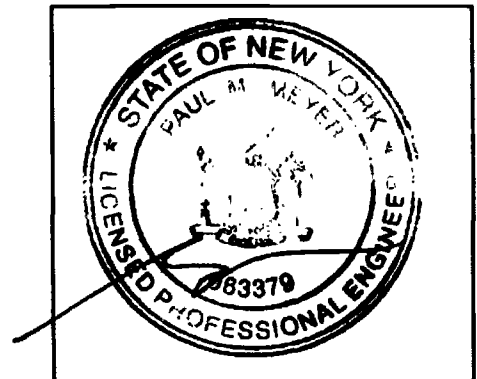




## PROGRESS INSPECTIONS REPORT

55 Hudson Yards

September 20, 2018



9/20/18

DATE

# 55 Hudson Yards

## Progress Inspections Report

### TABLE OF CONTENTS

1	EXECUTIVE SUMMARY.....	2
2	PROJECT DESCRIPTION .....	3
3	PROJECT SCOPE .....	4
3.1	Shutoff Dampers .....	4
3.2	HVAC and Service Water Heating Equipment .....	6
3.3	HVAC and Service Water Heating Controls.....	6
3.4	HVAC Insulation and Sealing .....	6
3.5	Electrical Energy Consumption .....	6
3.6	Interior Lighting Power.....	6
3.7	Exterior Lighting Power .....	6
3.8	Lighting Controls.....	6
3.9	Exit Signs.....	6
3.10	Electrical Motors.....	6
3.11	Maintenance Information .....	6
3.12	Permanent Certificate.....	6
4	DEFICIENCIES .....	7
5	CORRECTIVE ACTIONS.....	7
5.1	GENERAL.....	7
6	APPENDICIES .....	7
6.1	Appendix A - Inspections Checklists.....	7
6.2	Appendix B - Non-Conformance Log .....	7
	APPENDIX A - INSPECTIONS CHECKLISTS .....	A
	APPENDIX B - NON-CONFORMANCE LOG .....	B

# 1 EXECUTIVE SUMMARY

WSP has been contracted by the developer of the 55 Hudson Yards project, Related Companies, to perform energy code progress inspections as a prerequisite to this project receiving its permanent certificate of occupancy. The progress inspections categories required to be completed as a part of New York City's TR-8 – Statement of Responsibility for Energy Code Progress Inspections form are:

- Shutoff Dampers
- HVAC and Service Water Heating Equipment
- HVAC and Service Water Heating Controls
- HVAC Insulation and Sealing
- Electrical Energy Consumption
- Interior Lighting Power
- Exterior Lighting Power
- Lighting Controls
- Exit Signs
- Electrical Motors
- Maintenance Information
- Permanent Certificate

An inspector for each category was provided to conduct inspections of the aforementioned systems in accordance with the *2014 New York City Building Code* and *2014 New York City Energy Conservation Code*. Each system was also evaluated for conformance with the engineer of record's design specifications and manufacturer's installation and maintenance recommendations.

Inspection checklists were used during each site visit to properly record the equipment installation and operation condition with respect to the applicable code requirements. Any deviations from local and/or state building codes were annotated and recorded as a deficiency or provided with an explanation as to why the existing condition is acceptable. Field observation reports were issued after each field visit annotating the date / time of each visit and detailing the categories inspected, major deficiencies found, and other noteworthy observations.

WSP is an International Accreditation Service (IAS) accredited special inspections agency that is registered with the New York City Department of Buildings (NYC DOB) to perform special inspections and energy code progress inspections. All primary & secondary inspectors and support staff qualifications as well as checklists, inspection processes, and documenting practices, conform to the rules and regulations stated in the Rule of New York City (1 RCNY) 101-06 & 101-07.

## 2 PROJECT DESCRIPTION

The 55 Hudson Yards project is a 1.3 million square foot, 51-story, commercial office building in the Chelsea section of Manhattan. Located just outside of the Hudson Yards Redevelopment area, the building is adjacent to 50 Hudson Yards and is bordered to the north and south by 34<sup>th</sup> & 33<sup>rd</sup> Streets and on the east and west by Hudson Boulevard East & 11<sup>th</sup> Avenue respectively.

55 Hudson Yards is only one of the new developments that helps make up the Hudson Yards neighborhood which will also features public parks, retail, restaurant, and hotel spaces. The building is conveniently located above the NYC Metro Transit Authority's (MTA) 7-Train (34<sup>th</sup> Street Station) which provides convenient access to neighboring attractions like the The High Line and event spaces like the Javits Convention Center.



