

COUNTY OF



ALLEGHENY

**Meeting of the Allegheny County Board of Health
Public
July 13, 2022**

1. Call to order
2. Approval of Minutes for the May 2, 2022 Meeting
3. Public Comments on Agenda Items
4. Director's Report
5. New Business Action Items

For Public Comment

- Incorporation of the 2018 International Plumbing Code revisions into Article XV: Plumbing & Building Drainage
- Article XXI Air Pollution Control RACT III Regulations

For Final Approval

- Environmental Health Fund Request

6. Public comments on Non-Agenda Items
7. Adjournment



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Allegheny County Board of Health
May 4, 2022
Minutes

Present: Dr. Lee Harrison, Chair
Dr. Debra Bogen, Secretary
Dr. Donald Burke
Anthony Ferraro
Dr. Joylette Portlock
Dr. Edith Shapira
Dr. Ellen Stewart
William Youngblood, Chair

Absent: Dr. Kotayya Kondaveeti
Caroline Mitchell

1. Call to Order

Board Chair Dr. Lee Harrison welcomed everyone to the meeting of the Allegheny County Board of Health.

Dr. Harrison announced that the Board of Health held an executive session to discuss matters of personnel and litigation.

2. Approval of Minutes for the March 2, 2022 Meeting

Dr. Harrison motioned to have the approval of minutes.

Action: Dr. Shapira moved to approve the minutes as presented and William Youngblood seconded the motion. **The Board approved the motion unanimously.**

3. Public Comments on Agenda Items.

Dr. Harrison reminded the speakers they have three minutes. Matt Mihalik, Art Thomas, and Kim Meecham provided comments on the action item related to the Clean Air Fund.

4. Director's Report

Dr. Debra Bogen started her report with a brief update on COVID. She explained the Centers for Disease Control's (CDC) new website showing the risk level in the communities. Allegheny County as well as most of the United States is showing low levels of COVID. There has been a slight increase in infections; however, reportable testing is down significantly due to people using home tests. Hospitalizations and deaths have been low, which is attributable to people being immunized and boosted as well as natural immunity derived from Omicron surge earlier in the year. The Allegheny County Health Department (ACHD) Dashboard shows a decrease in Weekly Hospitalizations and Monthly Death Rate per 100,00 and a stabilization in disparities. The ACHD will continue to monitor closely COVID and disparities.

The ACHD is launching a new Variants Data Dashboard which will provides information on COVID variants circulating in our community by week. The ACHD also plans to release its Wastewater Surveillance Dashboard, which it is developing in partnership with Carnegie Mellon

University. These data come from wastewater testing, which, given the quantity of home testing, provides a good indication of COVID and variants in our community.

Our current Vaccination Dashboard shows that the population of vaccinated people aged five and older stands at 81% with a first dose, 72% with second dose and 55% fully vaccinated with booster. Disparities in vaccination rates persist by race and the ACHD continues to work with and in the community to increase vaccination rates and decrease disparities.

The Health Department has another dashboard forthcoming that will show hospitalizations and deaths by vaccination status. Overall – there were 515 hospitalizations among people fully vaccinated with booster, over 1,200 fully vaccinated and 6,612 unvaccinated. Deaths by vaccination status: 66 fully vaccinated with booster, 307 fully vaccinated, and 1,318 unvaccinated. Vaccinations are effective in reducing the risk of hospitalizations and deaths.

Dr. Bogen reminded people to get vaccinated and boosted, mask in high-risk situations depending on your personal risk and community level. She encouraged residents to test if exposed or not feeling well and reminded people that if they do test positive to seek a prescription for Paxlovid from your physician within 3-5 days. This medication reduces hospitalization by 80-90% and is currently underutilized.

Dr. Harrison asked about the sustainability of genomic surveillance in wastewater and cases. Dr. Bogen answered that we are planning to do this testing for a year and then reassess.

