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NEW YORK CITY

# 2014 NYC Plumbing & Fuel Gas Code Revisions

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# Presentation Agenda

- Introduction and Biography
- Review of Code Revision Timeline
- Source Documents used in the Code Revision
- Review of Fuel Gas Code Revisions (Chap 1, 2, 3, 4 & 8)
- Review of Fuel Gas Code Appendix G *(New)*
- Review of Plumbing Code Revisions
- Review of Plumbing Code Appendix C *(New)*
- Question and Answer Period
- Closing Statements

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# Introduction and Biography

- Philip Parisi, Jr.
  Director of the Plumbing & Fire Protection
  Department at JB&B Consulting Engineers
- B.S. Mechanical Engineering, Rutgers University
- 14 Years Experience in Plumbing, Fire Protection & Water Treatment Design in Commercial, Residential & Institutional
- Licensed Professional Engineer, New York State
- USGBC LEED Accredited Professional
- Co-Chair, New York City Plumbing Code Committee
- Member, MP&MFSC Licensing Board
- U.S. Co-Chair, ICC/CSA Committee on Rainwater Collection System Design

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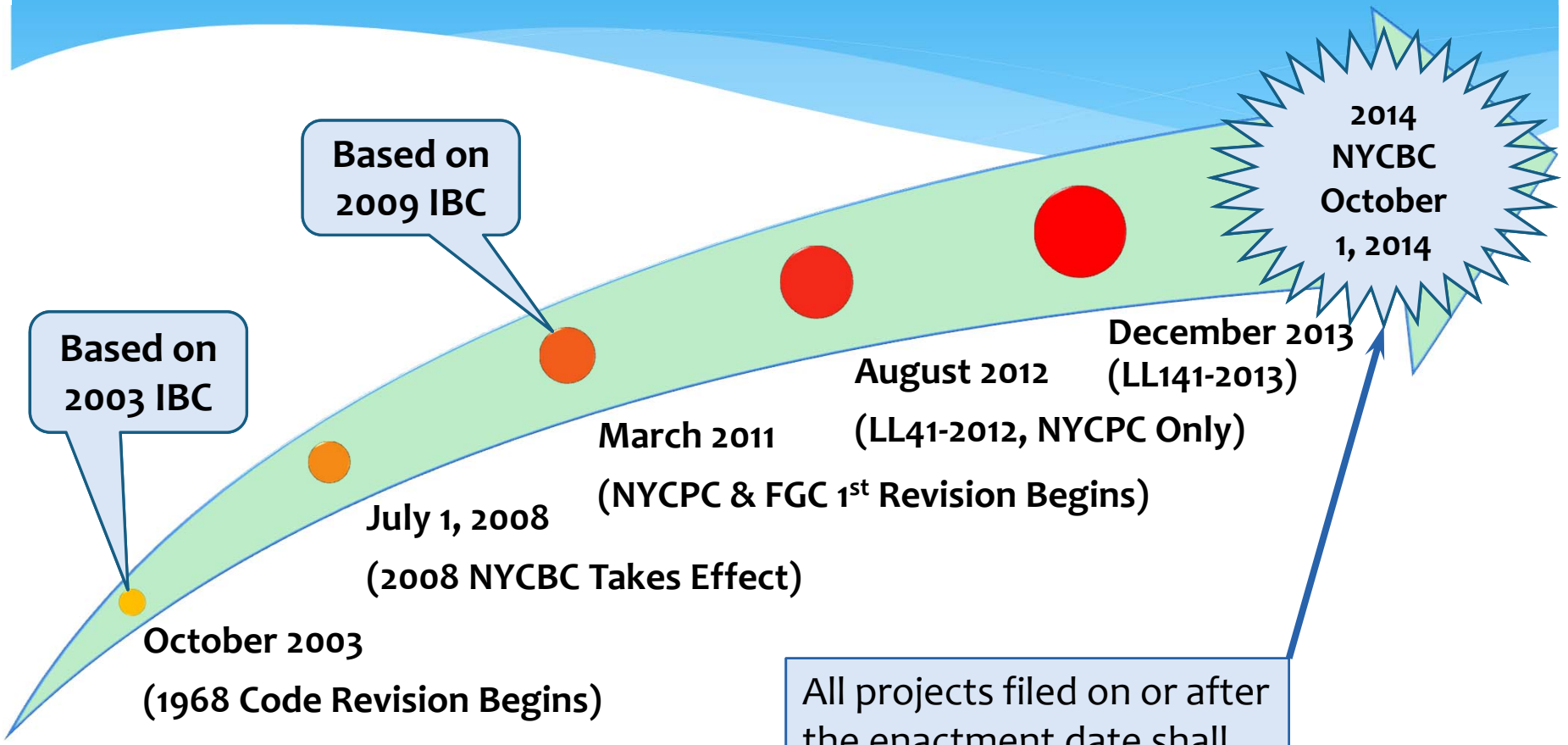
# Code Revision Timeline

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# 2014 NYC Fuel Gas Code Revisions

- Overview
  - Focus will be on major revisions affecting design and specs.
  - Global revision from “equipment” to “appliances”.
  - Chapter 4 – Revisions to the installation of gas piping.
  - Appendix F – The appendix and all references to plastic piping have been eliminated.
  - Appendix G – New appendix which covers gas distribution at or above 15 psig.