*55 Hudson Yards - (east side) artist rendering*

The building is targeting the US Green Buildings Council (USGBC) LEED Gold Certification and is scheduled to be completed in 2019.

### 3 PROJECT SCOPE

As previously stated, WSP was contracted by the building's developer, Related Companies, to provide energy code progress inspections. All inspections and corresponding site visits have been documented by WSP on category specific inspections checklists that will be attached to the end of the Final Progress Inspections Report [see Appendix A - Progress Inspections Checklists]. WSP is accredited by the International Accreditation Service (IAS) and registered with the New York City Department of Buildings to perform both special inspections and energy code progress inspections.

All primary and secondary inspectors are sufficiently experienced to inspect their assigned inspection categories and qualified per the requirements of Rule of New York City (1 RCNY) 101-06 - Appendix A. Equipment used during each field assessment is annotated on each checklists and certified to be within calibration on the date(s) used.

Any non-conformance items found during this process are noted on the inspections checklists and compiled on the Non-Conformance List [see Appendix B - Non-Conformance Log] that is distributed to the building owner and construction team for review. Once items are addressed, WSP schedules subsequent site visits to physically re-inspect each non-conformance item to ensure compliance.

#### 3.1 SHUTOFF DAMPERS

Shutoff dampers per the 2014 NYC Building Code are defined as either stairway or shaft vent dampers and outdoor air intake or exhaust dampers. By definition this project has a total of (49) shutoff dampers. With few exceptions, each stairway, shaft vent, outdoor air intake, and exhaust damper is required to have a damper assembly, a motorized actuator, and control wiring to enable automated actuation of the damper via building management system (BMS) command. These installation requirements were verified by WSP during an initial walkthrough for this inspection category conducted on Tuesday, September 11<sup>th</sup>.

Each stairway and shaft vent damper, per code, is required to open automatically during the activation of the building's fire alarm or if power is no longer present. In contrast, outdoor air intakes and exhausts dampers are required to close automatically when the systems or spaces it serves are no longer in use.

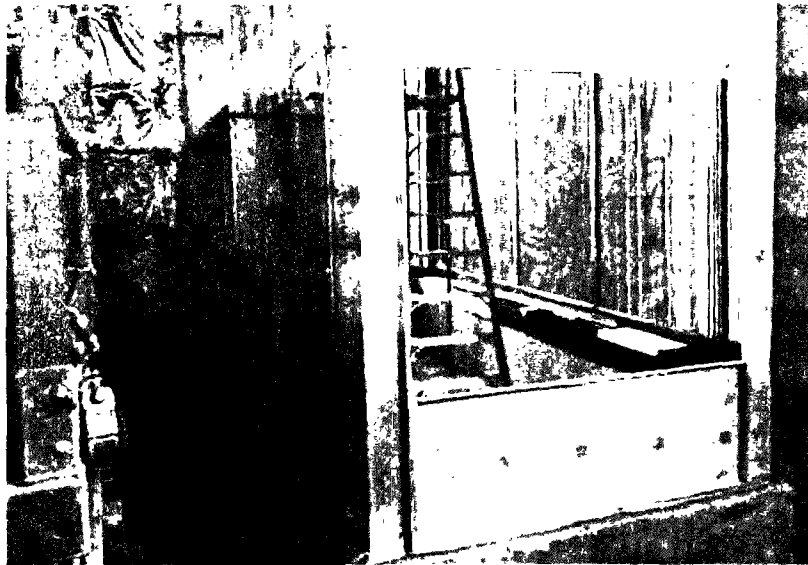
The (4) heating and ventilation (H&V) units on the 9<sup>th</sup> floor share an outdoor air plenum as well as the (3) H&V units on the 51<sup>st</sup> floor. Both outdoor air plenums were unfinished during WSP's initial inspection. The supply air plenums were uninsulated and supply dampers, damper actuators, and ductwork installation was incomplete.

The exhaust dampers, damper actuators, and control wiring installation for the H&V units on the 51<sup>st</sup> floor were complete.

Installation of the exhaust dampers, actuators, and control wiring for the 9<sup>th</sup> floor H&V units: HV-9-1, HV-9-2, HV-9-3, and HV-9-4 were complete however their shared outdoor intake plenum was uninsulated and the supply damper and actuator was not installed.

