

Office of the  
NYCHA FEDERAL MONITOR  
Bart M. Schwartz  
Pursuant to Agreement dated January 31, 2019  
260 Madison Avenue  
Third Floor  
New York, New York 10016

## **Transmittal**

**To:** Greg Russ, Chair and CEO, NYCHA, via email:  
Gregory.Russ@nycha.nyc.gov  
Rob Yalen, AUSA, SDNY, via email:  
Robert.Yalen@usdoj.gov  
Daniel W. Sherrod, via email:  
Daniel.W.Sherrod@hud.gov

**From:** Bart M. Schwartz NYCHA Federal Monitor

**Date:** January 26, 2021

**Subject:** Transmittal of Approved Pest/Waste Management Action Plan

Transmitted herewith, after consultation with each of your offices, please find the NYCHA Pest/Waste Management Action Plan in final version, pursuant to ¶ 8 and subject to ¶¶ 36 through 43 of the Agreement, which I as Monitor have approved.

Please contact Daniel Brownell should you have any questions.

Thanks to all of you for your efforts and help in completing this.

Bart M. Schwartz

# NEW YORK CITY HOUSING AUTHORITY PEST AND WASTE MANAGEMENT ACTION PLAN

## Table of Contents

I.	Executive Summary .....	2
II.	Introduction.....	5
III.	Action Plan Narrative .....	5
IV.	Action Items – Pests.....	6
	A. Adoption of Integrated Pest Management (IPM).....	6
	B. Further Incorporation of IPM into NYCHA Operations.....	8
	C. IPM Training.....	11
	D. Targeted Relief for Units with Repeating Pest Complaints.....	13
	E. Improving Pest Complaint Response Times.....	14
	F. Improving Response Times for Residents with Health Conditions.....	17
	G. Access to Apartments .....	18
	H. Other Obligations to Combat Pests and Manage Waste .....	18
	I. Establishing Monitoring Program to Measure Pest Reductions .....	19
V.	Action Items – Waste Management.....	20
	A. Cross-Functional Actions .....	21
	B. Daily Waste Inspection and Collection.....	22
	C. Storage and Containerization.....	27
	D. Removal.....	30
VI.	Appendix I – IPM Interim Guidance .....	32
VII.	Appendix II – Clean Building Initiative .....	33
VIII.	Appendix III – Targeted Relief Action Plan.....	35
	A. Introduction.....	35
	B. IPM Protocol to Inspect and Treat Units .....	36
	C. Operational Structure for First Priority PIUs.....	36
	D. Operational Structure for Verifying Complaints at Second Priority PIUs.....	37
	E. Operational Structure for Inspecting and Treating Second Priority PIUs.....	37
	F. Operational Structure for Adjacent Units .....	38
	G. IPM Protocol for Follow- Up Visits to Inspect and Treat Units with Pest Complaints.....	38
	H. IPM Protocol to Confirm Work Completed at Units with Pest Complaints.....	39
IX.	Appendix IV – Public Works Partners and Ideas42 Reports .....	40

## I. Executive Summary

The table below summarizes actions NYCHA will take to comply with the pest and waste management obligations under the January 31, 2019 agreement (the “Agreement”) among the New York City Housing Authority (“NYCHA”), the U.S. Department of Housing and Urban Development (“HUD”), and New York City (the “City”). Further details on each action are provided in this Action Plan.

Paragraph	Action Item	Completion Date
<b>B. 42</b>	<b>Pest – Adoption of Integrated Pest Management (IPM)</b>	
	<b>Action 1:</b> Interim Guidance to All Staff	Completed
	<b>Action 2:</b> Pest Standard Procedure	Completed
	<b>Action 3:</b> Quick Reference Guides	Completed
	<b>Action 4:</b> Adjacent Unit Protocol Phase 1 (Pest Type and Severity)	May 10, 2021 <sup>1</sup>
	<b>Action 5:</b> Adjacent Unit Protocol Phase 2 (Recurring Infestation)	No later than January 31, 2022
	<b>Action 6:</b> IPM Related IT Enhancements	Ongoing
<b>B. 43</b>	<b>Pest - Further Incorporation of IPM into NYCHA Operations</b>	
	<b>Action 1:</b> Update Supplies and Strategies for Pest Control	Ongoing
	<b>Action 2:</b> IPM Communications Campaign	March 30, 2021
	<b>Action 3:</b> Neighborhood Rat Reduction Individualized Action Plans	Completed
<b>B. 44</b>	<b>Pest – IPM Training</b>	
	<b>Action 1:</b> IPM Webinar for All Remaining Property Level Staff	Ongoing (Every 2 Years)
	<b>Action 2:</b> Trainings for Exterminators on Specific Pests and Interaction with Residents	Ongoing
	<b>Action 3:</b> Training Staff on New Standard Procedure and Quick Reference Guides	Ongoing
	<b>Action 4:</b> Additional Rat Specific Trainings (In Person)	July 30, 2021
	<b>Action 5:</b> Improve Vendor Contracts	Completed – to be issued by June 30, 2021 (the next contracting period)
	<b>Action 6:</b> Retain Quality Assurance Vendor to Review Extermination Vendor Work	March 30, 2021
<b>B. 41</b>	<b>Pest - Targeted Relief for Units with Repeating Pest Complaints</b>	
	<b>Action 1:</b> First Priority Primary Impacted Units (“PIUs”) Inspected and Treated	Completed
	<b>Action 2:</b> Second Priority PIUs Resident Contact Plan	Completed
	<b>Action 3:</b> Second Priority PIUs Inspected and Treated	Completed
	<b>Action 4:</b> Adjacent Units Inspected and Treated	Completed
<b>B. 38(a)-(c); 39</b>	<b>Pest - Improving Pest Complaint Response Times</b>	
	<b>Action 1:</b> Implement Priority Matrix	Completed

<sup>1</sup> Provided, however, that so long as New York City city-wide COVID-19 restrictions on places of public accommodation continue, NYCHA will not be required to inspect or treat an adjacent unit if unable to gain entrance to such unit after one attempt.

	<b>Action 2:</b> Begin Issuing Maximo Compliance Pest Dashboard Exceptions List	February 28, 2021
	<b>Action 3:</b> Retain Additional Vendor Staff and Contract Administration Staff	Completed
	<b>Action 4:</b> Hire Additional Exterminators	Ongoing
	<b>Action 5:</b> Analyze Impact of Additional Staff on Response Times; Further Staffing Commitments	Ongoing, to be completed by May 15, 2021
	<b>Action 6:</b> Evaluate NYCHA Resident Ambassador Program; Determine Whether to Scale Up Resident Ambassador Program	January 15, 2022
<b>B. 38(d)</b>	<b>Pest - Improving Response Times for Residents with Health Conditions</b>	
	<b>Action 1:</b> Determine Whether to Update Annual Recertification Form	Completed
	<b>Action 2:</b> IT Enhancement to Provide Flag for Units with Applicable Health Condition	Completed
	<b>Action 3:</b> Implement Communications Plan Regarding Health Condition Flag	No later than May 31, 2021
<b>B. 40</b>	<b>Pest - Using “Best Efforts” to Respond</b>	
	<b>Action 1:</b> Implement Policy Requiring that Borough Schedulers Provide Residents the Opportunity to Authorize Access During Absence	February 28, 2021
<b>B. 46</b>	<b>Pest - Other Obligations to Combat Pests and Manage Waste</b>	
	<b>Action 1:</b> Install 8,000 Door Sweeps	Completed
	<b>Action 2:</b> Install 50 Rat Slabs – staggered work	June 1, 2021
	<b>Action 3:</b> Install Bulk Crushers at 10 Developments	December 31, 2022
<b>B. 35, 36, 37</b>	<b>Pest - Establishing Monitoring Program to Measure Pest Reductions</b>	
	<b>Action 1:</b> Evaluate Maximo and Determine Algorithm for Initial Pest Baseline	March 31, 2021
	<b>Action 2:</b> Publish Initial Results of NPPI	April 30, 2021
	<b>Action 3:</b> Publish First Quarterly Report	July 31, 2021
<b>B. 45</b>	<b>Waste Management - Cross-Functional Actions</b>	
	<b>Action 1:</b> Hire Senior Management for Waste Management Department	Completed
	<b>Action 2:</b> Hire Deputy Staff in Waste Management Department	February 28, 2021
	<b>Action 3:</b> First Phase of Individual Property Analysis and Individual Waste Management Plans	Completed
	<b>Action 4:</b> Second Phase of Individual Property Analysis and Individual Waste Management Plans	June 30, 2021
<b>B. 45</b>	<b>Waste Management – Improving Collection via Staffing and Enforcement</b>	
	<b>Action 1:</b> Complete Case Studies at Washington and Douglass	Completed
	<b>Action 2:</b> Draft and Adopt New Staffing Model for Overall Headcounts and Apply to Individual Consolidations	Ongoing
	<b>Action 3:</b> Consultant Evaluation of Alternative Work Schedule and Daily Headcounts	Completed
	<b>Action 4:</b> Conduct Training on Updated Janitorial Schedules (In Person)	September 30, 2021

	<b>Action 5:</b> Decide Whether to Hire or Reassign Staff Based on New Overall Staffing Model and Results of Daily Staff Headcount Analyses	Ongoing, with completion date of December 31, 2021
<b>B. 45</b>	<b>Waste Management – Improving Collection via Resident Engagement and Property Level Enhancements</b>	
	<b>Action 1:</b> Maps and Gap Analysis of Disposal Infrastructure for Each Consolidation	Completed
	<b>Action 2:</b> Install and Evaluate In-Sink Food Waste Disposals	Installations are complete; evaluation to be done by January 31, 2021
	<b>Action 3:</b> Pilot Pneumatic Waste Collection System	December 31, 2023
	<b>Action 4:</b> Enlarge Ground Floor Hopper Doors	December 31, 2023
	<b>Action 5:</b> Engage Stakeholders and Residents in Environmental Programs	Completed
	<b>Action 6:</b> Evaluate GrowNYC for Potential Expansion	Completed
	<b>Action 7:</b> Campaign for a Clean NYCHA	Ongoing
<b>B. 45</b>	<b>Waste Management – Storage and Containerization</b>	
	<b>Action 1:</b> Complete NRR Funded Upgrades	April 30, 2021
	<b>Action 2:</b> Assessment of Auger Compactors	Ongoing, to be completed by January 31, 2023
	<b>Action 3:</b> Improve Containerization via more than 100 Projects as part of City Capital Action Plan	Ongoing, with all installations completed by December 31, 2024
	<b>Action 4:</b> Improve Containerization via More than 100 Projects as part of City Capital Action Plan	Commencing in 2023, with all installations completed by December 31, 2028
	<b>Action 5:</b> Mattress Recycling Program	Procurement ongoing, with implementation to begin April 30, 2021 (after contract award)
	<b>Action 6:</b> Install Cardboard Balers in Existing Waste Yards	Completed
	<b>Action 7:</b> Design Strategies to Improve Containerization at Curbside Locations	Completed
<b>B. 45</b>	<b>Waste Management – Removal</b>	
	<b>Action 1:</b> Request 7-Day Removal from DSNY	Completed (initial request)
	<b>Action 2:</b> Revamp Bulk Ticketing Management and Request Additional Tickets from DSNY	Completed

## II. Introduction

The Agreement includes requirements and milestones that NYCHA must meet relating to waste management and pest control.<sup>2</sup> The pest and waste obligations are set forth in Section D (Paragraphs 35 to 46) of Exhibit B to the Agreement.