# 2014 NYC Fuel Gas Code Revisions

- Chapter 1 - Administration
  - 101.2.2 Piping Systems – Scope of the code has been expanded to cover distribution systems beyond 125 psig. Appendix G covers high-pressure gas installations at 15 psig and greater.
  - 101.2.4 Systems and equipment outside the scope – Public utility power plants have been excluded from the scope of the code.
  - 102.4 Special provisions for prior code buildings.
    - 102.4.2.1 Fuel gas piping in fire-resistance-rated assemblies – allows replacement of existing fuel gas piping in the same location without being subject to the new requirements of Section 404.1.

# 2014 NYC Fuel Gas Code Revisions

- Chapter 1 - Administration
  - 102.4 Special provisions for prior code buildings (cont.)
    - 102.4.2.3 Seismic support – The determination as to whether seismic requirements apply to an alteration shall be made in accordance with the 1968 NYCBC and interpretation by the department.
    - Seismic loads and requirements shall be permitted to be determined in accordance with the 1968 NYCBC and Reference Standard RS9-6 or Chapter 16 of the NYCBC.

# 2014 NYC Fuel Gas Code Revisions

- Chapter 8 – Reference Standards
  - NFPA 37-2010 Installation and Use of Stationary Combustion Engines and Gas Turbines
  - NFPA 54-2006 National Fuel Gas Code
  - NFPA 56PS-2012 Standard for Fire and Explosion Prevention During Cleaning and Purging of Flammable Gas Piping Systems
  - NFPA 68-2007 Standard for Explosion Protection by Deflagration Venting
  - NFPA 69-2008 Standard on Explosion Prevention Systems
  - NFPA 72-2010 National Fire Alarm and Signaling Code
  - NFPA 853-2007 Installation of Stationary Fuel Cell Power Systems

# 2014 NYC Fuel Gas Code Revisions

- Chapter 2 – General Definitions
  - Appliance – Any apparatus or device that utilizes gas as a fuel.
  - Connector, Appliance – Rigid pipe and fittings or a listed and labeled device.
  - Equipment – Any apparatus or device that delivers gas as a fuel to an appliance… including, but not limited to, control devices, pressure regulators, valves, appliance appurtenances, gas connectors, etc.
  - MP Regulator – Deleted and replaced with "Regulator, Medium Pressure", which covers distribution pressures between 0.5 and 5 psig.

# 2014 NYC Fuel Gas Code Revisions

- Chapter 3 – General Regulations
  - 303.3.1 Gas-fired direct vent space-heating appliances used for heat in rooms for sleeping shall be hard-piped and provided with an automatic main gas shutoff valve.
  - 307.2.1 Condensate disposal – Condensate from fuel-burning appliances and flues shall be neutralized to a pH between 6 & 8 prior to disposal to a sanitary system.
  - 307.3 Drain pipe materials and sizes – Permits the use of plastic pipe for condensate drainage and provides reference to Chapter 7 in the NYCPC.

# 2014 NYC Fuel Gas Code Revisions

- Chapter 4 – Gas Piping Installations
  - 401.1.2 Plastic piping – All references to plastic piping have been deleted, including Appendix F.
  - 401.5 Identification – All new piping in new & existing buildings require identification in accordance with ASME A13.1 (yellow label/black lettering).
  - 402.6 Gas distribution pressures
    - Pressure limitation has been increased to 5 psig for commercial and industrial occupancies for appliances exceeding 4,000 cfh.
    - Pressures exceeding 15 psig must comply with Section 406 and Appendix G.

# 2014 NYC Fuel Gas Code Revisions

- Chapter 4 – Gas Piping Installations
  - Tables 402.4 – Sizing tables have been replaced with tables for pressures less than 2 psig thru 5 psig and lengths up to 2,000 ft.
  - 403.1.1 Pipe size and pressure limitations – Exception provides the use of threaded gas trains, which are provided with the appliance in applications where pressures do not exceed 5 psig.
  - 403.5 Metallic tubing - Not permitted except as per Section 405.5 listed as per UL 536 and the following:
    - Stainless steel flexible hose shall be designed to withstand seismic forces in accordance with Section 1613 of NYCBC.
    - ***Special Inspections are required for stainless steel flexible hoses.***

# 2014 NYC Fuel Gas Code Revisions

- Chapter 4 – Gas Piping Installations
  - 404.1 Prohibited locations for piping system installation
    - Piping shall not be extended through any Townhouse other than the house served.
    - Piping shall not be installed in Fire Pump Rooms.
    - Access to Gas Meter Rooms shall not be through Fire Pump Rooms.
    - Piping shall not be installed in fire-rated assemblies.
    - Piping shall not be installed in public corridors and exit enclosures.
    - ***Exceptions provided for residential buildings without below-grade levels and multi-use buildings with a residential occupancy.***

# 2014 NYC Fuel Gas Code Revisions

- Chapter 4 – 404.1 Prohibited locations (cont.)
- Exceptions to prohibited locations include:
  - Gas piping is permitted in the public corridor in the lowest level or lowest residential level of the building.
  - All gas valves in the public corridor shall be accessible.
  - Gas pressures in a public corridor shall not exceed 0.5 psig.
  - Piping within the corridor must be tested to 10 psig for 30 minutes.
  - All piping in the corridor must be welded.
  - The public corridor shall be ventilated in accordance with the NYCMC and shall not be installed within a return air-plenum.

