

MECHANICAL
Local Technical Amendments
to the
2020 7th Edition Florida Building Code

JURISDICTION	DOCUMENT with TECHNICAL AMENDMENT	TEXT OF TECHNICAL AMENDMENT	TAC REVIEW
<p style="text-align: center;">Pinellas County Construction Industry Licensing Board (PCCLB)</p>	<p style="text-align: center;">FBC – Residential M1411</p>	<p>M1411.3 Condensate disposal. Condensate from cooling coils and evaporators shall be conveyed from the drain pan outlet to an approved place of disposal. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than 1/8 unit vertical in 12 units horizontal (1-percent slope). Condensate shall not discharge into a street, alley or other areas where it would cause a nuisance. All primary condensate drain lines installed within unconditioned areas shall be insulated with insulation having a thermal resistivity of not less than R-3. Local Conditions and Need: This amendment requires all horizontal primary condensate drain within unconditioned areas shall be insulated.</p> <p style="text-align: center;">PCCLB - Sec M1411- 2020 FBC</p>	<p style="text-align: center;">Mechanical,</p>
<p style="text-align: center;">County of Broward</p>	<p style="text-align: center;">FBC – Mechanical Sec M314.2.1</p>	<p>CHAPTER 3 GENERAL REGULATIONS SECTION 314 CONDENSATE DISPOSAL [M] 314.2.1 Condensate drainage collection, use disposal. Condensate from all cooling coils and evaporators of equipment served by an onsite cooling tower in a building or structure wherein the aggregate cooling capacity of the equipment exceeds 65,000 Btu/hr shall be collected and conveyed from the drain pan outlet and discharged to the cooling tower. Where an onsite cooling tower is not installed the condensate from all cooling coils and evaporators shall be conveyed from the drain pan outlet to an approved place of</p>	<p style="text-align: center;">Mechanical,</p>

		<p>disposal. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than one-eighth unit vertical in 12 units horizontal (1-percent slope). Condensate shall not discharge into a street, alley or other areas so as to cause a nuisance.</p> <p>Exceptions:</p> <ol style="list-style-type: none"> 1. Condensate from cooling coils and evaporators is not required to be collected and conveyed to an on-site cooling tower; provided 1.1 through 1.3 are met: <ol style="list-style-type: none"> 1.1 The equipment comprises 10% or less of the total capacity of the cooling tower system. 1.2 The equipment is located in an isolated or remote area. 1.3 The size of the equipment is 65,000 Btu/hr. or less. 2. In existing buildings condensate may be collected and conveyed to a cooling tower or discharged to an approved place of disposal. <p style="text-align: center;"><u>Broward County - Sec M314 - FBC 2020</u></p>	
Broward County	FBC-Mechanical Sec 908.3	<u>Broward Sec 908.3-Local Amend 2020 FBC</u>	Mechanical
Broward County	FBC-Mechanical Sec 908.8	<u>Broward County Local Amend Sec 908 - FBC 2020</u>	Mechanical

LOCAL TECHNICAL AMENDMENT
Pinellas County Construction Licensing Board (PCCLB)
FLORIDA BUILDING CODE 7th EDITION (2020) - RESIDENTIAL

AMEND EXISTING SECTION

P2906.9.1.4 PVC plastic pipe. A purple primer that conforms to ASTM F656 shall be applied to PVC solvent-cemented joints. Solvent cement for PVC plastic pipe conforming to ASTM D 2564 shall be applied to all joint surfaces.

Exception: Clear Primer conforming to ASTM F656 may be used on any exposed PVC pipe or fittings on trim/finish work.

Local Conditions and Need: This amendment permits the use of clear primer instead of purple primer when used on exposed PVC pipe or fittings on trim/finish work.

Fiscal Impact Statement: There is no cost impact associated with this amendment.

Effective Date: Upon Board Approval and posting on the Commission Website.

Effect of Implementation: This amendment if implemented would not discriminate against materials, products, or construction techniques of demonstrated capabilities.

LOCAL TECHNICAL AMENDMENT
Pinellas County Construction Licensing Board
FLORIDA BUILDING CODE 7th EDITION (2020) - RESIDENTIAL

AMEND EXISTING SECTION

Add:

P2903.2.1 Size of water service. The minimum size water service pipe shall be ¾" (19 mm). The size of water service mains, branch mains and risers shall be as required per Table P2903.2.1.

TABLE P2903.2.1 MINIMUM WATER SERVICE SIZE^a

TABLE P2903.2.1
MINIMUM WATER SERVICE SIZE^a

<u>NO. OF FIXTURE UNITS FLUSH TANK WC^b</u>	<u>DIAMETER OF WATER PIPE^c</u>	<u>RECOMMENDED METER SIZE (inches)^d</u>	<u>APPROX. PRESSURE LOSS METER + 100' PIPE (psi)^e</u>	<u>NO. OF FIXTURE UNITS FLUSH VALVE WC^b</u>
<u>18</u>	<u>¾</u>	<u>5/8</u>	<u>30</u>	<u>=</u>
<u>19-55</u>	<u>1</u>	<u>1</u>	<u>30</u>	<u>=</u>
<u>=</u>	<u>1</u>	<u>1</u>	<u>30</u>	<u>9</u>
<u>56-85</u>	<u>1 ¼</u>	<u>1</u>	<u>30</u>	<u>=</u>
<u>=</u>	<u>1 ¼</u>	<u>1</u>	<u>30</u>	<u>10-20</u>
<u>8-225</u>	<u>1 ½</u>	<u>1 ½</u>	<u>30</u>	<u>=</u>
<u>=</u>	<u>1 ½</u>	<u>1 ½</u>	<u>30</u>	<u>21-77</u>
<u>226-350</u>	<u>2</u>	<u>1 ½</u>	<u>30</u>	<u>=</u>
<u>=</u>	<u>2</u>	<u>1 ½</u>	<u>30</u>	<u>78-175</u>
<u>351-550</u>	<u>2</u>	<u>2</u>	<u>30</u>	<u>=</u>
<u>=</u>	<u>2</u>	<u>2</u>	<u>30</u>	<u>176-315</u>
<u>551-640</u>	<u>2 ½</u>	<u>2</u>	<u>30</u>	<u>=</u>
<u>=</u>	<u>2 ½</u>	<u>2</u>	<u>30</u>	<u>316-392</u>
<u>641-1340</u>	<u>3</u>	<u>3</u>	<u>22</u>	<u>=</u>
<u>=</u>	<u>3</u>	<u>3</u>	<u>22</u>	<u>393-940</u>

ADD TABLE FOOTNOTES:

LOCAL TECHNICAL AMENDMENT
Pinellas County Construction Licensing Board
FLORIDA BUILDING CODE 7th EDITION (2020) - RESIDENTIAL

- a. Table is applicable for both copper and plastic water piping.
- b. See Table P3004.1 for fixture unit values.
- c. Minimum water service shall be ¾" to control valve.
- d. All secondary submeters and backflow assemblies shall be at least the same size as the line in which they are installed.
- e. Table based on minimum water main pressure of 50 psi.
- f. Minimum sizes for fixture supply pipe from the main or from the riser shall be from the Florida Building Code 7th Edition (2020) - Plumbing Section 604.5.
- g. Four (4) fixtures maximum (hot or cold) may connect to a one-half inch fixture water supply or as required by manufacturers' installation instructions.
- h. Where the water main pressure falls below 50 psi the next larger pipe size shall be used.
- i. Buildings above three (3) stories in height shall use the next larger pipe size.

Local Conditions and Need: Adds more limitations to control pipe sizing.

Fiscal Impact Statement: Cost per installation will be controlled due to added limitations.

Effective Date: Upon Board Approval and posting on the Commission Website.

Effect of Implementation: This amendment if implemented would not discriminate against materials, products, or construction techniques of demonstrated capabilities.

LOCAL TECHNICAL AMENDMENT
Pinellas County Construction Licensing Board (PCCLB)
FLORIDA BUILDING CODE 7th Edition (2020) – RESIDENTIAL

AMEND EXISTING SECTION

P2903.1 Water supply system design criteria. The water service and water distribution systems shall be designed and pipe sizes shall be selected such that under conditions of peak demand, the capacities at the point of outlet discharge shall not be less than shown in Table P2903.1.

EXCEPTION: For one-family, two-family, or three-family residential dwellings, when the building owner approves in writing, one bathroom group may be added to the existing hot and cold water distribution system, not to exceed a maximum of eight drainage fixture units for any fixtures added. In no case shall the additional fixtures be connected to existing hot and/or cold piping that is less than ¾" in diameter.

P2903.1.1 Applicable Sizes. The requirements of P2903.1 in the following sizes shall apply when connected to an existing approved potable system.

1. All Building Department permitted and approved onsite potable drinking water piping two-inch (2") diameter and greater than one hundred fifty (150) lineal feet in length.
2. All Building Department permitted and approved onsite potable drinking water piping of greater than two-inch (2") diameter and greater than fifty (50) lineal feet in length.
3. All Building Department permitted and approved onsite potable drinking water piping in size(s) and length(s) adequate to contain twenty (20) gallons or more. (Volume = .0408 x diameter² x length in feet).
4. Any size or length water pipe that has been subjected to contamination will require disinfection.