This document contains NYCHA's action plan (the "Action Plan") for pests and waste management to fulfill the requirements in the Agreement. To ensure implementation and ongoing compliance with this Action Plan, NYCHA commits to the following steps within 30 days of approval of this Action Plan:

1. Upon approval of this Action Plan, the IT Department will post the Action Plan on NYCHA's public-facing website, as required by the Agreement;
2. The Pest Control Director or designee will host training for all Pest Control staff within three weeks of the approval of the Action Plan. The Director or designee will explain the intent and purpose of the Action Plan and the requirements and process changes that will occur in conformance with the obligations. The Director or designee will provide monthly updates to keep Pest Control staff up-to-date on any changes and updates;
3. Pest Control staff will distribute copies of the Action Plan to all exterminators and extermination vendors;
4. The VP for Operations will email the Action Plan to all Property Management staff;
5. The Director of Pest Control or designee and VP of Waste Management will host meetings with the Regional Asset Managers to discuss the Action Plan and answer any questions;
6. Property Managers will distribute the Action Plan to development frontline staff during the daily morning muster; and
7. The Department of Community Engagement & Partnerships ("CEP") will distribute the Action Plan electronically to Resident Association Presidents. CEP will also brief Resident Association Presidents at the next briefing after the approval of the Action Plan.

## III. Action Plan Narrative

To address NYCHA's waste management issues and pest problems, NYCHA has restructured its organization. A Waste Management Department was created, led by a vice president reporting directly to the General Manager. NYCHA has placed the former Department of Prevention and Intervention Strategies within the new Waste Management Department, renaming it the Pest Control Department. Its mission is to develop and implement strategies to prevent and combat pest infestations.

Pest Control has adopted Integrated Pest Management ("IPM"). IPM shifts NYCHA's pest management focus to prevention and directs resources to address the root causes of infestations; ensures that NYCHA timely collects and properly stores and disposes of waste;<sup>3</sup> limits use of toxic pesticides to the minimum necessary to achieve pest control; and requires NYCHA maintenance staff to prevent pests from harboring in NYCHA's buildings.

---

<sup>2</sup> Under the Agreement, "pest" means rats, mice, cockroaches, and bed bugs.

<sup>3</sup> Each NYCHA household produces approximately one ton of garbage every year, resulting in almost 190,000 tons of waste produced annually at NYCHA developments.

This Action Plan proceeds through each pest and waste management obligation under the Agreement. Some actions will occur simultaneously, others in order.

#### IV. Action Items – Pests

##### A. Adoption of Integrated Pest Management (IPM)

Paragraph	Obligation
Ex. B, Sec. D, Par. 42	For purposes of this Agreement, IPM means, as described by EPA on its IPM Principles website, “an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices. IPM programs use current, comprehensive information on the life cycles of pests and their interaction with the environment. This information, in combination with available pest control methods, is used to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment. ... IPM takes advantage of all appropriate pest management options including, but not limited to, the judicious use of pesticides.”

NYCHA’s implementation of IPM includes an integrated set of principles to guide strategic decision-making, and a set of prescriptive rules and standards to direct staff through effective prevention and control of pests. Working with experts, including leading urban entomologists, NYCHA is developing an IPM program that reflects industry best practices applied in an urban setting. To implement IPM, NYCHA is taking the following actions:

##### 1. Interim Guidance to All Staff

On January 31, 2020, NYCHA’s VP of Operations issued interim guidance to all relevant staff,<sup>4</sup> mandating the use of IPM and outlining changes to pest management practices. The interim guidance is attached hereto as **Appendix I**.

##### 2. Pest Standard Procedures

NYCHA’s standard procedures for pest control were updated to reflect industry IPM standards and best practices. The final pest standard procedures (NYCHA Standard Procedure Manual SP 040:49:6, Pest Prevention and Control, hereinafter “SP”) was issued in December 2020. The SP emphasizes preemptive actions, including “exclusion” work, improved sanitation, resident outreach, inspections (primary and adjacent units and common areas), proactive monitoring, and automatic follow-up inspections for all units and areas that have received IPM treatment. NYCHA will apply these procedures when inspecting and treating units.

The SP will provide rules to prevent and control chronic pest infestations and reduce usage of medium- and high-level toxicity pesticides. A summary of the SP is set forth in the chart immediately below. Most of these practices have already been implemented in the field:

---

<sup>4</sup> Regional Asset Managers, Deputy Directors of Skilled Trades, Administrators of Skilled Trade, Managers, Assistant Managers, Superintendents, Assistant Superintendents, Supervisors of Plumbers, Supervisors of Bricklayers, Supervisors of Carpenters, Supervisors of Exterminators, and Exterminators

**Table 1 – Standard Procedure Outline**

Topic	Details
Notice	<ol style="list-style-type: none"> <li>1. Residents receive notice from property staff regarding date of inspection/treatment.</li> <li>2. The notice is in multiple languages, provides details of the visit, explains how to prepare the apartment for treatment; and describes the type of treatment.</li> <li>3. Pesticide labels will be available online for residents to view before treatment.</li> <li>4. If exterior rodent burrows have been treated, a visual marker is installed to inform residents of the treatment.</li> </ol>
Inspection <sup>5</sup>	<ol style="list-style-type: none"> <li>1. Before starting treatment, the NYCHA Exterminator interviews the resident regarding pest history in the apartment, assesses the degree to which the unit is prepared for treatment, and inspects the area to determine the correct course of action.</li> <li>2. If the unit has previously received an IPM treatment and an Exterminator is there on a follow-up visit, the Exterminator dates and inspects existing monitors for activity.</li> </ol>
Treatment	<ol style="list-style-type: none"> <li>1. Only staff and vendors that have completed IPM training perform treatments.</li> <li>2. Pest-Proofing through IPM</li> </ol>
Confirmation	<ul style="list-style-type: none"> <li>- As laid out in the SP, Pest Control will confirm work was done properly.</li> </ul>
Reporting	<ul style="list-style-type: none"> <li>- PTAD will report pest counts quarterly (as described in Section IV, Paragraph I below).</li> </ul>
Quality Assurance	<ul style="list-style-type: none"> <li>- The Compliance Department, the Environmental Health &amp; Safety Department, and the Quality Assurance Department will assure quality.</li> </ul>
Monitoring and Follow-Up Treatment	<ul style="list-style-type: none"> <li>- Monitoring equipment, indicating level of activity and severity, is inspected and dated by an Exterminator.</li> </ul>
Maintenance of Equipment and Supplies	<ul style="list-style-type: none"> <li>- All pesticides are stored in the extermination shops. Other items are stored in storerooms or other designated areas.</li> <li>- All IPM supplies and materials will be standardized.</li> <li>- NYCHA Exterminators and supervisors undergo training on how to operate IPM equipment, as outlined in the SP.</li> </ul>
NYS DEC	<ul style="list-style-type: none"> <li>- The SP will be updated as necessary to reflect changes in New York State’s Department of Environmental Conservation regulations.</li> </ul>

### 3. Quick Reference Guides

NYCHA distributed Quick Reference Guides (“QRGs”) for each substantive section of the SP. These QRGs are also incorporated into the larger SP, which was provided to each exterminator.

NYCHA is also developing a communications plan that includes two guides. The first guide advises residents on how to keep their home pest free. The second guide advises residents on what to expect when

---

<sup>5</sup> Three methods are used to assure that inspections and treatment are being implemented by the Exterminator: (a) Exterminator supervisors oversee the inspections and remediations; (b) the Exterminators complete inspection and remediation checklists, which are electronically recorded and reviewed by Pest Control; and (c) NYCHA’s Quality Assurance Department reviews randomly selected IPM work to ensure that industry standards are being met.



a pest related work order is submitted to NYCHA and how they should prepare for an inspection and treatment. NYCHA will supplement these guides with posters in the lobbies of the buildings and digital versions online by March 30, 2021.

#### 4. IPM Related IT Enhancements

NYCHA has already made significant updates to its IT system to reflect IPM. This work will continue to include improving NYCHA’s main asset management work order system, “Maximo.”

The list below is not exhaustive and does not include other IT upgrades being implemented as part of stand-alone initiatives (e.g. targeted relief, NPPI), which are described instead below in the portion of the Action Plan dedicated to that initiative. The enhancements will be built on the following schedule:

**Table 2 – IPM IT Enhancements**

IT Enhancement Actions	Completion Date
<b>Action 1:</b> Improvements to flag usage of supplies, including track usage of Ditract (tracking) powder	Completed
<b>Action 2:</b> Adding IPM-related questions reflecting above-described principles and rules to all digital work orders and checklists used by Exterminators	Completed
<b>Action 3:</b> Creating separate IPM work orders for common areas and units	Completed
<b>Action 4:</b> Creating dynamic component list for each pesticide	Completed
<b>Action 5:</b> Increasing in-unit time allocated for work orders to account for IPM work schedule	Completed
<b>Action 6:</b> Automation of work orders for follow-up visits based on severity of pest condition	Completed
<b>Action 7:</b> Enhanced routing for pest-related violations work orders.	February 28, 2021
<b>Action 8:</b> Work order for hoarding conditions	June 30, 2021
<b>Action 9:</b> Automation of work orders for adjacent units based on severity of pest condition found at primary impacted unit.	No later than September 30, 2021
<b>Action 10:</b> Automation of work orders for adjacent units based on recurrence metrics.	No later than January 31, 2022

These efforts will reflect the Monitor’s ongoing recommendations, and NYCHA expects that it will continue to improve Maximo as NYCHA implements IPM.

#### B. Further Incorporation of IPM into NYCHA Operations

Paragraph	Obligation
Ex. B, Sec. D, Par. 43	Within twelve months of the Effective Date, NYCHA shall incorporate industry standard IPM practices, including Northeastern IPM Center (NortheastIPM.org and StopPests.org), Integrated Pest Management – A Guide for Affordable housing, using the current edition at the time of the pest complaint (the edition as of the Effective Date was February 2014),

	as developed under an interagency agreement between HUD and the U.S. Department of Agriculture), for their Delivery of IPM Training to PHAs project; and current editions of other professional IPM resources as the Monitor may approve, into building operations in all NYCHA properties.
--	---

### 1. Adjacent Units

For purposes of application of IPM in all NYCHA developments, the SP or any successor document shall be incorporated in the Action Plan by reference. Industry standard IPM practices require a landlord, when responding to a pest complaint, to inspect and treat not only the complaining unit but also adjacent units when they may be a source of the infestation. This practice will be phased in at NYCHA through amendments to the SP and/or the Action Plan over time.

Starting on May 10, 2021, the initial phase-in will require that when an exterminator verifies an apartment as having an infestation and notes the severity level described below, adjacent apartment inspections (each side, above and below) and treatment (where needed) will be performed. For purposes of the Action Plan, infestations of at least the following levels shall require adjacent unit inspections:

Pest Type	Severity
Bedbugs	Low, Mid-Level or High Infestation
Rats	Low, Mid-Level or High Infestation
Mice	Mid-Level or High Infestation
Roaches	High Infestation

Subsequent to implementation of the above adjacent unit protocol, no later than January 31, 2022, NYCHA will roll out functionality so that, should a unit have two or more verified complaints of cockroach and/or mice infestations (at any level) within a six-month period, the exterminator shall inspect the adjacent units and treat them if necessary.

These inspections and treatments must be completed, for each unit, within the timeframes specified in Table 6, with the inspection of the complaining unit “starting the clock” for the adjacent units.