Dr. Bogen ended her COVID presentation and moved on to other happenings within the Health Department. Regarding personnel updates, she thanked Chris Togneri who has been acting as our Public Health Information Officer and introduced Neil Ruhland as the new Public Health Information Officer. The Health Department has many job openings and we have received a record number of applicants in the past couple of months.

Dr. Bogen announced that the ACHD published the agenda for this meeting in both English and Spanish and would continue this practice in the future. The ACHD website now has a form of accommodation request available online. In the future we will consider the use of an ASL translator and will continue to identify needs and overcome other barriers to increase access to the board meetings.

In 2016, the ACHD became a Public Health Accreditation Board (PHAB) accredited health department. This year, the ACHD will seek reaccreditation. As part of that process, the ACHD has completed its Community Health Assessment and in May and June will be sharing this with the public for feedback, which will then be used in the development of the new a Community Health Improvement Plan. The reaccreditation process will be completed later this fall.

The Health Department has recently released the 2020 Tuberculosis (TB) Summary Report that summarizes data on active TB cases reported to ACHD from 2011-2020. We also recently added the COVID vaccination data and plumbing inspection and violations. Forthcoming dashboards include, COVID variant data, postvaccination data and wastewater surveillance data.

Dr. Bogen concluded the Director's Report and introduced the next two speakers, Michael Moskorisin Program Manager for Wastewater and Dr. Kristen Mertz, Medical Epidemiologist.

Michael Moskorisin provided background on the 2021 Phase II Municipal Consent Order and Agreement to the Board. In 2004 we had our first Administrative Consent Order to evaluate and inspect the sewer and sanitary system in 62 communities in Allegheny County. He discussed the different aspects of inspecting and evaluating the sewer systems. The next consent order was in 2015 which was an Interim Consent Order that required a source reduction study. The goal was to remove excess flow from their systems. Different projects were listed and during the interim consent orders in enforcement, ALCOSAN started the grant funded Green Revitalization of Our Waterways (GROW) program in 2016. The grow program has provided over \$30 million in grant funding towards 105 projects that would reduce sewer overflow by an estimated 142 million gallons. ALCOSAN partially funds green infrastructure projects. Phase II consent orders were recently signed with 62 agreements, 54 municipalities and 8 authorities required to locate excess flow; design flow reduction projects, complete and demonstrate success. Municipal cooperation of 15 – 20 communities are now doing joint projects to remove more flow out of the system.

Board asked questions regarding the engagement of municipalities, whether it was mandatory. Board members expressed gratitude for municipal cooperation and the work of the Wastewater & Solid Waste Management Program.

Dr. Kristen Mertz was introduced and began her Update to Reportable Diseases. She presented diseases that needed to be reported with 24 hours of diagnosis and other that need reported within five working days of diagnosis that require public health action. The five conditions she is asking to add are: Covid 19 (Nationally reported since 2019); Carbapenemase-Producing Carbapenem Resistant Enterobacteriaceae (CP-CRE) associated with hospitals and long term care facilities (Nationally reportable since 2018); Candida Auris which is drug resistant and has increased in the United States; Acute Flaccid Myelitis which is an uncommon but serious condition and affects children under the age ten; Hepatitis C negative RNA tests currently only positive tests results are reportable, but negative tests will allow for more precise classification of cases.

The board asked how many reportable diseases we are currently tracking. Dr. Mertz said between 70-80. Allegheny County follows most of the national reportable diseases would like to be fairly consistent with the CDC. The Board also asked why it is important that we report these locally if they are already on the national reportable list. Dr. Mertz explained that providers will follow the local list. However, if a disease is on the nationally reportable list, it does not mean they are required to report it. States and local health department develop their own lists.

