Supplement to the RAD Notice amended the RAD Notice to ensure all projects are evaluated for radon and removed exemptions previously accepted under the RAD Notice. Therefore, all PACT Projects must conduct radon testing as required in HUD's Multifamily Application Processing Guide, dated 03/24/2021, ("**MAP Guide**"). This includes testing of 100% of ground floor units and 10% of upper floor units in all buildings included in the PACT Project.

PACT Partners are required to comply with NYCHA's policies for radon assessment and mitigation, as set forth in Attachment P - PACT Radon Procedures for NYCHA PACT Projects (the "**PACT Radon Procedure Memo**"). If applicable as described in the **PACT Radon Procedure Memo**, PACT Partners must draft a **Radon Operations and Maintenance Plan** for NYCHA's approval.

5. Water Quality

Water quality is important to NYCHA and to NYCHA residents. Components related to water quality are included as mandatory and optional in the Enterprise Green Communities checklist. NYCHA has strict procedures for water testing, and therefore the PACT Partner must request approval prior to performing any water sampling. Any request to test water at any NYCHA location requires the approval of NYCHA's CEO and will include review, approval, and participation from multiple NYCHA Departments.

G. Threshold Tests

PACT Project Scope of Work are evaluated using a variety of "threshold tests" that may affect the Scope of Work and/or project financing. Below are some of the common threshold tests with a brief description of each. Applicability of each threshold test varies from Project to Project.

1. RAD/Section 18 Blend Substantial Rehab Test

For Properties converting through RAD, Public Housing Agencies Notice PIH 2024-40 (HA) allows for the blend of RAD vouchers and Section 18 TPVs. The appropriate blend of RAD and Section 18 units is subject to NYCHA approval, and NYCHA will aim to maximize the amount of funding to the Project.

PACT Partners must ensure that the rehabilitation Scope of Work meets or exceeds the established Housing Construction Costs ("**HCC**") pursuant to the Notice

Public Housing Agencies Notice PIH 2024-40 (HA) can be found here: [Demolition and Disposition of PIH Property and Eligibility Final \(40\)](#)

The HUD-published HCC can be found at: <https://www.hud.gov/helping-americans/public-indian-housing-capfund>

2. Section 18 Obsolescence Test

Pursuant to PIH Notice PIH 2024-40 (HA), PACT Projects utilizing a RAD/Section 18 Construction Blend are no longer required to perform an Obsolescence Test. The Percentage of units eligible for disposition under Section is based on the Housing Construction Costs (HCC) as published by HUD for the given market area, as further described in the notice.

3. NEPA Categorical Exclusion 75% Rehab Test

Pursuant to 24 CFR part 58.35, a NEPA Cat Ex refers to a category of activities for which no environmental impact statement or environmental assessment and finding of no significant impact under NEPA is required, except in extraordinary circumstances (see § 58.2(a)(3)) in which a normally excluded activity may have a significant impact.

If the “estimated cost of rehabilitation” is above 75% of the “total estimated cost of replacement after rehab”, a Project would not qualify as a NEPA Cat Ex and would require an EA. The total estimated cost of replacement after rehab may include the cost of demolition, acquisition of the property, etc.

Additionally, if unit density is changed by 20% or more, a Project would not qualify as a NEPA Cat Ex and would require an EA.

4. Historic Preservation Tax Incentives “Substantial Rehabilitation Test”

To claim Historic Preservation Rehabilitation Tax Credits (“HTC”s), requirements of the Substantial Rehabilitation Test must be met. The Substantial Rehabilitation Test requires that qualified rehabilitation expenditures (“QRE”) incurred during the substantial rehabilitation measuring period exceed the greater of the adjusted basis of the building (and its structural components) and \$5,000. The substantial rehabilitation measuring period is a 24-month or 60-month period ending within the taxable year in which the qualified rehabilitated building is placed in service.

The Historic Preservation Tax Incentives eligibility requirements are dictated by the National Parks Service (“NPS”) and may be found here:

Additional information on qualified rehabilitation expenditures may be found via the IRS website, here:

<https://www.irs.gov/pub/irs-sbse/qualified-rehabilitation-expenditures.pdf>

5. 24 CFR Part 55 Floodplain Management and Protection of Wetlands Substantial Improvement Test

Per Title 24 Part 55, a substantial improvement is any repair, reconstruction, modernization, or improvement of a structure the cost of which is greater than or equal to 50% of the market value of the structure either before the improvement or repair is initiated or, if the structure has been damaged, before the damage occurred. For a residential project, substantial improvement can also refer to any repair, reconstruction, modernization, or improvement of a structure that results in an increase of more than 20% of the number of dwelling units.

6. NYC Construction Code Appendix G Substantial Improvement Test

Appendix G, in conjunction with New York City Construction Codes, provides minimum requirements for development located, in whole or in part, within areas of special flood hazard and shaded X-Zones within the jurisdiction of New York City. Per Appendix G, a substantial improvement is defined as any addition to or improvement of a building or structure the cost of which is greater than or equal to 50% of the market value of the structure before the improvement or repair is initiated.

7. Section 504 Substantial Alteration Test (24 CFR Subpart C - Program Accessibility)

All PACT Projects must comply with the accessibility requirements of all applicable laws including, without limitation, to the New York City Building Code, the Fair Housing Act, the Americans with Disabilities Act, Section 504 of the Rehabilitation Act of 1973 ("**Section 504**"), and the 2021 HUD Office of Fair Housing and Equal Opportunity ("**FHEO**") Assurances Agreement, as further described in this document.

Per Section 504, alterations are defined as substantial if they are undertaken to a housing project that has 15 or more units and the cost of alterations is equal to or greater than 75% of the replacement cost of the project after rehabilitation. For the purposes of PACT Projects, all renovations should be considered substantial unless otherwise determined by NYCHA and HUD.

III. Project Milestones and Deliverables

This section describes the milestones and deliverables associated with design and construction planning for PACT Projects. PACT Partners are responsible for preparing many of these deliverables, though some are prepared by NYCHA or NYCHA consultants, as noted in each deliverable description. Many deliverables are iterative as noted. For some deliverables NYCHA may provide a template or sample.

These requirements are intended to follow industry standard best practices. As such, project milestones and the schedule of deliverables for PACT Projects is generally organized by industry standard design phases:

- Schematic Design (“SD”) ●
- Design Development (“DD”) ●
- Construction Documentation, Pre-RAD Financing Plan (“Pre-RAD FP”) ●
- Construction Documentation, Pre-Construction (“Pre-Construction”) ●

Phases have been color coded and marked with corresponding, color-coded (●)s throughout this document for ease of reference. The chart below is intended for quick reference of project milestones and deliverables.

	Schematic Design Month 2-3	Design Development Month 4-6	Construction Documentation Pre-RAD FP Submission Month 7-9	Construction Documentation Pre-Construction Month 10-12
1. RAD Capital Needs Assessment (“CNA”)		●	●	
2. Construction Cost Estimates (a.k.a. Detailed Scope of Work)	●	●	●	
3. Drawings	●	●	●	●
4. Specifications		●	●	
5. Existing Conditions Investigations & Feasibility Studies	●	●		
6. Accessibility	●	●	●	
7. Historic Preservation and Tax Credits	●	●		
8. Waste Management Plan		●	●	
9. Energy and Sustainability (LL97 and EGC Checklist)		●	●	
10. Zoning Analysis and Override Requests	●	●		
11. Department of Buildings Applications and Permits	●	●	●	
12. Model Units	●	●	●	
13. Construction Planning			●	●

Table 2: PACT Schedule of Design and Construction Deliverables

A pre-development project timeline will be shared with PACT Partners at the initiation of the pre-development period. This timeline assumes an approximately 12-month pre-development period between designation and closing for each Project and includes a timeline for submission of

deliverables related to design and construction planning. The pre-development timeline should be adjusted for the specifics of each Project by PACT Partners in coordination with NYCHA.

Project deliverables are expected by the last day of the design phase as indicated in the project timeline to ensure timely review but may be submitted earlier. Project design and engineering teams may be requested to deliver a progress presentation to NYCHA REDD at the conclusion of specified design phases.

A. RAD Capital Needs Assessment (“CNA”)

A RAD CNA is required by the RAD Notice. Per the RAD Notice, the RAD CNA, “must be submitted with the [RAD] Financing Plan and must have been completed no earlier than 180 days prior to submission of the [RAD] Financing Plan, except with HUD approval.”

The CNA e-Tool is the format and online system for submission of the RAD CNA to HUD and contains two major components – the narrative and the financial model. Accordingly, RAD CNAs for NYCHA PACT Projects will include a narrative, the financial model and a supplemental energy audit, as required by HUD.

The RAD Notice establishes that RAD CNAs must be completed by a qualified, independent third-party professional (the “**CNA e-Tool Needs Assessor(s)**”). For PACT Projects, NYCHA will contract with the CNA e-Tool Needs Assessor directly for both completion of the RAD CNA and submission through the CNA e-Tool system. NYCHA will be reimbursed for associated costs within the PACT Project budget at financial closing.

1. Draft RAD CNA ●

NYCHA will procure a qualified, independent, CNA e-Tool Needs Assessor to conduct a property inspection and prepare a draft RAD CNA. A draft RAD CNA will be provided to the PACT Partner. PACT Partners should review the CNA to note any discrepancies in scope items, quantities, or costs from the proposed Scope of Work. NYCHA will facilitate meetings between the CNA e-Tool Needs Assessor and PACT Partners, as needed.

2. Revised RAD CNA ●

CNA e-Tool Needs Assessor will update the draft RAD CNA based upon changes to the itemized Scope of Work during the Design Development phase, as well as review scope items, quantities, and costs to ensure Scope of Work is aligned with Project needs.

NYCHA will initiate a record for the Project within the e-Tool system at this time and connect the appropriate CNA e-Tool Needs Assessor with that record. CNA e-Tool Needs Assessor will submit the Revised CNA via e-Tool to HUD for review and approval. Once approved by HUD, the CNA will be issued as an attachment to the RAD Conversion Commitment (“RCC”).

3. Final RAD CNA ●

NYCHA will submit the final Scope of Work to HUD in Construction Specifications Institute (“**CSI**”) format prior to closing as an RCC Amendment request. The final Scope of Work will be attached to the RCC Amendment and will therefore serve as the final record for HUD of the planned RAD Capital Repairs. The CNA therefore does not need to be revised to match the final Scope of Work.

References:

- [HUD Multifamily Accelerated Processing \("MAP"\) Guide](#)
- [HUD information on the RAD CNA and CNA e-Tool](#)

B. Construction Cost Estimates (a.k.a. Detailed Scope of Work)

Construction Cost Estimates (a.k.a. the Detailed Scope of Work) serve as the primary description of the scope items, quantities, and costs for the PACT rehabilitation Work. PACT Partners should provide Cost Estimates in a CSI divisional format that includes descriptions, quantities, and unit costs for individual line items using Attachment U - PACT Construction Cost Estimate Template.