Local Conditions and Need: This amendment will provide building owners flexibility when adding one bathroom group to an existing hot and/or cold water distribution system. It also strengthens this section by clarifying that disinfection is not required every time work is performed on a plumbing system. This makes the section more stringent because it clarifies what was a wide range of interpretations. Materials in the code and installation procedures will not change.

Fiscal Impact Statement: Implementation of this amendment will result in a cost reduction by recognizing that a plumbing system test may not be required every time work is done on a potable plumbing line.

Effective Date: Upon Board Approval and posting on the Commission Website.

Effect of Implementation: This amendment if implemented would not discriminate against materials, products, or construction techniques of demonstrated capabilities.

LOCAL TECHNICAL AMENDMENT
Pinellas County Construction Licensing Board (PCCLB)
FLORIDA BUILDING CODE 7th EDITION (2020) - RESIDENTIAL

AMEND EXISTING SECTION

P2705.1 General. The installation of fixtures shall conform to the following:

1. Floor-outlet or floor-mounted fixtures shall be secured to the drainage connection and to the floor, where so designed, by screws, bolts, washers, nuts and similar fasteners of copper, copper alloy or other corrosion-resistant material.
2. Wall-hung fixtures shall be rigidly supported so that strain is not transmitted to the plumbing system.
3. Where fixtures come in contact with walls and floors, the contact area shall be water tight.
4. Plumbing fixtures shall be usable and functionally accessible.
5. Water closets, lavatories and bidets. A water closet, lavatory or bidet shall not be set closer than 15 inches (381 mm) from its center to any side wall, partition or vanity or closer than 30 inches (762 mm) center-to-center between adjacent fixtures. There shall be a clearance of not less than 21-inch (533 mm) in front of a water closet, lavatory or bidet to any wall, fixture or door in accordance with the fixture spacing requirements of Section R307.1.
6. The location of piping, fixtures or equipment shall not interfere with the operation of windows or doors.
7. In flood hazard areas as established by Table R301.2(1), plumbing fixtures shall be located or installed in accordance with Section R322.1.6.
8. Integral fixture-fitting mounting surfaces on manufactured plumbing fixtures or plumbing fixtures constructed on site, shall meet the design requirements of ASME A112.19.2/CSA B45.1 or ASME A112.19.3/CSA B45.4.

Local Conditions and Need: This amendment brings awareness to the plumbing fixture spacing requirements located in both sections of the code.

Fiscal Impact Statement: There is no cost impact associated with this amendment.

Effective Date: Upon Board Approval and posting on the Commission Website.

Effect of Implementation: This amendment if implemented would not discriminate against materials, products, or construction techniques of demonstrated capabilities.

LOCAL TECHNICAL AMENDMENT
Pinellas County Construction Licensing Board (PCCLB)
FLORIDA BUILDING CODE 7th EDITION (2020) - RESIDENTIAL

AMEND EXISTING SECTION

M1411.3 Condensate disposal. Condensate from cooling coils and evaporators shall be conveyed from the drain pan outlet to an *approved* place of disposal. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than 1/8 unit vertical in 12 units horizontal (1-percent slope). Condensate shall not discharge into a street, alley or other areas where it would cause a nuisance. All primary condensate drain lines installed within unconditioned areas shall be insulated with insulation having a thermal resistivity of not less than R-3.

Local Conditions and Need: This amendment requires all horizontal primary condensate drain within unconditioned areas shall be insulated.

Fiscal Impact Statement: The cost impact associated with this amendment is minimal.

Effective Date: Upon Board Approval and posting on the Commission Website.

Effect of Implementation: This amendment if implemented would not discriminate against materials, products, or construction techniques of demonstrated capabilities.

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LOCAL TECHNICAL AMENDMENT
Pinellas County Construction Licensing Board (PCCLB)
FLORIDA BUILDING CODE 7th Edition (2020) – RESIDENTIAL

AMEND EXISTING SECTION

G2415.15 Outlet closures. Gas *outlets* that do not connect to *appliances* shall be capped gas tight and shall be labeled with a weatherproof label stating “Connection of a gas appliance to this outlet in the future will require a permit and inspection.” Appliance shutoff valves required by G2420.5 [409.5] shall be installed only at the time of appliance connection to gas outlets.

Exception: *Listed* and *labeled* flush-mounted-type quick-disconnect devices and *listed* and *labeled* gas convenience outlets shall be installed in accordance with the manufacturer’s instructions.

Local Conditions and Need: Adds limitations to control future connections to gas outlets.

Fiscal Impact Statement: Cost increase to provide label is insignificant.

Effective Date: Upon Board Approval and posting on the Commission Website.

Effect of Implementation: This amendment if implemented would not discriminate against materials, products, or construction techniques of demonstrated capabilities.

LOCAL TECHNICAL AMENDMENT
Pinellas County Construction Licensing Board (PCCLB)
FLORIDA BUILDING CODE 7th EDITION (2020) - PLUMBING

AMEND EXISTING SECTION

705.10.2 Solvent cementing. Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F656 shall be applied. Clear Primer conforming to ASTM F656 may be used on any exposed PVC pipe or fittings on trim/finish work. Solvent cement not purple in color and conforming to ASTM D2564, CSA B137.3, CSA B181.2 or CSA B182.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D2855. Solvent-cement joints shall be permitted above or below ground.

Exception: A primer is not required where both of the following conditions apply:

1. The solvent cement used is third-party certified as conforming to ASTM D2564.
2. The solvent cement is used only for joining PVC drain, waste and vent pipe and fittings in non-pressure applications in sizes up to and including 4 inches (102 mm) in diameter.

Local Conditions and Need: This amendment permits the use of clear primer instead of purple primer when used on exposed PVC pipe or fittings on trim/finish work.

Fiscal Impact Statement: There is no cost impact associated with this amendment.

Effective Date: Upon Board Approval and posting on the Commission Website.

Effect of Implementation: This amendment if implemented would not discriminate against materials, products, or construction techniques of demonstrated capabilities.

LOCAL TECHNICAL AMENDMENT
Pinellas County Construction Licensing Board (PCCLB)
FLORIDA BUILDING CODE 7th EDITION (2020) - PLUMBING

AMEND EXISTING SECTION

SECTION 610 DISINFECTION OF POTABLE WATER SYSTEM

610.2 Applicable Sizes. The requirements of 610.1 in the following sizes shall apply when connected to an existing approved potable system.

1. All Building Department permitted and approved onsite potable drinking water piping two-inch (2") diameter and greater than one hundred fifty (150) lineal feet in length.
2. All Building Department permitted and approved onsite potable drinking water piping of greater than two-inch (2") diameter and greater than fifty (50) lineal feet in length.
3. All Building Department permitted and approved onsite potable drinking water piping in size(s) and length(s) adequate to contain twenty (20) gallons or more. (Volume = .0408 x diameter² x length in feet).
4. Any size or length water pipe that has been subjected to contamination will require disinfection.

Local Conditions and Need: This amendment strengthens this section by clarifying that disinfection is not required every time work is performed on a plumbing system. This makes the section more stringent because it clarifies what was a wide range of interpretations. Materials in the code and installation procedures will not change.

Fiscal Impact Statement: Implementation of this amendment will result in a cost reduction by recognizing that a plumbing system test may not be required every time work is done on a potable plumbing line.

Effective Date: Upon Board Approval and posting on the Commission Website.

Effect of Implementation: This amendment if implemented would not discriminate against materials, products, or construction techniques of demonstrated capabilities.

LOCAL TECHNICAL AMENDMENT
Pinellas County Construction Licensing Board (PCCLB)
FLORIDA BUILDING CODE 7th EDITION (2020) - PLUMBING

AMEND EXISTING SECTION

605.21.3 Solvent cementing. Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F656 shall be applied. Solvent cement not purple in color and conforming to ASTM D2564 or CSA B137.3 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D2855. Solvent-cement joints shall be permitted above or below ground.

Exception: Clear Primer conforming to ASTM F656 may be used on any exposed PVC pipe or fittings on trim/finish work.

Local Conditions and Need: This amendment permits the use of clear primer instead of purple primer when used on exposed PVC pipe or fittings on trim/finish work.

Fiscal Impact Statement: There is no cost impact associated with this amendment.

Effective Date: Upon Board Approval and posting on the Commission Website.

Effect of Implementation: This amendment if implemented would not discriminate against materials, products, or construction techniques of demonstrated capabilities.

LOCAL TECHNICAL AMENDMENT
Pinellas County Construction Licensing Board (PCCLB)
FLORIDA BUILDING CODE 7th Edition (2020) – FUEL GAS

AMEND EXISTING SECTION

404.15 Outlet closures. Gas *outlets* that do not connect to *appliances* shall be capped gas tight and shall be labeled with a weatherproof label stating “Connection of a gas appliance to this outlet in the future will require a permit and inspection.” Appliance shutoff valves required by G2420.5 [409.5] shall be installed only at the time of appliance connection to gas outlets.