Supply fan SF-9-1, serving the Generator Room, was the most completed shutoff damper in terms of installation as the outdoor air supply duct was fully insulated per code, the damper was installed and the

damper actuators and control wiring was complete. The remaining supply fans and stair pressurization fans on the 9<sup>th</sup> floor were all missing damper components.

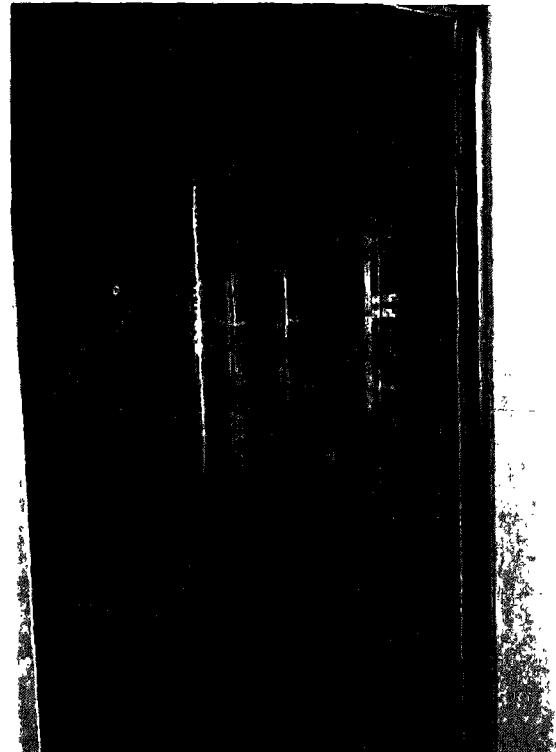


Outdoor Air Plenum serving Units HV-52-1, HV-52-2, HV-52-3

Operation of all shutoff dampers needs to be assessed after WSP's installation walkthrough. Future inspections should verify damper open/close functionality, fire alarm & power loss operation.



SF-9-1 outdoor air supply damper actuators



SF-9-1 outdoor air supply damper

---

### **3.2 HVAC AND SERVICE WATER HEATING EQUIPMENT**

*[No inspections have been completed for this category.]*

### **3.3 HVAC AND SERVICE WATER HEATING CONTROLS**

*[No inspections have been completed for this category.]*

### **3.4 HVAC INSULATION AND SEALING**

*[No inspections have been completed for this category.]*

### **3.5 ELECTRICAL ENERGY CONSUMPTION**

*[No inspections have been completed for this category.]*

### **3.6 INTERIOR LIGHTING POWER**

*[No inspections have been completed for this category.]*

### **3.7 EXTERIOR LIGHTING POWER**

*[No inspections have been completed for this category.]*

### **3.8 LIGHTING CONTROLS**

*[No inspections have been completed for this category.]*

### **3.9 EXIT SIGNS**

*[No inspections have been completed for this category.]*

### **3.10 ELECTRICAL MOTORS**

*[No inspections have been completed for this category.]*

### **3.11 MAINTENANCE INFORMATION**

*[No inspections have been completed for this category.]*

### **3.12 PERMANENT CERTIFICATE**

*[No inspections have been completed for this category.]*

---

## 4 DEFICIENCIES

All deficiencies found during WSP's progress inspections are recorded on the Non-Conformance List which is included at the end of this report [see Appendix B]. The Non-Conformance List is issued to the building owner as well as the construction manager for distribution to the project team.

The Non-Conformance List indicates the date the deficiency was noted, the responsible party, the status (open / closed) of each item, and the date when the deficiency was resolved.

## 5 CORRECTIVE ACTIONS

### 5.1 GENERAL

Several deficiencies were noted as a part of WSP's progress inspections evaluation. The deficiency list will be distributed to the project owner and the construction manager. All of the non-conformance items noted pertain to the Shutoff Damper inspection category. The majority of the issues found pertain to:

- Incomplete installation of dampers, damper actuators, and/or control wiring
- Equipment functionality that was not observed by the progress inspections team

## 6 APPENDICES

### 6.1 APPENDIX A - INSPECTIONS CHECKLISTS

Progress inspections checklists have been completed for the Shutoff Dampers and evaluated in this report. The checklist provides a list of the parameters inspected, the disposition, and, if necessary, provides further information in the 'NOTES' section. Building code citations are also included for reference.

All checklist items that are marked as 'fail' or 'not applicable' are accompanied with comments.

### 6.2 APPENDIX B - NON-CONFORMANCE LOG

The Non-Conformance Log is a complete and accurate representation of all non-conformance issues (deficiencies) found during WSP's progress inspection. The date, description of the issue, and the resolution status are all listed on the Non-Conformance Log for record. This log is updated (at least) after every field visit and all deficiencies rectified are reviewed in person by the progress inspection team prior to officially closing it out on the Non-Conformance Log.