5. New Business – Action Items

A. Request for Delegation of Authority – Municipal Solid Waste Landfills

Dean DeLuca, Air Quality Program Manager requested the Board of Health approve sending for public comment the proposed revisions to Article XXI: Air Pollution Control. These proposed revisions would incorporate by reference the federal plan for regulating municipal solid waste landfills in Allegheny County. Mr. Deluca explained that landfills are the second largest industrial source of methane emissions in the US and nearly 20% of those emissions come from landfills. In 2016 the US. EPA issued a revised new Source Performance Standards to reduce emissions of methane-rich standards landfill gas that were issued in 1996. The EPA also issued

revised Emissions Guidelines from existing landfills constructed or modified on or before July 17, 2014. The ACHD must update exiting Article XXI Section 2105.73 “MSW Landfills” to reflect the incorporation by reference of the new federal regulations under 40 CFR Part 62 Subpart 000 and the removal of references to the now-superseded federal regulations of 40 CFR Part 60 Subpart WWW.

The Board asked question regarding 40 CFR Party 62 and the number of affected landfills in Allegheny County. There are three such landfills in Allegheny County and five in the region.

Action: Tony Ferraro move to send the proposed revisions to Article XXI to the public for comment. Dr. Ellen Stewart seconded the motion. **The motion passed unanimously.**

B. Final Approval – Article III Food Safety Repeal & Replace

Dr. Harrison introduced Otis Pitts, Deputy Director of Food Safety, Housing and Policy. Mr. Pitts introduced two staff members: Amanda Mator, Manager of Food Safety, and Aaron Burden, the new Operations Manager of Food Safety Program. Mr. Pitts reviewed the timeline of the development of the new Article III including the 75-day public comment period, which started in November 2021. If approved by the Board of Health and ratified by the Allegheny County Council, the new Article III would take effect on January 1, 2023. This would provide sufficient time to train staff and educate the more than 8,000 permit holders in Allegheny County.

Mr. Pitts acknowledged the hard work of Food Safety Advisory Councils and the Food Safety Program. Together, they conducted an extensive outreach effort to let as many people know about the proposed revisions to Article III and the opportunity to provide public comment. As a result, many comments were received including from brick-and-mortar facilities, local vendors, event organizers, nonprofit facilities, the general public, and policy groups. The Food Safety Program received over 650 comments with 202 unique comments that warranted direct response from the department. The result was an extensive Comment-Response document which board members received, and which is available on the ACHD Food Safety website.

Mr. Pitts proudly explained that the Food Safety Program was extremely responsive to the comments from the public and incorporated many suggested revisions, which ultimately improved the final proposed revisions. In the form presented to the Board of Health for final approval, proposed new Article III will align Allegheny County with the food safety standards of the Commonwealth of Pennsylvania, promote great efficiency for operators and the Food Safety Program, incorporate the Food and Drug Administration’s Model Food Code for clarity and consistency and address new and emerging issues in the food service sector.

Mr. Pitts went on to explain some of the important revisions that resulted from the public comment period including, utensil handling and storage, cleaning and sanitization of equipment and utensils, animals in food facilities, food preparation, food display, food donations, and food transportation.

Mr. Pitts acknowledge the Food Safety Committee for all their hard work throughout the process and thanked them also for their unanimous recommendation of approval which they sent to the Board of Health.

The board thanked Otis and his team for all their hard work. Questions from the board were raised regarding cold chain custody and the distribution of food. Ms. Mator and Mr. Burden responded and assured members that the code protected this process and that the inspection process accounted for this concern. Moreover, they explained that the ACHD could not enact regulation stricter than those of the Commonwealth of Pennsylvania. Members had additional questions regarding pet friendly areas, farmer markets, food donation and vending permits, which were addressed by the Food Safety team.

Action: Dr. Shapiro moved to repeal the existing Article III and replace it with the new version of Article III as presented. Dr. Stewart seconded the motion. All members voted to support the motion except Tony Ferraro who voted in opposition. **The motion passed 6-1.**

C. ACHD Food Safety Fee Schedule Proposal

Mr. Pitts asked the Board to give final approval to the proposed fee schedule for Food Safety permits. The proposed fee schedule corresponds to the revisions found in the new Article III and would take effect on January 1, 2023. Mr. Pitts reviewed the new fee schedule and the four-class system of permits. He provided comparisons with other jurisdictions, outlined the new fee projections for each class, for nonprofits (schools, churches, social clubs) and mobile operators. He explained the proposed new fees for temporary and seasonal food permits and plan reviews.