Exception: *Listed* and *labeled* flush-mounted-type quick-disconnect devices and *listed* and *labeled* gas convenience outlets shall be installed in accordance with the manufacturer’s instructions.

Local Conditions and Need: Adds limitations to control future connections to gas outlets.

Fiscal Impact Statement: Cost increase to provide label is insignificant.

Effective Date: Upon Board Approval and posting on the Commission Website.

Effect of Implementation: This amendment if implemented would not discriminate against materials, products, or construction techniques of demonstrated capabilities.

LOCAL TECHNICAL AMENDMENT

FLORIDA BUILDING CODE 7th Edition (2020) - BUILDING AMEND EXISTING SECTION

1510.10 Mechanical Units.

Roof mounted mechanical units shall be mounted on curbs raised a minimum of 8 inches (203 mm) above the roof surface, or where roofing materials extend beneath the unit, on raised equipment supports providing a minimum clearance height in accordance with Table 1510.10.

Exception: In buildings where the existing rooftop equipment, in the opinion of the building official, provides sufficient clearance to repair, recover, replace and/or maintain the roofing system or any of its components, such existing equipment need not comply with Table 1510.10.

TABLE 1510.10 CLEARANCE BELOW RAISED ROOF MOUNTED MECHANICAL UNITS	
WIDTH OF MECHANICAL UNIT (inches)	MINIMUM CLEARANCE ABOVE SURFACES (inches)
< 24	14
24 < 36	18 14
36 < 48	24 14
48 < 60	30 14
> 60	48

For SI: 1 inch = 25.4 mm.

Exception: When removing or replacing roof mounted mechanical units for individual units and/or spaces within multi-unit buildings the individual units may be reinstalled utilizing the existing system of attachment. At such time of reroofing of the building all mechanical units must be brought into compliance with this code section.

Local Conditions and Need: This amendment strengthens this code section when dealing with replacement of individual mechanical units by requiring that all roof mounted mechanical units comply with the code section upon reroofing the building.

Fiscal Impact Statement: By providing the exemption, costs to individual unit Owners/Leaseholders would be reduced by waiving the requirements to provide attachment/wind load engineering, material and equipment to elevate the mechanical units to comply with Table 1510.10 and Building Department plan review.

By requiring all mechanical units to comply upon reroofing, engineering, material and Building Department plan review costs limited to a single instance thereby reducing the overall cost to comply with this code section and conform the intent of reducing future reroofing costs.

LOCAL TECHNICAL AMENDMENT

FLORIDA BUILDING CODE 7th Edition (2020) - BUILDING

As currently written the code section does not take into account that in the event that a building requiring reroofing prior to all mechanical units having been brought into compliance effectively has experienced no net gain or ease of reroofing by having performed compliance by piecemeal/incomplete methods.

Effective Date: Upon Board Approval and posting on the Commission Website.
This amendment if implemented would not discriminate against materials, products, or construction techniques of demonstrated capabilities.

LOCAL TECHNICAL AMENDMENT
Pinellas County Construction Licensing Board (PCCLB)
FLORIDA BUILDING CODE 7th EDITION (2020) – BUILDING

NFPA 70 NATIONAL ELECTRICAL CODE

2701.1 Scope. The provisions of this chapter and NFPA 70 shall govern the design, construction, erection and installation of the electrical components, appliances, equipment and systems used in buildings and structures covered by this code. The Florida Fire Prevention Code and NFPA 70 shall govern the use and maintenance of electrical components, appliances, equipment and systems. The Florida Building Code, Existing Building and NFPA 70 shall govern the alteration, repair, relocation, replacement and addition of electrical components, appliances, equipment and systems.

AMEND EXISTING NEC SECTION

Article 250.96 Bonding Other Enclosures.

(A) **General.** Metal raceways, cable trays, cable armor, cable sheath, enclosures, frames, fittings, and other metal non-current-carrying parts that are to serve as equipment grounding conductors, with or without the use of supplementary equipment grounding conductors, shall be bonded where necessary to ensure electrical continuity and the capacity to conduct safely any fault current likely to be imposed on them. Any nonconductive paint, enamel, or similar coating shall be removed at threads, contact points, and contact surfaces or be connected by means of fittings designed so as to make such removal unnecessary. All raceways shall contain an equipment-grounding conductor sized in accordance with Table 250.122.

Local Conditions and Need: This amendment assures a positive return path for faults.

Fiscal Impact Statement: Minimal cost impact associated with this amendment since this requirement has been in effect in Pinellas County since 1987.

Effective Date: Upon Board Approval and posting on the Commission Website.

Effect of Implementation: This amendment if implemented would not discriminate against materials, products, or construction techniques of demonstrated capabilities.

LOCAL TECHNICAL AMENDMENT
Pinellas County Construction Licensing Board (PCCLB)
FLORIDA BUILDING CODE 7th EDITION (2020) - BUILDING

AMEND EXISTING SECTION

1609.3 Ultimate design wind speed. The ultimate design wind speed V_{ult} , in mph, for the determination of the wind loads shall be determined by Figures 1609.3(1), 1609.3(2), 1609.3(3) and 1609.4. The ultimate design wind speed, V_{ult} , for use in the design of Risk Category II buildings and structures shall be obtained from Figure 1609.3(1). The ultimate design wind speed, V_{ult} , for use in the design of Risk Category III buildings and structures shall be obtained from Figure 1609.3(2). The ultimate design wind speed, V_{ult} , for use in the design of Risk Category IV buildings and structures shall be obtained from Figure 1609.3(3). The ultimate design wind speed, V_{ult} , for use in the design of Risk Category I buildings and structures shall be obtained from Figure 1609.3(4). The ultimate design wind speed, V_{ult} , for the special wind regions indicated near mountainous terrain and near gorges shall be in accordance with local jurisdiction requirements. The ultimate design wind speeds, V_{ult} , determined by the local jurisdiction shall be in accordance with Chapter 26 of ASCE 7.

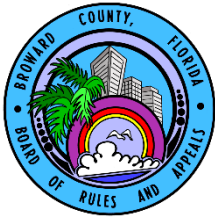
The exact location of wind speeds are approved and adopted as follows: All incorporated and unincorporated Pinellas County, Risk Category I – 135 MPH with interpolation permitted as allowed in the Code and ASCE 7-16; Risk Category II – 145 MPH with interpolation permitted as allowed in the Code and ASCE 7-16; Risk Category III – 155 MPH with interpolation permitted as allowed in the Code and ASCE 7-16; Risk Category IV – 157 MPH with interpolation permitted as allowed in the Code and ASCE 7-16 ~~lines shall be established by local ordinance using recognized physical landmarks such as major roads, canals, rivers and lake shores wherever possible.~~

Local Conditions and Need: This amendment defines Pinellas County's basic wind speed designations.

Fiscal Impact Statement: This amendment adopts Pinellas County's minimum basic wind speeds. There is no cost impact associated with this amendment.

Effective Date: Upon Board Approval and posting on the Commission Website.

Effect of Implementation: This amendment if implemented would not discriminate against materials, products, or construction techniques of demonstrated capabilities.



BROWARD COUNTY BOARD OF RULES AND APPEALS

ONE NORTH UNIVERSITY DRIVE
SUITE 3500-B
PLANTATION, FLORIDA 33324

PHONE: 954-765-4500
FAX: 954-765-4504

www.broward.org/codeappeal

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Mr. Daniel Lavrich,
P.E., S.I., SECB, F.ASCE, F.SEI
Structural Engineer

Vice-Chair

Mr. Stephen E. Bailey, P.E.
Electrical Engineer
Mr. John Famularo,
Roofing Contractor
Mrs. Shalanda Giles Nelson,
General Contractor
Mr. Daniel Rourke
Master Plumber
Mr. Gregg D'Attile,
Mechanical Contractor
Mr. Ron Burr
Swimming Pool Contractor
Mr. John Sims,
Master Electrician
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Mr. Abbas H. Zackria, CSI
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Mr. Sergio Pellecer
Fire Service Professional

Vacant

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Structural Engineer
Mr. David Rice, P.E.
Electrical Engineer
Mr. James Terry,
Master Plumber
Mr. David Tringo,
Master Electrician
Mr. William Flett,
Roofing Contractor

Board Attorney

Charles M. Kramer, Esq.

Board Administrative Director

James DiPietro

October 12, 2020

RE: Florida Building Code - 7th Edition (2020) Plumbing Section 314-
Sub- Section 314.2.1 — Condensate Disposal 1

To whom it may concern:

The following amendments to the Florida Building Code - 7th Edition (2020) Plumbing –Section 314- Condensates – Sub-section 314.2.1 were passed by vote of the Broward County Board of Rules and Appeals on its regular session of October 8, 2020, the effective date is December 31, 2020.

The amendments consist as follows:

- **Chapter 3 -Section 314 - Sub-section 314.2.1 –**
- **Total of paragraphs changed : 6**

A full amended document is to be posted on the www.floridabuilding.org, if needed please feel free to contact our office 954-765-4500 - or email us at rulesboard@broward.org at any time.