The adjacent unit inspections and treatments shall be performed regardless of whether the resident in the adjacent unit provides access; provided, however, that so long as New York City city-wide COVID-19 restrictions on places of public accommodation continue, that NYCHA will not be required to inspect or treat an adjacent unit if (i) NYCHA adequately documents, as to any adjacent unit where an inspection and any necessary remediation have not been done, that NYCHA attempted to gain access to such unit, and (ii) NYCHA provided the resident with an opportunity to provide access in his or her absence but the resident did not so provide. No requirement related to the inspection of adjacent units shall override the need for NYCHA staff to adhere to the express provisions of the SP that govern NYCHA’s exercise of the right of entry (*see* Sections VII.A.4 and VII.J.15).

### 2. Updating Supplies and Strategies for Pest Control

In implementing IPM, NYCHA has generally reduced using pesticides with a moderate to high level of toxicity and now manages its pest population with reduced risk alternatives for staff and residents. Emphasis is placed on monitoring apartments that have submitted work orders, on investigating units and common areas that might not have submitted work orders but which are adjacent to units with known pest conditions,

and conducting preemptive pest treatments in common areas. NYCHA has done the following in transitioning to IPM supplies:

**Table 3 – Completed Process for Updating Supplies**

Item
<b>Action 1:</b> NYCHA has ordered standard IPM supplies.
<b>Action 2:</b> NYCHA has significantly limited its purchase of high toxicity pesticides and will only permit use of its remaining stock of tracking powder and certain other liquid insecticides under special circumstances, as described in the Standard Procedure. NYCHA will continue to work with urban entomologists to assess which stocks of remaining pesticides should be eliminated and which pesticides may be used under special circumstances and upon approval by Pest Control, as described in the Standard Procedure.
<b>Action 3:</b> NYCHA is providing IPM supplies to its exterminators.

### 3. IPM Communication Campaign

NYCHA will develop a social and print media campaign to promote IPM and other program changes and raise awareness of best practices to keep homes pest free. NYCHA will engage with other campaigns, such as the Campaign for Clean NYCHA (a waste management initiative), which launched in 2020, to promote key principles that contribute to a pest-free environment. NYCHA has launched a new extermination web page and has produced updated materials including new resident notices, FAQs, building flyers, and, as stated above, an enhanced web presence – all designed to communicate best practices to residents.

NYCHA has developed an on-line, one-stop document shop for Operations’ property management staff to serve as the repository for all IPM and related subject-matter materials. This online toolkit launched in July 2020. The toolkit is located on NYCHA’s intranet and is accessible to all employees.

### 4. Clean Building Initiative

NYCHA has implemented a clean building initiative (“CBI”), intended to achieve an acceptable standard of living and building maintenance. CBI implicates several paragraphs in the Agreement that are applicable to pest control. Notwithstanding CBI, NYCHA will satisfy its pest obligations under the Agreement pursuant to this Action Plan. See **Appendix II** for additional information about CBI.

### 5. Neighborhood Rat Reduction Individualized Action Plans

The Neighborhood Rat Reduction Program (“NRR”) has been implemented at 110 sites. NRR was started in 2017 at 54 developments in Manhattan (Lower East Side), the Bronx (Grand Concourse), and Brooklyn (Bushwick/Bedford Stuyvesant). NYCHA’s goal is to reduce the rat population by 70%.

NYCHA has expanded NRR beyond the initial 54 developments to 60 additional sites in Brooklyn, the Bronx, Manhattan, and Queens as described below:

**Table 4 – Neighborhood Rat Reduction Site Information**

NRR Zones	# of developments	# of buildings	# of residents	Acres
Original	54	311	72,000	354
Harlem	40	298	63,000	254
Expansion	20	165	34,000	186
<b>Total</b>	<b>114</b>	<b>774</b>	<b>169,000</b>	<b>794</b>

More sites will be added, with the number, locations, and dates to be determined by NYCHA and the City. As with the current sites, each new site will have an individualized action plan that will include standardized practices adapted to the local conditions.

In general, the NRR strategy employs a targeted approach to reduce rats’ food sources and their burrows. NRR uses a 9-member Rat Burrow Collapsing team and environmentally friendly rodenticide to reduce burrow counts. NYCHA also seals-off dirt basements with concrete, preventing rats from infesting buildings.

Effective rat-reduction also requires effective resident engagement. NYCHA disseminates NRR/recycling literature to reduce waste and distributes “Zero Waste Bags” (reusable grocery bags) and resident education material. Pest Control collaborates with the Resident Engagement Department to contact each of the 114 NRR development Resident Associations every two months to discuss progress and next steps. Pest Control also attends Resident Association meetings where NYCHA representatives speak about the initiative and answer questions. Finally, Pest Control and NYCHA Operations teams have developed individualized comprehensive action plans, which include landscaping and waste strategies, structural repairs, and treatment plans, for the NRR sites. NYCHA completed comprehensive individualized action plans for each NRR site. NYCHA will update and make changes to the individualized action plans as implementation continues.

**C. IPM Training**

Paragraph	Obligation
Ex. B, Sec. D, Par. 44	Within twelve months of the Effective Date, NYCHA shall send staff appropriately trained on IPM to respond to any pest complaint.

NYCHA has implemented an IPM training program, which has trained more than a hundred exterminators and other staff on IPM, and will continue to train existing staff, new employees, and vendors.

**1. Training NYCHA Staff**

As of April 2020, all exterminators on NYCHA’s staff have been trained using the Pest Management Institute’s in-person IPM training. NYCHA commits to conduct additional training for current and new property level staff (including maintenance workers and skilled trades) and exterminators. Future trainings will be developed and conducted in consultation with the Monitor’s subject matter experts and other partners. NYCHA’s training program will be conducted using the following schedule:

**Table 5 – Training Schedule**

<b>Training Action Item</b>	<b>Audience</b>	<b>Completion Date</b>	<b>Trainer(s)</b>
<b>Action 1:</b> In-person training, entitled “Urban Integrated Pest Management NYCHA 2019;” 189 NYCHA staff (including all exterminators on staff as of April, compliance staff, supervisors, and support staff) attended this training	Exterminators and Property Level Staff	Completed	Urban Entomologist from the Pest Management Institute
<b>Action 2:</b> “Rat Academy” training on rat and mouse control using IPM methods; 25 exterminators and 3 other staff members attended this training	Exterminators	Completed	DOHMH
<b>Action 3:</b> Developed and trained a specialized 9-member team (plus one supervisor) to collapse rodent burrows and monitor continued activity	Exterminators	Completed	Pest Control
<b>Action 4:</b> In-person training providing an overview of IPM. Approximately 90 property level staff at Kings Towers, Douglas and Washington developments attended	Property Level Staff	Completed	Stop Pests
<b>Action 5:</b> Presentation to property-level staff at November and December 2019 borough and program director meetings that included an overview of IPM <sup>6</sup>	Property Level Staff	Completed	Pest Control
<b>Action 6:</b> IPM webinar: To get credit, staff needs to take a test and get at least 80% of the questions correct. As of December 2020, more than 990 property level staff have taken the webinar.	Property Level Staff	Completed	Stop Pests
<b>Action 7:</b> Developing and conducting trainings on specific pests using guidance	Exterminators	Completed	Pest Control / Learning and Development / Monitor
<b>Action 8:</b> Developing and conducting trainings on how to interact with residents	Exterminators	Completed	Pest Control / Resident Engagement / Stop Pests
<b>Action 9:</b> Training on contents of new SP and using QRGs	Exterminators and Property Level Staff	Completed	Pest Control
<b>Action 10:</b> Training on rat traps and live rat capture (In Person).	Exterminators	July 30, 2021	Pest Control/ Monitor
<b>Action 11:</b> IPM webinar: Refresher on a two-year cycle. To get credit, staff needs to take a test and get at least 80% of the questions correct.	Property Level Staff	Ongoing	Stop Pests
<b>Action 12:</b> Stop Pests IPM webinar for newly hired Exterminators and newly hired property level staff	Exterminators and Property Level Staff	Quarterly (Begin 4/30/2021)	Stop Pests
<b>Action 13:</b> In-person training with new exterminator staff by supervisors of exterminators	Exterminators	Ongoing	Pest Control

<sup>6</sup> Borough and program director meetings are held monthly to introduce new programs and update senior staff on NYCHA activities. Borough meetings are an effective way to reach property managers, property maintenance supervisors, Regional Asset Managers, and Skilled Trades Deputies and Directors.

## 2. Training Vendors and Enforcing Vendor Contracts

NYCHA’s standard contract with vendors for extermination services requires that the vendors’ exterminators have been trained in IPM. NYCHA recognizes, however, that vendors often are not adequately trained by their employers and thus may not adhere to NYCHA’s standards. NYCHA will take the following actions to ensure better compliance and to train vendors responding to pest complaints on NYCHA’s vision for IPM:

1. Improve Contracts: NYCHA will improve its vendor contracts to, for example, - (i) more prescriptively define vendor IPM training requirements and project specifications, (ii) redraft provisions related to events of default, damages and termination rights, and (iii) reform the payment process. NYCHA has provided the Monitor with draft improved contract scope language. The contracts will go out to the market by June 30, 2021, towards the expiration of current contracts.
2. Vendor Training: When a vendor is procured, NYCHA will require that each vendor’s employee who will be performing work watch the above-described IPM webinar conducted by Stop Pests. Each vendor’s employee will also need to take the test associated with the webinar and get at least 80% of the questions correct.
3. Kick-Off Meeting: NYCHA-trained Supervisors of Exterminators will meet with each vendor’s employees before work begins to discuss the scope of services and to walk through NYCHA’s expectations of the vendor, including by briefing each vendor on NYCHA’s SP.
4. Confirmation of Vendor Work: NYCHA-trained Supervisors of Exterminators will oversee vendor work to ensure consistency. At the beginning of a vendor’s contract, Supervisors of Exterminators will conduct one-to-one verification of the vendor’s work by inspecting the unit before a work order can be closed. Once a Supervisor of Exterminators feels a vendor’s work has been consistently excellent, the Supervisor of Exterminators will conduct a spot-check inspection of the vendor’s work to ensure consistency before closing a work order.
5. Quality Assurance Vendor: By March 30, 2021, NYCHA will hire a quality assurance vendor that will review a sample of vendor and NYCHA exterminator work to ensure the work was done properly and in conformance with IPM principles. NYCHA’s Quality Assurance Department also has IPM inspectors review randomly selected pest related work orders once completed to ensure that industry standards are being met. This practice will continue.
6. Enforcement: If a Supervisor of Exterminators, the newly procured quality assurance vendor, the Quality Assurance Department, or Environmental Health and Safety or any other entity determines that a vendor’s work did not conform to IPM principles, then the vendor will be referred to the Waste Management Department, which will seek to enforce the contract.

### D. Targeted Relief for Units with Repeating Pest Complaints

Paragraph	Obligation
Ex. B, Sec. D, Par. 41	Within six months of the Effective Date, NYCHA shall, for any unit that has more than one pest infestation complaint verified by NYCHA staff within twelve months (a) cause a professional using IPM techniques to evaluate the unit and its immediately adjacent units and common areas within 30 days to identify any circumstances specific to that unit that may have contributed to such recurrence (including, but not limited to, unaddressed leaks, proximately located trash, or holes in the wall), and (b) address, consistent with IPM principles, any such circumstances within the following 30 days.

As NYCHA implements IPM, NYCHA prioritized units with a repeating pest problem based on a prior or existing complaint. Accordingly, NYCHA drafted a Targeted Relief Action Plan responsive to Paragraph 41, which is appended hereto at **Appendix III**.

NYCHA has completed Targeted Relief remediations.