# 2014 NYC Fuel Gas Code Revisions

- Chapter 4 – Gas Piping Installations
  - 404.13 Outlet closures – Gas outlets shall be permitted under the following conditions:
    - For single-appliance outlets as approved.
    - For each floor in non-production laboratory buildings for future.
    - Listed and labeled quick disconnects or convenience outlets.
  - 405.1 – 405.5 Piping Bends and Changes in Direction
    - Provides outlined requirements for pipe movement utilizing stainless steel multiple leg hoses designed to withstand seismic forces and required ***special inspections.***

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# 2014 NYC Fuel Gas Code Revisions

- Chapter 4 – Gas Piping Installations
  - 406.1.3 & 406.1.4 System testing and new branches – All systems must be tested as one (1) complete unit. Section testing is not permitted.
  - 406.6.4 Gas appliances must be checked for leakage and purged prior to being placed in operation.
  - 406.7 Purging – Purging procedures have been updated to match the latest standards in the ICC. Purging is required when distribution pressures exceed 2 psig or 2-1/2 inches and greater depending on the length of piping in Table 406.7.1.1.

# 2014 NYC Fuel Gas Code Revisions

- Chapter 4 – Gas Piping Installations
  - 406.7.1 – 406.7.3 Purging procedures include the following:
    - Piping systems must be purged outdoors and controlled with a shut-off valve.
    - Located 10 ft. from the building openings and 25 ft. from intakes.
    - Combustible gas indicators/detectors must be used to determine percentage of gas by volume.
    - Appliances shall be purged before being placed into operation.
    - Area must be evacuated within 10ft of the point of discharge.
    - Purging shall stop when 90% fuel gas by volume is detected.
    - Point of discharge shall be continuously attended and monitored.

# 2014 NYC Fuel Gas Code Revisions

- Chapter 4 – Gas Piping Installations
  - 406.7.2 Piping may be purged indoors if gas distribution pressure is less than 2 psig and length does not meet the requirement in Table 406.7.1.1.
  - 409.1 Shutoff valves – Table 409.1.1 has been included to clarify listing requirements for valves used in gas distribution piping based on pressure and application.
  - 409.5 Appliance shutoff valve – Shutoff valves shall be installed in the same room and within 6ft of the appliance.
  - 409.6 Shutoff valve for laboratories – Dedicated shutoff valves are required for each lab with two or more outlets, within the laboratory space and adjacent to the egress door with signage.

# 2014 NYC Fuel Gas Code Revisions

- Chapter 4 – Gas Piping Installations
  - 410.3 Venting of regulators – Clarifies the requirements for vent pipe sizing and when vents can be manifolded.
    - Materials shall comply with materials approved for gas piping.
    - Size shall not be smaller than the vent connection on the device.
    - Vent piping shall be dedicated and independent, with the exception of breather vents which can be manifolded.
    - Length shall not exceed the manufacturer's installation instructions.
    - A vent to the outdoors is NOT required for regulators less than 1-1/4 inches equipped with a vent-limiting device.

# 2014 NYC Fuel Gas Code Revisions

- Chapter 4 – Gas Piping Installations
  - 411.1 Connecting appliances and manufactured homes – Section limits connections to rigid metallic pipe and listed and labeled appliance connectors.
    - Semi-rigid (flexible) metallic tubing has been deleted from code.
    - Connectors shall not exceed 6 ft. in length.
    - Connectors shall be not be concealed or extended through walls, partitions, floors and appliance housings.
    - Exceptions provide for extending listed connections through appliance housings when protected against damage.

# 2014 NYC Fuel Gas Code Revisions

- Chapter 4 – Gas Piping Installations
  - 416.1 Overpressure protection devices – These are NOT required when a service or line pressure regulator plus one other device is installed such that the following occur:
    - Each device limits the pressure below the maximum pressure of the piping system.
    - The individual failure of either device does not result in the over-pressurization of the system.
    - The operating pressure of the gas source is 5 psig or less.
    - The gas does not contain materials that interfere with the operation of the service regulator.
  - Overpressure protection devices require maintenance every 2 yrs by a licensed master plumber.

# 2014 NYC Fuel Gas Code Revisions

- Appendix G – High-Pressure Gas Installations
  - G.1 General – This section only addresses gas distribution piping at or above 15 psig.
  - G.1.1 Fire Department approval – All HPG installations must obtain FDNY approval and all final testing of the installation shall be witnessed by the FDNY.
  - G.2 Construction requirements – Specific construction requirements are provided for HPG installations, including structural requirements, shaft enclosures, fire-resistance-rated rooms and spaces, automatic sprinkler systems, etc.