Quantities and unit costs should be disaggregated by building type, building number, or development. Provide percentages or allocations per unit for scope items requiring partial replacement or repair allowances. Permits, temporary site facilities, sheds, safety compliance, dust protection, waste removal, and shop drawings should all be included in General Conditions or Soft Costs. The summary of CSI divisions in the Cost Estimates should match the Schedule of Values submitted with the financial underwriting.

1. Draft Construction Cost Estimates ●

PACT Partners should update scope of work items, quantities and costs of the Construction Cost Estimates provided during the procurement phase of the Project, if applicable. It is acceptable and expected to provide placeholders and/or alternates within the Cost Estimates for undetermined scope items at this stage. NYCHA will review the Cost Estimates, providing feedback, comments, and questions, often with the assistance of the CNA e-Tool Needs Assessors and other NYCHA Departments. A conceptual, order of magnitude, or feasibility estimate is appropriate for the SD submission.

2. Revised Construction Cost Estimates ●

PACT Partners should update the line items, quantities, and costs of the Construction Cost Estimates provided during the SD phase. NYCHA will again review at this stage. A bid estimate should be submitted at the end of Design Development.

PACT Partners should not include lump sums in their cost estimates during Pre-Development after Schematic Design. If it is necessary to provide a lump sum estimate for landscape, community facility, or other scope areas in early design package submissions, PACT Partners should provide detailed narrative descriptions for those scope items.

3. Final Construction Cost Estimates ●

PACT Partners should update line items, quantities, and costs of the Construction Cost Estimates provided during the DD phase. As the Construction Cost Estimate will need to match the RAD CNA submission at this time, Cost Estimates should be at or near final.

4. Reconciled Construction Cost Estimates ●

Any changes to the scope and cost estimates after the RAD Financing Plan is submitted should be captured in the reconciled Construction Cost Estimate. Construction Cost Estimates will be attached to the Control Agreement closing document.

C. Drawings

PACT Projects require design drawings for planning and construction documentation. For each design phase, a drawing list on the Architecture title page should include a comprehensive list of project drawings including sheets from all permits and applications. Drawings should have clear and up-to-date labeling, legends, dimensions, and schedules. Expectations for each submission of drawings are described below.

If conceptual design drawings, renderings, and diagrams are prepared for resident workshops they should also be submitted to Design & Construction at the Schematic Design phase two weeks prior.

1. Schematic Design (“SD”) Drawings ●

PACT Partners should submit their Schematic Design drawings (Architectural, Structural, Facade, Fire Protection and Life Safety, Mechanical, Electrical, Plumbing, and other) to NYCHA for review, including site drawings, even if in progress. Placeholders where multiple alternatives are under consideration can be included at this time. A survey should also be included.

2. Design Development (“DD”) Drawings ●

PACT Partners should submit their Design Development drawings to NYCHA for review, including all disciplines.). All major scoping and design decisions should be reflected in the DD drawings including all required accessibility upgrades.

3. DOB Filing and RAD Financing Plan Submission Drawings (50-70% CDs) ●

PACT Partners should submit their Department of Buildings (“DOB”) Filing Set to NYCHA for review including all disciplines. Drawings should be reflective of Scope of Work and RAD CNA e-Tool that is being submitted to HUD with the RAD Financing Plan submission.

Drawing sets at this stage must include detail plans and elevations for all common areas and elements, including lobbies, hallways, entryways, offices, accessory residential and community facilities. All building signage and wayfinding elements should be included in detail drawings.

4. Construction Documents (90-100%) ●

PACT Partners should submit their Construction Document drawings to NYCHA for its records. Any amendments submitted to the Department of Buildings after initial filing should also be submitted to NYCHA.

D. Specifications

PACT Projects require specifications for planning and construction documentation. Expectations for each submission of specifications are described below. Specifications may be included in drawings or as a standalone specification document. PACT Partners should also submit product cut sheets and/or material samples where they deem appropriate or at NYCHA’s request.

1. Outline Specifications ●

PACT Partners should submit Outline Specifications in CSI format. Include all Divisions with alternates and placeholders clearly identified.

2. Draft Specifications ●

Submit revised specifications in CSI format including all Divisions. Short form specifications are appropriate at this time. Alternates and placeholders should be limited and clearly noted. Product cut sheets and/or material samples should be included with this submission.

3. Revised Specifications ●

Submit detailed construction specifications including installation requirements to NYCHA. Assume that all design decisions have been finalized and no alternates or placeholders should be included in any design package deliverable.

4. Final Specifications ●

Any changes to Scope of Work after the RAD Financing Plan are submitted should be captured in the final specifications. Final Specifications should include all original and revised divisions prior to Closing and before Construction.

E. Existing Conditions Investigations and Feasibility Studies

Existing conditions investigations and feasibility studies are required to inform the design of the Project. Feasibility studies should include quantitative data and the expectation is that subject matter experts will present their findings and recommendations to NYCHA and its partners at the end of Schematic Design.

Existing conditions investigations and feasibility studies often require on-site inspections. A list of common on-site inspections has been provided in Attachment A – PACT On-Site Inspection List. PACT Partner must document and report immediately to NYCHA any observed life threatening or otherwise hazardous conditions discovered during on-site inspections so that NYCHA and the PACT Partner can coordinate repairs to cure such issues. Before conducting on-site inspections and initiating on-site access, PACT Partners should print credentials for all personnel who will be on site (see Attachment B - PACT Partner Team Credentials Requirements). PACT Partners will be expected to maintain an on-site office or offices throughout Pre-Development (see Attachment C - PACT Site Management Office Requirements).

Existing conditions investigations and feasibility studies required for PACT Projects are described below. All existing conditions investigations and feasibility studies are expected to be completed by the end of the Schematic Design phase.

1. General Conditions Report ●

PACT Partners are required to make best efforts to inspect general conditions within all units, interior common areas (lobbies, corridors, stairwells, laundry rooms, etc.), exterior common areas, and community facilities prior to closing. In-unit conditions must be documented by unit and summarized in a General Conditions Assessment report to be provided to NYCHA. These general conditions inspections may happen in tandem with other in-unit inspections such as mold visual assessments, lead-based paint investigations, and/or resident engagement activities. PACT Partners must document and report immediately to NYCHA any observed life threatening or otherwise hazardous conditions so that NYCHA and the PACT Partner can coordinate repairs to cure such issues. At designation, NYCHA will provide information regarding completed and ongoing capital projects. The PACT Partner should account for these in the General Conditions Report.

2. Mechanical Systems Conditions and Proposal ●

PACT Partners should submit existing conditions reports summarizing findings from on-site inspections of major building systems including heating, cooling, ventilation, plumbing, electrical, and fire protection and life safety, including preliminary recommendations and feasibility analysis for implementation as well as a brief Maintenance and Service overview for proposed mechanical systems. At minimum, reports should state the age and/or estimated useful life (EUL) and offer a qualitative assessment of the conditions including the state of condition (good/fair/poor/failing, etc.) and descriptors (rusted, broken, greening, etc.). Select MEP schematic drawings should be provided as available.

PACT Partners should provide a summary of assumptions related to plumbing repair and replacement early on in project scoping, including costs and benefits of full replacement over repair and replacement based on Remaining Useful Life estimates from the PNA. This summary should include a percentage of total to be repaired or replaced (e.g., 100% for full replacement) cross-walked against PNA estimates.

3. Building Envelope Conditions and Proposal ●

PACT Partners should submit reports from any on-site inspections including visual inspections and destructive testing as applicable. PACT Partners should also submit an evaluation summarizing existing conditions including envelope assembly components and conditions. PACT Partners should conduct façade inspections to evaluate existing building envelope conditions including moisture analysis, airtightness or infiltration testing, and inspection of masonry, concrete, and mortar conditions.

Submissions should include preliminary recommendations with a summary of costs and benefits for any options for façade and building envelope improvement under consideration correlated to up-front costs and maintenance costs and savings, identifying moisture and thermal performance targets and correlate to any relevant code or Enterprise Green Communities requirements.

All inspection reports should be submitted to NYCHA. Any potentially hazardous conditions should be flagged immediately for NYCHA by PACT Partners. PACT Partners should not conduct any inspections nor file any reports related to Local Law 11 or the NYC Façade Inspection & Safety Program (“FISP”).

4. On-Site Generation and Back-Up Power Feasibility Study ●

PACT Partners should submit a report evaluating options to provide on-site solar and back-up power for community facilities and residential buildings. The solar report should reference the path to electrification plan and consider solar as a means of facilitating electrification. Solar infrastructure can be proposed as part of the PACT Project Scope of Work or by procuring a third-party installation. The report should include financials (up-front costs, rebates or incentives, savings, payback) and outline the rebate and incentive application strategy. Sightline studies should be conducted, as applicable.

The report should also include a narrative on the scope of work for back-up power generators at all community facilities, including the feasibility of demand response implementation.

5. Elevator Conditions ●

PACT Partners should survey the existing conditions and submit a narrative evaluation summarizing the modernization scope for all elevators including components of the machine room, cab, hoist-way, pit, and overhead. Provide a detailed Scope of Work for all planned elevator modernization work assuming compliance with NYC mandated retrofits; include a summary of related trade work. The evaluation should include documentation of previous modernizations where possible, existing cab dimensions, and feasibility of cab modernization to meet minimum accessibility requirements.

6. Structural Assessment ●

PACT Partners should submit an evaluation of existing conditions prepared by their structural engineers. The evaluation should indicate whether an additional detailed structural assessment is necessary, at a minimum. Where a development's PNA has estimated need for existing structural systems, PACT Partners should review that estimated need against their structural engineer's evaluation and identify any discrepancies.

7. Broadband Proposal ●

PACT Partners are required to provide broadband to residents at all developments. Refer to requirements for broadband described in "Design Requirements" for more information about specific requirements. The Broadband Proposal should at minimum identify a third-party service provider and present a plan to provide infrastructure including a wired connection point in each dwelling unit.

F. Accessibility

In December 2021, NYCHA and HUD's Office of Fair Housing and Equal Opportunity ("**FHEO**") entered into an agreement intended to ensure compliance with federal accessibility requirements and standards under Section 504 and Title II of the Americans with Disabilities Act ("**ADA**") in PACT Projects, while also recognizing potential infeasibilities in the full remediation of accessibility barriers to achieve compliance throughout certain properties (the "**PACT FHEO Assurances Agreement**") (see Attachment E - PACT NYCHA FHEO Assurances Agreement Excerpt).