### E. Improving Pest Complaint Response Times

Paragraph	Obligation
Ex. B, Sec. D, Par. 38 (a), (b), and (c)	Within two years of the Effective Date, NYCHA shall: (a) respond to 75% of all rat complaints within two business days, and to all rat complaints within five days; (b) respond to 75% of all other pest complaints within seven days, and to all other pest complaints within ten days; (c) apply effective pest control methods (in compliance with applicable law including the Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. § 136 et. seq.), to address any verified pest complaints within 7 days; [...]
Ex. B, Sec. D, Par. 39	Within five years of the Effective Date, NYCHA shall: (a) respond to 90% of all rat complaints within two business days, and to all rat complaints within five days; (b) respond to 90% of all other pest complaints within seven days, and to all other pest complaints within ten days.

NYCHA implemented a new priority matrix based on various criteria including pest type and severity level to improve its response times to pest complaints; continue to refine its “Maximo Compliance Pest Dashboard,” which tracks response times; and increased staff capacity to respond to pest complaints.

#### 1. Implementation of Priority Matrix

NYCHA will determine whether the pest infestation in a given unit is “none,” “low,” “midlevel” or “high.” The following table will govern response times as a function of the severity of the infestation:

**Table 6 – Priority Matrix**

Pest	Initial Response (based on Pest Severity Rating) not to exceed...			Re-inspections shall occur within...		
	Low	Mid-Level	High	1st	2nd	3rd
<b>Public Health Pests (PHP4)</b>						
Indoor Rats	24 hours	24 hours	24 hours	7 days	7 days	7 days <sup>1</sup>
Exterior Rats	7 days	7 days	48 hours	7 days	7 days	7 days <sup>1</sup>
Mice	7 days	7 days	24 hours	7 days	7 days	7 days <sup>1</sup>
G. Cockroaches	7 days	7 days	48 hours	14 days	14 days <sup>1</sup>	7 days <sup>1</sup>
Bed Bugs	7 days	7 days	48 hours	14 days	14 days	7 days <sup>1</sup>
<b>Non-Public Health or Incidental Pests</b>						
Am. Cockroaches	10 days	10 days	48 hours	14 days	14 days <sup>1</sup>	7 days <sup>1</sup>
Fleas or other biting pest – with pet treated by vet	10 days	48 hours	48 hours	☎ 14 days	--	--

Ants	7 days	7 days	48 hours	☎ 14 days	--	--
Wasps and bees*	48 hours	48 hours	24 hours	☎ 48 hours	--	--
Bat in living space	Always high severity - 4 hours			☎ 48 hours	--	--
Other pests	10 days	10 days	48 hours	☎ 14 days	--	--

<sup>1</sup> For ongoing pest activity, continue this frequency until problem resolved.

☎ – If resident communication confirms pest problem resolved, then visit unnecessary.

\* – Assumes nest, swarm, or active garbage bin foraging and human interaction.

When work tickets are generated, if NYCHA does not know the severity level but only knows the reported pest type(s), the tickets will be prioritized as follows:

- Rats - (initial inspection deadline 24 hours);
- Bed Bugs and Mice - (initial inspection deadline 7 days);
- Cockroaches - (initial inspection deadline 7 days); and
- Other Pests - (initial inspection deadline 10 days).

NYCHA’s IT Department has enhanced Maximo to automatically generate priority levels that, in general, conform to this matrix. For the purpose of this prioritization matrix “response” includes both inspection and treatment.

## 2. Maximo Compliance Pest Dashboard – Exceptions List

To measure compliance with the Agreement’s response time requirements, NYCHA has developed a comprehensive pest-management dashboard that increases the number of key performance indicators (“KPIs”) that are tracked and reported. The data included within this dashboard, called the “Maximo Compliance Pest Dashboard,” are derived from Maximo.

No later than February 28, 2021, and on a monthly basis thereafter, Pest Control, using the Maximo Compliance Pest Dashboard, will distribute an “exceptions list” to Operations, copying the Compliance Department and the Waste Management Department. The “exceptions list” will list all units where NYCHA’s response and treatment exceeded the timelines mandated by Paragraph 38. The exceptions list will also describe any issues related to the quality of work performed by vendors or NYCHA staff. This list will also provide detailed data on each Borough’s compliance or non-compliance with the response and treatment timelines. Where necessary, the appropriate Borough VP of Operations will follow up with Pest Control and provide a strategy to achieve compliance. If a consolidation, borough or other unit continues to have a large number of exceptions over time, then the applicable Operations staff responsible for that workflow (e.g. the Regional Asset Manager, VP of Operations etc.) will submit a corrective action plan to be reviewed by the GM’s Office, the Waste Management Department and the Compliance Department.

## 3. Staffing

NYCHA will take the following actions:

**Table 7 – Staffing Actions**

Action	Description	Completion Date
<b>Action 1:</b> Procure Exterminator Vendors	To supplement its pest control workforce, NYCHA will hire vendors to provide the IPM services required by the Agreement.	Completed



<b>Action 2:</b> Hire NYCHA Staff to Manage Vendors	Pest Control will hire additional staff members as needed to manage the vendors, some of whom will be field supervisors who will manage quality control. Thus far, five field supervisors have been hired.	Completed
<b>Action 3:</b> Analyze Resources	NYCHA will analyze the impact of these additional resources as a function of response times and the volume of inspections and treatments performed. NYCHA will compare its performance during the three months before additional vendors were procured to the three months after they were procured.	Ongoing, to be completed by March 31, 2021
<b>Action 4:</b> Address Staffing Commitments	Either as part of the Organizational Plan or as part of a separate Action Plan to be delivered to the Monitor, NYCHA will commit to address future staffing commitments based on the analysis performed in Action 3.	May 15, 2021

Under Paragraph 46(c) of Exhibit B to the Agreement, NYCHA is also obligated to “dedicate 20 full-time exterminator staff to conduct ongoing comprehensive preventative maintenance treatments in public spaces for developments” to supplement the work of the NRR. To date, Pest Control has met its obligation and hired 21 exterminators. Pest Control is now budgeted to hire 17 additional exterminators. Working through DCAS (the Department of Citywide Administrative Services), Pest Control is fulfilling the obligation to hire additional exterminators through the normal civil service process.

Pest Control anticipates that the competitive market for this trade and the limits on salaries for entry-level exterminators imposed by civil service regulations will continue to pose a challenge. As a solution, Pest Control hired 15 graduates from the Resident Economic Empowerment & Sustainability (REES) program for exterminators. NYCHA onboarded these graduates first as seasonal employees and they will eventually be hired as technicians with the “City Pest Control Aide” title so they can perform certain pest control services. Upon a year of verified, successful service, technicians can be promoted to exterminators.

#### 4. Evaluate Resident Ambassador Program

In developing and implementing this Action Plan, NYCHA is considering resident concerns. Resident engagement includes dialogue and facilitating resident-led innovation. For a variety of reasons, NYCHA was unable to start the “Resident Ambassador” pilot program and consider whether to expand it. However, the program is included in the new vendor contracts that NYCHA expects to issue in June 2021.

**Table 8 – Resident Ambassador Actions**

<b>Resident Engagement Item</b>	<b>Description</b>	<b>Completion Date</b>
<b>Action 1:</b> Incorporate into CBI	NYCHA will ask residents to serve as Resident Ambassadors.	Ongoing
<b>Action 2:</b> Resident Ambassador Work	Resident Ambassadors will support resident outreach and education on best pest control methods and encourage residents to provide access to their units.	Ongoing
<b>Action 3:</b> Evaluate Effectiveness	NYCHA will evaluate the impact of the Resident Ambassador program.	November 30, 2021
<b>Action 4:</b> Address Resident Engagement Commitment	NYCHA will determine whether to hire Resident Ambassadors for a longer period of time, and/or at each building or development. If NYCHA decides to scale up the program, NYCHA will draft a written guidance for participation in its Resident Ambassador program and will share that guidance with the Monitor for approval.	January 15, 2022

**F. Improving Response Times for Residents with Health Conditions**

Paragraph	Obligation
Ex. B, Sec. D, Par. 38(d)	Within two years of the Effective Date, NYCHA shall: [...] (d) provide expedited response and application of pest control methods in cases where NYCHA is aware that a resident of the unit has asthma or another condition generally recognized as being caused or exacerbated by exposure to pest infestations (for example, other respiratory illness, immune deficiency/suppression, and/or effects of certain medical treatments). In an Action Plan, NYCHA and the Monitor shall establish a procedure for informing residents of a process through which residents may notify NYCHA if anyone residing in a unit has such a health condition.

As described below, NYCHA established a process for reporting certain health conditions; enhanced its IT systems to prioritize responses and applications to those units; and implemented a system of expedited responses for individuals with such conditions. NYCHA must now continue to communicate with residents on how to report such conditions, including as part of the annual tenant certification process or via the Customer Contact Center. NYCHA will implement a communications plan related to the health condition flag by May 31, 2021.

NYCHA obtains medical information from residents voluntarily, in three ways:

1. NYCHA may obtain medical information related to a resident through Department of Health and Mental Hygiene (“DOHMH”) Commissioner Orders. These orders are issued when a NYCHA resident who has been hospitalized or has consulted a medical professional for asthma responds “yes” to a DOHMH survey question regarding current pest or mold concerns in an apartment; and/or
2. The annual tenant recertification process includes a request for information regarding the use of life sustaining devices, allowing the tenant to provide medical information for all family members as appropriate;
3. Through a reasonable accommodation request for mold or other breathing problems.

The Monitor and NYCHA determined that the annual tenant recertification process did not need to be revised to obtain more specific information concerning asthma and other conditions caused by exposure to pest infestations. NYCHA’s IT Department enhanced Maximo to provide a “flag” for units with an applicable health condition reported either by DOHMH or the annual tenant recertification form. The flag alerts NYCHA to prioritize reporting and addressing pest conditions at this unit in case of a complaint.

In addition to all of its prior communications with residents, NYCHA will implement a further communications plan no later than May 31, 2021 to encourage residents to provide responsive health information via the Customer Contact Center, a form submitted with their rent check, the annual recertification or other means.

**G. Access to Apartments**

Paragraph	Obligation
Ex. B, Sec. D, Par. 40	If NYCHA does not respond to a pest complaint by a resident as required by paragraphs 38 and 39 but (a) provides the resident with the opportunity to authorize access in the resident’s absence and (b) documents to the satisfaction of the Monitor that the resident has failed to provide access to the unit, NYCHA will be deemed to have responded to the complaint for purposes of paragraphs 38 and 39 at the time of the first documented attempt to access the unit.

By February 28, 2021, NYCHA will implement a policy requiring that Borough Schedulers provide a resident with the opportunity to authorize access in the resident’s absence. NYCHA staff and vendors will log into Maximo, under the “Labor” field code in the applicable work order, all efforts to access a pest-impacted unit.<sup>7</sup> This documentation will be stored in Maximo, and NYCHA’s IT Department will maintain the raw data. Upon the Monitor’s request, NYCHA will download the applicable information into an easily searchable spreadsheet and give to the Monitor within two business days documentation showing each attempt. The Monitor shall determine whether the documentation confirms that the resident failed to provide access to the unit despite having been given an opportunity to provide access.

**H. Other Obligations to Combat Pests and Manage Waste**

Paragraph	Obligation
Ex. B, Sec. D, Par. 46	In addition to meeting the requirements of paragraphs 35 to 46, and except where otherwise provided in an approved Action Plan, NYCHA shall perform the following tasks: a. NYCHA will install 8,000 door sweeps on basement doors with gaps by March 31, 2020; b. NYCHA will install 50 rat slabs by December 31, 2020; c. NYCHA will dedicate 20 full-time exterminator staff to conduct ongoing comprehensive preventative maintenance treatments in public spaces for developments within the RMZ; d. NYCHA will install exterior bulk crushers or retrofit exterior compactors with auger bulk crushers at 10 developments by December 31, 2022.

