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TABLE II

PROGRESS INSPECTIONS FOR ENERGY CODE COMPLIANCE

"COMMERCIAL BUILDING"

2014 ENERGY CONSERVATION CONSTRUCTION CODE OF NYC SIGNIFICANT REQUIREMENTS

DESIGN LOADS SHALL BE DETERMINED IN ACCORDANCE WITH THE PROCEDURES DESCRIBED IN THE ASHRAE/ACCA 183. HEATING AND COOLING LOADS SHALL BE ADJUSTED TO ACCOUNT FOR LOAD REDUCTIONS THAT ARE ACHIEVED WHEN ENERGY RECOVERY SYSTEM ARE UTILIZED IN THE HVAC SYSTEM IN ACCORDANCE WITH THE ASHRAE HVAC SYSTEMS AND EQUIPMENT HANDBOOK.

1. THERMOSTATIC CONTROLS.
THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH ZONE SHALL BE CONTROLLED BY INDIVIDUAL THERMOSTATIC CONTROLS CAPABLE OF RESPONDING TO TEMPERATURE WITHIN THE ZONE WHERE HUMIDIFICATION OR DEHUMIDIFICATION OR BOTH IS PROVIDED, AT LEAST ONE HUMIDITY CONTROL DEVICE SHALL BE PROVIDED FOR EACH HUMIDITY CONTROL SYSTEM.
EXCEPTION:
1.1. INDEPENDENT PERIMETER SYSTEMS THAT ARE DESIGNED TO OFFSET ONLY BUILDING ENVELOPE HEAT LOSSES OR GAINS OR BOTH SERVING ONE OR MORE PERIMETER ZONES ALSO SERVED BY AN INTERIOR SYSTEM PROVIDED:
1.2. THE PERIMETER SYSTEM INCLUDES AT LEAST ONE THERMOSTATIC CONTROL ZONE FOR EACH BUILDING EXPOSURE HAVING EXTERIOR WALLS FACING ONLY ONE ORIENTATION (WITHIN +/- 45 DEGREES) (0.8 RAD) FOR MORE THAN 50 CONTIGUOUS FEET (15,240 MM); AND THE PERIMETER SYSTEM HEATING AND COOLING SUPPLY IS CONTROLLED BY THERMOSTATS LOCATED WITHIN THE ZONES SERVED BY THE SYSTEM.

2. HEAT PUMP SUPPLEMENTARY HEAT
HEAT PUMPS HAVING SUPPLEMENTARY ELECTRIC RESISTANCE HEAT SHALL HAVE CONTROLS THAT, EXCEPT DURING DEFROST, PREVENT SUPPLEMENTARY HEAT OPERATION WHERE THE HEAT PUMP CAN MEET THE HEATING LOAD.

3. SET POINT OVERLAP RESTRICTION.
WHERE USED TO CONTROL BOTH A HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS SHALL PROVIDE A TEMPERATURE RANGE OR DEADBAND OF AT LEAST 5°F (2.8°C) WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS CAPABLE OF BEING SHUT OFF OR REDUCED TO A MINIMUM.
EXCEPTION:
3.1. THERMOSTATS REQUIRING MANUAL CHANGEOVER BETWEEN HEATING AND COOLING MODES.

4. OFF-HOUR CONTROLS.
EACH ZONE SHALL BE PROVIDED WITH THERMOSTATIC SETBACK CONTROLS THAT ARE CONTROLLED BY EITHER AN AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROL SYSTEM.
EXCEPTIONS:
4.1. ZONES WITH A FULL HVAC LOAD DEMAND NOT EXCEEDING 6,800 BTU/H (2 KW) AND HAVING A READILY ACCESSIBLE MANUAL SHUTOFF SWITCH.

5. THERMOSTATIC SETBACK CAPABILITIES.
THERMOSTATIC SETBACK CONTROLS SHALL HAVE THE CAPABILITY TO SET BACK OR TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN ZONE TEMPERATURES DOWN TO 55°F (13°C) OR UP TO 85°F (29°C).

6. AUTOMATIC SETBACK AND SHUTDOWN CAPABILITIES.
AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROLS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK AND RETAINING THEIR PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR AT LEAST 10 HOURS. ADDITIONALLY, THE CONTROLS SHALL HAVE A MANUAL OVERRIDE THAT ALLOWS TEMPORARY OPERATION OF THE SYSTEM FOR UP TO 2 HOURS; A MANUALLY OPERATED TIMER CAPABLE OF BEING ADJUSTED TO OPERATE THE SYSTEM FOR UP TO 2 HOURS; OR AN OCCUPANCY SENSOR.