Per this agreement, NYCHA is required to contract with a third-party accessibility consultant (the "**Accessibility Consultant**") to review and certify accessibility compliance per PACT Round. For all PACT Rounds NYCHA and the Accessibility Consultant will submit for FHEO approval an Accessible Housing Unit Plan ("**AHUP**") Project-based submissions per PACT Project to identify the location of all existing and proposed accessible units. Single submission within a PACT Round will be totaled to ensure the required minimum as per the Assurances is met, addressing factors such as geographic distribution, dispersal within Projects, unit size, unit occupancy criteria (preferences, elderly/family, etc.), and access to transportation and other community amenities. FHEO approval of the AHUP for the PACT Round is required prior to submission of the RAD Financing Plan for a given PACT Project.

Separately, PACT Project architects ("**Project Architects**") will be responsible for accessibility analysis deliverables as indicated below for their PACT Project. The NYCHA Accessibility Consultant will be responsible for review and certification per PACT Round, and will provide a post-construction Completion Certification, as required by the PACT FHEO Assurances

Agreement. PACT Partners may also retain accessibility consultants separately from NYCHA's Accessibility Consultant to assist Project Architects.

Accessibility plans should consider the needs of existing residents as determined by existing NYCHA data, and by the Accessibility Needs Assessment to be conducted by PACT Partners during Pre-Development. Reasonable Accommodations during construction must also be assessed, and relevant plans included within the Project's Temporary Move Plan.

Below is a description of the Pre-Development deliverables related to Accessibility. Additional accessibility submission requirements are included in [Attachment E - PACT Accessibility Design Checklist](#). NYCHA and the Accessibility Consultant will review all deliverables and be available throughout pre-development for meetings and review as requested.

1. Existing Conditions Analysis and Draft Architect's Accessibility Letter ●

PACT Partners should perform an analysis evaluating existing conditions, confirming, or identifying inaccuracies in NYCHA's accessibility data, and summarizing compliance/non-compliance (including existing accessible units, accessibility of routes, impediments to full accessibility for both mobility and vision/hearing).

PACT Partners should also provide preliminary draft of the Architect's Accessibility Letter, which should include a narrative describing existing conditions and potential challenges in providing accessible units, along with quantities and locations of proposed accessible units. PACT Partners should provide feasibility of maximum amount of accessible units which will be determined by the Accessibility Consultant if the proposed is compliant according to the Assurances. PACT Partners to provide existing elevator dimensions in Draft Accessibility Letter. Dimensions to be determined accessible between NYCHA's Accessibility Consultant and FHEO. Existing conditions analysis can be included in the draft Architect's Accessibility Letter or provided otherwise.

NYCHA will provide property specific Development Suitability Memos as a reference.

2. Architect's Accessibility Letter and drawings ●

PACT Partners should submit a revised draft of the Architect's Accessibility Letter, along with drawings (plans and/or architectural sketches) as needed describing paths to compliance and/or mitigative measures.

3. Accessible Housing Unit Plan ("AHUP") ●

NYCHA and the Accessibility Consultant will submit for FHEO approval an AHUP as previously described. PACT Partners will be expected to provide additional information for the AHUP as requested. Submit a final, revised, signed, and stamped Architect's Accessibility Letter summarizing existing conditions and anticipated compliance and/or impediments to compliance and mitigative measures. Include Existing and Final/Approved Proposed Mobility Units, Hearing/Visual Units, Accessible Route Strategies, and Accessible Resident Amenities.

Drawings for Mobility Access should include: Unit plans (1/4" scale), Kitchen and Bathroom detail plans and elevations (1/2" scale), resident-accessed common areas and amenity areas (1/4" scale), Accessible Route plan(s) (1/8" scale), Site Plan(s) (showing accessible routes, exterior amenities, and dispersion), and other detail drawings as required (e.g., curb cuts).

4. RAD FHEO Project Submission ●

The FHEO Project Submission is a standard form available on the RAD Resource Desk, to be submitted to FHEO along with the AHUP for the PACT Round. The FHEO Project Submission includes verification of number, percentage of total, and distribution of accessible units (mobility & vision/hearing) per building in the Project. FHEO conducts front-end civil rights reviews of RAD conversions under Component I of the RAD program. FHEO's review is governed by Notice H 2016-17/PIH 2016-17 (HA) ("**RAD Civil Rights Notice**").

- i. Increase of Section 504 Units Above Threshold
- ii. FHEO Upfront Review: Change in Unit Configuration or Unit Reduction

5. Accessibility Needs Survey and Plan ●

PACT Partners should conduct a survey of resident needs for both temporary move and long-term accommodations. The Survey should inform if the proposed Accessible Unit Plan will meet the needs of the Residents and provide a snapshot of right-sizing Accessible Units. In addition to the resident survey the following items should be obtained or created:

- i. List of pre-existing reasonable accommodations requests from NYCHA
- ii. Description of temporary move accommodations (can reference PACT Temporary Move Plan)
- iii. Description of process for reasonable accommodations requests (lease riders, property management information, etc.)
- iv. Description of resident communications (audio and visual)

6. Accessibility Compliance Certification (post-construction)

NYCHA Accessibility Consultant will perform on-site inspections following construction to certify to HUD that construction of the planned improvements substantially conforms with the approved AHUP.

References

- [RAD Civil Rights Notice](#)

G. Historic Preservation and Tax Credits

In 2018, NYCHA, SHPO, and LPC entered into a Section 106 Programmatic Agreement (the "**NYCHA-SHPO-LPC Programmatic Agreement**"), which identified properties listed or eligible for listing in the National Register of Historic Places ("**NR**"). NR-Listing and/or NR-Eligibility identifies a property as historically significant. Properties identified in the NYCHA-SHPO-LPC Programmatic Agreement as "NR-Eligible" or "NR-Listed" can be assumed eligible for historic tax credits. Properties not identified in the NYCHA-SHPO-LPC Programmatic Agreement as "NR-Eligible" or "NR-Listed" may still be deemed historically significant and therefore eligible for NR Listing and historic tax credits.

Historic tax credits are a significant potential source, providing 20% of Qualified Rehabilitation Expenditures at the Federal level and an additional 20% capped at \$5 million *per building* at the State level. Qualified Rehabilitation Expenditures include most hard costs and some soft costs. To qualify for Historic Tax Credits, PACT Partners and NYCHA must complete all parts of the Historic Preservation Certification Application.

If historic tax credits are not pursued for a property listed in the NYCHA-SHPO-LPC Programmatic Agreement as NR-Listed or NR-Eligible, SHPO Section 106 review will still be required. Section 106 review requires SHPO to evaluate proposed rehabilitation scope and infill scope where applicable and submit a finding of “no adverse effect” to the historic resource (commonly defined as original material, both buildings and grounds, from the period of historic significance—usually the time of original construction). This finding must be submitted before closing.

For all the of the following deliverables, PACT Partners must copy NYCHA on all submittals to SHPO and NPS. NYCHA will coordinate informal meetings with SHPO and the PACT Partner to discuss in-progress Part 1 and Part 2 materials to solicit feedback on scope and design.

1. Historic Feasibility Analysis ●

In some cases, PACT Partners will be expected to onboard a historic preservation consultant to conduct a feasibility analysis identifying properties that are viable candidates for National Register eligibility evaluations and historic tax credits. For certain projects, NYCHA will procure an internal third-party consultant to conduct these preliminary feasibility analyses. Access to NYCHA archival materials can be coordinated to support research associated with a historic feasibility report, including access to holdings in NYCHA’s Photo Unit, NYCHA’s Records office, and the LaGuardia and Wagner archives.

Once a Historic Feasibility Analysis is completed, NYCHA will review and submit for a preliminary evaluation by SHPO. SHPO will confirm at this stage if the property is eligible for National Register listing. SHPO may provide comments and requests for revisions and updates to NYCHA and the historic preservation consultant with the goal of preparing the project for success in their Part I application for eligibility evaluation.

2. Historic Preservation Certification Part I Application: Evaluation of Significance ●

The PACT Partner’s historic preservation consultant will prepare a draft Part I Application for NYCHA and SHPO review. The Part I application outlines an argument for eligibility for National Register listing and will include a narrative history of the development as well as a “statement of significance.” The Part I application will include historic and current photos of the development and an integrity analysis that identifies any major alterations and describes the property’s period of significance. PACT Partners should assume that their historic preservation consultant will need to conduct site visits and access the NYCHA digital and/or physical archive to complete the Part I application.

Section 106 applications can be initiated by NYCHA environmental planners at the same time as the Part I application is submitted to SHPO. The Part I application requires a 30-day review by SHPO; they will then prepare a recommendation to NPS. NPS review is also 30 days. At the same time as SHPO and NPS are reviewing the Part I application, Part II materials can be produced. Part I and Part II materials can also be submitted for simultaneous review. Once a determination of eligibility is on file for a property, PACT Partners may submit a preliminary review request to NPS via SHPO to initiate review and discussion of potential design interventions, including demolition, expansion, and infill new construction.

3. Historic Preservation Certification Part II Application: Description of Rehab ●

The historic preservation consultant will prepare a Part II application with materials from the project architect including drawings and renderings as needed. The Part II application focuses on project scope and should be submitted once scope and design are well-resolved. Any expansion of existing buildings or new construction planned for the site(s) should be

represented in the Part II application materials. PACT Partners should request a Part II overview meeting with SHPO staff, coordinated by NYCHA.

Before Part II applications are submitted to SHPO, PACT Partners must submit to NYCHA for review. The Part II application requires a 30-day review by SHPO; they will then prepare a recommendation to NPS, NPS review is also 30 days. The Part II Application may be submitted at the same time as the Part I, if scope is sufficiently developed and represented. NPS may approve a Part II application with conditions, in which case the PACT Partner will be responsible for submitting addenda to SHPO and NPS to resolve any open items.

4. Historic Preservation Certification Part III Application: Request for Certification of Completed Work (post-construction)

After construction, PACT Partners will submit a Part III application to NPS, who will certify that the rehabilitation work as completed complies with the Secretary of the Interior's Standards for Rehabilitation.

References:

- [NYCHA Section 106 Programmatic Agreement](#)
- [NPS Technical Preservation Services Historic Preservation Certification Application](#)
- [NPS Technical Preservation Services Historic Preservation Application Process](#)
- [The Secretary of the Interior's Standards for the Treatment of Historic Properties](#)

H. Waste and Pest Management

PACT Partners should incorporate waste and pest management strategies that align with the NYCHA Sustainability Agenda, NYCHA 2.0 Waste Management Plan, the NYCHA Connected Communities Guidebook, and the HUD Agreement. PACT Partners will be required to submit a Waste Management Plan that incorporates complete strategies for the flow of materials from apartments to municipal collection. The Plan will include apartment, interior, and exterior collection points, routes, equipment, and interventions such as enlarged chute doors that respond to requirements in Attachment F - PACT Waste Management Handover Document and includes calculations from Attachment G - NYCHA Waste Calculator.