**1. Installing 8,000 Door Sweeps**

NYCHA hired a dedicated team and installed more than the requisite 8,000 door sweeps on exterior doors leading to pest-susceptible rooms. To accomplish this goal, Pest Control and Operations collaborated to (i) fix the conditions preventing doors from supporting door sweeps and (ii) properly install door sweeps that were incorrectly installed initially. Operations completed the installation of door sweeps in late October 2020.

**2. Installing 50 Rat Slabs**

By June 1, 2021, NYCHA will complete installation of 50 rat slabs on a staggered-work basis, at the following developments: Butler, East 180th Street Monterey Avenue, Highbridge Gardens, Jackson, LaGuardia, Smith, Vladek, Wald, and Riis. This work has been and remains underway.

<sup>7</sup> Specifically, NYCHA staff have the option of selecting specified values to indicate when a resident has failed to provide access including “NO ADULT” (no adult is present); “RESNOTHOME” (resident is not home); “RESREFUSED” (resident refused); or “UNSAFECOND” (unsafe condition).

### 3. Installing Bulk Crushers at 10 Developments

By the end of 2022, NYCHA will install new exterior bulk crushers at the following ten developments: Butler, Bushwick, Baruch, Smith, Wald, Morris II, Webster, Marcy, LaGuardia, and 303 Vernon Avenue. This work began in 2020 and bulk crushers have been installed at four developments.

#### I. Establishing Monitoring Program to Measure Pest Reductions

Paragraph	Obligation
Ex. B, Sec. D, Par. 35	Within six months of the Effective Date, the Monitor in consultation with NYCHA shall establish reasonable protocols by which Integrated Pest Management (“IPM”) professionals shall develop and provide reliable estimates, at least quarterly, of the pest populations in each NYCHA development. NYCHA shall promptly publish these figures, by development and pest type, on its website.
Ex. B. Sec. D, Par. 36	Within three years of the Effective Date, NYCHA shall achieve a 50% reduction of its rat population across its portfolio, a 40% reduction in its mice population across its portfolio, and a 40% reduction in its roach population across its portfolio. By that time, NYCHA shall also achieve a percentage reduction in its bedbug population across its portfolio, to be determined by the Monitor.
Ex. B. Sec. D, Par. 37	Within five years of the Effective Date, NYCHA shall achieve a further 50% reduction in each of its pest populations across its portfolio.

As required by Paragraph 35, the Monitor, in collaboration with HUD and SDNY and in consultation with NYCHA, is in the process of developing reliable estimates of the populations of rats, bed bugs, mice, and cockroaches (the “PHP4”) in each NYCHA development; together, these population estimates will comprise the NYCHA Pest Infestation Index (“NPII”). Prior to the pandemic, NYCHA began conducting inspections of randomly selected units to help build the NPII. Initially, it was determined that a random sample of 3,000 interior inspections for PHP4 should be conducted in order to obtain sufficient data in Maximo from which to ascertain the baseline at June 30, 2019. Approximately 1,500 units had been inspected as of the onset of COVID-19 in March 2020, when inspections were temporarily halted. The Monitor, in collaboration with HUD and SDNY, is now determining how best to transform that and other data into reliable estimates of pest populations by development. A data scientist has been retained to develop a model to do so, with the assistance of the Monitor’s consulting entomologist. It is anticipated that the model will be completed by the end of the first quarter in 2021 (March 31, 2021).

The Monitor, together with NYCHA, HUD’s data scientist and the Monitor’s entomologist, as an initial matter, determined that Maximo is a sound tool for tracking and measuring pest data quarterly. However, as described above, the parties are continuing to determine and evaluate what the proper algorithm should be for setting the pest baseline. NYCHA may also need to inspect additional apartments. Once a baseline is set, PTAD will provide a comprehensive framework for reporting on and analyzing the NPII results, and all subsequent quarterly reports.

**Table 9 – NPII Schedule**

Milestone	Completion Date
<b>Action 1:</b> NYCHA inspected 1,581 units up until NPII was suspended in March 2020.	Completed

<b>Action 2:</b> The Monitor’s Entomologist analyzed data for the initial 1,581 units	Completed
<b>Action 3:</b> NYCHA, HUD’s data scientist and the Monitor’s Entomologist will further evaluate and determine the effectiveness of Maximo as a collection tool. Based on this evaluation, the Monitor’s Entomologist and HUD’s data scientist will determine (1) whether NYCHA will need to conduct an additional 1,500 inspections and (2) whether changes to the algorithm for setting the pest baseline based on work order data will be required.	March 31, 2021
<b>Action 4:</b> NYCHA and the Monitor will establish and publish baseline Year 1 data	April 30, 2021
<b>Action 5:</b> First quarterly reporting published	July 31, 2021
<b>Action 6:</b> Additional inspections (if necessary), improvements/enhancements, and reporting	Summer 2025

The NPII will provide a statistical baseline so that NYCHA can measure and track relevant data to answer the following questions:

1. What percentage of NYCHA’s portfolio suffers from any infestation levels of the PHP4;
2. What is the severity profile of each development’s PHP4 infestations;
3. Which developments, and what percentages of buildings and apartment units within those developments, can an expert categorize as having a PHP4 infestation level of “none,” “low,” “mid-level,” or “high;”
4. What development-specific factors might be causing pest infestations to be severe;
5. What progress over the next several years is NYCHA making to address those developments and/or specific residents suffering from pest infestations, with the goal of long-term pest control sustainability? and
6. Has NYCHA met the three-year and five-year pest reduction requirements set forth in Paragraphs 36 and 37 of the HUD Agreement?

**V. Action Items – Waste Management**

Paragraph	Obligation
Ex. B, Sec. D, Par. 45	“Within six months of the Effective Date, NYCHA shall, no less than once every 24 hours, inspect the grounds and common areas of each building for cleaning and maintenance needs, including pests and trash, and correct such conditions. In particular, NYCHA shall ensure that trash on the grounds or common areas of each NYCHA building is collected and either removed from the premises or stored in a manner that prevents access by pests at least once every 24 hours.”

Paragraph 45 of the Agreement states NYCHA’s obligations respecting waste management, including those related to the daily—every 24 hours—(i) **collection** of waste on grounds and in common areas, (ii) **storage** of that waste, and (iii) ultimate **removal** of that waste.

This section proceeds through each waste management level of service outlined in Paragraph 45, and the actions NYCHA will take to meet that obligation.

**A. Cross-Functional Actions**

NYCHA has established a Waste Management Department that will work strategically across other departments and the properties to create individual property-level action plans and to help implement other initiatives across the portfolio.

**1. Waste Management Department**

The Waste Management Department has senior staff in place, including a Director, and is led by a Vice President, reporting directly to the General Manager. Deputies will be in place by February 28, 2021. The new department will lead the following efforts:

**Table 10 – Waste Management Department Plan**

<b>Top-Line Function</b>	<b>Specific Actions</b>
Planning and Property-Level Policy Design	<ul style="list-style-type: none"> <li>• Update and implement property-specific waste management plans based on asset mapping, applied research, signage improvements and surveys of grounds</li> <li>• Assess staffing needs by development and review the impact of the Alternative Work Schedule.</li> <li>• Adjust janitorial schedules, a project that is already underway at pilot locations.</li> </ul>
Managing Equipment and Other Assets	<ul style="list-style-type: none"> <li>• Catalog waste management assets</li> <li>• Monitor, daily, the functioning and condition of all waste-management equipment</li> <li>• Manage all equipment repairs and preventative maintenance</li> <li>• Conduct general asset repair planning.</li> </ul>
Enforcement	<ul style="list-style-type: none"> <li>• Enforce contracts with third-party private collectors and other vendors, including with respect to bulk waste.</li> <li>• Enforce developments’ compliance with Paragraph 45, individual waste management action plans and other requirements.</li> </ul>
Coordinating with Partners	<ul style="list-style-type: none"> <li>• Liaise directly with the Department of Sanitation (“DSNY”) and manage a system for curbside and container pickups.</li> <li>• Coordinate with Permanent Affordability Commitment Together (PACT)/Rental Assistance Demonstration (RAD) partners.</li> </ul>

**2. Individual Property Analysis and Individual Waste Management Plans**

The Waste Management Department and Strategic Planning Department oversaw creation of the first draft of the individual waste management plans (“IWMPs”) for each NYCHA development in the fall of 2020. The next, updated versions of the IWMPs will be completed by June 30, 2021 and posted on the NYCHA website beginning immediately thereafter.

Strategic Planning hired eight graduate interns to compile the IWMPs. The Waste Management Department is editing and refining the plans, and the facts and strategies of each will be modified over time to reflect prevailing conditions.

The IWMP template will reflect all development typologies and site conditions, asset and equipment mapping and present staffing levels. NYCHA will also conduct a gap analysis to determine the staffing,

equipment, removal and other needs of each development going forward. The following schedule has been established for completing the IWMPs:

**Table 11 – IWMP Schedule**

Action	Completion Date
<b>Action 1:</b> Complete IWMP template	Completed
<b>Action 2:</b> Consolidate data and create instructional document for preparing IWMPs	Completed
<b>Action 3:</b> Waste-focused site-specific data collection so that the IWMPs can be assembled	Completed
<b>Action 4:</b> Graduate interns compile IWMPs	Completed
<b>Action 5:</b> IWMPs are rolled out including by (1) presenting the plans to management staff at each consolidation, and (2) uploading each plan to NYCHA’s public facing website. NYCHA will roll out the IWMPs as they are completed and will also share detailed information with each property about the corresponding capital upgrades required by the IWMP.	Ongoing; second phase to be completed by June 30, 2021

**B. Daily Waste Inspection and Collection**

Paragraph	Obligation
Ex. B, Sec. D, Par. 45	“[...] NYCHA shall, no less than once every 24 hours, inspect the grounds and common areas of each building for cleaning and maintenance needs, including pests and trash, and correct such conditions. In particular, NYCHA shall ensure that trash on the grounds or common areas of each NYCHA building is collected [...] at least once every 24 hours.”

Daily inspection of grounds and collection of trash requires: (i) adequate staff and measuring compliance; (ii) reduction of waste; (iii) resident engagement; and (iv) property enhancements.

**1. Improving Collection via Staffing and Enforcement**

NYCHA’s sites are maintained by a wide range of Caretakers, including the Supervisors of Housing Groundskeeper (SoG), Supervisors of Housing Caretakers (SoC), Caretaker J’s, responsible for general janitorial duties including maintaining common areas and storing waste; Caretaker G’s, responsible for maintaining the grounds and transporting waste; and Caretaker X’s, responsible for transporting waste and operating other equipment. Caretakers are assigned to consolidations, which implement daily schedules according to the number of caretakers assigned.

In the immediate term, NYCHA took the two below actions:

1. NYCHA now provides Caretaker X coverage daily at most developments, after it increased the number of caretakers qualified to drive, ensuring that waste can be collected and transported daily to secure storage or disposal locations.

2. NYCHA policy mandates that waste, including trash and litter found through inspection, be collected by Caretakers at least once per day or every 24-hours.

NYCHA will take the following additional actions to improve collection:

**a. Overall Staff Headcounts**

NYCHA has been analyzing its current overall staffing headcounts and is redesigning its staffing model. NYCHA is applying that model on a consolidation-by-consolidation basis across the portfolio to conduct a gap analysis and submit a plan to add or shift staff at individual consolidations. This ongoing effort is being conducted in tandem with NYCHA’s efforts to establish property-based budgets, which will include site-specific staff assigned to those budgets in addition to employees shared across sites.