Action: Mr. Ferraro move to approve the new fee schedule. Dr. Shapiro seconded the motion. **The motion passed unanimously.**

C. Personnel Resolution

Kim Joyce, Deputy Director of Administration, reviewed the personnel resolution that was in their packet.

Action: William Youngblood move to approve the resolution. Dr. Stewart seconded the motion. **The motion passed unanimously.**

D. Clean Air Fund

Patrick Dowd requested approval from the Clean Air Fund for \$30,000 planning grant for a multi-year research project, which would be a partnership with the ACHD, University of Pittsburgh, Duquesne University and Carnegie Mellon University. This project will study health impacts of various pollutants. The money would be used to design a health impact study plan.

The Board asked about the pollutants to be studied and asked that healthy equity and environmental justice be more explicitly called for in the proposal.

Action: Dr. Portlock moved to approve the request with the expectation that health equity and environmental justice be explicit and central considerations in the research. Mr. Youngblood seconded the motion. **The motion passed unanimously.**

E. Syringe Service Program Request

Mr. Pitts asked the Board of Health to consider a request from the City of Pittsburgh to provide syringe service in accordance with Article II at 611 Second Avenue in Downtown Pittsburgh.

Mr. Pitts reviewed the requirements for needle exchange programs as laid out in Article II and informed the members that the request met the requirements.

Members asked about the relationship to Prevention Point Pittsburgh, the sole authorized provider in Allegheny County. Mr. Pitts explained this would be a new and separately authorized program. Members also asked about the financial sustainability of the program. Mr. Pitts referred members to the Letter of Intent submitted by the City of Pittsburgh and provided in the board materials.

Action: Dr. Burke moved to approve the resolution authorizing the request from the City of Pittsburgh. Dr. Stewart seconded the motion. **The motion passed unanimously.**

7. Public Comments on Non-Agenda Items

Dr. Harrison opened the meeting to public comment on non-agenda items. He explained the process of public comments and to remember the three-minute time frame. The following individuals registered and provided public comment.

Matthew Nemeth, Patrick Campbell, Zachary Barber, Jay Ting Walker, Alexander Downing, and Ken Zapinski spoke on Air Quality. Carol Balance and Angelo Tarantino spoke on Metalico. Tammy Ferda spoke on the Clairton Mill and Air Quality. Anise Peterson spoke on Covid and Air Quality. Kurt Barshick spoke on US Steel.

8. Adjournment

Dr. Harrison adjourned the meeting at approximately 3:15.

EXHIBIT “A”

PROPOSED REVISION

Allegheny County Health Department Rules and Regulations Article XV, Plumbing and Building Drainage

ALLEGHENY COUNTY HEALTH DEPARTMENT RULES & REGULATIONS ARTICLE XV – PLUMBING AND BUILDING DRAINAGE

Deletions are shown with strikethroughs. Additions are shown in larger font, bolded, and underlined.
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CHAPTER 1 ADMINISTRATION

SECTION 102 APPLICABILITY

102.2 Existing installations. Plumbing systems lawfully in existence at the time of the adoption of this code shall be permitted to have their use and maintenance continued if the use, maintenance or repair is in accordance with the original design and no hazard to life, health or property is created by such plumbing system.

102.2.1 Existing buildings. Additional, alterations, renovations or repairs related to building or structural issues shall be regulated by the *International Existing Building Code.*

SECTION 106 PERMITS

AC-106.7.9 Journeyman plumber qualifications. No journeyman plumber's license shall be

granted a registered apprentice plumber until he has:

1. Acquired a minimum four (4) years experience or the equivalent of 8,000 hours worked:
 - a. **If a Master Plumber refuses to qualify records of legitimate past work hours for apprentices, they will be subject to civil and/or criminal penalties including revocation of plans previously filed with the Department, as well as the revocation of the Master Plumber's ability to receive plan approvals from the Department and any additional penalties, as deemed appropriate by the ACHD plumbing program;**
2. Completed 576 hours of plumbing training at an accredited school, preferably within six (6) years of the beginning of the apprenticeship training; and
3. Passed the required examination.