PACT Partners will also be required to include Integrated Pest Management ("IPM") documentation in all scopes and property management plans.

Projects must comply with the following requirements:

- Local Law 85 of 2023, which makes source separation of residential organic waste in NYC mandatory by October 7, 2024;
- Local Law 19 of 1989, which makes source separation of residential recyclable materials in NYC mandatory;
- The HUD Agreement, which mandates the implementation of IPM principles and daily inspections; and mandates NYCHA store waste, including recyclables in pest-resistant containers until removed from the site or staff remove trash from site at least once per day;
- If a Property currently does not receive curbside trash removal from the Department of Sanitation ("DSNY"), the Property may not convert to curbside removal;
- If a Property hosts exterior waste equipment used by other developments, the PACT Partner must continue to provide access to the shared equipment;

- If a Property uses shared exterior equipment at a development retained by NYCHA, the PACT Partner must install and maintain its own exterior equipment; and,
- Any open 30-yard containers utilized for bulk collection should be replaced by an on-site auger compactor with DSNY collection. Reference the DSNY Roll On Roll Off Container Guide for minimum specifications and documentation required for equipment approval.

Waste Management Plans impact both project design and operations planning and must therefore be coordinated between all stakeholders including property management, design consultants, and DSNY.

1. Draft Waste Management Plan ●

PACT Partners should submit a draft Waste Management Plan that incorporates findings from the Waste Management Handover Document and Waste Calculator, along with a Waste Management Map, Waste Yard Plan, and AutoTURN Analysis. NYCHA will review the Plan and provide feedback. All proposed waste facility upgrades will be issued by NYCHA to the NYC Department of Sanitation (“**DSNY**”) Containerization and Department of Transportation (“**DOT**”) for review.

2. Revised Waste Management Plan ●

PACT Partners should submit an updated Waste Management Plan that incorporates feedback from NYCHA Energy and Sustainability, Residents, DSNY, and DOT. Potential waste management Mayoral Zoning Override Requests (MZORs) will be identified and reviewed by DOT and NYC Department of City Planning (DCP), if required.

3. Final Waste Management Plan ●

PACT Partner should submit a final Waste Management Plan including DSNY email confirmation for service at existing waste yards or a signed Service Letter from DSNY for new waste yards.



Project: Boulevard; Cardboard baler



Project: Baychester and Murphy Houses; Recycling room

I. Energy and Sustainability

1. Energy Audit & Electrification Plan ●

PACT Partners should submit an Energy Audit & Electrification Plan that documents existing conditions, recommended energy conservation measures, and energy, emissions, and financial analysis.

The Energy Audit should document the existing conditions of the property including property information and benchmarking to include baseline utility data, existing electric capacity, and utility rates. The audit should include Attachment R – NYCHA Electric Loads Worksheet to document existing electric capacity and calculate anticipated electrical demand. The Energy Audit should also identify potential energy conservation strategies and systems options for heating, cooling, and domestic hot & cold water, including improving efficiency for existing systems and/or electrifying mechanical systems as applicable.

The Electrification Plan should recommend an electrification strategy in compliance with LL97 prescribed limits (2030, 2050) and provide calculations for payback analysis including up-front (year 0) costs, energy use, and long-term projected energy cost savings.

Projects not converting to high-performance electric equipment should document “Electric Ready” scope and a “Path to Electrification” aligned with the system’s lifespan and project refinancing cycle.

PACT Partners can use Attachment T – PACT Utility Application Tracking Template to track open applications with Con Edison and National Grid; NYCHA can assist to expedite review.

2. Energy Data and Sustainability Scope Tracker ●

PACT Partners should complete the Attachment Q – Energy Data and Sustainability Scope Tracker to document baseline, target, and projected energy emissions; energy conservation measures; and building system improvements which reflect the final scope. NYCHA has provided baseline emissions and carbon multipliers.

3. Local Law 84 Benchmarking Data

Local Law 84 requires applicable building owners to submit annual energy and water benchmarking data. PACT Partners are required to submit annual benchmarking data via the U.S. Environmental Protection Agency’s Portfolio Manager. For instructions on accessing data and reporting processes, refer to Attachment S – PACT LL84 Requirements.

4. Enterprise Green Communities (“EGC”)

Enterprise Green Communities (“EGC”) Certification is required of all PACT projects. PACT Partners should follow the 2020 EGC Criteria with the NYC Overlay for Substantial Rehab, Moderate Rehab, and/or New Construction, as applicable. EGC Certification provides dual certification with the WELL Building Standard.

PACT Partners should complete the Pre-Build Application Package at the milestones outlined below. As the project Scope of Work is developed, where major design decisions may impact pathways to Enterprise Green Communities Certification, PACT Partners should note these in their milestone design package submissions.

i. Draft Pre-Build Application Package ●

Submit a Draft EGC Pre-Build Application for NYCHA review. The EGC Pre-Build Application is a standard form provided by Enterprise.

ii. Pre-Build Application Package and Authorization Form ●

Update and finalize the EGC Pre-Build Authorization Package and Form. An EGC Pre-Build Authorization Form is required by EGC at least thirty (30) days before construction. The Pre-Build Authorization Form and required documentation is submitted via the EGC Certification Portal. Enterprise Green Communities will review the Pre-Build Authorization Form within 30 days. PACT Partners should submit their final Pre-Build Package and Form to NYCHA to confirm any adjustments since the Draft Pre-Build Package and Authorization Form submitted for review in DD.

iii. Enterprise Green Communities Certification Approval ●

Once received from EGC, PACT Partners should submit their EGC Certification Approval letter or notice. Transmissions of Approval letters are typically made by email to the PACT Partner's energy consultant.

iv. Post-Build Application (post-construction)

An EGC Post-Build application is required by EGC within sixty (60) days of construction completion. PACT Partners should submit this to NYCHA for its records prior to execution of the RAD Completion Certification.

References:

- [Green Communities Online Portal](#)
- [Enterprise Green Communities Criteria: NYC Overlay \(2020\)](#)
- [NYC HPD EGC Overview and Forms](#)

8. Resilience Assessment ●

PACT Partners are required to submit a Resilience Assessment. Resilience Assessments should conform to requirements outlined in the Mayor's Office of Climate and Environmental Justice (MOCEJ) Climate Resiliency Design Guidelines, New York City Stormwater Resiliency Plan, NYC Department of Environmental Protection's Unified Stormwater Rule, and NYCHA's Sustainability Agendas and Climate Adaptation Plan.

Resilience Assessments should include a summary and analysis of climate risks identified using MOCEJ's Climate Resiliency Design Exposure Screening Tool and FEMA's National Risk Index (NRI) tool. The analysis of climate risks should also be informed by NYCHA's Climate Risks and Adaptation Explorer Mapping tool, NYCHA reports and studies, site-specific historical data, and community engagement.

Resilience Assessments should outline how the proposed scope responds to the site's exposure to climate hazards and risks for each development. The assessment should also identify potential betterments including costs. The narrative should explicitly summarize how the scope of work addresses or mitigates against "relatively high" and "very high" climate risks identified utilizing FEMA's National Risk Index (NRI) tool.

Sites within the current and future 100-year floodplain using FEMA's 2015 PFIRM base flood elevations for 2050's should include a design flood elevation calculation; guidance can be identified in the NYC CRDG.

A list of associated repairs in the CNA e-tool and a property-wide disaster response plan (including an evacuation plan) informed by the NRI tool results is required per the HUD RAD Notice and are subject to review by HUD.

References:

Plans/Guidelines:

- [NYC Mayor's Office of Climate & Environmental Justice Climate Resiliency Design Guidelines \(CRDG\)](#)
- PlaNYC: Getting Sustainability Done [Plan](#)
- [NYCHA Climate Adaptation Plan](#)
- [NYC DEP Unified Stormwater Rule \(USWR\)](#)
- [NYC Stormwater Resiliency Plan](#)

GIS Tools:

- [NYCHA Climate Risks and Adaptation Explorer](#)
- [New York City Stormwater Flood Maps \(arcgis.com\)](#)
- [New York City Flood Hazard Mapper](#)
- [FEMA National Risk Index \(NRI\) Tool](#)

Screening Tools:

- [NYC Mayor's Office of Climate & Environmental Justice CRDG Exposure Screening Tool](#)

J. Zoning Analysis and Override Requests

The rehabilitation Scope of Work must conform to the Zoning Resolution of the City of New York, effective as of December 15, 1961, as amended to date, and as the same may be amended (the “**NYC Zoning Resolution**”), the NYC Construction Codes, and all other applicable laws and regulations. Analyses should be provided for situations where existing conditions or proposed improvements result in zoning non-compliance that requires remedy through administrative zoning relief, such as through a Mayoral Zoning Override (“**MZO**”) request.

1. Zoning Analysis ●

Submit both architectural and legal zoning compliance analyses. Zoning compliance will be discussed during a Project Overview and Urban Design meeting with the NYC Department of City Planning (“**DCP**”). To the extent possible, PACT Partners should identify potential need for discretionary actions for preliminary discussion with DCP.

2. Draft MZO Request (if applicable) ●

PACT Partners will submit draft MZO requests for NYCHA review using the *PACT MZO Template* (NYCHA will provide upon request). The draft MZO request will include a summary of zoning non-compliances identified in the Zoning Analysis with relevant supporting graphic exhibits. The Draft will be reviewed by REDD and NYCHA Law in advance of issuing the draft to Agency partners, as required, including DCP, DSNY, the NYC Department of

Transportation (“**DOT**”), the NYC Department of Parks and Recreation (“**DPR**”), the Mayor’s Office of Environmental Coordination (“**MOEC**”), and New York City Law Department (“**NYC Law**”).

3. Final MZO Request ●

The final MZO request(s) will be signed by the NYCHA CEO and submitted to MOEC and NYC Law for final review prior to signature by the Deputy Mayor. An executed MZO is required by the DOB prior to plan approval, if applicable.

References:

- [NYC Zoning Resolution](#)

K. Department of Buildings Applications and Permits

PACT Partners are responsible for obtaining all building and construction plan approvals that are necessary to achieve closing and complete the Project Scope of Work. All applications and amendments should be submitted to NYCHA for signature as Owner through the DOB online system.

NYCHA will provide PACT Partners with a letter authorizing PACT Partners to sign new DOB applications and related documents directly as Owner following conversion and lease signing.

1. Certificate of Occupancy and Open DOB Application/Permit Analysis ●

PACT Partners should review Certificates of Occupancy (“**CO**”s), Place of Assembly Certificates of Operation (“**PACO**”s), and all Open DOB applications/permits and provide NYCHA with an itemized summary. HUD and lenders may take exceptions to errors or inaccuracies with existing CO’s. Open DOB applications and permits may impede new DOB applications associated with the PACT rehabilitation Scope of Work and/or CO revisions.