NYCHA’s Department of Management and Planning in Operations presented preliminary quantitative data that lays out budgeted and actual head counts of caretakers at each consolidation. The analysis determines allocated head counts based on ratios of several criteria including (1) the number of residential and non-residential buildings, (2) the total square footage, (3) the total acreage, and (4) the population of each consolidation.

Quantitative data outlining consolidations’ actual and budgeted head counts reveal that some consolidations are over their allocated head count while other developments have several vacancies. Floaters and temporary workers may account for some of this discrepancy and causes NYCHA to lack certainty on consistent staffing levels. Moreover, NYCHA has not measured whether these ratios accurately reflect the staffing needs of each development. For example, while a development may not have a high “total acreage,” coverage may still be insufficient because of its geographic footprint, including the actual location of a waste yard relative to the highest density buildings.

Thus, NYCHA will take the following actions:

**Table 12 – Overall Staff Headcount Actions**

Action	Date of Completion
<p><b>Action 1, Data Collection for Property Based Headcounts:</b></p> <p>Strategic Planning, the Department of Budget and Financial Planning and Operations will collect data on a consolidation-by-consolidation basis, including by analyzing timesheets for each floater.</p>	Completed
<p><b>Action 2, Case Studies at Washington and Douglass:</b></p> <p>Operations conducted case studies at two developments. Based on this case study, Operations implemented a number of staffing and scheduling related reforms including (i) the modification of existing janitorial schedules to increase efficiency, and (ii) adding staff to transport waste in the evening hours when coverage was lacking relative to the amount of waste generated. Many of these lessons will apply portfolio-wide.</p>	Completed
<p><b>Action 3, Develop New Model:</b></p> <p>NYCHA developed a staffing model based on (1) the clarity achieved with respect to existing staffing data, (2) further refined ratios, and (3) the inclusion of other factors based on the findings from the above actions.</p>	Completed



<p><b>Action 4, Apply New Model to Individual Consolidations, IWMP Staffing Analysis:</b></p> <p>NYCHA is conducting a staffing gap analysis for each consolidation as part of the IWMP process. Working with RAMs, Supervisors and Property Managers, NYCHA is mapping developments' waste infrastructures and is using other information from interviews with property-level staff to assess the unique caretaker staffing needs of each development, which will complement the model's results.</p>	Ongoing
<p><b>Action 5, Hire or Reassign Staff:</b></p> <p>NYCHA is providing updates to this Action Plan detailing its efforts to close the gaps outlined at each consolidation including by hiring additional staff and reassigning staff.</p>	Ongoing, with completion date of December 31, 2021

**b. Daily Staff and Janitorial Schedules**

NYCHA is evaluating its system for daily staffing at consolidations and janitorial schedules. NYCHA will then implement reforms across the portfolio to ensure adequate daily staffing to inspect and collect waste. The Waste Management Department has been collecting janitorial and grounds schedules, and implementing reforms, on an ongoing basis. The initial evaluations will be completed by March 30, 2021, but the process of evaluation will be ongoing. By September 30, 2022, when the trainings can be conducted in person, the Waste Management Department will conduct trainings on scheduling.

Even if the total number of staff assigned to a consolidation is adequate, the number of staff inspecting and collecting waste on a given day will vary. Policies requiring daily collection are in place for the days caretakers are on duty at developments, which in a traditional schedule is 5 days a week (Monday through Friday) from 8 a.m. to 4:30 p.m., with a “skeleton crew” assigned for weekends. All developments have caretaker staff on weekends under the new Alternative Work Schedule (AWS).<sup>8</sup> Still, NYCHA sometimes lacks the staff necessary to inspect and collect waste across the entire development on weekends or during the evening. AWS schedules caretakers for 10-hour shifts 4 days a week, staggered for coverage between 6 a.m. and 7 p.m. at night.

NYCHA will take the following actions with respect to its daily staffing:

**Table 13 – Daily Staff Headcount Actions**

Action	Date of Completion
<p><b>Action 1, Case Studies at Washington and Douglass:</b></p> <p>As mentioned, Operations is conducting case studies at two developments. Operations has made changes to the janitorial schedule at both sites to (1) make the schedule more task based, (2) provide a third shift for Caretaker Xs, and (3) improve communication to all staff.</p>	Completed
<p><b>Action 2, Consultant to Evaluate AWS:</b></p>	Completed

<sup>8</sup> Staff levels are distributed in the following ways: 30% on weekends, 92.5% on Mondays, 70% on Tuesdays-Thursdays, and 62.5% on Fridays. Staff are working longer on these days (10.5 vs. 8.5-hour shifts) to compensate for the reduced staffing levels. When AWS was first implemented, NYCHA announced the hiring of an additional 200 caretakers, or approximately 1.5 per development.#

NYCHA procured a consultant to evaluate the impact of AWS on three sites. The analysis will include (1) reviewing the impact on staffing levels throughout the day, (2) time and motion studies to assess janitorial schedules, (3) comparing overtime usage across time, and (4) qualitative interviews with staff and residents.	
<b>Action 3, Trainings on Janitorial Schedules:</b>  Based on its findings, NYCHA will train Regional Asset Managers and Supervisors in person on creating development specific “task-related” work schedules and other improvements to janitorial schedules.	September 30, 2021
<b>Action 4, Hire or Reassign Staff:</b>  Based on its findings from the above actions, including after schedule reforms are implemented, NYCHA will ensure compliance with Paragraph 45.	Ongoing, with completion date of December 31, 2021

**c. Enforcing Compliance**

The Monitoring Unit within the Compliance Department is conducting waste-focused site-specific data collection for NYCHA developments. Any conditions the Compliance Department’s Monitoring Unit encounters that need immediate remediation are forwarded to Operations and Strategic Planning for correction. All corrective actions are logged, so that progress can be monitored.

**2. Improving Collection via Resident Engagement and Property-Level Enhancements**

NYCHA’s residents are critical to the success of waste management efforts. Even if NYCHA was fully staffed with caretakers, NYCHA’s grounds and common areas would not be free of waste without proper resident engagement and the right property level enhancements to reduce the collection burden.

NYCHA has worked with two external partners to evaluate waste management strategies and understand resident behavior to improve outcomes:

1. Public Works Partners surveyed 4,531 NYCHA residents to gather data on resident waste-management related practices, challenges and priorities.
2. Ideas42 completed a resident behavior study at 53 developments, where 27 randomly selected sites received ½ cu. yd. tilt trucks, trash cans for litter, and posters encouraging proper waste disposal, and the other 26 served as a control group.

These studies, appended hereto as **Appendix IV**, had three of the same recommendations including that NYCHA focus on (1) providing easier, more convenient access to trash and recycling disposal infrastructure; (2) working with residents on designing improvements; and (3) providing clear messaging that increases resident knowledge about waste management. NYCHA will address each of these priorities as follows:

**a. Provide Easier, More Convenient Access to Trash Disposal Infrastructure**

To reduce staff’s burden to collect, and make it easier for residents to dispose of, waste, NYCHA will:

**Table 14 – Disposal Infrastructure Upgrade Actions**

Action	Date of Completion
<p><b>Action 1, Individual Waste Management Plans:</b></p> <p>The map included in each IWMP identifies the current assets at each development. The Waste Management Department is meeting with management at each development to determine how it will move, or add, recycling and other trash bins to place them at locations that provide residents with easier access to disposal infrastructure.</p>	<p>Ongoing; second phase to be completed by June 30, 2021</p>
<p><b>Action 2, Install In-Sink Food Waste Disposals:</b></p> <p>In-sink food waste disposals allow residents to dispose of food waste through the sewer system. Food waste disposers have been installed in 676 units in 3 developments.</p>	<p>Completed</p>
<p><b>Action 3, Evaluate In-Sink Food Waste Disposals:</b></p> <p>NYCHA will evaluate the effectiveness of food waste disposals as follows: (1) A consultant will study waste composition to assess volumes of organic material at a site with food waste disposals relative to other sites, and (2) NYCHA will conduct resident surveys. NYCHA will then provide an update to this Action Plan discussing whether it plans to invest in food waste disposals across other parts of the portfolio.</p>	<p>January 31, 2021</p>
<p><b>Action 4, Piloting Pneumatic Waste Collection System:<sup>9</sup></b></p> <p>NYCHA will procure a vendor to install a pneumatic collection system at Polo Grounds. The RFQ was issued on March 30, 2020, and construction will begin in 2021. NYCHA will evaluate the effectiveness of this intervention relative to other less costly interventions based on pest complaints, worker compensation claims for waste-related work, resident and staff interviews, and waste volume collected, and update this Action Plan discussing whether it plans to invest in this intervention across other parts of the portfolio.</p>	<p>To be completed by December 31, 2023<sup>10</sup></p>
<p><b>Action 5, Enlarge Ground Floor Hopper Doors:</b></p> <p>Where physically practical based on building design, NYCHA will enlarge ground-floor trash chute doors to encourage tenants to dispose of larger trash bags for compaction into existing interior compactors rather than dumping bags outside at locations. This work has already been completed in 50 developments.</p>	<p>To be completed by December 31, 2023</p>

<sup>9</sup> Pneumatic collection systems may address many issues. Caretakers will no longer touch and move waste because waste is sealed inside the system from the moment a resident deposits material in the chute until it reaches the exterior compactor. When surveyed, caretakers have reported spending over half of their time on this one task. Pneumatic collection systems support NYCHA’s IPM policies because rats and pests cannot access the waste managed inside a pneumatic system.

<sup>10</sup> The construction timeline for the pneumatic system is dependent on the design and how extensive the retrofits to the building will be. The design will be developed and selected as a part of the Design-Build RFP process, which is expected to start in early 2021. From there, the timeline will be based on the building/chute renovations needed, trenching for the pipes, and renovation of the existing waste yard as the pneumatic collection point. Schedules on building/chute renovations and trenching will be dependent on collaboration with existing capital projects, and any necessary abatement and/or environmental reviews.

**b. Work with Residents in Designing Improvements**

NYCHA will engage and educate residents through resident-led and nonprofit groups, as follows:

Action	Date of Completion
<p><b>Action 1, Environmental Programs Stakeholder Engagement:</b></p> <p>NYCHA will procure the services of non-profits and other partners to support resident-led and community-led initiatives reinforcing a positive waste culture. NYCHA released a stakeholder engagement RFP in the spring of 2020 and awarded contracts to four vendors to do this work in the fall of 2020.</p>	Completed
<p><b>Action 2, GrowNYC Clean and Green Program Evaluation:</b></p> <p>Through a contract with DSNY, GrowNYC implemented actions to address recycling, waste management and related operational issues at 12 NYCHA developments.<sup>11</sup> Tasks include working with NYCHA Resident Engagement staff to train residents on recycling and proper waste disposal. On-site services began in the fall of 2019 and ended in March 2020 due to the COVID-19 pandemic. Due to budget cuts, DSNY defunded the program but NYCHA’s Waste Management Department will work to advance similar programs.</p>	Completed

**c. Provide Clear Messaging that Increases Resident Knowledge about Waste Management**

NYCHA has procured a strategic communications firm to lead its “Campaign for a Clean NYCHA.” The campaign was launched in the summer of 2020, and will apply public awareness and behavioral change techniques, including replacement of outdated waste management and recycling signage with standard up-to-date signage. NYCHA will also provide consolidations with maps indicating collection locations, including those for bulk waste and special waste such as electronics and appliances. The maps will be prominently posted in lobbies and management offices. Digital versions of the maps will be available at NYCHA electronic kiosks, where available.