# 2014 NYC Fuel Gas Code Revisions

- Appendix G – High-Pressure Gas Installations
  - G.2.4 Gas detection – A listed gas detection system must be provided in rooms and spaces containing HPG.
    - Must be coordinated with Section 908 of the NYCBC.
    - Supervised by the building fire alarm system (where installed).
    - Power supply in accordance with NFPA 72 and Section 907 of the NYCBC.
    - Audible alarm transmission to a 24-hour supervised location.
    - Emergency gas shutoff valve is required.

# 2014 NYC Fuel Gas Code Revisions

- Appendix G – High-Pressure Gas Installations
  - G.2.5.1 Explosion prevention – Must comply with NFPA 69 where pressures range between 15-125 psig.
  - G.3 High-hazard – Spaces shall be classified as Group H-2 when operating pressures exceed 125 psig.
    - Explosion venting shall be required & must comply with NFPA 68.
    - Gas turbines must comply with NFPA 37 and the design of the explosion venting system shall be based on an explosion resulting from the LEL.
    - Emergency ventilation shall be provided and shall conform to NFPA 69 approved by the FDNY.
    - Electrical equipment shall be Class 1 Division 2.

# 2014 NYC Fuel Gas Code Revisions

- Appendix G – High-Pressure Gas Installations
  - G.5 Piping requirements for HPG distribution.
    - All piping shall comply with ASME B31.1 (>125 psig) and identified in accordance with ASME A13.1.
    - Double-wall piping shall be required for horizontal piping traversing within a building from a protected room or shaft.
    - Annular space shall be monitored by a gas detection system.
    - Emergency gas shutoff shall be provided outside of the room controlled by a break-glass station outside the room and by the gas detection system monitoring the room.
  - G.6 Special Inspection – The entire HPG installation shall be subject to Special Inspection.
  - G.7 Cleaning and purging – Shall comply with the requirements set forth in NFPA 56PS.

# 2014 NYC Plumbing Code Revisions

- Overview
  - Focus will be on major revisions affecting design and specs.
  - Plumbing Code Chapters 1 thru 13.
  - Appendix C – *New* appendix "Water Recycling Systems", which governs the installation of wastewater and rainwater recycling systems.

# 2014 NYC Plumbing Code Revisions

- Chapter 1 – Administration
  - 106.6.1 Stormwater – New sections, which include the detailed requirements when filing with DEP is required.
    - New buildings.
    - Alterations proposing a horizontal enlargement.
    - Alteration that increases the impervious surface, with exception to:
      - Enlargement or increase of 200 sq.ft. or less for a one- or two-family dwelling.
      - Enlargement or increase of 1,000 sq.ft. or less and onsite disposal of stormwater conforms to the applicable standards.
  - 107.2 Required inspections and testing – An additional Progress Inspection has been added for compliance with the NYCECC.

# 2014 NYC Plumbing Code Revisions

- Chapter 3 – General Regulations
  - 301.7 Conflicts – Verbiage has been revised where conflicts arise between the code and manufacturer's installation instructions, the more restrictive of the two shall apply.
  - 312.8 Storm drainage system test – Revision maintains compliance with 10 ft. test; however, the revision requires testing 10 ft. above an anticipated water level when system is designed to run full. (Exception: Corrugated HDPE outside.)

# 2014 NYC Plumbing Code Revisions

- Chapter 3 – General Regulations
  - 312.9 Shower liner test – New requirement.
    - Drain shall be plugged and shower floor/receptor filled with 2 inches of water for 15 minutes.
  - 312.10.1 Inspection and testing of backflow prevention assemblies – Annual inspections are now required for spill-proof vacuum breakers, pressure vacuum breakers and hose-connected backflow preventers. Forms shall be provided by the department and maintained by the Owner.
  - 312.10.2 Testing – Has been removed for the items added above.

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# 2014 NYC Plumbing Code Revisions

- Chapter 3 – General Regulations
  - 314.1.1 Condensate disposal - Condensate from fuel-burning appliances & flues shall be neutralized to a pH between 6 & 8 prior to disposal to a sanitary system (Section 307.2.1 – NYCFGC).
  - 314.2.2 Drain pipe materials and sizes – Permits the use of plastic pipe for condensate drainage (Section 307.3 – NYCFGC).
  - 314.2.3 Auxiliary and secondary drain systems are required where overflow of condensate from equipment can damage building components; water level detection has been provided as an option.

# 2014 NYC Plumbing Code Revisions

- Chapter 4 – Fixtures, Faucets and Fixture Fittings
  - 403 Minimum Plumbing Facilities – Section was repealed and entirely revised to include the following:
    - 403.1.1 Fixture calculations – Clarifies fixture calculations.
    - 403.2 Separate facilities – Separate facilities are NOT required in structures or Tenant spaces where the total number of employees, customers, patrons and visitors is 30 or fewer (increase from 15).
    - 403.3 Exception: Public utilization of toilet facilities shall NOT be required in food service establishments less than 10,000 sq.ft. and less than 20 seating capacity (NYC Health Code Section 81.03).