2. DOB Filing Plan ●

The DOB Filing Plan should include a description of 1) existing COs and PACOs with proposed plan to resolve any errors or discrepancies, 2) open DOB applications/permits, identifying which applications/permits will be superseded or otherwise administratively closed, and applications/permits that may be an impediment to financial closing, 3) a substantial rehabilitation calculation for the purposes of compliance with NYC Construction Codes (Appendix G), and 4) the list of plan filings associated with the rehabilitation Scope of Work.

All filings should be completed through DOB’s HUB. A full standard plan examination is required. NYCHA will flag all PACT Projects for our assigned DOB liaison.

3. DOB Applications ●

All applications and amendments should be submitted to NYCHA for signature as Owner through the DOB online system.

4. DOB Lessee Authorization Letter ●

NYCHA will provide PACT Partners with a letter authorizing PACT Partners to sign new DOB applications and related documents directly as Owner following conversion and lease signing.

L. Model Units

The Model Units will be constructed before closing and will provide an opportunity for residents and NYCHA to review and give feedback on unit interiors ahead of scope finalization and RAD Financing Plan submission. PACT Partners will be expected to submit a schedule for resident engagement meetings focused on scope, leading up to construction of the model unit(s) and tours. PACT Partners may also use Model Units as an opportunity to offer residents the option to vote on finish packages and/or other components of the scope of work. Model Unit scope must comply with all relevant requirements for Apartment Interiors, including the NYCHA Design Guidelines for the Rehabilitation of NYCHA Residential Buildings and the Enterprise Green Communities Criteria.

1. Model Unit Timeline ●

PACT Partners should select model units from among vacant units within their development(s) and submit a timeline for design and construction of model unit(s) for NYCHA review. Submission to and review/approval by NYCHA should be coordinated before any materials are presented to residents.

The PACT Partner must identify if the work planned for the model unit will or may disturb lead-based paint or asbestos or if mold is present. The presence of these environmental hazards will require that the PACT Partner submit additional plans for remediation and/or abatement to NYCHA for approval and should be considered in the model unit timeline.

2. Model Unit Plan ●

The Model Unit Plan will include schematic drawings; renderings and/or interior elevations; all schedules including finish, appliance, and fixture; cut sheets; material samples; and graphical signage describing visible and nonvisible typical improvements including scope that may not be implemented as part of the model unit scope of work but will be included in the final project scope of work.

Examples include placing a placard at a window saying that it will be replaced; placing one near the baseboard heating elements, explaining that it will be replaced or upgraded; or placing one on the intercom to explain that video intercom will be included. PACT Partners should also prepare placards to explain nonvisible typical improvements, such as diagrams explaining pipe replacement behind walls or replacement of wet walls.

Scope alternates can be submitted at this time. Submission to and review/approval by NYCHA should be coordinated before materials are presented to residents.

In the Model Unit Plan, PACT Partners should identify approaches to soliciting feedback from residents after unit Model Unit construction, including opportunities to allow residents to vote on or select from various finish package options.

3. Model Unit Construction ●

Model Unit(s) should be constructed with finishes, appliances, and fixtures approved by NYCHA and the Resident Association prior to construction. Construction review/approval by NYCHA should be coordinated before resident tours are scheduled.

If model unit construction will impact lead-based paint or asbestos, the PACT Partner must submit an abatement plan to NYCHA approval prior to work starting.

4. Resident & NYCHA Tours ●

Resident feedback should be collected in surveys distributed by Portfolio Planning and PACT Partners. Resident tours will be scheduled and facilitated by PACT Partners. Model Units can also serve as an opportunity to collect resident feedback on other elements of the project design, including open spaces and interior amenities.

NYCHA will visit Model Units and circulate feedback to the PACT Partner focused on interiors scope and quality of construction. PACT Partners should anticipate responding to NYCHA and resident feedback before the RAD Financing Plan is submitted.



Project: West Brighton; Model Unit



Project: Bayside; Model Unit



Project: West Brighton; Model Unit



Project: West Brighton; Model Unit

M. Construction Planning

The following deliverables are intended to help plan for the construction period immediately following the PACT conversion. They are based on HUD, NYCHA, and NYC requirements and are subject to comment by NYCHA, as noted per deliverable below.

1. Construction Schedule ●

PACT Partner must submit a construction schedule for NYCHA review prior to closing which will be attached to closing documents. Construction schedule must account for any temporary moves and other important construction logistics such as apartment line and building phasing,

elevator shutdowns, utility shutdowns, exterior walkway shutdowns and temporary site lighting, temporary parking shutdowns and accommodations, temporary management, staff offices, and lead paint and asbestos work, etc.

2. Temporary On-site Move Plan ●

NYCHA will provide guidelines so the PACT Partner can develop 1) a Temporary Move Plan for internal NYCHA planning as well as 2) a Temporary Move Resident Guide that prepares residents for moves that may be required during construction. NYCHA will review and provide comments on both the Plan and Guide outlines, before ultimately approving a final version before closing. See [Attachment I - PACT Temporary Move Requirements](#).

3. Tenant Protection Plan ●

The PACT Partner should submit a draft of the Tenant Protection Plan (“TPP”) to NYCHA for review *prior to* filing the TPP with NYC DOB. The TPP as approved by NYC DOB must be submitted to NYCHA.

4. Construction Site Safety Plan ●

The PACT Partner should submit a draft of the Construction Site Safety Plan (“SSP”) to NYCHA for review *prior to* filing with NYC DOB. The SSP as approved by NYC DOB must be submitted to NYCHA.

5. Construction Logistics and Communications Plan ●

Construction Logistics and Communications Plan encompasses site administration and how it’s relayed to residents. It will be attached to closing documents. For logistics describe the phasing of construction as it affects residents, work protocol in occupied buildings, unit completion and closeout, construction site lighting, temporary parking shutdowns and accommodations, temporary management and staff offices, locations of construction fencing and scaffolding, locations of construction signage, etc. The Plan should then detail a comprehensive strategy for tenant communications. Topics include frequency and methods of updates, closures of building and grounds areas, service outages, and parking changes. NYCHA strongly recommends a case manager be assigned to every household to guide them through all aspects of lease signing, construction progress, and temporary moves. [Attachment J – PACT Construction Logistics and Communications Requirements](#) should be in narrative form and may include drawings.

6. Construction and Temporary Signage ●

The PACT Partner should submit drawings for both construction and temporary signage and wayfinding. At minimum, PACT Partners need to provide large format PACT Program signage and comprehensive communications, wayfinding, and branding package. Signage should include but not be limited to: site, building, room, and facility identification; directionals and temporary routes; and work area and notice postings. Please see here for signage system guidelines and precedents: [PACT Signage System UAC.pdf](#)

PACT Projects receiving Historic Tax Credits (HTC) should install a project sign that adheres to the master specification provided by the New York State Office of Parks, Recreation, and Historic Preservation (NYS OPRHP), which is to be approved by SHPO. Please see the Project Sign Master Specification here: [SHPO Media Agreement.pdf](#)

7. Construction Waste Management Plan ●

NYCHA will provide a template for the PACT Partner to create a Construction Waste Management Plan (see Attachment K – PACT Construction Waste Management Plan Template).

8. Section 3 and NYCHA Resident Economic Opportunity Plan ●

The RAD Notice establishes that, “While most RAD conversions do not utilize funding covered by Section 3, HUD has established the alternative requirement that any Work required by the conversion after the RAD Closing that involves housing rehabilitation or housing construction is subject to the Section 3 requirements applicable to housing and community development activities as set forth in 12 U.S.C. 1701u(c)(2) and (d)(2) and the regulations derived from such provisions, except that, with the exception of transactions receiving HUD housing and community development assistance, such as CDBG (24 CFR part 570) or HOME (24 CFR part 92), first priority for employment and other economic opportunities shall be given to residents of public housing or Section 8 assisted housing. Otherwise, the receipt of Section 8 rental assistance does not, in itself, trigger the applicability of Section 3.

The PACT Partner must submit a Section 3 and Resident Economic Opportunity Plan (see Attachment L – NYCHA Section 3 and Resident Economic Opportunity Plan (“REO”) Plan) for review by REDD and NYCHA’s Department of Resident Economic Empowerment & Sustainability (“REES”). Post conversion the PACT Partner will submit a quarterly Section 3 Report with a final report submitted within 30 days of the end of the construction period.

9. Minority and Women-Owned Business Enterprises (M/WBE) Participation Plan ●

The Goal Calculator is used to determine the monetary value of the 25% M/WBE participation goal for the project, using HPD’s definitions of Applicable Costs. It must be updated prior to closing. (see Attachment V - PACT MWBE goal calculator and report). Waivers can be submitted where costs are not covered in HPD’s guidance, where you disagree with HPD’s guidance, or where there are special hardships in soliciting bids from M/WBE vendors (see Attachment W - NYCHA MWBE waiver). Summary and Detailed Reports are to be submitted by the PACT Partner for the entirety of the project on a quarterly basis throughout construction. All M/WBE requirements are included in the Control Agreement. The Goal Calculator and Report forms will be attached to the Control Agreement as exhibits.

10. Davis Bacon Wage Schedule ●

The RAD Notice establishes that, “the Davis-Bacon prevailing wage requirements (prevailing wages, the Contract Work Hours and Safety Standards Act, and implementing regulations, rules, and requirements) apply to all Work, including any new construction, that is identified in the Financing Plan and RCC to the extent that such Work qualifies as development. “Development,” as applied to work subject to Davis-Bacon requirements on Section 8 projects, encompasses work that constitutes remodeling that alters the nature or type of housing units in a [PACT] project, reconstruction, or a substantial improvement in the quality or kind of original equipment and materials, and is initiated within 18 months following the effective date of the HAP Contract. Development activity does not include replacement of equipment and materials rendered unsatisfactory because of normal wear and tear by items of substantially the same kind.

NYCHA will issue a wage determination letter including a schedule upon finalization of the HUD RAD Conversion Commitment. The PACT Partner is encouraged to hire a 3rd party monitor for compliance during the construction phase.

Post conversion the PACT Partner will submit a quarterly Davis Bacon Report with a final report submitted within 30 days of the end of the construction period.

11. Sidewalk Shed ●

The PACT Partner will need to maintain sidewalk sheds relating to Local Law 11 compliance post-conversion. The PACT Partner should determine whether they want to retain NYCHA's existing shed vendor in which case the contract would become effective on the conversion date. Otherwise, the PACT Partner can hire their own vendor and replacement installation would begin the day after conversion on a schedule to be determined in concert with NYCHA.