Thank you,

A handwritten signature in blue ink, appearing to read "Ruth Boselli".

Ruth Boselli
Administrative Coordinator

Attachments

Broward County Amendments to subsection 314.2.1 of the Florida Building Code - Plumbing, 7th Edition (2020)

Effective December 31, 2020.

CHAPTER 3 GENERAL REGULATIONS

SECTION 314 CONDENSATE DISPOSAL

[M] 314.2.1 Condensate drainage collection, use disposal.

Condensate from all cooling coils and evaporators of equipment served by an onsite cooling tower in a building or structure wherein the aggregate cooling capacity of the equipment exceeds 65,000 Btu/hr shall be collected and conveyed from the drain pan outlet and discharged to the cooling tower. Where an on-site cooling tower is not installed the condensate from all cooling coils and evaporators shall be conveyed from the drain pan outlet to an approved place of disposal. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than one-eighth unit vertical in 12 units horizontal (1-percent slope). Condensate shall not discharge into a street, alley or other areas so as to cause a nuisance.

Exceptions:

1. Condensate from cooling coils and evaporators is not required to be collected and conveyed to an on-site cooling tower; provided 1.1 through 1.3 are met:

1.1 The equipment comprises 10% or less of the total capacity of the cooling tower system.

1.2 The equipment is located in an isolated or remote area.

1.3 The size of the equipment is 65,000 Btu/hr. or less.

2. In existing buildings condensate may be collected and conveyed to a cooling tower or discharged to an approved place of disposal.

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Broward County

Board of Rules and Appeals

One N. University Drive, Suite 3500-B, Plantation, Florida 33324

TL 954.765.4500 ✦ FX 954.765.4504

<http://www.broward.org/codeappeals>

Broward County Local Amendments

Proposed Modification to the Florida Building Code

Per Section 553.73, Fla Statute

Name: Broward County Board of Rules & Appeals, Attention: James DiPietro, ADMINISTRATIVE DIRECTOR

Address: One North University Drive, Suite 3500-B, Plantation FL 33324

E-mail: jdipietro@broward.org

Phone: 954) 765-4500

Fax: (954) 765-4504

Code: 7th Edition (2020) Florida Building Code, Plumbing and Mechanical

Section #: Plumbing Section [M] 314.2.1 and

Text of Modification (additions underlined; deletion ~~stricken~~):

Please see attachment.

Respond to the following questions:

1. How is the local amendment more stringent than the minimum standards described in the FBC?
REQUIRES THE COLLECTION OF CONDENSATE FROM ALL COOLING COILS AND EVAPORATORS OF EQUIPMENT SERVICED BY ON SITE COOLING TOWER IN A BUILDING OR STRUCTURE WHEREIN THE AGGREGATE COOLING CAPACITY OF THE EQUIPMENT EXCEEDS 65,000 BTU/HR
2. Demonstrate or provide evidence or data that the geographical jurisdiction governed by the local governing body exhibits a local need to strengthen the FBC beyond the needs or regional variation addressed by the FBC.
BY FAR, THE MOST IMPORTANT DEMOGRAPHIC TREND AFFECTING WATER RESOURCES IS POPULATION GROWTH. SIGNIFICANT POPULATION GROWTH IS ANTICIPATED. ACCORDING TO THE MOST RECENT POPULATION PROJECTIONS, THE COUNTY IS PROJECTING A 13% INCREASE IN POPULATION TO NEARLY 2 MILLION RESIDENTS BY 2040. THIS ASSUMES POPULATION GROWTH RATES REMAIN MODERATED BY THE ECONOMIC DOWN TURN. HOWEVER, IN A COUNTY WITH THE 12TH LARGEST POPULATION IN THE UNITED STATES, EVEN A MODERATE GROWTH RATE TRANSLATES INTO A SUBSTANTIAL INCREASE IN WATER DEMAND. IN 2010, BROWARD COUNTY PUMPED APPROXIMATELY 233 MILLION GALLONS PER DAY (MGD) FROM THE BISCAYNE AQUIFER. HOWEVER, IN ACCORDANCE WITH THE REGIONAL WATER AVAILABILITY RULE, INCREASES IN WATER DEMAND MUST BE MET THROUGH ALTERNATIVE WATER SUPPLIES. BROWARD COUNTY HAS TO MAKEUP THE DIFFERENCE INCLUDING A PROJECTED INCREASE OF 22 MGD BY 2040 FROM THE FLORIDIAN AQUIFER OR OTHER WATER SUPPLIES (SUCH AS RECLAIMED WATER) WHICH REQUIRE MUCH HIGHER LEVELS OF TREATMENT BY REVERSE OSMOSIS AND/OR MEMBRANE FILTRATION, BOTH OF WHICH WILL REQUIRED NEW CAPITAL INVESTMENTS AND ENERGY INTENSIVE PROCESSES. IT HAS BEEN REPEATEDLY RECOGNIZED BY BROWARD WATER PROVIDERS AND ELECTED LEADERS THAT WATER CONSERVATION OFFER THE MOST COST EFFECTIVE AND IMMEDIATE MEANS TO MEET NEW WATER DEMANDS. WITHOUT EFFECTIVE WATER CONSERVATION BROWARD COUNTY'S CONTINUED GROWTH WILL BE DEPENDENT ON OUR ABILITY TO DEVELOP MORE COSTLY ALTERNATIVE WATER SUPPLIES.
FLORIDA STATE STATUTES, SECTION 373.016(S), RECOGNIZES THAT THE WATER RESOURCE PROBLEMS OF THE STATE VARY FROM REGION TO REGION, BOTH IN MAGNITUDE AND COMPLEXITY. SPECIFICALLY, IN BROWARD COUNTY, THE

LIMITATIONS OF OUR AQUIFER, THE AMOUNT OF WATER THE STATE ALLOWS US TO WITHDRAW, THE INTRUSION OF SALT WATER INTO THE AQUIFER, AND THE INCREASED FUTURE DEMANDS THAT ARE PROJECTED ESTABLISH AND REINFORCE THE ISSUE OF REGIONAL VARIATION.

THE CONTINUED DISPOSAL OF CONDENSATE INTO THE STORM WATER DRAINAGE SYSTEMS OR PERVIOUS GRADE IS IRRECONCILABLE WITH THE VITAL ROLE CONDENSATE COLLECTION AND USE CAN PLAY IN EASING THE DEMANDS ON OUR INCREASINGLY BURDENED POTABLE WATER RESOURCES. MOREOVER, IT IS INCONSISTENT WITH FLORIDA STATUTE 373.227 WHICH CAUTIONS, "THE LEGISLATURE RECOGNIZES THAT THE PROPER CONSERVATION OF WATER IS AN IMPORTANT MEANS OF ACHIEVING THE ECONOMICAL AND EFFICIENT UTILIZATION OF WATER NECESSARY, IN PART, TO CONSTITUTE A REASONABLE—BENEFICIAL USE. THE OVERALL WATER CONSERVATION GOAL OF THE STATE IS TO PREVENT AND REDUCE WASTEFUL, UNECONOMICAL, IMPRACTICAL, OR UNREASONABLE USE OF WATER RESOURCES."

3. Explain how the local need is addressed by the proposed local amendment.

THIS MODIFICATION WILL REQUIRE LESS WATER USAGE FROM THE AQUIFERS.

4. Explain how the local amendment is no more stringent than necessary to address the local need.

THE LOCAL NEED FOR WATER CONSERVATION IS VERY SERIOUS AND IS MANDATED BY THE BROWARD COUNTY COMMISSION AND SUPPORTED BY THE BROWARD LEAGUE OF CITIES AND THE BROWARD WATER RESOURCES TASK FORCE. THIS AMENDMENT WILL HELP ACHIEVE WATER CONSERVATION BUT CANNOT SOLVE THE PROJECTED WATER SHORTAGE PROBLEM WITHOUT OTHER LOCAL WATER CONSERVATION EFFORTS.

5. Are the additional requirements discriminatory against materials, products, or construction techniques of demonstrated capabilities?

PUBLIC MEETINGS AND A PUBLIC HEARING WERE HELD AND STAKEHOLDERS WERE INVITED TO ATTEND. AS PART OF THE COMMITTEE AND FINAL BOARD ADOPTION PROCESS, IT WAS DETERMINED THAT THE MODIFICATION WOULD NOT BE DISCRIMINATORY.

6. Indicate whether or not additional requirements introduce a new subject not already addressed in the FBC.

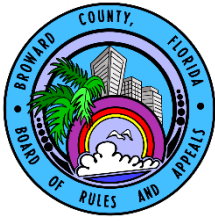
THIS MODIFICATION REVISES AN EXISTING SECTION OF THE FLORIDA BUILDING CODE.