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# 2014 NYC Plumbing Code Revisions

- Chapter 4 – Fixtures, Faucets and Fixture Fittings
  - Table 403.1 Minimum Number of Required Plumbing Fixtures
    - Entire table has been revised to include revisions as part of the LL8 of 2008 and revisions to footnotes for drinking fountains NOT required for 15 or fewer occupants.
  - 407.2 Bathtub waste outlets – Built-in overflows are required.
  - 408.3 Bidet water temperature – Added water temperature limit of 110°F & required ASSE 1070 water temp-limiting device.
  - 412.2 Floor drains – Required to have "ready access" with exception of refrigerated display case drains which require access.

# 2014 NYC Plumbing Code Revisions

- Chapter 4 – Fixtures, Faucets and Fixture Fittings
  - Table 413.1 Food Waste Grinders – Shall be restricted to installation within dwelling units only.
  - 416.3 Lavatory waste outlets – When a stopper is utilized and built-in overflow is required.
  - 416.5 Tempered water for hand washing – Added requirement to provide a water temperature-limiting device that conforms to ASSE 1016 or 1070 or CSA B125.3, with exception of POU htrs.
  - 417.5.2 Shower lining – Specific requirements are provided for shower linings, including depth, materials (sheet copper, sheet lead, CPE, PVC) and waterproof membranes.

# 2014 NYC Plumbing Code Revisions

- Chapter 4 – Fixtures, Faucets and Fixture Fittings
  - 419.4 Waterless urinals – Approval for use has been added only as part of a building water conservation plan.
  - 424.3 Individual shower and tub valves – Clarification has been provided for different types of installations including:
    - Multiple (gang) showers – Mixing valve conforming to ASSE 1069, maximum temperature of 120°F.
    - Bathtub and whirlpool tubs – Mixing valve conforming to ASSE 1016 or 1017, maximum temperature of 120°F.

# 2014 NYC Plumbing Code Revisions

- Chapter 5 – Water Heaters
  - 502.1 General – Compliance with NYCECC is now required.
  - 502.5 Clearance for maintenance and replacement – Provides requirements for 30 in. x 30 in. clear access.
  - 505.1 Unfired vessel insulation – Requires unfired hot water storage tanks to be insulated to a minimum of R-12.5 (h-ft$^2$-°F)/Btu.

# 2014 NYC Plumbing Code Revisions

- Chapter 6 – Water Supply and Distribution
  - Table 604.3 Water Distribution System Criteria Required Capacity at Fixture Supply Outlets – Updated to reflect current design standards.
  - Table 604.4 Maximum Flow Rates and Consumption for Plumbing Fixtures and Fixture Fittings – Updated to reduce maximum flow rates for higher water efficiency standards.
    - Private Lavatory = 1.5 gpm
    - Shower Heads = 2.0 gpm
    - Urinal = 0.5 gpf
    - Water Closet = 1.28 gpf

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# 2014 NYC Plumbing Code Revisions

- Chapter 6 – Water Supply and Distribution
  - 604.9 Water hammer – Water hammer arrestors shall conform to ASSE 1010 only (PDI WH201 deleted).
  - 604.10 Parallel water distribution system manifolds – Have been deleted (refers to PEX).
  - 605.3 Water service pipe – Clarifies that the subsurface portion of the water service must comply with DEP, and above-ground portion must comply with NYCPC.

# 2014 NYC Plumbing Code Revisions

- Chapter 6 – Water Supply and Distribution
  - 606.1 Location of Shutoff Valves
    - Deleted requirement of curb valve because of conflicts with DEP.
    - Required on the supply and discharge of each water submeter.
    - Required on the base of every water supply riser.
    - Required on the water supply to every sillcock, appliance and mechanical equipment.

# 2014 NYC Plumbing Code Revisions

- Chapter 6 – Water Supply and Distribution
  - 606.3 Access to Valves – "Ready Access" is required.
  - 606.5.3 Covers – Water supply tanks shall be equipped with a lockable cover and equipped with a local alarm.
  - 606.5.4.3 Prohibited location – Manholes for water supply tank may not be located under any source of contamination.
  - 606.7 Water Submeters – Shall comply with the "Guide to Water Submeters" published by the DEP.
  - 607.1 Hot Water Supply – Clarifies and limits the distributions temperature to 110°F in nonresidential occupancies and requires the use of a ASSE 1070 mixing valve.

# 2014 NYC Plumbing Code Revisions

- Chapter 6 – Water Supply and Distribution
  - 608.8 Signage is required at all non-potable outlets, faucets, etc.
  - 608.8.2 Color – Purple shall identify recycled, rain and graywater distribution systems.
  - 608.16.2 Connections to boilers – The potable water supply to any boiler greater than 2.8 million Btu/h shall be provided with a sub-meter and comply with "Guide to Water Submeters" published by the DEP.
  - 608.16.3 Heat exchangers – Double-wall construction shall not be required for the following:
    - Con-Ed steam-fired hot water heaters.
    - Low-pressure steam heating boilers.