7. OPTIMUM START CONTROLS.
INDIVIDUAL HEATING AND COOLING DISTRIBUTION SYSTEMS WITH A TOTAL DESIGN SUPPLY AIR CAPACITY EXCEEDING 10,000 CFM, SERVED BY ONE OR MORE SUPPLY FANS, SHALL HAVE OPTIMUM START CONTROLS. THE CONTROL ALGORITHM SHALL, AS A MINIMUM, BE A FUNCTION OF THE DIFFERENCE BETWEEN SPACE TEMPERATURE AND OCCUPIED SETPOINT AND THE AMOUNT OF TIME PRIOR TO SCHEDULED OCCUPANCY.

8. ALL SUPPLY AND RETURN AIR DUCTS AND PLENUMS SHALL BE INSULATED AND SEALED PER SECTION C403.2.7 OF THE 2014 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK CITY (2014ECCCNYS). IN PARTICULAR BUT NOT LIMITED TO:
8.1. R-6 MINIMUM SHALL BE USED WHEN LOCATED IN UNCONDITIONED SPACES.
8.2. R-8 MINIMUM SHALL BE USED WHEN LOCATED OUTSIDE THE BUILDING.
8.3. WHEN LOCATED WITHIN A BUILDING ENVELOPE ASSEMBLY, THE DUCT OR PLENUM SHALL BE SEPARATED FROM THE BUILDING EXTERIOR OR UNCONDITIONED OR EXEMPT SPACES BY A MINIMUM OF R-8 INSULATION.

8.4. ALL JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS AND CONNECTORS IN DUCTWORK SHALL BE SECURELY FASTENED AND SEALED WITH WELDS, GASKETS, MASTICS (ADHESIVES), MASTIC-PLUS-EMBEDDED-FABRIC SYSTEMS OR TAPES.

8.5. TAPES AND MASTICS USED TO SEAL DUCTWORK SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A OR UL 181B.

8.6. UNLISTED DUCT TAPE IS NOT PERMITTED AS A SEALANT ON ANY METAL DUCTS

9. ALL PIPING SERVING AS PART OF A HEATING OR COOLING SYSTEM SHALL BE THERMALLY INSULATED IN ACCORDANCE WITH SECTION 403.2.8 OF THE 2014ECCCNYS.

10. SERVICE WATER HEATING EQUIPMENT SHALL BE PROVIDED WITH CONTROLS TO ALLOW A SET POINT OF 110°F FOR EQUIPMENT SERVING DWELLING UNITS AND 90°F FOR EQUIPMENT SERVING OTHER OCCUPANCIES. THE OUTLET TEMPERATURE OF LAVATORIES IN PUBLIC FACILITY REST ROOMS SHALL BE LIMITED TO 110°F.

11. PIPING SERVING THE SERVICE WATER HEATING SYSTEM SHALL BE INSULATED PER SECTION C404.5 OF THE 2014 ECCCNYS.

12. AUTOMATIC CIRCULATING HOT WATER SYSTEM PUMPS OR HEAT TRACE SHALL BE ARRANGED TO BE CONVENIENTLY TURNED OFF AUTOMATICALLY OR MANUALLY WHEN THE HOT WATER SYSTEM IS NOT IN OPERATION.

13. THE MINIMUM REQUIRED OUTDOOR AIR IS LESS THAN 30% OF THE FULL DESIGN AIRFLOW RATE OF THE RTU'S SO ENERGY RECOVERY NOT REQUIRED. THE VRF'S HAVE NO FRESH AIR SUPPLY.

IIB2

OUTDOOR AIR INTAKES AND EXHAUST OPENINGS: DAMPERS FOR STAIR AND ELEVATOR SHAFT VENTS AND OTHER OUTDOOR AIR INTAKES AND EXHAUST OPENINGS INTEGRAL TO THE BUILDING ENVELOPE SHALL BE VISUALLY INSPECTED TO VERIFY THAT SUCH DAMPERS, EXCEPT WHERE PERMITTED TO BE GRAVITY DAMPERS, COMPLY WITH APPROVED CONSTRUCTION DRAWINGS.