SECTION 107 INSPECTIONS AND TESTING

107.1 General. The code official is authorized to conduct such inspections as are deemed necessary to determine compliance with the provisions of this code. Construction or work for which a permit is required shall be subject to inspection by the code official, and such construction or work shall remain ~~accessible and exposed~~ **visible and able to be accessed** for inspection purposes until *approved*. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this code or of other ordinances of the jurisdiction shall not be valid. It shall be the duty of the permit applicant to cause the work to remain ~~accessible and exposed~~ **visible and able to be accessed** for inspection purposes. Neither the code official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

CHAPTER 2 DEFINITIONS

SECTION 202 GENERAL DEFINITIONS

[BE] ACCESSIBLE. A site, building, facility or portion thereof that complies with Chapter 11 of the *International Building Code*.

[A] BUILDING. Any structure ~~occupied~~ utilized or intended for supporting or sheltering any occupancy.

AC-GREASE INTERCEPTOR. ~~A plumbing appurtenance that is installed in a sanitary drainage system to intercept oily and greasy wastes from a wastewater discharge. Such device has the ability to intercept free-floating fats and oils.~~

Fats, oils and greases (FOG) disposal system. A plumbing appurtenance that reduces nonpetroleum fats, oils and greases in effluent by separation or mass and volume reduction.

Gravity. Plumbing appurtenances of not less than 1000 gallons (3786 L) capacity that are installed in the sanitary drainage system to intercept free-floating fats, oils and grease from wastewater discharge. Separation is accomplished by gravity during a retention time of not less than 30 minutes.

Hydromechanical. Plumbing appurtenances that are installed in the sanitary drainage system to intercept free-floating fats, oils and grease from wastewater discharge. Continuous separation is accomplished by air entrainment, buoyancy and interior baffling.

FULL-OPEN VALVE. A water control or shutoff component in the water supply system piping that, where adjusted for maximum flow, the flow path through the component's closure member is not a restriction in the component's through-flow area.

[M] PRESS-CONNECT JOINT. A permanent mechanical joint incorporating an elastomeric seal or an elastomeric seal and corrosion-resistant grip ring. The joint is made with a pressing tool and jaw or ring approved by the fitting

manufacturer.

PUBLIC SWIMMING POOL. A pool, other than a residential pool, that is intended to be used for swimming or bathing and is operated by an owner, lessee, operator, licensee or concessionaire, regardless of whether a fee is charged for use.

[A] REGISTERED DESIGN PROFESSIONAL. An individual who is registered or licensed to practice ~~professional architecture or engineering~~ **their respective design profession,** as defined by the statutory requirements of the professional registration laws of the state or jurisdiction in which the project is to be constructed.

[A] STRUCTURE. That which is built or constructed, ~~or a portion thereof.~~

~~SWIMMING POOL. Any structure, basin, chamber or tank containing an artificial body of water for swimming, diving or recreational bathing having a depth of 2 feet (610 mm) or more at any point.~~ **A permanent or temporary structure that is intended to be used for swimming, bathing or wading and that is designed and manufactured or built to be connected to a circulation system. A swimming pool can be open to the public regardless of whether a fee is charged for its use or can be accessory to a residential setting where the pool is available only to the household and guests of the household.**

CHAPTER 3 GENERAL REGULATIONS

SECTION 303 MATERIALS

303.4 Third-party testing and certification. All ~~p~~**P**lumbing products and materials **required by the code to be in compliance** shall comply with the ~~a~~**a** referenced standards,

specifications and performance criteria of this code and shall be identified in accordance with Section 303.1. **shall be listed by a third-party certification agency as complying with the referenced standards.** When required by Table 303.4, plumbing ~~p~~Products and materials shall either be tested by an approved third-party testing agency or certified by an approved third-party certification agency. **identified in accordance with Section 303.1.**

303.5 Cast-iron soil pipe, fitting and components. Cast-iron soil pipes and fittings, and the couplings used to join these products together, shall be third-party listed and labeled. Third-party certifiers or inspectors shall comply with the minimum inspection requirements of Annex A or Annex A1 of the ASTM and CISPI product standards indicated in the code for such products.