# 2014 NYC Plumbing Code Revisions

- Chapter 7 – Sanitary Drainage
  - 701.10 Plastic pipe – Exception added for plastic piping used as permitted in Sections 803 & 804 for special wastes.
  - Tables 702.1, 702.2, 702.3 & 702.4 have been modified to include plastic piping info agreeing with the materials.
  - 703.6.1 Fresh air inlets – Added the missing section clarifying the requirements for fresh air inlets. Requirements are similar to the 1968 NYCBC.
  - 705.16, 705.17 & 705.18 PE, polyolefin and PVDF piping specifications and standards have been added.

# 2014 NYC Plumbing Code Revisions

- Chapter 7 – Sanitary Drainage
  - Table 709.1 Minimum Trap Sizes – Revised trap sizes as follows:
    - Bidet, Dental Lavatory - 1-1/2 inch
    - Floor Drains – 3 inch
    - Kitchen Sink, Laundry Tray – 2 inch
    - Sink, Shower – 2 inch
  - Table 710.1(1) Horizontal Fixture Branches and Stacks – Column for sizing one-interval stacks has been removed.
    - Footnote B was revised to remove the ability to reduce the stack size as the fixture load decreases.

# 2014 NYC Plumbing Code Revisions

- Chapter 7 – Sanitary Drainage
  - 715.1 Sewage backflow – Revised under the BRTF, now requirements for backwater valves on the sanitary sewer. Local Law 83-2013 takes effect 90 days after enactment.
  - Chapter 8 – Indirect/Special Waste
  - 802.1.8 Food utensils, dishes, pots and pans sinks – Clarification was provided for these fixtures; they shall discharge indirectly.
    - Exception was provided for hand sinks, which agrees with common practice in the field.
  - 803.2 Neutralization required for corrosive wastes – Clarifies that all discharges, including corrosive wastes, are regulated by the DEP.

# 2014 NYC Plumbing Code Revisions

- Chapter 9 – Vents
  - 916.5.1 Sewage pumps and sewage ejectors other than pneumatic – Sump vents must connect to a minimum 3 inch sanitary branch vent.
- Chapter 10 – Traps, Interceptors and Separators
  - 1002.1 Fixture traps – Verbiage added to limit the horizontal distance from the fixture outlet to the trap inlet to 30 inches.
  - Exception: This section doesn't apply to outdoor drinking fountains discharging to dry wells, similar to ballfields, parks, etc.

# 2014 NYC Plumbing Code Revisions

- Chapter 10 – Traps, Interceptors and Separators
  - 1002.3 Prohibited traps – Pot, bottle and traps with interior partitions have been added to the list.
  - 1002.4 Trap seals – New verbiage restricts connections of a trap primer to a trap at a point above the trap seal.
  - 1003.3.1 Grease interceptors and automatic grease removal devices – Revisions include a list of occupancies and fixtures that require grease traps. The list includes butcher shops, slaughterhouses, fish markets, delis, etc. Fixtures include woks, pot sinks, pre-rinse sinks, kettles, scrap sinks, etc.

# 2014 NYC Plumbing Code Revisions

- Chapter 10 – Traps, Interceptors and Separators
  - 1003.3.2 Food waste grinders – Section deleted to restrict installation of food waste grinders upstream of grease traps.
  - 1003.3.3 Grease interceptors and automatic grease removal devices not required – Added omission of schools with residential stoves & sinks intended for teaching home cooking.
  - 1003.3.4.1 Grease interceptor capacity – References the DEP rules and regulations. Table 1003.3.4.1 to avoid contradiction between the Plumbing Code and DEP regulations.