IV. Design Requirements

Through the PACT program, NYCHA is committed to respond to deferred maintenance at NYCHA developments and to fully address conditions identified in the PNA and RAD CNA by meaningfully upgrading buildings, providing necessary amenities to NYCHA residents, and pursuing achievable electrification at all developments.

Each item in the design requirements outlined below is considered critical to ensuring resident comfort, health, and safety as well as development longevity and resilience. In responding to these requirements, PACT Partners can propose relief from the requirement so long as the functional intent of the requirements are not compromised.

The requirements are organized by the categories that NYCHA uses to describe the Project in RFEI documents and in project description summaries associated with Environmental Review deliverables.

PACT Partners are expected to refer to the below NYCHA reference documents and resources as they develop their project scope and design.

- PACT “What We’ve Heard” Summaries (as applicable)
- PACT Property Assessments (as applicable)
- PACT Design Workshop Summaries (as applicable)
- [NYCHA Design Guidelines](#)
- [NYCHA Sustainability Agenda](#)
- [NYCHA Climate Mitigation Roadmap](#)
- [NYCHA Climate Adaptation Plan](#)
- [NYCHA Climate Risks & Adaptation Explorer - GIS Map](#)
- [NYCHA Connected Communities Guidebook](#)
- [NYC Climate Resilience Design Guidelines](#)
- [NYC Stormwater Resilience Plan](#)
- [NYC DEP Unified Stormwater Rule \(USWR\)](#)

NYCHA may update or circulate additional design requirements at any time during pre-development.

A. Sites & Grounds

PACT Partners should refer to the Connected Communities Guidebook for general site planning principles as they develop their approach to landscape and open space design. Property Assessments, Design Workshop Summaries, and “What We’ve Heard” documents should be reviewed closely, as they contain site-specific priorities and recommendations from NYCHA, its architectural services consultants, and residents. NYCHA assumes that landscape and open space design will also respond to resiliency needs and will be coordinated with existing and planned Green Infrastructure features.

PACT Partners will be asked to engage residents on landscape and open space design and to develop design over the course of pre-development through design charrettes and other visioning workshops. Sites & grounds scope cannot be determined after closing.



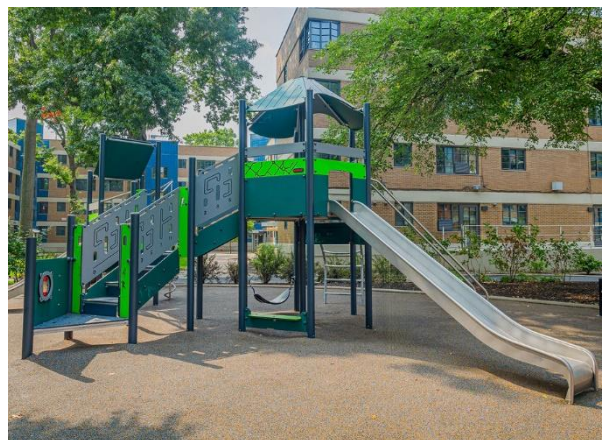
Project: Baychester and Murphy Houses



Project: Baychester and Murphy Houses



Project: Williamsburg Houses



Project: Williamsburg Houses

1. Site Security & Site Lighting

PACT Partners should evaluate opportunities to improve site access and introduce additional site lighting to improve overall site security and safety. Where possible, implementing multi-level site lighting should be explored.

2. DEP Green Infrastructure

Where DEP Green Infrastructure (“GI”) features, or “practices,” exist or are planned, PACT Partners should coordinate their site design with these features. The PACT Partner will be required to meet certain requirements for non-interference with any pre-existing green infrastructure installed by the NYC Department of Environmental Protection. The PACT Partner will also be required to provide access and otherwise cooperate with any green infrastructure projects that are planned, designed, or in construction at the time of construction closing. NYCHA will provide the location of existing and planned green infrastructure projects along with design documents as they are available.

B. Apartments

Rehabilitation Scopes of Work will include improvements to the areas and components that make up a resident’s private living space, including bathrooms, kitchens, lighting, and ceilings.

1. Floor Finishes

The use of vinyl finishes (including LVT and VCT) is prohibited by the NYCHA Design Guidelines (published 2016). “Vinyl” includes both PVC (polyvinyl chloride) and any other petrochemical (petroleum-derived) vinyl. ERT, or enhanced resilient tile, is also vinyl-based. Alternatives to vinyl-based tile include bio-based tile (“**BBT**”), engineered wood and wood laminates, linoleum tile, ceramic and porcelain tile, and rubber tile products.

Per Enterprise Green Communities 2020 requirements, non-vinyl finishes are recommended but some vinyl products are allowable if they do not contain PVC. In some cases, PACT Partners may propose a product for NYCHA review that meets Enterprise Green Communities requirements.

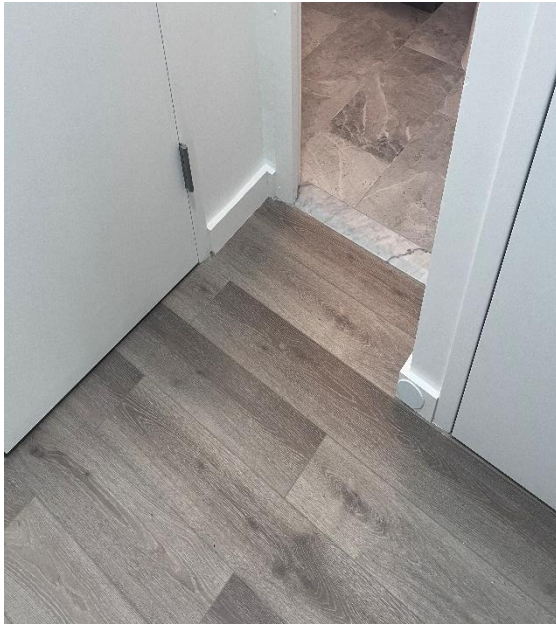
For buildings with existing hardwood floors, PACT Partners should evaluate preserving and refinishing existing floors wherever possible. For developments with hardwood flooring that has been covered with vinyl tile, evaluate removing vinyl tile and refinishing hardwood floors.

Wet rooms including bathrooms and enclosed or partially enclosed kitchens should be tiled with porcelain or ceramic. Partially enclosed kitchens are those with cased openings, dropped headers, or partition walls that separate the kitchen from other spaces.

PACT Partners should consider floating floor options with underlayment to improve the feel of flooring for residents and energy performance of residential units.

Review the [PACT Flooring Booklet](#). Products reviewed include manufacturers such as:

Inhaus, Patcraft, Forbo, AquaSense, Cobalt, Tarkett, AVA, Armstrong



Project: Northwest Bronx; Cobalt Petrous LVT in living area and Nemo porcelain tile in bathroom



Project: Campos Plaza II; Patcraft Natural State

2. Wall Bases

Vinyl wall bases cannot be specified in apartments. Preferred alternatives include formaldehyde-free MDF and solid wood. Floating floor installations should not include caulk wall bases.

3. Doors

Interior hollow core doors should typically be replaced with solid core wood doors with the exception of closet doors. Existing frames should be prepped, sanded, and painted. Hinges should be replaced or stripped of paint before reinstalling. Door hardware should match throughout units. Door stoppers should be provided.



Eastchester Gardens: Stripped paint and rewelded hinges to existing frame and door

4. Lighting

Where feasible and desired by residents, PACT Partners should identify opportunities to introduce new overhead lighting fixtures, wall sconces, and/or ceiling fans in developments that do not have them. Where exposed wiremold is used to install new light fixtures, it should be designed to be visually unobtrusive. All existing lighting fixtures should receive LED bulbs. Per Enterprise Green Communities, efficient lighting is mandatory for all permanently installed interior and exterior fixtures.

5. Plumbing Fixtures

All new plumbing fixtures should be low-flow and comply with efficiency rates set by Local Law 57 and Enterprise Green Communities Criteria. Plumbing layouts and design and emergency potable water access should comply with Enterprise Green Communities Criteria.

6. Kitchens and Bathrooms

PACT Partners should strongly consider modifications to existing kitchen layouts and if appropriate, plan to engage residents on layout changes early in pre-development. Below are material and equipment requirements for kitchens and bathrooms.

i. Countertops

Solid-surface countertops rather than laminate products should be used. Solid-surface countertop options include quartz and other engineered stone products; countertop thickness should be minimum 3cm.

ii. Backsplashes

Backsplashes in kitchens should be full height (to underside of cabinets). Tile backsplashes are preferred.

iii. Cabinets

Cabinets should be solid hardwood and plywood. Cabinets with HDF or MDF panels, even if they have a solid hardwood frame, will not be accepted. $\frac{3}{4}$ " plywood substrate is preferred for a sturdier build. Cabinets should include integrated storage for separate waste streams.

Accessible kitchens require removable cabinets with adjacent cabinetry finished on both sides.

Tip! Recently Approved Products:

CNC Cabinetry: Concord Collection; Armstrong Cabinet Products: Extreme Series; Master Woodcraft: Ravello, Romanello Product Lines, Greenstar International

iv. Walls

During rehab, the PACT Partner should evaluate all walls in kitchens and bathrooms for moisture using a moisture meter. In any location that would measure wet and/or require

replacement of sheetrock, the PACT Partner must only use paperless sheet rock for the replacement.

v. Appliances

Assume all electric ranges in units (with a preference for standard or battery-integrated induction ranges), if feasible to convert from natural gas. Range hoods are required.

Washer hookups should be fully inset into the wall and include a water supply and drain line; a dedicated electrical outlet nearby should be located.

vi. Vanities

Wall mounted vanities will only be accepted in apartments where they are the existing vanity type. PACT Partners should engage residents on preferences related to storage and exposed plumbing to determine vanity style.



Williamsburg: Vanity, tub, full height tiling



West Brighton: Vanity, tub, full height tiling

1. Exterior Walls / Façades

Assume that full envelope upgrades (all enclosure walls) are necessary to improve building performance, reduce energy usage, and ensure resident comfort.

For consolidated developments with diverse typologies and existing conditions, varying approaches to building envelope upgrades will be appropriate and acceptable for different typologies within the consolidated or scattered site group.



Existing conditions: facade staining



Project: Baychester and Murphy Houses; Improved façade

2. Opaque Enclosure Walls

At minimum, PACT Partners should repair all existing building envelope components, including exterior masonry and concrete as needed. Assume a breathable penetrating masonry sealant at any façade with exposed masonry where feasible. Tuck pointing at the exterior and air-sealing all façade penetrations is also required to improve air-tightness.

Additional improvements may include:

i. Interior Insulation:

Where feasible and appropriate for adequate mechanical system sizing, thermal comfort, and air-tightness, assume full envelope upgrades (all enclosure walls) with interior insulation.