7. Include a fiscal impact statement which documents the costs and benefits of the proposed amendment. Criteria for the fiscal impact statement shall include a, b, and c:

- a) Impact to local government, relative to enforcement.
 - b) Impact to property and building owners relative to cost of compliance.
 - c) Impact to industry relative to the cost of compliance
- a) THERE IS NO FISCAL IMPACT TO BROWARD COUNTY OR THE MUNICIPALITIES.
 - b) WHEN CONSIDERING LIFECYCLES, THERE IS NO COST TO BUILDING OWNERS FOR COMPLIANCE. THE FISCAL IMPACT INVOLVES HIGHER INITIAL COSTS, WHICH VARY BASED UPON THE SIZE AND COMPLEXITY OF THE COOLING SYSTEMS. HOWEVER, THE INITIAL COSTS ARE OFFSET BY A SYSTEM PAYOFF FROM 6 MONTHS TO SIX YEARS AS REASONABLY PROJECTED.
 - c) NO FISCAL IMPACT TO INDUSTRY.

BROWARD BORA PUBLIC HEARING AND VOTE October 8, 2020.

AMENDMENT EFFECTIVE DATE December 31, 2020.



BROWARD COUNTY BOARD OF RULES AND APPEALS

ONE NORTH UNIVERSITY DRIVE
SUITE 3500-B
PLANTATION, FLORIDA 33324

PHONE: 954-765-4500
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Charles M. Kramer, Esq.

Board Administrative Director

James DiPietro

October 12, 2020

RE: Florida Building Code - 7th Edition (2020) Mechanical – Chapter 3 –
Condensates – Sub-section 307.2.1

To whom it may concern:

The following amendments to the Florida Building Code - 7th Edition (2020) Mechanical – Chapter 3 – Condensates – Sub-section 307.2.1 were passed by vote of the Broward County Board of Rules and Appeals on its regular session of October 8, 2020, the effective date is December 31, 2020.

The amendments consist as follows:

- **Chapter 3 - Sub-section 307.2.1 – Total of paragraphs changed : 6**

A full amended document is to be posted on the www.floridabuilding.org, if needed please feel free to contact our office 954-765-4500 - or email us at rulesboard@broward.org at any time.

Thank you,

A handwritten signature in blue ink, appearing to read "Ruth Boselli".

Ruth Boselli
Administrative Coordinator

Attachments

C:\Users\rboselli\Documents\1 - Amendments to State - chapter 1\Memo Chapter I.docx

Broward County Amendments to subsection 307.2.1 of the 2020 Florida Building Code - Mechanical, 7th Edition (2020)

Effective December 31, 2020.

CHAPTER 3 GENERAL REGULATIONS

SECTION 307 CONDENSATE DISPOSAL

307.2.1 Condensate drainage collection, use or disposal.

Condensate from all cooling coils and evaporators of equipment served by an onsite cooling tower in a building or structure wherein the aggregate cooling capacity of the equipment exceeds 65,000 Btu/hr shall be collected and conveyed from the drain pan outlet and discharged to the cooling tower. Where an on-site cooling tower is not installed the condensate from all cooling coils and evaporators shall be conveyed from the drain pan outlet to an approved place of disposal. Such piping shall maintain a minimum horizontal slope in the direction of discharge of not less than one-eighth unit vertical in 12 units horizontal (1-percent slope). Condensate shall not discharge into a street, alley or other areas so as to cause a nuisance.

Exceptions:

1. Condensate from cooling coils and evaporators is not required to be collected and conveyed to an on-site cooling tower; provided 1.1 through 1.3 are met:

1.1 The equipment comprises 10% or less of the total capacity of the cooling tower system.

1.2 The equipment is located in an isolated or remote area.

1.3 The size of the equipment is 65,000 Btu/hr. or less.

2. In existing buildings condensate may be collected and conveyed to a cooling tower or discharged to an approved place of disposal.

[BACK to TOP](#)



Broward County

Board of Rules and Appeals

One N. University Drive, Suite 3500-B, Plantation, Florida 33324

TL 954.765.4500 ✦ FX 954.765.4504

<http://www.broward.org/codeappeals>

Broward County Local Amendments

Proposed Modification to the Florida Building Code

Per Section 553.73, Fla Statute

Name: Broward County Board of Rules & Appeals, Attention: James DiPietro, ADMINISTRATIVE DIRECTOR

Address: One North University Drive, Suite 3500-B, Plantation FL 33324

E-mail: jdipietro@broward.org

Phone: 954) 765-4500

Fax: (954) 765-4504

Code: 7th Edition (2020) Florida Building Code, Plumbing and Mechanical

Section #: Plumbing Section [M] 314.2.1 and
Mechanical Section 307.2.1

Text of Modification (additions underlined; deletion ~~stricken~~):

Please see attachment.

Respond to the following questions:

1. How is the local amendment more stringent than the minimum standards described in the FBC?
REQUIRES THE COLLECTION OF CONDENSATE FROM ALL COOLING COILS AND EVAPORATORS OF EQUIPMENT SERVICED BY ON SITE COOLING TOWER IN A BUILDING OR STRUCTURE WHEREIN THE AGGREGATE COOLING CAPACITY OF THE EQUIPMENT EXCEEDS 65,000 BTU/HR
2. Demonstrate or provide evidence or data that the geographical jurisdiction governed by the local governing body exhibits a local need to strengthen the FBC beyond the needs or regional variation addressed by the FBC.
BY FAR, THE MOST IMPORTANT DEMOGRAPHIC TREND AFFECTING WATER RESOURCES IS POPULATION GROWTH. SIGNIFICANT POPULATION GROWTH IS ANTICIPATED. ACCORDING TO THE MOST RECENT POPULATION PROJECTIONS, THE COUNTY IS PROJECTING A 13% INCREASE IN POPULATION TO NEARLY 2 MILLION RESIDENTS BY 2040. THIS ASSUMES POPULATION GROWTH RATES REMAIN MODERATED BY THE ECONOMIC DOWN TURN. HOWEVER, IN A COUNTY WITH THE 12TH LARGEST POPULATION IN THE UNITED STATES, EVEN A MODERATE GROWTH RATE TRANSLATES INTO A SUBSTANTIAL INCREASE IN WATER DEMAND. IN 2010, BROWARD COUNTY PUMPED APPROXIMATELY 233 MILLION GALLONS PER DAY (MGD) FROM THE BISCAYNE AQUIFER. HOWEVER, IN ACCORDANCE WITH THE REGIONAL WATER AVAILABILITY RULE, INCREASES IN WATER DEMAND MUST BE MET THROUGH ALTERNATIVE WATER SUPPLIES. BROWARD COUNTY HAS TO MAKEUP THE DIFFERENCE INCLUDING A PROJECTED INCREASE OF 22 MGD BY 2040 FROM THE FLORIDIAN AQUIFER OR OTHER WATER SUPPLIES (SUCH AS RECLAIMED WATER) WHICH REQUIRE MUCH HIGHER LEVELS OF TREATMENT BY REVERSE OSMOSIS AND/OR MEMBRANE FILTRATION, BOTH OF WHICH WILL REQUIRED NEW CAPITAL INVESTMENTS AND ENERGY INTENSIVE PROCESSES. IT HAS BEEN REPEATEDLY RECOGNIZED BY BROWARD WATER PROVIDERS AND ELECTED LEADERS THAT WATER CONSERVATION OFFER THE MOST COST EFFECTIVE AND IMMEDIATE MEANS TO MEET NEW WATER DEMANDS. WITHOUT EFFECTIVE WATER CONSERVATION BROWARD COUNTY'S CONTINUED GROWTH WILL BE DEPENDENT ON OUR ABILITY TO DEVELOP MORE COSTLY ALTERNATIVE WATER SUPPLIES.
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3. Explain how the local need is addressed by the proposed local amendment.

THIS MODIFICATION WILL REQUIRE LESS WATER USAGE FROM THE AQUIFERS.

4. Explain how the local amendment is no more stringent than necessary to address the local need.

THE LOCAL NEED FOR WATER CONSERVATION IS VERY SERIOUS AND IS MANDATED BY THE BROWARD COUNTY COMMISSION AND SUPPORTED BY THE BROWARD LEAGUE OF CITIES AND THE BROWARD WATER RESOURCES TASK FORCE. THIS AMENDMENT WILL HELP ACHIEVE WATER CONSERVATION BUT CANNOT SOLVE THE PROJECTED WATER SHORTAGE PROBLEM WITHOUT OTHER LOCAL WATER CONSERVATION EFFORTS.

5. Are the additional requirements discriminatory against materials, products, or construction techniques of demonstrated capabilities?

PUBLIC MEETINGS AND A PUBLIC HEARING WERE HELD AND STAKEHOLDERS WERE INVITED TO ATTEND. AS PART OF THE COMMITTEE AND FINAL BOARD ADOPTION PROCESS, IT WAS DETERMINED THAT THE MODIFICATION WOULD NOT BE DISCRIMINATORY.

6. Indicate whether or not additional requirements introduce a new subject not already addressed in the FBC.

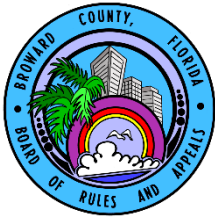
THIS MODIFICATION REVISES AN EXISTING SECTION OF THE FLORIDA BUILDING CODE.