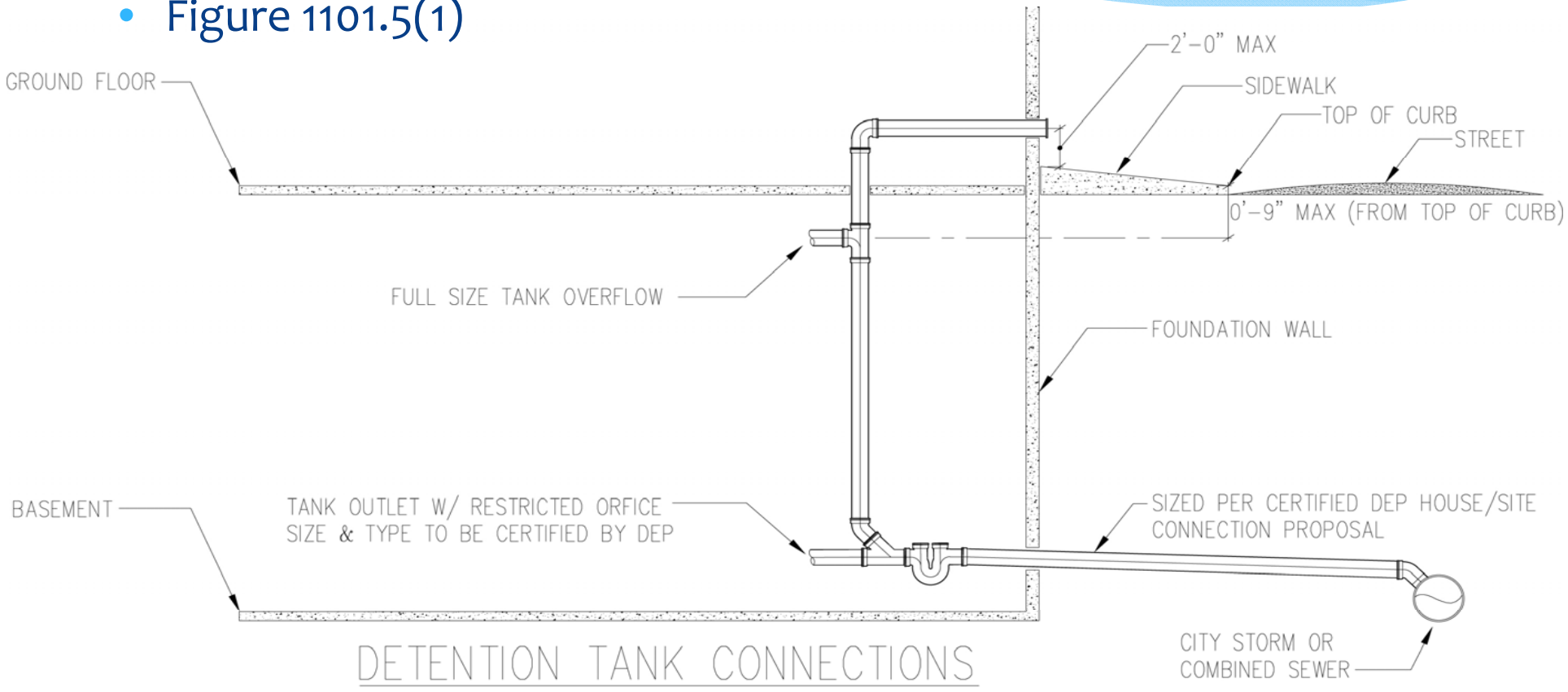
# 2014 NYC Plumbing Code Revisions

- Chapter 10 – Traps, Interceptors and Separators
  - 1003.3.5 Automatic grease removal devices – Provides requirements for sizing and installation of these devices. Sizing is required to include flows for ALL connected fixtures.
  - 1003.4 Oil separators required – Exception has been provided for elevator sump pumps provided that an automatic shut-down system is installed to prevent accidental oil discharge.
  - 1003.6 Laundries – Revised wording shall require both commercial and non-commercial laundry facilities (apartment buildings) to be provided with an interceptor.

# 2014 NYC Plumbing Code Revisions

- Chapter 11 – Storm Drainage
  - 1101.2.1 Increases in existing impervious surfaces – The revisions will require filing and compliance when impervious surfaces are increased.
  - Exception to this rule has been provided for existing one- and two-family occupancies, where the proposed increase is less than 200 sq.ft.
  - 1101.5 Change in size – Exception was provided to permit the reduction in size in drainage piping leaving a detention system.
  - 1101.5.1 Detention systems – This section was included to coordinate with the DEP regulations and satisfy the need for a secondary to protect the building from internal flooding.

- Chapter 11 – Storm Drainage
  - Figure 1101.5(1)




DETENTION TANK CONNECTIONS

FIGURE 1101.5.(1)

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# 2014 NYC Plumbing Code Revisions

- Chapter 11 – Storm Drainage
  - 1101.9 Backwater valves – Provides the requirement for backwater valves similar to that on the sanitary system (Local Law 83-2013).
  - 1104.3 Clearwater drains – An exception added to prohibit cooling tower blowdown discharging into the storm system.
  - 1104.4 Parking garage floor drains – Requires floor drains in both open and closed parking to connect to the storm system.
  - Tables 1106.2(1) & 1106.2(2) were modified and added to include columns for 6 inch rainfall rate and rectangular conductors.

# 2014 NYC Plumbing Code Revisions

- Chapter 11 – Storm Drainage
  - 1106.4 Vertical walls – An exception was added to omit vertical sidewall load to be included in the vertical conductors, provided that the risers are sized to include secondary roof drainage.
  - 1108.1 Size of combined drains and sewers – Clarifies that combined systems are not permitted in NEW installations and systems shall be separated to within 5 feet of the foundation.
  - Section PC1114 – NEW section providing the requirements for onsite stormwater disposal systems. This section provides detailed installation and design requirements for dry wells, testing and Special Inspections associated with the installation.

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# 2014 NYC Plumbing Code Revisions

- Chapter 11 – Storm Drainage
  - 1114.1 Drywells are permitted when a sewer is not available & are the only method permitted unless approved by DOB/DEP.
  - 1114.2.1 Scope of Field Investigation
    - Percolation Tests – performed in accordance with acceptable engineering practice and witnessed by a special inspector.
    - Soil borings and testpits – One minimum, ASTM D1586/1587.
  - 1114.2.2 Design Considerations
    - Precipitation Rate – drywell size based on 2in/24hr rainfall.
    - Storage Volume – begins 2ft above the level of the water table.
    - Location of Drywells – 5ft from lot lines, 10ft from foundations, 20ft from disposal fields and seepage pits.