- System options include but are not limited to rigid, blown-in, loose-fill, batt, wall board, or an integrated sheathing system.
- Installation approaches include but are not limited to loose-fill or blown-in insulation in existing cavities, if assumed; Wall board or sheathing at the interior face of existing interior envelope walls; New, furred out walls at interior with insulation between studs; Existing cavity walls can be removed and rebuilt, or can remain.
- PACT Partners should consider how their lead removal strategy may impact building envelope improvement scoping.

- Interior envelope upgrade solutions do not have to assume thermal performance to code minimum. PACT Partners should identify a strategy for evaluating existing envelope condition, air-tightness, and R-value, and identify target performance metrics that will allow adequate mechanical systems sizing and support a selected ventilation strategy.
- When selecting an insulation product non-combustible insulation should be used, and PACT Partners should prioritize overall fire resistance as well as thermal and moisture performance.

ii. Exterior Insulation and Cladding (“Over-cladding”):

Where feasible, assume full envelope upgrades (all enclosure walls) with an exterior continuous insulation and cladding system for all buildings not under consideration for historic tax credits or already National Register listed or eligible.

- System options include pre-fabricated and/or pre-fenestrated panelized systems (Dextall D-Wall or similar), insulated metal panel systems, rainscreen systems with continuous insulation, exterior insulation and finish systems (“EIFS”).
- When selecting a cladding system, non-combustible insulation should be used, and PACT Partners should prioritize overall fire resistance, durability, and thermal and moisture performance.
- PACT Partners can propose an adhesive-applied EIFS product if they choose but should select a product that uses non-combustible insulation.
- If an EIFS product is proposed, PACT Partners should also include an alternate system and product, prioritizing rainscreen or pre-fabricated panelized cladding systems with continuous insulation.
- Options for rainscreen finish panels include but are not limited to fiber cement, composite, and metal panel.
- If EIFS or any other face-sealed (adhesive-applied) system is specified, describe moisture management components, and summarize on-site installation quality control protocols for any product that relies on adhesive lines for back-draining.
- If EIFS or any other face-sealed (adhesive-applied) system is specified, PACT Partners will be required to submit a preliminary lifecycle cost analysis and describe inspection, maintenance, replacement, and removal protocols in detail.
- Re-point and repair existing brick before installing any over-cladding system to ensure the existing façade is in sound condition.
- Assume thermal performance to code minimum.
- Consider tamperproof access panels for equipment, conduit, or piping mounted between the existing facade and new cladding

3. Roofs

Replace all building roofs with above-deck insulation and assume thermal performance to code minimum (R-33/38). Where feasible and indicated by energy modeling, replace all building roofs with better than code-minimum thermal performance (R-50).

New construction buildings or rehabilitation projects replacing the entire roof deck or assembly must adhere to LL 92/94.

4. Windows

Replace all windows with high-performance, thermally-broken, double-pane, double-hung or casement windows with insulated glazing units (IGU). Owner-provided window treatments (blinds) should be assumed and insect screens should be provided where residents request them. Minimum energy performance specifications are as follows:

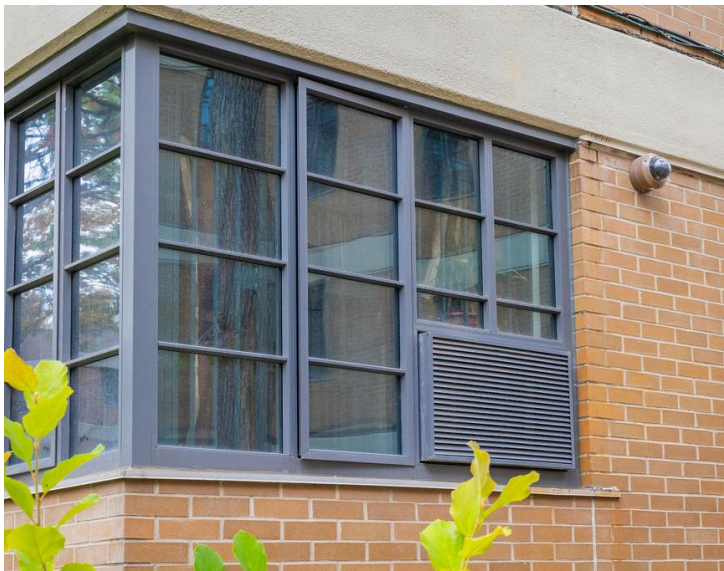
- Maximum U value: 0.3
- SHGC: 0.30 – 0.60
- Maximum infiltration rate: 0.3 CFM/SF at 75pa when tested in accordance with ASTM E2357 and ASTM E783
- Minimum NFRC Condensation Resistance Rating: 50
- Materials: Aluminum, Fiberglass or other material satisfying the requirements above.

Note: Light and air studies should be submitted to NYCHA for review.

Additional improvements may include:

- Install an exterior or window-integrated shading system. 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.

Note: Exterior shading systems that are mechanically fastened to the building façade are preferred for buildings that are not candidates for Historic Tax Credits or already National Register eligible or listed. If PACT Partners specify an interior shading strategy (window blinds or similar), identify a strategy and budget for maintenance and replacement, and include assumptions for solar heat gain mitigation as compared to an exterior system.



D. Common Spaces

Rehabilitation Scopes of Work will include improvements to the indoor spaces that all residents use, including community facilities, commercial spaces, resident amenities (laundry rooms, recycling rooms, etc.), lobbies, hallways, and stairwells.

1. Community Facilities (Existing & Proposed)

Any community center or other community facility space included in the PACT Project must be renovated, maintained, and operated, as applicable, by the PACT Partner. The PACT Partner will be responsible for the upfront capital repairs on community centers and community facility spaces and should anticipate bringing all community facility spaces into code compliance and ensuring such spaces are accurately reflected on existing certificates of occupancy. PACT Partners should anticipate developing scopes of work for community facility renovation, fit-out, and expansion or new construction in partnership with NYCHA and residents.



Eastchester Gardens: Lobby mail area; Source: MDG



Brooklyn Bundle: Hallways

2. Retail and Commercial Spaces

Any retail or other commercial tenant space included in the Project must be renovated, maintained, and operated, as applicable, as part of the Project. The PACT Partner will be responsible for the upfront capital repairs on the retail and/or commercial spaces, which must be included in the rehabilitation Scope of Work.

3. Laundry Facilities

Assume that all developments should have access to on-site laundry. NYCHA prefers community laundry facilities but will also consider in-unit laundry. For community laundry facilities, identify locations and ensure that all buildings have convenient laundry access where per-building laundry facilities are infeasible.

Where in-unit laundry is proposed, dryers must be ventless.

E. Building Systems

For all sites and building types, it is a NYCHA priority to invest in systems that contribute to the energy-efficiency and resilience of developments and to pursue options beyond repairs-in-kind to existing under-performing, obsolete, or costly and difficult-to-maintain systems. Converting systems from fuel-fired to electric heat pumps is essential to meet NYCHA's Local Law 97 commitment of cutting GHG emissions 40% by 2030 and 80% by 2050. NYCHA is committed to maximizing emissions reductions through electrification at each development.

For each of the below building systems scope areas, PACT Partners should identify an approach that includes functional upgrades essential to bringing developments in line with expectations for systems performance, development resilience, and resident comfort. For scattered site developments with various building typologies, PACT Partners can propose systems and products appropriate to each building typology.

In-kind replacement of steam boilers is costly to implement and maintain, results in no efficiency improvements, and commits the building to another 30+ years of fossil fuel dependency. As such, NYCHA strongly discourages PACT Partners from considering in-kind replacement of steam boilers. As an alternative, NYCHA recommends evaluating, repairing and optimizing existing heating systems where conversion to electric-based alternatives is not feasible given budgetary constraints. If this option is pursued, PACT Partners should identify a long-term path to electrification. All costs associated with repairs-in-kind as well as costs associated with electrification-ready-infrastructure anticipating future electrification should be identified and cross-walked against the PNA and CNA for each site.

1. Space Heating and Cooling

PACT Partners should evaluate electric heating systems that utilize high-efficient cold climate rated heat pumps where feasible* as a baseline scope of work for the heating system. Options for such systems include packaged through-wall and through window room PTHPs, mini- and multi-split VRF systems, and central air-to-water (or ground-to-water) heat pumps with hydronic loops. As noted above, in-kind replacement of steam boilers should be avoided in favor of repair and refurbishment of existing steam boilers and ancillaries.

**Note an exception for Properties that have recent or ongoing boiler replacement work, in which case repairs should be made to other components of the existing heating system. If this option is pursued, PACT Partners should identify a path to future electrification including a timeline.*

A review and analysis of the past 5 years of unplanned heating outages identifying boiler condition as the cause of the outages

- Results of thickness testing (eddy current testing) of boiler shell, tube sheets, and blast tube showing evidence of at least 45% of material degradation (i.e. thickness loss)

All residential units and community facilities should receive a space cooling system, whether a centralized system, or window or through-wall AC units. If window or through-wall AC units are selected, PACT Partners should provide dedicated 120V 20A outlets where not already present and should upgrade in-unit electrical capacity if required or indicated by NEC. For projects not utilizing heat pumps for heating and cooling, assume adequate cooling sized for

the entire apartment, typically one AC unit per living area and bedroom. ACs must have a minimum CEER of 16. Additional improvements may include:

- For buildings with existing hydronic distribution systems, NYCHA recommends installing low temperature heating elements, such as fan coil units, and replacing the boilers with heat pump hot water makers for heating.
- For buildings with existing steam distribution, the preferred option is to install electric heat pump systems for space heating and cooling for all buildings.
 - Systems can be centralized or unitized, as appropriate to building typology and other project conditions.
 - Systems options include but are not limited to unitized heat pumps (PTHP, HPAC 2.0, CH4A window-integrated heat pump), centralized systems (VRF/VRV), geothermal or ground-source heat pumps. It is recommended that for buildings where central heat pump systems are considered, that water be used as the distribution transfer medium rather than piped refrigerant. Refrigerant leaks in mini- and multi-split VRF systems can be a problem and the changing landscape of allowable refrigerant types will add risk to long-term O&M considerations.
 - Where existing boilers can be maintained, hybrid systems whereby packaged heat pumps are utilized with the existing central heating system left for backup, are highly encouraged
 - PACT Partners can propose multi-function (space heating & domestic hot water) or integrated (HVAC) systems as well.
 - PACT Partners should anticipate presenting assumptions for lifecycle maintenance, service, & replacement for any proposed system.
 - Where window-based heat pump systems are contemplated, provide light and air analysis to confirm code compliance



Harlem River II: EPOCHA through-wall units



Clean Heat for All Program: Midea window unit with Intus window

2. Ventilation

Ventilation is critical to the health of residents and control of excessive moisture in buildings. Improvements to ventilation should be included in all rehabilitation Scopes of Work. For projects incorporating a cladding system or insulation at the interior or cavity of the existing building envelope, passive or active fresh air ventilation should be supplied directly into apartments.

i. Air-Sealing and Compartmentalization

- Comprehensive sealing, cleaning, and repair to existing mechanical ventilation systems.
- Comprehensive air-sealing to building envelope and in-unit air-sealing and compartmentalization.
- Assume building air-tightness should be tested before and after rehabilitation referring to allowable rates in the 2020 NYC Energy Conservation Code.

ii. Existing Mechanical Ventilation Improvements

- Repairs to existing exhaust-only mechanical ventilation system as indicated by the PNA and on-site inspections.
- Exhaust-system upgrades where units are not code compliant.
- Replace all existing exhaust registers.
- Replace all rooftop fans with high-efficiency fans.
- Incorporate passive supply ventilation via trickle vents in all windows.
- Provide 100% outdoor air supply (DOAS) in corridors and common areas (lobbies, etc.) in residential buildings.