7. Include a fiscal impact statement which documents the costs and benefits of the proposed amendment. Criteria for the fiscal impact statement shall include a, b, and c:

- a) Impact to local government, relative to enforcement.
 - b) Impact to property and building owners relative to cost of compliance.
 - c) Impact to industry relative to the cost of compliance
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 - c) NO FISCAL IMPACT TO INDUSTRY.

BROWARD BORA PUBLIC HEARING AND VOTE - October 8, 2020.

AMENDMENT EFFECTIVE DATE - December 31, 2021.



BROWARD COUNTY BOARD OF RULES AND APPEALS

ONE NORTH UNIVERSITY DRIVE
SUITE 3500-B
PLANTATION, FLORIDA 33324

PHONE: 954-765-4500
FAX: 954-765-4504

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Roofing Contractor

Board Attorney

Charles M. Kramer, Esq.

Board Administrative Director

James DiPietro

October 13, 2020

RE: Florida Building Code - 7th Edition (2020) Mechanical – Chapter 9 Specific Appliances, Fireplaces and Solid Fuel-Burning Equipment - Section 908 Cooling Towers, Evaporative Condensers and Fluid Coolers.

To whom it may concern:

The following amendments to the Florida Building Code - 7th Edition (2020) Mechanical – Chapter 9 – Section 908 Cooling Towers, Evaporative Condensers and Fluid Coolers was passed by vote of the Broward County Board of Rules and Appeals on its regular session of October 8, 2020, the effective date is January 1, 2021.

The amendments consist as follows:

Chapter 9 -Section 908.3 - Cooling Towers, Evaporative Condensers and Fluid Coolers.

New section : 908.3.1 - Chapter 15 - Reference Standards

- – Total of paragraphs changed : 2

A full amended document is to be posted on the www.floridabuilding.org, if needed please feel free to contact our office 954-765-4500 - or email us at rulesboard@broward.org at any time.

Thank you,

A handwritten signature in blue ink, appearing to read "Ruth Boselli".

Ruth Boselli
Administrative Coordinator

Attachments

Broward County Amendments to subsection 908.3.1 of the 2020 Florida Building Code - Mechanical, Seventh Edition showing the differences with the statewide code. Effective December 31, 2021.

CHAPTER 9 SPECIFIC APPLIANCES, FIREPLACES AND SOLID FUEL-BURNING EQUIPMENT

SECTION 908 COOLING TOWERS, EVAPORATIVE CONDENSERS AND FLUID COOLERS.

~~Stricken thru text~~ are deletions from the Florida Building Code - Mechanical, Seventh Edition.

Underscored text is additions Florida Building Code - Mechanical, Seventh Edition.

908.3 Location.

Cooling towers, evaporative condensers and fluid coolers shall be located to prevent the discharge vapor plumes from entering occupied spaces. Plume discharges shall be not less than 5 feet (1524 mm) above or 20 feet (6096 mm) away from any ventilation inlet to a building. Location on the property shall be as required for buildings in accordance with the *Florida Building Code, Building*.

908.3.1 Sitting of cooling towers shall comply with Section 7.2.1 of ASHRAE 188-2018.

Exception: The replacement of existing cooling towers on previously permitted and approved locations.

CHAPTER 15 REFERENCED STANDARDS

Standard Reference Number	Title	Referenced in code section number
ASHRAE—2017 15—2016	ASHRAE Fundamentals Handbook	603.2
	Safety Standard for Refrigeration Systems	1101.6, 1105.8, 1108.1
34—2016	Designation and Safety Classification of Refrigerants	202, 1102.2.1, 1103.1
62.1—2016	Ventilation for Acceptable Indoor Air Quality	403.3.1.1.2.3.2
170--2017	Ventilation of Health Care Facilities	407
<u>188-2018</u>	<u>Legionellosis: Risk Management for Building Water Systems</u>	<u>908.3.1</u>

American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.
1791 Tullie Circle, NE
Atlanta, GA 30329



Broward County

Board of Rules and Appeals

One N. University Drive, Suite 3500-B, Plantation, Florida 33324

TL 954.765.4500 ✦ FX 954.765.4504

<http://www.broward.org/codeappeals>

Proposed Modification to the Florida Building Code

Per Section 553.73, Fla Statute

Name: ___ Rolando _Soto_

Address: One N. University Drive, Suite 3500-B, Plantation, Florida 33324 _____

E-mail: rosoto@broward.org

Phone: ___ 9547654500

Fax: ___ 9547654504

Code: ___ 7th Edition FBC Mechanical (2020)

Section #: ___ 908.3 _ + Chapter 15 _ Referenced Standards

Text of Modification (additions underlined; deletion ~~stricken~~):
Please see attachment.

Respond to the following questions:

1. How is the local amendment more stringent than the minimum standards described in the FBC?

It requires designers and/or contractors to address the following issues not included in the FBC Mechanical 7th Edition:

- a. Potential contamination from building systems or facility processes to be drawn into the equipment
- b. Potential for equipment to discharge into occupied spaces, trafficable areas, pedestrian thoroughfares, outdoor air intakes, and building openings
- c. Potential for equipment siting that inhibits access to the equipment for the required maintenance and inspection consistent with the manufacturer's instructions and guidelines

2. Demonstrate or provide evidence or data that the geographical jurisdiction governed by the local governing body exhibits a local need to strengthen the FBC beyond the needs or regional variation addressed by the FBC.

Large areas of Broward County include high density residential and large commercial buildings, hospitals schools, etc. Many of these buildings use Cooling Towers for heat rejection. Cooling Towers create a potential breeding environment for the Legionella bacteria, the cause of a serious, and sometime fatal condition known as Legionellosis. The increasing number of Cooling Towers in Broward County places large number of county residents in potential danger of being exposed to this infectious agent.



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3. Explain how the local need is addressed by the proposed local amendment.

This local amendment will bring emphasis to the prevention of conditions, conducive to the spread of Legionellosis during the design, siting and installation of Cooling Towers in Broward County.

4. Explain how the local amendment is no more stringent than necessary to address the local need.

No prescriptive parameters are set. Only the desired result is stated. Designers, contractors and building owners are free to find different ways to achieve the results.

5. Are the additional requirements discriminatory against materials, products, or construction techniques of demonstrated capabilities?

No.

6. Indicate whether or not additional requirements introduce a new subject not already addressed in the FBC.

Yes, this is a new subject not addressed by the code, the siting of Cooling Towers to prevent the spread of the Legionella bacteria.

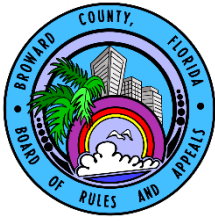
7. Include a fiscal impact statement which documents the costs and benefits of the proposed amendment. Criteria for the fiscal impact statement shall include a, b, and c:

- a) Impact to local government, relative to enforcement.
- b) Impact to property and building owners relative to cost of compliance.
- c) Impact to industry relative to the cost of compliance

- a) No impact to local government, relative to enforcement, is expected.
- b) No impact to property and building owners, relative to cost of compliance is expected.
- c) No impact to industry, relative to the cost of compliance is expected.

BROWARD BORA PUBLIC HEARING AND VOTE OCTOBER 8, 2020.

AMENDMENT EFFECTIVE DATE: DECEMBER 31, 2020.



BROWARD COUNTY BOARD OF RULES AND APPEALS

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October 12, 2020

**RE: Florida Building Code - 7th Edition (2020) Mechanical – Chapter 9 –
Section 908.8 Cooling Towers**

To whom it may concern:

The following amendments to the Florida Building Code - 7th Edition (2020) Mechanical - Chapter 9 – Section 908.8 Cooling Towers were passed by vote of the Broward County Board of Rules and Appeals on its regular session of October 8, 2020, the effective date is December 31, 2020.

The amendments consist as follows:

- **Chapter 9 – Section 908.8- Cooling Towers –
Total of paragraphs changed : 5**

A full amended document is to be posted on the www.floridabuilding.org, if needed please feel free to contact our office 954-765-4500 - or email us at rulesboard@broward.org at any time.

Thank you,

A handwritten signature in blue ink, appearing to read "Ruth Boselli".

Ruth Boselli
Administrative Coordinator

Attachments

Broward County Amendments to subsection 908.8 of the 2020 Florida Building Code - Mechanical, Seventh Edition showing the differences with the statewide code. Effective December 31, 2020.

CHAPTER 9 SPECIFIC APPLIANCES, FIREPLACES AND SOLID FUEL-BURNING EQUIPMENT

~~Stricken thru text~~ are deletions from the Florida Building Code - Mechanical, Seventh Edition.

Underscored text are additions to Florida Building Code - Mechanical, Seventh Edition. There is no change in the text of the original code amendment.

908.8 Cooling towers. Cooling towers, both open circuit and closed circuit type, and evaporative condensers shall comply with Sections 908.8.1 ~~and 908.8.2~~ thru 908.8.3.