As required during installation

Approved construction documents; AMCA 5000

502.4.4; ASHRAE 90.1 – 6.4.3.4

IIB3

HVAC, SERVICE WATER HEATING AND POOL EQUIPMENT SIZING AND PERFORMANCE;
EQUIPMENT SIZING, EFFICIENCIES AND OTHER PERFORMANCE FACTORS OF ALL MAJOR EQUIPMENT UNITS, AS DETERMINED BY THE APPLICANT OF RECORD, AND NO LESS THAN 15% OF MINOR EQUIPMENT UNITS, SHALL BE VERIFIED BY VISUAL INSPECTION AND, WHERE NECESSARY, REVIEW OF MANUFACTURER'S DATA.

POOL HEATERS AND COVERS SHALL BE VERIFIED BY VISUAL INSPECTION.

Prior to final plumbing and construction inspection

Approved construction documents

503.2, 504.2, 504.7; ASHRAE 90.1 – 6.3, 6.4.1, 6.4.2, 6.8; 7.4, 7.8

IIB4

HVAC SYSTEM CONTROLS AND ECONOMIZERS AND SERVICE HOT WATER SYSTEM CONTROLS. NO LESS THAN 20% OF EACH TYPE OF REQUIRED CONTROLS AND ECONOMIZERS SHALL BE VERIFIED BY VISUAL INSPECTION AND TESTED FOR FUNCTIONALITY AND PROPER OPERATION.
SUCH CONTROLS SHALL INCLUDE, BUT ARE NOT LIMITED TO:

- THERMOSTATIC
- SET POINT OVERLAP RESTRICTION
- OFF-HOUR
- SHUTOFF DAMPER
- SNOW-MELT SYSTEM
- DEMAND CONTROL SYSTEMS
- OUTDOOR HEATING SYSTEMS
- ZONES
- ECONOMIZERS
- AIR SYSTEMS
- VARIABLE AIR VOLUME FAN
- HYDRONIC SYSTEMS
- HEAT REJECTION EQUIPMENT FAN SPEED
- COMPLEX MECHANICAL SYSTEMS SERVING MULTIPLE ZONES
- VENTILATION
- ENERGY RECOVERY SYSTEMS
- HOT GAS BYPASS LIMITATION
- TEMPERATURE
- SERVICE WATER HEATING
- HOT WATER SYSTEM
- POOL HEATER AND TIME SWITCHES
- EXHAUST HOODS
- RADIANT HEATING SYSTEMS.

CONTROLS WITH SEASONALLY DEPENDENT FUNCTIONALITY: CONTROLS WHOSE COMPLETE OPERATION CANNOT BE DEMONSTRATED DUE TO PREVAILING WEATHER CONDITIONS TYPICAL OF THE SEASON DURING WHICH PROGRESS INSPECTIONS WILL BE PERFORMED SHALL BE PERMITTED TO BE SIGNED OFF FOR THE PURPOSE OF A TEMPORARY CERTIFICATE OF OCCUPANCY WITH ONLY A VISUAL INSPECTION, PROVIDED, HOWEVER, THAT THE PROGRESS INSPECTOR SHALL PERFORM A SUPPLEMENTAL INSPECTION WHERE THE CONTROLS ARE VISUALLY INSPECTED AND TESTED FOR FUNCTIONALITY AND PROPER OPERATION DURING THE NEXT IMMEDIATE SEASON THEREAFTER. THE OWNER SHALL PROVIDE FULL ACCESS TO THE PROGRESS INSPECTOR WITHIN TWO WEEKS OF THE PROGRESS INSPECTOR'S REQUEST FOR SUCH ACCESS TO PERFORM THE PROGRESS INSPECTION. FOR SUCH SUPPLEMENTAL INSPECTIONS, THE DEPARTMENT SHALL BE NOTIFIED BY THE APPROVED PROGRESS INSPECTION AGENCY OF ANY UNRESOLVED DEFICIENCIES IN THE INSTALLED WORK WITHIN 180 DAYS OF SUCH SUPPLEMENTAL INSPECTION.

After installation and prior to final electrical and construction inspection, except that for controls with seasonally dependent functionality, such testing shall be performed before sign-off for issuance of a Final Certificate of Occupancy

Approved construction documents, including control system narratives; ASHRAE Guideline 1: The HVAC Commissioning Process where applicable

503.2.4, 503.2.5.1, 503.2.11, 503.3, 503.4, 504.3, 504.6, 504.7; ASHRAE 90.1 – 6.3, 6.4, 6.5, 6.7.2.4, 7.4.4, 7.4.5

IIC1

ELECTRICAL METERING;
THE PRESENCE AND OPERATION OF INDIVIDUAL METERS OR OTHER MEANS OF MONITORING INDIVIDUAL DWELLING UNITS SHALL BE VERIFIED BY VISUAL INSPECTION FOR ALL APARTMENTS.