WSP USA  
One Penn Plaza  
New York, NY 10119  
Tel.: + (212) 465 5000  
Fax.: + (212) 465 5096  
wsp.com

DS-705.02K	SHUTOFF DAMPERS (IIB2) NYC ENERGY CONSERVATION CODE CHECKLIST	Rev. 5	1/19/2018
------------	---	--------	-----------

**WSP – SPECIAL INSPECTIONS REPORT – COMMERCIAL ENERGY CODE COMPLIANCE – IIB2 – SHUTOFF DAMPERS**

ONE PENN PLAZA, 2<sup>ND</sup> FLOOR, NEW YORK, NY 10119 • TEL: (212) 465-5000 • FAX (212) 465-5096

SPECIAL INSPECTION AGENCY #: 003159

IAS ACCREDITATION #: SIA-347-NY

<b>PROJECT INFORMATION</b>	
<b>WSP Project Number:</b> N13.06980.21	<b>Arrival Time:</b> • 9/11/18 – 9:00 a.m.
<b>Date(s) of Inspection:</b> • Tuesday, September 11, 2018	<b>Departure Time:</b> • 9/11/18 – 1:30 p.m.
<b>Project Name &amp; Address:</b> 55 Hudson Yards – 550 West 34 <sup>th</sup> Street, New York, NY	
<b>Description of Work to be Performed:</b> • 9/11 - WSP was on site at the request of the owner, Related Companies, to conduct an assessment of the <i>Shutoff Dampers</i> inspection category in an effort to compile a partial TR-8 report to submit with an accompanying partial TR-8 form to the NYC Department of Buildings to meet their temporary certificate of occupancy (TCO) deadline.	

<b>PERSONNEL &amp; TEST EQUIPMENT INFORMATION</b>			
<b>Name of Primary Special Inspector:</b> Paul Meyer		<b>Name of Secondary Special Inspector:</b> Gary Joshua	
<b>Measuring Tape ID #:</b> -	<b>Calibration Due Date:</b> -	<b>Thermometer ID #:</b> -	<b>Calibration Due Date:</b> -

All requirements for the energy code compliance progress inspection of commercial buildings found in this checklist can be viewed in the 2014 New York City Energy Conservation Code. All code references come from 1 RCNY §5000-01.

This special inspection report is intended only for the use of the person or organization to which it is addressed, and may contain information that is privileged, confidential, and exempt from disclosure under applicable law. If you have received this report in error, kindly notify the sender immediately by e-mail or telephone.

Any change in status (repair and / or modification) after the completion of the inspection will void this report.

<b>INSTALLATION VERIFICATION</b>					
<b>Section</b>	<b>SHUTOFF DAMPERS: NYC ENERGY CONSERVATION CODE 2014</b>	<b>PASS</b>	<b>FAIL</b>	<b>N/A</b>	<b>NOTE</b>
C403.2.4.4.1	All stairway and shaft vents are provided with a Class I motorized damper	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1
C403.2.4.4.1	All stairway and shaft vent dampers automatically open upon the activation of the fire alarm system.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2
C403.2.4.4.1	All stairway and shaft vent dampers automatically open when power is interrupted.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3
C403.2.4.4.2	All outdoor air supply and exhaust openings are provided with a Class I motorized damper	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4
C403.2.4.4.2	All outdoor air supply and exhaust dampers automatically close when the system or space is not being used. <sup>1</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5
C403.2.4.4.2	Gravity dampers for ventilation air intakes are protected from direct wind exposure. <sup>1</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6

**FOOTNOTES**


- 1 – Gravity dampers having a maximum leakage rate of 20 cfm/ft<sup>2</sup> at 1.0 inch water gauge when tested in accordance with AMCA 500D are permitted to be used in buildings less than three stories in height above grade for exhaust and relief dampers and where the design outdoor air intake or exhaust capacity does not exceed 300 cfm. Gravity dampers smaller than 24 inches in either dimension are permitted to have an air leakage of 40 cfm/ft<sup>2</sup> at 1.0 inch water gauge when tested in accordance with AMCA 500D. Dampers are not required for ventilation or exhaust systems serving unconditioned spaces and exhaust systems serving Type I kitchen exhaust hoods.