# 2014 NYC Plumbing Code Revisions

- Chapter 11 – Storm Drainage
  - 1114.2.3 Required components
    - Grit chamber – see Figure 1114.2.3(1).
    - Sand column – see Figure 1114.2.3(2), 12 inch minimum above the porous stratum.
  - 1114.2.4.3 Verification – DOB reserves the right to require a 24-hour percolation test prior to final approval.
  - 1114.2.5 Special Inspection – required Section BC 1704.20, minor variations based on site conditions permitted subject to EOR.
  - 1114.2.6 Maintenance – the property owner is responsible to maintain the drywell in proper working order.
  - 1114.2.7 Signage – required within building at house trap or FAI in basement/cellar locating drywell on the property.

# 2014 NYC Plumbing Code Revisions

- Chapter 12 – Special Piping and Storage Systems
  - 1202.1 Nonflammable medical gases – Removes the reference to NFPA 99C. NFPA 99 still applies.
  - 1203.1 – Non-medical oxygen systems – Revises the reference standard to NFPA 55. NFPA 50 is no longer published.
- Chapter 13 – Reference Standards
  - This entire section has been repealed and updated, and most if not all references have been revised to include the most recent standard with few exceptions.

# 2014 NYC Plumbing Code Revisions

- Chapter 13 – Important Reference Standards include:
  - ICC-ES PMG LC 1002-10: Standard for Press-connection Fittings.
  - NFPA 55-2010: Standard for Use and Handling of Compressed Gases and Cryogenic Fluids in Portable, Stationary Containers, Cylinders and Tanks.
  - NFPA 99-2005: Standard for Health Care Facilities.
  - WaterSense v1.0 – High-efficiency Lavatory Faucet Specifications, Tank-Type High-Efficiency Toilet Specifications, WaterSense Specifications for Flushing Urinals and Showerheads.

# 2014 NYC Plumbing Code Revisions

- Appendix C – Water Recycling Systems
  - C101.1 Scope – This appendix governs the installation of water recycling systems with the exception of the following:
    - Rainwater collected from exterior piping used for subsurface irrigation, drip irrigation, watering plants and washing sidewalks.
    - Rainwater collected using the NYC DEP Rain Barrel Program.
    - Commercial car washing facilities.
    - Water closet/sink combinations.

# 2014 NYC Plumbing Code Revisions

- Appendix C – Water Recycling Systems
  - C101.2 Definitions – Key definitions:
    - Greywater – Discharge from lavatories and condensate.
    - Blackwater – Discharge from all other fixtures.
  - C101.4 Installation – Provides distinction between source water and usage.
    - Section PC C102 – All wastewater recycling systems (black & grey).
    - Section PC C103 – Applies only to harvested rainwater or condensate used solely for drip irrigation, subsurface irrigation and cooling tower makeup.

# 2014 NYC Plumbing Code Revisions

- Appendix C – Water Recycling Systems
  - C101.5 Materials
    - All drainage piping shall comply with Chapter 7.
    - All water distribution piping shall comply with Chapter 6 and be painted or jacketed purple.
  - C101.9 Wastewater connections – The recycling system shall receive only wastewater, groundwater and rainwater.
  - C101.10 Collection reservoirs – Separate collection and recycled water reservoirs are required when multiple sources are collected.

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# 2014 NYC Plumbing Code Revisions

- Appendix C – Water Recycling Systems
  - C101.11 – C101.15
    - Appropriate filtration required based on source and application.
    - Overflows, vents and drains required for each reservoir.
    - Cooling towers must be provided with drift eliminators when makeup is provided from the recycled water system.
  - C102 Wastewater Recycling Systems
    - Section applies only to grey- and blackwater sources.
    - Table C102.1 – Minimum Water Quality Standards provides limits on BOD, TSS, total coliform, E. coli, pH and turbidity.

# 2014 NYC Plumbing Code Revisions

- Appendix C – Water Recycling Systems
  - C102.2 Disinfection – Required for all wastewater systems.
  - C102.3 Makeup Water – Required for all wastewater systems.
  - C102.4 Coloring – Treated water shall be dyed blue or green.
  - C102.8 Testing
    - Wet testing is required to ensure no leakage. (Compliance to PC312.)
    - Startup testing is required for two consecutive weeks showing 100% compliance to Table C102.1 (samples taken 5 days a week).
    - Temporary use testing continues for 3 months and must demonstrate 100% compliance (samples taken weekly).

# 2014 NYC Plumbing Code Revisions

- Appendix C – Water Recycling Systems
  - C103 Rainwater Recycling Systems
    - Section applies only to rainwater and condensate sources used for cooling tower makeup and irrigation.
    - Table C102.1 – Minimum Water Quality Standards – DOES APPLY; however, the BOD limitation DOES NOT APPLY.
  - C103.3 Makeup Water – NOT required for all systems.
  - C103.5 Coloring – NOT required for cooling tower makeup and drip or subsurface irrigation.
  - C103.12 Testing – Similar to C102 requirements.

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