908.8.1 Conductivity ~~or~~ and flow-based control of cycles of concentration. ~~Cooling towers and evaporative condensers shall include controls that automate system bleed based on conductivity, fraction of metered makeup volume, metered bleed volume, recirculating pump run time or bleed time.~~ New cooling towers, and evaporative condensers, including replacements shall be operated with conductivity controllers, as well as make-up and blowdown (bleed off) meters and shall achieve a minimum of 8 cycles of concentration.

908.8.2 Drift eliminators. Cooling towers and evaporative condensers shall be equipped with drift eliminators that have a maximum drift rate of 0.002% of the recirculated water volume for counterflow towers and 0.005% of the recirculated water flow for crossflow towers ~~as established in the equipment's design specifications.~~

908.8.3 An affidavit of compliance demonstrating compliance with section 908.5 Florida Building Code shall be submitted by the property manager/owner to the local water provider every 12 months following system installation. The affidavit shall be signed by the service provider and include all dates of service within the reporting period and verified system operation at a minimum of 8 cycles of concentration.

Exception: Cooling water tower systems utilizing reclaimed water for the total amount of makeup water are exempt from the provisions of section 908.8.1 thru 908.8.3 Florida Building Code.



Broward County

Board of Rules and Appeals

One N. University Drive, Suite 3500-B, Plantation, Florida 33324

TL 954.765.4500 ✦ FX 954.765.4504

<http://www.broward.org/codeappeals>

Broward County Local Amendments

Proposed Modification to the Florida Building Code

Per Section 553.73. Fla Statute

Name: Broward County Board of Rules & Appeals, Attention: James DiPietro, ADMINISTRATIVE DIRECTOR

Address: One North University Drive, Suite 3500-B, Plantation FL 33324

E-mail: jdipietro@broward.org

Phone: (954) 765-4500

Fax: (954) 765-4504

Code: 7th Edition (2020) Florida Building Code – Mechanical

Section #: 908.8

Text of Modification (additions underlined; deletion ~~stricken~~):

Please see attachment.

Respond to the following questions:

1. How is the local amendment more stringent than the minimum standards described in the FBC?
THIS MODIFICATION TO THE LOCAL AMENDMENT REQUIRES COOLING TOWERS TO BE OPERATED IN A MANNER THAT ACHIEVES A MINIMUM NUMBER OF CYCLES CONCENTRATION TO SUPPORT WATER CONSERVATION NEEDS
2. Demonstrate or provide evidence or data that the geographical jurisdiction governed by the local governing body exhibits a local need to strengthen the FBC beyond the needs or regional variation addressed by the FBC.

AS THE SECOND MOST POPULATED COUNTY WITHIN THE STATE OF FLORIDA, BROWARD COUNTY'S POPULATION IS PROJECTED TO INCREASE TO 2,033,471 MILLION BY 2040, A GROWTH OF ALMOST 15% FROM 2015. RECENT LOCAL PLANNING ACTIVITIES IN THE REGION DEMONSTRATE THAT THE ECONOMIC DOWNTURN HAVE ENDED IN SOUTH FLORIDA AND CONTINUED GROWTH WILL RESULT IN A CONCOMITANT INCREASE UPON OUR LIMITED WATER SUPPLIES. IN 2013, BROWARD COUNTY PUMPED APPROXIMATELY 226 MILLION GALLONS/DAY (MGD) FROM ALL WATER SOURCES. THE PROJECTED INCREASED WATER DEMAND IN 2040 WILL RANGE FROM 17 – 52 MILLION GALLONS/DAY, DEPENDING ON THE MEDIUM OR HIGH GROWTH RATES ESTIMATES PRODUCED BY [UNIVERSITY OF FLORIDA BUREAU OF ECONOMIC AND BUSINESS RESEARCH](#) (BEER).

IN ACCORDANCE TO THE LOWER EAST COAST WATER AVAILABILITY RULE, NEW WATER DEMANDS WILL NEED TO BE MET THROUGH THE DEVELOPMENT OF ALTERNATIVE WATER SUPPLY OPTIONS. THIS INCLUDES THE USE OF THE BRACKISH FLORIDIAN AQUIFER AS NON-TRADITIONAL SOURCE OF WATER OR RECLAIMED WATER. HOWEVER, THESE REQUIRE SUBSTANTIAL INVESTMENTS IN NEW CAPITAL INFRASTRUCTURE, ADVANCED TREATMENT REQUIREMENTS, GREATER ENERGY DEMANDS, AND HIGHER OPERATIONAL COSTS. WATER UTILITIES WOULD HAVE A VERY DIFFICULT TIME IN TRYING TO DEVELOP THESE OPTIONS ON THEIR OWN.

BEYOND THIS WATER SOURCE ALLOCATION RESTRICTION, THERE CONTINUES TO BE PRESENT THREATS TO THE BISCAYNE AQUIFER RELATED TO CLIMATE CHANGE. SEA LEVEL RISE IS DOCUMENTED TO HAVE SUBSTANTIALLY ACCELERATED THE

RATE OF SALTWATER INTRUSION OF THE COASTAL AQUIFER WITH APPROXIMATELY 40% OF THE BROWARD COUNTY'S COASTAL WELLFIELD CAPACITY DEMONSTRATED TO BE VULNERABLE TO SALTWATER CONTAMINATION DUE TO PROJECTED SEA LEVEL RISE. WE HAVE ALREADY SEEN THE LOSS OF WELLS, RELOCATION OF WELLFIELDS, AND SEVERE LIMITATIONS ON SEVERAL REMAINING COASTAL WELLFIELDS DUE TO SALTWATER CONSTRAINTS. SEA LEVEL RISE DOUBLES THE RATE AT WHICH THIS FRONT MOVES AND POSES SEVERE CHALLENGES FOR THE FUTURE. THEREFORE, IT IS IMPERATIVE THAT LOCAL GOVERNMENTS, INCLUDING BROWARD COUNTY, FORMALIZE EFFORTS TO PROVIDE LONG-TERM WATER SAVINGS AND SIZEABLE REDUCTIONS IN THE COST OF NEW AND REPLACEMENT INFRASTRUCTURE THROUGH PERMANENT CONSERVATION PRACTICES AND POLICIES.

FLORIDA STATE STATUTES, SECTION 373.016(5), RECOGNIZES THAT THE WATER RESOURCE PROBLEMS OF THE STATE VARY FROM REGION TO REGION, BOTH IN MAGNITUDE AND COMPLEXITY. IN BROWARD COUNTY, RESTRICTED WITHDRAWALS FROM OUR AQUIFER IN ACCORDANCE WITH STATE POLICY, COUPLED WITH THE LOSS OF EXISTING CAPACITY IN COASTAL WELLS AND THE CONTINUED INCREASE IN DEMAND THAT COMES WITH POPULATION GROWTH ALL COMBINE TO UNDERSCORE THE DRAMATIC REGIONAL VARIATIONS AND PRESSURES THAT MUST BE ACTIVELY ADDRESSED.

IN ADDITION, THE HISTORIC PRACTICE OF DISCHARGING MASSIVE VOLUMES OF PURE CONDENSATE WATER FROM AIR HANDLERS TO THE STORMWATER COLLECTION SYSTEMS OR GROUND SURFACE IS IRRECONCILABLE WITH THE VITAL ROLE CONDENSATE COLLECTION CAN PLAY AS A MAKEUP WATER FOR COOLING TOWERS. THE LOCAL AMENDMENT ALSO REQUIRES THAT CONDENSATE BE CAPTURED AND REUSED FOR THIS PURPOSE. MOREOVER, SUCH WASTE IS INCONSISTENT WITH FLORIDA STATUTE 373.227 WHICH CAUTIONS, "THE LEGISLATURE RECOGNIZES THAT THE PROPER CONSERVATION OF WATER IS AN IMPORTANT MEANS OF ACHIEVING THE ECONOMICAL AND EFFICIENT UTILIZATION OF WATER NECESSARY, IN PART, TO CONSTITUTE A REASONABLE –BENEFICIAL USE. THE OVERALL WATER CONSERVATION GOAL OF THE STATE IS TO PREVENT AND REDUCE WASTEFUL, UNECONOMICAL, IMPRACTICAL OR UNREASONABLE USE OF WATER RESOURCES."

3. Explain how the local need is addressed by the proposed local amendment.

COOLING TOWERS ARE ESTIMATED TO ACCOUNT FOR APPROXIMATELY 10% OF COUNTY-WIDE DEMANDS ON THE POTABLE WATER SYSTEM. CONSERVATION PRACTICES THROUGH IMPROVED COOLING TOWER OPERATIONS ARE ESTIMATED TO SAVE AS MUCH AS 20 MILLION GALLONS PER DAY OF POTABLE WATER FOR POTABLE PURPOSES.

THE MODIFICATION WILL REQUIRE LESS WATER USAGE FROM THE LIMITED BISCAYNE AQUIFER AND WILL REDUCE DISCHARGE TO THE SANITARY SYSTEM. THIS AMENDMENT WILL PROVIDE ADDITIONAL WATER CONSERVATION INITIATIVES SO NECESSARY FOR THE REGION TO MEET ITS INCREASING WATER DEMANDS.