WSP

NOTES		
No.	DESCRIPTION	DEFICIENCY
1	The shaft vent dampers for Groups 1, 2, 3, and 4 elevator shafts [ref. M-500 thru M-502 dwg.] were not installed at the time of WSP's walkthrough.	Yes
2	The fire alarm system was not active or ready to be tested.	Yes
3	Power was not present to the dampers at the time of WSP's walkthrough.	Yes
4	Motorized dampers were not present on all supply air intakes (e.g. HV-52-1, HV-52-2, HV-52-3, etc.).	Yes
5	Controls have not been completed for all supply air intakes and exhaust air dampers	Yes
6	There are no gravity dampers for air intakes specified or present on this project.	No

---

## APPENDIX B - NON-CONFORMANCE LOG

<b>Project:</b> 55 Hudson Yards		<b>Issues Status</b>		 <input checked="" type="checkbox"/> Open: <input type="checkbox"/> Closed:				
<b>Project Location:</b> 55 Hudson Yards, New York, NY 10001		<b>Open:</b>	14					
<b>Project Number:</b> N13.06988 21		<b>Closed:</b>	0					
<b>ABBREVIATIONS:</b> O = Owner, CM = Construction Manager, CxA = Commissioning Agent, EOR = Engineer of Record, MC = Mechanical Contractor, EC = Electrical Contractor PC = Plumbing Contractor, CC = Controls Contractor, TAB = Testing and Balancing Contractor, MAN = Manufacturer, LCC = Lighting Control Contractor								
Item No:	Inspection Category	Code Reference	Description of Issue:	Responsible Party	Date Witnessed:	Progress Update / Description of Resolution:	Status: (Open / Closed)	Date of Resolution:
1	Shutoff Dampers	C403.2.4.4.1	Stairway & shaft vent dampers were not evaluated during fire alarm operation to open automatically	CC	9/11/2018		Open	
2	Shutoff Dampers	C403.2.4.4.1	Stairway & shaft vent dampers were not evaluated during power interruption to open automatically	CC	9/11/2018		Open	
3	Shutoff Dampers	C403.2.4.4.2	Outdoor and exhaust air dampers were not evaluated when the systems are off to ensure that the dampers close automatically.	CC	9/11/2018		Open	
4	Shutoff Dampers	C403.2.4.4.2	HV-52-1, HV-52-2, and HV-52-3 outdoor supply air plenum installation is incomplete.	MC	9/11/2018		Open	
5	Shutoff Dampers	C403.2.4.4.2	HV-52-1, HV-52-2, and HV-52-3 motorized supply damper actuators are not installed.	MC	9/11/2018		Open	
6	Shutoff Dampers	C403.2.4.4.2	HV-52-1 and HV-52-2 motorized exhaust damper actuators are not installed.	MC	9/11/2018		Open	
7	Shutoff Dampers	C403.2.4.4.2	SF-52-1 damper actuator is not wired.	MC	9/11/2018		Open	
8	Shutoff Dampers	C403.2.4.4.2	SF-9-2 motorized actuator is not installed.	MC	9/11/2018		Open	
9	Shutoff Dampers	C403.2.4.4.2	SPF-9-1 and SPF-9-3 damper and motorized actuator is not installed.	MC	9/11/2018		Open	
10	Shutoff Dampers	C403.2.4.4.2	HV-9-1, HV-9-2, HV-9-3, and HV-9-4 exhaust damper and motorized damper is not installed.	MC	9/11/2018		Open	
11	Shutoff Dampers	C403.2.4.4.1	Group 4 elevator shaft vents exhaust dampers and motorized actuators have not been installed.	MC	9/11/2018		Open	

Item No:	Inspection Category	Code Reference	Description of Issue:	Responsible Party	Date Witnessed:	Progress Update / Description of Resolution:	Status: (Open / Closed)	Date of Resolution:
12	Shutoff Dampers	C403.2.4.4.1	Group 3 elevator shaft vents exhaust dampers and motorized actuators have not been installed.	MC	9/11/2018		Open	
13	Shutoff Dampers	C403.2.4.4.1	Group 2 elevator shaft vents exhaust dampers and motorized actuators have not been installed.	MC	9/11/2018		Open	
14	Shutoff Dampers	C403.2.4.4.1	Group 1 elevator shaft vents exhaust dampers and motorized actuators have not been installed.	MC	9/11/2018		Open	

WSP USA  
One Penn Plaza  
250 West 34<sup>th</sup> Street  
New York, NY 10119  
(212) 465-5000  
[www.wsp.com](http://www.wsp.com)