Prior to final electrical and construction inspection

Approved construction documents

505.7

IID1

MAINTENANCE INFORMATION:
MAINTENANCE MANUALS FOR MECHANICAL, SERVICE HOT WATER AND ELECTRICAL EQUIPMENT AND SYSTEMS REQUIRING PREVENTIVE MAINTENANCE SHALL BE REVIEWED FOR APPLICABILITY TO INSTALLED EQUIPMENT AND SYSTEMS BEFORE SUCH MANUALS ARE PROVIDED TO THE OWNER. LABELS REQUIRED FOR SUCH EQUIPMENT OR SYSTEMS SHALL BE INSPECTED FOR ACCURACY AND COMPLETENESS.

Prior to signoff or issuance of Certificate of Occupancy

Approved construction documents, including electrical drawings where applicable; ASHRAE Guideline 4: Preparation of Operating and Maintenance Documentation for Building Systems

303.3, 503.2.9.3; ASHRAE 90.1 – 4.2.2.3, 6.7.2.2, 8.7.2

ENERGY NOTE:
I, GREGORY MORTMAN, A LICENSED PROFESSIONAL ENGINEER, TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, STATE THIS APPLICATION IS IN COMPLIANCE WITH THE ECCCNYS 2014

SPECIAL/PROGRESS INSPECTIONS

MECHANICAL SYSTEMS

BC 1704.15

COMMISSIONING NOTES

1. SYSTEMS COMMISSIONING WILL BE REQUIRED PER THE 2014 NYC ENERGY CONSTRUCTION CODE SECTION C408.

2. PRIOR TO PASSING THE FINAL MECHANICAL INSPECTION, THE REGISTERED DESIGN PROFESSIONAL SHALL PROVIDE EVIDENCE OF MECHANICAL SYSTEMS COMMISSIONING AND COMPLETION IN ACCORDANCE THE PROVISIONS OF SECTION C408.

3. COPIES OF ALL DOCUMENTATION SHALL BE GIVEN TO THE OWNER AND SHALL BE MADE AVAILABLE TO THE CODE OFFICIAL UPON REQUEST IN ACCORDANCE WITH SECTIONS C408.2.4 AND C408.2.5.

REVISIONS

ECN #	REV	ZONE	DESCRIPTION	DATE	BY	APPVD
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DESIGNED BY
G.MORTMAN

DRAWN BY
G.MORTMAN

CHECKED BY

APPROVED BY

SEAL

4/24/15

4/24/15

4/24/15

AUTOMATED DESIGN CONSULTANTS

15 HARDCRABBLE HILL ROAD

CHAPPAQUA, NY 10514

(914) 238-1702

PROJECT
71-25 KISSENA BLVD.
QUEENS NY 11367
RETAIL STORE

DOB STAMPS

PROJECT # 150303

TITLE
MECHANICAL PLANS
AND DETAILS
INSPECTIONS

CLIENT
MR. WILLY ZAMBRANO
ZAMBRANO ARCHITECTURAL DESIGN
410 ATLANTIC AVENUE
FREEPORT NY 11520
516-327-0851

DOB BAR CODE

DWG. #
EN-001.00

SCALE N/A

REV.
SHT. 1 OF 2

STATE OF NEW YORK

GREGORY MORTMAN

083953

REGISTERED PROFESSIONAL ENGINEER

[illegible]

DESIGNED BY G.MORTMAN	DATE 4/24/15	AUTOMATED DESIGN CONSULTANTS		TITLE MECHANICAL PLANS AND DETAILS ENERGY ANALYSIS	
DRAWN BY G.MORTMAN	DATE 4/24/15			CLIENT MRS. WILLY ZAMBRANO ZAMBRANO ARCHITECTURAL DESIGN 410 ATLANTIC AVENUE FREEPORT NY 11520 516-327-0851	
CHECKED BY	DATE				
APPROVED BY	DATE				
SEAL 		PROJECT 71-25 KISSENA BLVD. QUEENS NY 11367 RETAIL STORE	DOB BAR CODE		
		DOB STAMPS	DWG. # EN-002.00		
		PROJECT # 150303	SCALE NA		REV. SHT. 2 OF 2