4. Explain how the local amendment is no more stringent than necessary to address the local need.

THE LOCAL AMENDMENT WILL HELP TO SUPPORT THE BROWARD COUNTY COMMISSIONS' LONG STANDING EFFORTS TO ACHIEVE SUSTAINED WATER CONSERVATION THROUGH A NUMBER OF INCENTIVES. THE COUNTY HAS ADOPTED A VARIETY OF WATER CONSERVATION MEASURES TO HELP IMPROVE CONSERVATION PRACTICES IN THE RESIDENTIAL AND COMMERCIAL SECTORS, AS WELL AS WITHIN GOVERNMENT OPERATIONS. THIS PARTICULAR AMENDMENT WAS WIDELY VETTED WITH INDUSTRY AND STRIKES A PRACTICAL BALANCE IN IMPLEMENTATION AS ALL CURRENT TECHNOLOGIES ARE ABLE TO ACHIEVE THE REQUIRED 8 CYCLES OF CONCENTRATION, PROVIDING NO ONE MANUFACTURER OR TECHNOLOGY WITH AN ADVANTAGE WHILE ALSO LIMITING THE REQUIRED CYCLES OF CONCENTRATION TO A FACTOR THAT OFFERS A SOLID RETURN ON INVESTMENT.

5. Are the additional requirements discriminatory against materials, products, or construction techniques of demonstrated capabilities?

ON SEPTEMBER 10, 2020, THE BROWARD COUNTY BOARD OF RULES AND APPEALS ADOPTED CHANGES TO CHAPTER 9, SECTION 908.8, WHICH CONTAINS THE SAME WATER EFFICIENCIES THAT ARE REQUESTED IN THIS AMENDMENT. PRIOR TO THAT EFFORT, EXTENSIVE AND WIDELY ATTENDED PUBLIC MEETINGS WERE HELD WITH TESTIMONY FROM BOTH WATER

TREATMENT COMPANIES AND EQUIPMENT MANUFACTURES AND IT WAS DETERMINED THAT THIS MODIFICATION WOULD NOT BE DISCRIMINATORY. THESE STANDARDS WERE ADVANCED WITHOUT ANY OBJECTIVE AND WITH THE COLLECTIVE CONCURRENCE OF DIVERSE SERVICE PROVIDERS AND MANUFACTURERS.

6. Indicate whether or not additional requirements introduce a new subject not already addressed in the FBC.

THIS MODIFICATION REVISES AN EXISTING SECTION OF THE FLORIDA BUILDING CODE.

7. Include a fiscal impact statement which documents the costs and benefits of the proposed amendment. Criteria for the fiscal impact statement shall include a, b, and c:

- a) Impact to local government, relative to enforcement.
- b) Impact to property and building owners relative to cost of compliance.
- c) Impact to industry relative to the cost of compliance

a) Broward County has included review for cooling tower compliance as part of the existing environmental review for project permitting.

b) There are no net cost increases to property and business owners. While there is a \$100 operational annual licensing fee to cover certification, verification, and noticing to industry to ensure they are operating the cooling towers as required (8 cycles of concentration), these costs are also offset by reduced water and wastewater disposal charges. This modification will reduce assessed impact fees charged by Broward County by more than what it would cost to comply. Water utilities have begun to meter water associated with cooling towers separate from irrigation meters. This means that not only is the user charged for the cost of the potable water, but also the cost of disposal. As disposal rates are actually higher than water rates, there is an economic advantage to reducing consumption through more efficient operations. The requirements are only implemented at the time of new construction or cooling tower replacement.

c) There is no realized cost to industry given the economics of saving waters. Industry will see a growing economic advantage as water rates continue to increase as new water sources must be developed.

BROWARD BORA PUBLIC HEARING AND VOTE, OCTOBER 8, 2020.

AMENDMENT EFFECTIVE DATE DECEMBER 31, 2020.

CHAPTER 15

REFERENCED STANDARDS

This chapter lists the standards that are referenced in various sections of this document. The standards are listed herein by the promulgating agency of the standard, the standard identification, the effective date and title, and the section or sections of this document that reference the standard. The application of the referenced standards shall be as specified in Section 102.4 of the *Florida Building Code, Building*.

ACCA

Air Conditioning Contractors of America
2800 Shirlington Road, Suite 300
Arlington, VA 22206

Standard reference number	Title	Referenced in code section number
Manual D—2016 183—2007 (reaffirmed 2011)	Residential Duct Systems	601.5, 603.2
	Peak Cooling and Heating Load Calculations in Buildings Except Low-rise Residential Buildings312.1

AHRI

Air-Conditioning, Heating and Refrigeration Institute
4100 North Fairfax Drive, Suite 200
Arlington, VA 22203

Standard reference number	Title	Referenced in code section number
700—2015	Specifications for Refrigerants1102.2.2.3

AMCA

Air Movement and Control Association International
30 West University Drive
Arlington Heights, IL 60004

Standard reference number	Title	Referenced in code section number
ANSI/AMCA 210-ANSI/ ASHRAE 51—07	Laboratory Methods of Testing Fans for Aerodynamic Performance Rating403.3.2.4
ANSI/AMCA 230—15	Laboratory Methods of Testing Air Circulating Fans for Rating and Certification929.1
AMCA/ANSI 550—15 (Rev. 09/18)	Test Method for High Velocity Wind Driven Rain Resistant Louvers401.5, 501.3.2

ANSI

American National Standards Institute
11 West 42nd Street
New York, NY 10036

Standard reference number	Title	Referenced in code section number
Z21.8—1994 (R2002)	Installation of Domestic Gas Conversion Burners919.1

ASHRAE

ASHRAE
1791 Tullie Circle, NE
Atlanta, GA 30329

Standard reference number	Title	Referenced in code section number
ASHRAE—2017	ASHRAE Fundamentals Handbook	603.2
15—2019	Safety Standard for Refrigeration Systems.	1101.6, 1105.8, 1108.1
34—2019	Designation and Safety Classification of Refrigerants	202, 1102.2.1, 1103.1
62.1—2016	Ventilation for Acceptable Indoor Air Quality.	403.3.1.1 2.3.2
170—2017	Ventilation of Health Care Facilities	407
ANSI/AMCA 210- ANSI/ASHRAE 51—07	Laboratory Methods of Testing Fans for Aerodynamic Performance Rating	403.3.2.4
188-2018	Legionellosis: Risk Management for Building Water Systems	908.3.1

ASME

American Society of Mechanical Engineers
Three Park Avenue
New York, NY 10016-5990

Standard reference number	Title	Referenced in code section number
B1.20.1—2013	Pipe Threads, General Purpose (Inch)	1203.3.5, 1303.3.3
B16.3—2016	Malleable Iron Threaded Fittings, Classes 150 & 300	Table 1202.5
B16.5—2015	Pipe Flanges and Flanged Fittings NPS 1/2 through NPS 24	Table 1202.5
B16.9—2012	Factory Made Wrought Steel Buttwelding Fittings	Table 1202.5
B16.11—2016	Forged Fittings, Socket-welding and Threaded	Table 1202.5
B16.15—2013	Cast Alloy Threaded Fittings Classes 125 and 250	Table 1202.5
B16.18—2012	Cast Copper Alloy Solder Joint Pressure Fittings	513.13.1, Table 1202.5
B16.22—2013	Wrought Copper and Copper Alloy Solder Joint Pressure Fittings	513.13.1, Table 1202.5
B16.24—2016	Cast Copper Alloy Pipe Flanges and Flanged Fittings: Class 150, 300, 400, 600, 900, 1500 and 2500.	Table 1202.5
B16.26—2016	Cast Copper Alloy Fittings for Flared Copper Tubes	Table 1202.5
B16.28—1994	Wrought Steel Buttwelding Short Radius Elbows and Returns	Table 1202.5
B16.51—2013	Copper and Copper Alloy Press-Connect Pressure Fittings	Table 1202.5, Table 1302.3
B31.5—2016	Refrigeration Piping and Heat Transfer Components	1107.1
B31.9—2014	Building Services Piping	1201.3
BPVC—2015	ASME Boiler & Pressure Vessel Code—07 Edition	1009.2, 1003.1, 1004.1, 1011.1
CSD-1—2016	Controls and Safety Devices for Automatically Fired Boilers	1004.1

ASSE

American Society of Safety Engineers
1800 East Oakton Street
Des Plaines, IL 60018

Standard reference number	Title	Referenced in code section number
ANSI/ASSE Z359.1—2016	Requirements for the ANSI/ASSE Z359 Fall Protection Code	304.11

ASSE

American Society of Sanitary Engineering
901 Canterbury, Suite A
Westlake, OH 44145

Standard reference number	Title	Referenced in code section number
1017—2010	Performance Requirements for Temperature Actuated Mixing Values for Hot Water Distribution Systems	1002.2.2
1061—2015	Performance Requirements for Push Fit Fittings	Table 1202.5