**C. Storage and Containerization**

Paragraph	Obligation
Ex. B, Sec. D, Par. 45	“[...] NYCHA shall ensure that trash on the grounds or common areas of each NYCHA building is [...] removed from the premises or stored in a manner that prevents access by pests at least once every 24 hours.”

Compliance with the storage requirements described in Paragraph 45 varies based on the waste stream (household waste, recycling, and bulk waste) and collection method (curbside or container pick-up):

- For household waste collected at campus sites and scattered sites that bring their waste to neighboring campus sites, NYCHA should meet the containerization requirement in Paragraph 45

<sup>11</sup> Baruch, Baruch Addition, Riis, Riis II, Morris I, Morris II, Webster, Morrisania, Butler, Marcy, Bushwick, & Hylan.

because trash is stored using the exterior compactors. However, compactors do not always meet the requirements of Paragraph 45 if they are not in adequate condition.

- For household waste, at curbside locations without exterior compactors, waste is also not always properly stored in compliance with Paragraph 45.
- For two other waste streams – recycling and bulk waste – waste is generally not properly stored.

Thus, NYCHA will focus on three priorities with respect to containerization – (1) maintaining compactors and upgrading equipment, (2) providing appropriate containerization for bulk and recycling waste, and (3) improving containerization practices at curbside locations.

### 1. Maintaining Containers and Upgrading Equipment

NYCHA is developing a comprehensive capital plan to re-envision waste processes, upgrade aging infrastructure, improve quality of life and comply with Paragraph 45’s storage requirements. NYCHA’s waste infrastructure is aging and needs replacement and modernization. Based on a 2018 infrastructure assessment of 274 NYCHA developments, 255 had interior compactors and 108 had exterior compactors. 83 percent of NYCHA’s interior compactors, and 73 of its exterior compactors, are past the end of their useful life.

NYCHA will take the actions described in the table below:

**Table 15 – Capital Upgrade Schedule**

Action	Date of Completion
<p><b>Action 1, Neighborhood Rat Reduction (NRR) Funded Upgrades:</b></p> <p>Already, through the NRR, NYCHA leveraged a funding allocation to install 223 new interior trash compactors, 43 new exterior compactors, 5 new bulk crushers, 147 new enlarged trash chutes and 676 new food waste disposers at developments in NRR zones. Construction at additional sites is still ongoing.</p>	<p>April 30, 2021</p>
<p><b>Action 2, Assessment of Auger Compactors:</b></p> <p>After the first 7 auger compactors are installed by January 2023, CPD and the Waste Management Department are assessing the functionality of auger compactors in accommodating both daily trash and bulk waste and whether they meet DSNY specifications.</p>	<p>Ongoing, to be completed by January 31, 2023</p>
<p><b>Action 3, Initial Upgrades to Containers via Capital Plan:</b></p> <p>NYCHA is funding an initial \$309.1 million in upgrades, including waste yard re-designs and interior compactors at more than 130 previously agreed upon developments using the funds made available under the Agreement. NYCHA’s City Capital Action Plan pursuant to Paragraph 63 of the Agreement will fund all necessary upgrades including interior compactors, waste yards re-designs (each of which includes bulk and/or non-bulk auger compactors), the pneumatic system and a bulk auger compactor at Polo Grounds and secondary waste stations at Marcy Houses.</p>	<p>Ongoing, with all installations completed by December 31, 2024</p>

<p><b>Action 4, Further Upgrades to Containers via Capital Plan:</b></p> <p>NYCHA will fund the remaining \$254.3 million in necessary upgrades including waste yard redesigns and interior compactor replacements at up to 117 additional developments. This work will be funded from January 1, 2025 through 2028 by the City Agreement</p>	<p>Commencing in 2023, with all installations completed by December 31, 2028</p>
---	--

## 2. Providing Containers for Bulk and Recyclables

Waste to be recycled is stored in locked, but not sealed, areas. In addition, the open-top containers used to store and cart away bulk waste are not pest-proof, invite illegal dumping, and are easily contaminated with household waste that is attractive to pests. NYCHA will take the following three actions to properly containerize bulk waste and recyclables:

### Action 1. Improve Designs for Exterior Waste Yards

On March 30, 2020, NYCHA issued an RFQ for design-build firms to re-envision NYCHA’s waste yards with a focus on design excellence and stakeholder engagement at 7 developments. NYCHA’s current exterior waste yards are located in close proximity to play areas, resident apartments, public spaces and are a source of noise and nuisances for residents. Waste yards are also targets for illegal dumping and are vulnerable to rats and pests. The 7 facilities will set the standard for all future waste yard redesigns across NYCHA’s entire portfolio; construction will be completed by December 31, 2022. As mentioned above, additional waste yard re-designs will continue to be funded, with construction across the portfolio to be completed by December 31, 2028.

### Action 2. Implement a Mattress Recycling Program

Mattresses make up 7.5% of NYCHA’s bulk waste. Collecting mattresses in a dedicated sealed shipping container increases capacity of other containers, enhancing NYCHA’s ability to ensure that all bulk waste is containerized. NYCHA completed a 3-month pilot at eight developments and found that removing mattresses made managing material in bulk areas more orderly, and reduced risks of injury and infestation. After completing a 3-month pilot at eight developments, NYCHA will procure mattress recycling services for up to 100 developments, as funding allows. The first batch of sites were selected in September 2020. The Mattress Recycling RFP was released on October 28, 2020. NYCHA will enter into contracts with vendors by April 30, 2021. Implementation will occur after the contract is awarded.

### Action 3. Install Cardboard Balers in Existing Waste Yards

Cardboard composes 15 percent of NYCHA’s bulk waste and is recyclable. At many developments, staff toss cardboard into bulk containers. Breaking down, bundling, and setting out cardboard for separate DSNY collection places an unnecessary burden on staff. DSNY collects recyclables only once a week. Loose cardboard can quickly overwhelm waste yards. Cardboard balers can reduce cardboard volume by 75 percent, accommodate whole boxes being tossed in, and make waste yard storage and removal more efficient. Balers increase the likelihood that cardboard will be kept out of bulk containers. Cardboard balers will also be included in the waste yard redesigns. NYCHA completed pilot installations at nine sites<sup>12</sup> and,

<sup>12</sup> Cardboard balers were installed at South Jamaica, Mitchell, Rangel, Red Hook, Stapleton, Castle Hill, Patterson, Wagner and Edenwald. Post-installation staff interviews were conducted and overall, the balers helped improve cardboard recycling rates, however they were labor intensive, they were small and they needed a canopy. Based on this feedback, the new cardboard baler procurement that was awarded is for a larger model that does not require cardboard to be broken down. It also includes a canopy.

on February 29, 2020, NYCHA issued a public solicitation to expand balers to additional developments. Installations, training sessions with staff and pickup coordination efforts with DSNY were completed at the first batch of sites on December 14, 2020.

### 3. Improve Containerization at Curbside Locations

On an ongoing basis, the Waste Management Department has been working, and will continue to work, with each consolidation relying on curbside pickup to design a strategy for containerization that considers the space constraints unique to each location. At some sites, using pest-resistant containers may be sufficient but other sites will require different containerization strategies. These designs will likely change over time due to the anticipated elimination of some curbside pickups (because truck pickup will be implemented), and the re-design of waste yards.

#### D. Removal

Paragraph	Obligation
Ex. B, Sec. D, Par. 45	“[...] NYCHA shall ensure that trash on the grounds or common areas of each NYCHA building is [...] removed from the premises or stored in a manner that prevents access by pests at least once every 24 hours.”

As mentioned, NYCHA will focus on a two-pronged approach with respect to Paragraph 45 – both better containerization and more frequent removal. NYCHA faces some of the same challenges with respect to removal that it does with other waste related levels of service. NYCHA must more frequently remove bulk waste, including mattresses and cardboard, and curbside waste where containers are not available.

As NYCHA’s primary waste hauler, DSNY plays a fundamental role in waste management at NYCHA. DSNY removes trash approximately 2 to 4 times per week. All recycling is collected curbside by DSNY once a week. Bulk waste is removed from NYCHA sites through joint action by NYCHA, DSNY, and a private bulk carter. DSNY allocates to NYCHA a designated number of “bulk tickets.” Each ticket represents a single drop-off of a 30-yard container at one of DSNY’s waste yards. NYCHA divides the tickets among its portfolio.

NYCHA will take the following actions to address priorities related to removing waste:

#### Action 1. Request 7-day Service from DSNY

In November 2019, NYCHA asked DSNY to expand curbside collection to 7 days. DSNY responded with other recommendations for better managing NYCHA’s waste. DSNY suggested it is unlikely to provide 7-day service due to cost, but is willing to discuss other options for helping NYCHA comply with Paragraph 45. The Waste Management Department will continue to work with DSNY to increase the frequency of removal at selected sites without space for containers or other equipment.

#### Action 2. Revamp Bulk Ticketing Management

In 2019, DSNY reduced NYCHA’s annual quota of bulk tickets by approximately 16%, from 950 to 800. In February 2020, DSNY again agreed to provide NYCHA with 950 bulk tickets per month. NYCHA then completed an analysis of its bulk ticket process. Based on this analysis, NYCHA hired new vendors and advised its existing vendor on how to dispose of bulk waste properly. NYCHA also began to collect bulk ticket data from developments electronically in order to effectively ascertain systemwide performance and needs on an ongoing basis.

Using data collected through that analysis, NYCHA then requested and received an additional 150 bulk tickets, for a total of 1,100 tickets in the month of June 2020. In November 2020, NYCHA made a request to DSNY and was granted an increase in the number of bulk tickets to an all-time high of 1,250 each month. NYCHA will continue to analyze its bulk ticket data in Maximo to determine the adequacy of its bulk waste process.



## **VI. Appendix I – IPM Interim Guidance**

(See attached)

## VII. Appendix II – Clean Building Initiative

A pilot for CBI began in December 2019. In-unit work was suspended due to COVID-19 immediately after the pilot was completed in March 2020. NYCHA has continued to perform exterior and common area work at additional consolidations. As NYCHA moves through the initiative in phases, NYCHA will assess the specific funding and programmatic needs for each building and will allocate those additional funds as required.