Additional improvements may include:

iii. New Balanced Mechanical Ventilation

- Balanced mechanical ventilation (supply & exhaust) with energy recovery ventilators (ERVs) for all residential units, corridors, common areas, and in all community facilities.
- System(s) can be centralized or unitized (per unit or per floor), or any combination as appropriate, in residential buildings.
- Assume in-unit supply registers in all bedrooms and living spaces.

3. Domestic Hot Water

Where gas service and existing chimney already exist, high-efficiency gas-fired water heaters are an acceptable option for DWH. Additionally, pressure boosters may be required to improve water pressure throughout buildings at each development. Evaluate decoupling domestic hot water and space heating systems where they are currently coupled and centralized. In these instances, satellite buildings may not have existing chimneys or adequate gas service. Electric heat pump hot water makers should be the base scope where decentralized DHW is pursued at campus developments.

4. On-Site Generation, Storage, and Back-up Generators

Include solar photovoltaic (“PV”) technology if feasible, only on buildings that will maximize investment. Consider battery storage or community microgrid where possible. If on-site solar use is determined to not be feasible, the PACT Partner must allow for leasing its roof space for community solar.

Provide back-up power generators for all community facilities. Generators should provide the following in the case of a power outage emergency of up to 24-hours:

- Safe egress in stairwells equipped with emergency lighting
- Provide safe egress for mobility-impaired individuals with limited elevator operation
- Provide a community support space that provides cooling, refrigeration, and access to electricity:
 - Specify size and max occupancy of a mechanically cooled space
 - Specify size and max occupancy of largest gathering space
 - Specify how refrigeration and access to electricity will be provided
 - Specify type and capacity of back-up power supply

Where back-up power generators are implemented, PACT Partners should consider participating in a demand response program. Learn more here: [CPower Brochure.pdf](#)

5. Electrical System

Assume electrical upgrades if necessary to support required rehabilitation scope, including electric or induction ranges and cooling in all residential units. Include electrification-ready infrastructure where a development is not electrifying mechanical systems at the time of construction.

Electrical work should be run behind wall; wire-mold should be avoided where feasible. Where electrical wiring and wall finishes are being replaced, convenience outlets should be added throughout apartments, even where not required by code. Existing electrical equipment and cables should be organized or removed where no longer in service.



Existing conditions – exterior wires and satellite dishes



Williamsburg: Improved façade that conceals wiring and cables

6. Plumbing

Existing plumbing systems should be thoroughly investigated through on-site inspections and testing and ensure proper allowance for percent repair or replacement, as indicated in cost estimates, if full replacement is not required.

PACT Partners should identify in their proposed building systems scopes where a proposed approach to heating and cooling and domestic hot water repair, replacement, or conversion may allow for abandoning certain plumbing infrastructure in place.

PACT Partners should consider enclosing existing pipe chases. At minimum, existing exposed piping should be sanded and repainted. Piping should be insulated where indicated for Local Law compliance and EGC certification.

EGC requires all lead service lines be replaced under 4.3 if it is substantial rehab and built prior to 1986.

7. Signage and Wayfinding

PACT Projects should assume new comprehensive and cohesive building signage and campus wayfinding.

Building signage should meet all requirements of the Housing Maintenance Code (contained in the NYC Administrative Code), Multiple Dwelling Law, NYC Zoning Resolution, and the Rules of the City of New York.

At closing, NYCHA Property Management will remove all signage that includes specific NYCHA contacts or procedures. Typical NYCHA Property Management signage to be updated or replaced may include:

- Development name signage (exterior)
- Building address signage (exterior)
- No loitering (interior)
- No smoking (interior)
- NYCHA rules (interior)
- Garbage disposal procedure (interior)
- Customer Contact Center details (interior)
- Lead (Interior)

Campus wayfinding should build on strategies identified in the Connected Communities Guidebook towards creating a unified wayfinding system to help people navigate the campus. Wayfinding panels are used on large campuses to help people understand where they are and how to access any location within the campus. These can be broadly helpful in NYCHA campuses where entrances to buildings and resident amenities are not accessed from the street. Wayfinding systems typically include a map of the area with labels identifying building addresses and important open spaces, amenities or services, in addition to other visual markers with universally known symbols.

Wayfinding systems are most effective when placed in highly visible locations, such as near entry points of a NYCHA campus, or near a community space with pedestrian traffic. Providing good illumination on a wayfinding panel eases its readability and use after dark.

8. Broadband

PACT Partners are required to provide high-quality internet service and install the necessary underlying infrastructure, in line with the NYC Internet Master Plan (January 2020).

i. Infrastructure

The broadband infrastructure should consist of a wired connection point in each dwelling unit through which each resident can have secured access through a unique profile, with a preferred system capacity of at least 200 Megabits per second (Mbps) upload and download speed, per unit. Service should be provided in common areas and shared spaces, providing mobile use throughout the buildings and campus. The network infrastructure must be robust and designed with flexibility to meet current and future demands on the system.

ii. Control:

The PACT Partner must retain ownership of network infrastructure within the building and consider a managed system, wherein a third-party internet service provider (ISP) provides customer service, network diagnostics, billing, and other services to the end user.

iii. Level of Service:

A level of service of at least 100 Mbps per unit should be fully subsidized for residents at each unit electing to participate through the property operating budget. Residents should be given the option to enhance their individual level of service at their own cost up to and beyond 200 Mbps.

If an existing provider is in place, PACT Partners will at NYCHA's election either maintain the existing contract or improve the service available. Residents should be given the opportunity to opt out of the updated Broadband service at their election. Any such election should be documented by the PACT Partner.

iv. Proposed Budget:

PACT Partners should assume upfront costs to build out broadband infrastructure of \$1,000 per unit, if required, and \$240 per unit in annual costs to fund broadband on an ongoing basis.

F. Health & Safety

Please see guidance provided on environmental review and environmental hazards in the Program Requirements section and attachments to this document.

PACT Partners should evaluate existing fire protection systems and identify opportunities to improve them, including but not limited to improving egress, installing fire alarm systems, sprinklers (especially in trash chutes), gas detectors (in kitchens with gas stoves), and emergency call systems. Evaluations of existing fire protection systems including fire escapes as applicable should be provided during Schematic Design and cross-walked against PNA and CNA inspections.

Smoke alarms must be sealed or hard-wired devices that meet the requirements of Section 601 of Title VI, "Smoke Alarms in Federally Assisted Housing" in the Consolidated Appropriations Act (Public Law 117-328 enacted December 29, 2022) which added section 3(a)(9) to of the United States Housing Act of 1937 (42 U.S.C. 1437a(a) found here: <https://www.congress.gov/117/bills/hr2617/BILLS-117hr2617enr.pdf>

G. Accessibility

All PACT Projects must comply with the accessibility requirements of all applicable laws including, without limitation, to the New York City Building Code, the Fair Housing Act, the Americans with Disabilities Act, Section 504 of the Rehabilitation Act of 1973 ("**Section 504**"), and the 2021 FHEO Assurances Agreement, as previously described in this document.

Additional guidance on accessibility submission requirements is in Attachment E - PACT Accessibility Design Checklist).

H. Additional General Design and Construction Requirements

The following is intended as additional general design and construction requirements for PACT Projects.

1. Minimum Scope Requirements

PACT Partners will be required to show that their Rehabilitation Scope of Work meets development capital repair needs indicated by the PNA and CNA, including the 20-year needs of major building systems for all development(s).

NYCHA will provide the Physical Needs Assessment, draft Capital Needs Assessment, and draft Obsolescence Report to PACT Partners to inform project scoping. The PACT Partner will be responsible for inspecting every unit in the Project as is possible prior to financial closing to inform revisions to the proposed Rehabilitation Scope of Work.

2. Tenant-In-Place Rehabilitation

PACT Partners should determine if the Rehabilitation Scope of Work will be completed with tenants-in-place to the extent safe and feasible to minimize disruption to residents' lives. PACT Partner must note in the Rehabilitation Proposal any scope or approaches to scope that might necessitate temporary resident moves.

To the extent in-place rehabilitation cannot be accomplished, temporary resident relocation will be the responsibility of the PACT Partner, including, without limitation, obtaining any necessary service providers to facilitate temporary relocation and covering all associated costs. Any temporary relocation will be within a reasonable proximity to the resident's Property and will be subject to NYCHA's approval and be in accordance with all applicable legal requirements. The PACT Partner will be required to submit a tenant protection plan and construction logistics plan that details any temporary resident relocations to address pertinent health issues, especially those of senior residents, that may arise during construction.

3. Violations

PACT Partners will work with NYCHA to clear all existing health and safety violations as found on City records or municipal searches prior to construction closing. Violations that do not relate

to health and safety and which cannot be cleared prior to construction closing must be addressed in the Rehabilitation Scope of Work.

4. Reducing Construction and Demolition Waste

In line with OneNYC's goal of sending zero waste to landfills by 2030, NYCHA aims to reduce the amount of construction and demolition ("C&D") waste that is disposed in landfills and incineration facilities through material , reuse, and recycling. Building on mandatory requirements for Enterprise Green Communities Criteria item 6.10 Construction Waste Management, the PACT Partner will be required to select Option 1 and submit a C&D Waste Management Plan for new construction and rehabilitation work at the Properties that establishes project-specific waste estimates, waste diversion goals, waste prevention measures, reuse inventory, communication plan, contamination prevention measures, and a recycling facility list (see Attachment K – PACT Construction Waste Management Plan Template). For best practices, refer to the New York City Economic Development Corporation's [Clean and Circular: Design and Construction Guidelines for the Built Environment](#).

V. Attachments

All attachments to this document can be found at:

[REDD External Sharepoint / REFERENCE / Design and Construction](#)