In implementing CBI at each consolidation, NYCHA will adhere to the following timeline unless the specific programmatic needs of a consolidation require a change in course based on NYCHA’s consultation with the Monitor:

**Table 16 – CBI Schedule**

<b>Milestone</b>	<b>Detail</b>	<b>Timing</b>
<b>Action 1:</b> Coordinate with resident leadership	Draft communications for residents; resident meetings; distribute literature and pest free kits; survey resident concerns; creating resident ambassador positions to assist	Week 1
<b>Action 2:</b> Resident outreach	Brief resident leadership; general resident meetings; targeted outreach to seniors and special needs residents; update materials on IPM; resident checklists and housekeeping tips; other publicity materials	Week 2
<b>Action 3:</b> Resident notification	Place notifications under front doors five days before work; post building and management office flyers showing work schedule; robo-call reminders 48 hours before work; Resident Ambassadors help when NYCHA must use “right of entry”	Week 2
<b>Action 4:</b> Issuing Pest-Free Kits to Residents	Kits include: garbage can with lid and roll of bags; broom and dustpan; mop, detergent, and bucket; educational literature; miscellaneous items	Weeks 3 through 5
<b>Action 5:</b> Execute IPM	IPM work in apartments, hallways, basements, and grounds; Skilled Trades perform repair work	Weeks 3 through 6
<b>Action 6:</b> Sanitize hopper and compactors	Trash chutes assessed, sanitized, and deodorized; hopper doors removed, cleaned, and reinstalled; compactor units and roller conveyors cleaned, detailed, and deodorized	Weeks 7 through 10
<b>Action 7:</b> Install oversized hopper doors on first floor where possible	One door per stair-hall on ground floor; increases incentive for residents to use hoppers instead of leaving larger garbage bags outside; signage will direct residents to hopper	Weeks 7 through 10

<b>Action 8:</b> Floor restoration	Strip, seal, and wax public floors; clean/deodorize stairwells	Weeks 7 through 10
<b>Action 9:</b> Quality Assurance	Perform quality assurance on IPM work and review record-keeping	Weeks 5 through 11
<b>Action 10:</b> Survey Resident Satisfaction	Evaluate effectiveness of IPM	Weeks 10 through 11

## VIII. Appendix III – Targeted Relief Action Plan

Paragraph	Obligation
Ex. B, Sec. D, Par. 41	Within six months of the Effective Date, NYCHA shall, for any unit that has more than one pest infestation complaint verified by NYCHA staff within twelve months (a) cause a professional using IPM techniques to evaluate the unit and its immediately adjacent units and common areas within 30 days to identify any circumstances specific to that unit that may have contributed to such recurrence (including, but not limited to, unaddressed leaks, proximately located trash, or holes in the wall), and (b) address, consistent with IPM principles, any such circumstances within the following 30 days.

### A. Introduction

For purposes of this targeted pest relief action plan: (i) a “verified” pest infestation complaint means NYCHA has identified an open work order for a repeating pest problem, or has properly confirmed or presumes there is an ongoing pest condition; (ii) “evaluate” a unit means to inspect it; and (iii) “address” pest infestation circumstances means to treat them.

For any unit that has more than one pest infestation complaint verified by NYCHA staff, NYCHA must inspect that unit, its immediately adjacent units (“impacted adjacent units”), and common areas, and, if necessary, treat those units, using Integrated Pest Management (“IPM”) principles and techniques.

NYCHA identified 7,408 primary impacted units subject to the targeted pest relief requirement above (“PIUs”). NYCHA determined that separating the PIUs into two categories to prioritize the work was the most effective way to treat units with a recurring pest issue. NYCHA split the PIUs as follows: 2,645 units with *open* work orders for pest relief (the “First Priority PIUs”); and 4,763 units with *closed* pest relief work orders (the “Second Priority PIUs”).

To comply with its targeted pest relief obligations, NYCHA committed to the following high-level milestones and completion dates:

**Table 17 – Targeted Relief Milestone Dates**

Milestone	Completion Date
<b>Action 1:</b> Inspect and Treat First Priority PIUs	Completed 1/2/2020
<b>Action 2:</b> Resident Contact Plan for Second Priority PIUs	Completed 1/31/2020
<b>Action 4:</b> Inspect and Treat Second Priority PIUs	Completed 10/31/2020
<b>Action 5:</b> Inspect, and If Necessary, Treat, Adjacent Units	Completed 12/31/2020

NYCHA made at least two attempts to access, inspect, and treat PIUs and adjacent units, and has documented such efforts in Maximo. NYCHA staff have logged into Maximo, under the “Labor” field code

in the applicable work order, all efforts to access a unit.<sup>13</sup> This documentation will be stored in Maximo, and NYCHA’s IT Department will maintain the raw data. Upon the Monitor’s request, NYCHA will download the applicable information into an easily searchable spreadsheet and give the Monitor within two business days documentation showing each attempt. The Monitor at its own discretion shall determine whether the documentation confirms that the resident failed to provide access to the unit despite having been given an opportunity to provide access.

**B. IPM Protocol to Inspect and Treat Units**

**1. Scheduling and Outreach<sup>14</sup>**

NYCHA scheduled an appointment with residents for IPM specialists to inspect units. Before a visit:

- NYCHA notified residents at least 48 hours before a scheduled appointment, advised on how residents should prepare for a visit, and made robocalls to bring awareness; and
- Property management staff and resident services conducted prior outreach to inform specific residents of scheduled visits, how to prepare, and the importance of a visit.

**2. IPM Team at Unit**

An IPM work order was used by the IPM team for each unit (and if necessary, at adjacent units, pursuant to a work order generated using the operational structured described in Paragraph F below). As described in the main pest action plan, NYCHA’s IT department upgraded its system so that every work order incorporates IPM checklists and protocols.

**3. IPM Execution**

NYCHA executed IPM principles and techniques in each unit. NYCHA will prioritize rats, bed bugs, and other high severity conditions based on the tables outlined in the main pest action plan under Section IV, Paragraph E, Subparagraph 1.

**C. Operational Structure for First Priority PIUs**

As of September 19, 2019, 2,645 units had an open pest work order and a prior confirmed infestation for that same pest since January 31, 2018. These 2,645 First Priority PIUs were inspected and treated as follows:

**Table 18 – First Priority PIU Dates**

<b>Milestone</b>	<b>Completion Date</b>
<b>Action 1:</b> First Stage Inspections and Treatments	12/19/2019
<b>Action 2:</b> Second Stage Robocall	12/19/2019

<sup>13</sup> Specifically, NYCHA staff have the option of selecting specified values to indicate when a resident has failed to provide access including “NO ADULT” (no adult is present); “RESNOTHOME” (resident is not home); “RESREFUSED” (resident refused); or “UNSAFECOND” (unsafe condition).

<sup>14</sup> NYCHA’s Resident Engagement Department is developing an outreach plan, as outlined in the overall pest action plan.

<b>Action 3:</b> Second Stage Inspections and Treatments	1/17/2020
--	-----------

**D. Operational Structure for Verifying Complaints at Second Priority PIUs**

As described above, NYCHA identified 4,763 PIUs that had at least two closed work orders entered between July 31, 2018 and July 31, 2019 for extermination of a prior verified infestation for that same pest.<sup>15</sup> For these Second Priority PIUs, NYCHA attempted to contact each unit as follows:

**Table 19 – Second Priority Contact Plan Dates**

Step	Date of Completion	Method of Contact
1.	12/27/2019	<b>First Robocall:</b> If the first robocall was undeliverable, then 30 minutes later the robocall system tried again. <sup>16</sup>
2.	1/9/2020	<b>Second Robocall:</b> If the robocall was undeliverable then 30 minutes later the robocall system tried again.
3.	1/10/2020	<b>Analysis:</b> After the robocalls, units were categorized for further action based on this targeted relief action plan.
4.	1/17/2020	<b>Personal Phone Call:</b> NYCHA called any unit that did not answer a robocall, unless the robocall was undeliverable.
5.	1/31/2020	<b>Scheduling:</b> NYCHA generated a work order, provided a notice of a scheduled appointment, and scheduled a team (as described below) to inspect a Second Priority PIU, if any of the following criteria were met: (i) NYCHA had no phone number on file, (ii) the robocall was undeliverable, or (iii) after completing Steps 1 through 4, NYCHA had not connected with the resident. NYCHA presumes that any unit categorized under (i), (ii), or (iii) above is a “Second Priority PIU” (as defined below).

After identifying the units that require further treatment, NYCHA addressed those units on an ongoing basis by deploying staff using IPM principles and rules and the following operational structure.

**E. Operational Structure for Inspecting and Treating Second Priority PIUs**

NYCHA ensured all Second Priority PIUs requiring further pest control services after resident contact are inspected and as necessary treated by October 31, 2020.

To set this timeline, NYCHA assumed that *all* 4,763 Secondary Priority PIUs will confirm they have a pest condition after NYCHA contacts them. NYCHA also assumed that one team (as described below) can, on average, either (i) attempt once to access, or (ii) inspect and treat an average of 5 units per day per team.

<sup>15</sup> NYCHA and the Monitor, after consulting with SDNY and HUD, agreed to a modified 12-month look-back for the Second Priority PIUs, to reflect that all units with an existing open work order were captured under the 18-month look-back criteria for the First Priority PIUs, and that this second priority batch comprised units with closed work orders. Because none of these units expect an inspection for pest activity, this criterium is a statistically more accurate reflection for identifying units with repeat pest activity that required prioritization under the targeted relief requirement of the Agreement. The overall analysis also excluded units where (i) NYCHA can infer that a work order was not a new complaint for a recurring pest but rather one work order within an overall treatment plan that included several work orders, (ii) units overlapped with the First Priority PIUs, and (iii) units that were inspected and (if necessary) treated between August 1, 2019 and November 25, 2019.

<sup>16</sup> 3.7% of the Second Priority PIUs do not have a phone number on file. For these units, NYCHA immediately created a work order and an exterminator has been sent to inspect and treat the unit.

NYCHA has an almost 70% success rate in accessing units. Thus, NYCHA assumed that it would need to do a second access attempt for approximately 1,429 units, again, at an average rate of 5 units per day per team.

NYCHA devoted teams to this effort, five days a week excluding holidays and paid time off, until NYCHA has inspected and treated each unit. Each team included exterminators and maintenance workers and was led by a supervisor of exterminators. Each team lead reported to a Deputy Director of Skilled Trades, who report to the VP of Operations.

**F. Operational Structure for Adjacent Units**

If a pest condition was present in a First Priority PIU or a Second Priority PIU, then impacted adjacent units (“Adjacent Units”) were scheduled for an inspection. Adjacent Units will be inspected and treated based on the pest type and severity level found in the PIU. NYCHA determined the scope of impacted Adjacent Units to be inspected using the following protocol:

**Table 20 – Adjacent Unit Severity Index**

	Low Severity	Moderate Severity	High Severity
Rat	Cube <sup>17</sup>	Cube	Cube
Bed Bug	Cube	Cube	Cube
Mice	Cube	Cube	Cube
Roaches	None <sup>18</sup>	Cube	Cube

NYCHA’s IT system currently cannot automatically generate new parent work orders for adjacent units based on the pest type and severity level of an infestation at a primary unit, because floor plans and other necessary information are not built into the Maximo system, and not all work orders uniformly allow workers to input a severity level. Thus, NYCHA had property management staff visit or call each adjacent unit to verify a pest condition. If a resident did not answer or confirm that they have a pest condition, then property management staff manually generated a work order for that unit. NYCHA completed its inspections and treatments at Adjacent Units in December 2020.

**G. IPM Protocol for Follow- Up Visits to Inspect and Treat Units with Pest Complaints**

**1. Follow-Up Visit #1**

NYCHA will schedule a first follow-up IPM visit for all units containing pest levels on an ongoing basis. A borough-based exterminator will do the follow-up visit.

**2. Follow-Up Visit #2**

NYCHA will schedule a second follow-up IPM visit for all units still exhibiting pest levels on an ongoing basis. A borough-based exterminator will do the follow-up visit.

<sup>17</sup> “Cube” means the unit to the left, the unit to the right, the unit above, and the unit below the PIU.

<sup>18</sup> Not responding to Adjacent Units for non-severe roaches is a temporary measure that allows staff and vendors to inspect and treat more severe PIUs.

## **H. IPM Protocol to Confirm Work Completed at Units with Pest Complaints**

### **1. Inspection**

NYCHA inspectors from the Quality Assurance (“QA”) Department will inspect a sample of approximately 5% of PIU work orders. QA has four inspectors on staff assigned to pest related work. As mentioned in the main Action Plan, NYCHA will supplement this staff with a vendor. QA inspections will assess completeness of service, reporting, and any ongoing pest activity.



**IX. Appendix IV – Public Works Partners and Ideas42 Reports**

(See attached)