SECTION 305 PROTECTION OF PIPES AND PLUMBING COMPONENTS

AC-305.1 Corrosion. Protection against contact. Pipes passing through concrete or cinder walls and floors or other corrosive material shall be protected against external corrosion by a protective sheathing or wrapping or other means that will withstand any reaction from the lime and acid of concrete, cinder or other corrosive material. Sheathing or wrapping shall allow for movement including expansion and contraction of piping. Minimum wall thickness of material shall be 0.025 inch (0.64 mm). **Metallic piping, except for cast iron, ductile iron and galvanized steel, shall not be placed in direct contact with steel framing members, concrete or cinder walls and floors or masonry. Metallic piping shall not be placed in direct contact with corrosive soil. Where sheathing is used to prevent direct contact, the sheathing shall have a thickness of not less than 0.025 inch (25 mil) (0.64 mm) and the sheathing shall be made of plastic. Where the sheathing protects piping that penetrates concrete or masonry walls or floors, the sheathing shall be installed in a manner that allows movement of the piping within the sheathing.**

SECTION 308 PIPING SUPPORT

308.6 Sway bracing. Rigid support sway bracing shall be provided at changes in direction greater than 45 degrees (0.79 rad) for pipe sizes 4 inches (102 mm) and larger. **Where horizontal pipes 4 inches (102 mm) and larger convey drainage or waste, and**

where a pipe fitting in that piping changes the flow direction greater than 45 degrees (0.79 rad), rigid bracing or other rigid support arrangements shall be installed to resist movement of the upstream pipe in the direction of pipe flow. A change of flow direction into a vertical pipe shall not require the upstream pipe to be braced.

308.10 Thermal expansion tanks. A thermal expansion tank shall be supported in accordance with the manufacturer's instructions. Thermal expansion tanks shall not be supported by the piping that connects to such tanks.

**TABLE 308.5
HANGER SPACING**

PIPING MATERIAL	MAXIMUM HORIZONTAL SPACING (feet)	MAXIMUM VERTICAL SPACING (feet)
<u>Acrylonitrile butadiene styrene (ABS) pipe</u>	4	10 ^b
Aluminum tubing	10	15
Brass pipe	10	10
Cast-iron pipe	5 ^a	15
<u>Chlorinated polyvinyl chloride (CPVC) pipe and tubing, 1 inch and smaller</u>	3	10 ^b
<u>Chlorinated polyvinyl chloride (CPVC) pipe and tubing, 1 ¼ inches and larger</u>	4	10 ^b
Copper or copper-alloy pipe	12	10
Copper or copper-alloy tubing, 1 ¼ -inch diameter and smaller	6	10
Copper or copper-alloy tubing, 1 ½ -inch diameter and larger	10	10
Cross-linked polyethylene (PEX) pipe, <u>1 inch and smaller</u>	2.67 (32 inches)	10 ^b
<u>Cross-linked polyethylene (PEX) pipe, 1 ¼ inches and larger</u>	<u>4</u>	<u>10^b</u>
Cross-linked polyethylene/aluminum/ cross-linked polyethylene (PEX-AL-PEX)	2.67 (32 inches)	4

pipe		
Lead pipe	Continuous	4
Polyethylene/aluminum/polyethylene (PE-AL-PE) pipe	2.67 (32 inches)	4
<u>Polyethylene of raised temperature (PE-RT) pipe 1 inch and smaller</u>	<u>2.67</u> <u>(32 inches)</u>	<u>10^b</u>
<u>Polyethylene of raised temperature (PE-RT) pipe 1 ¼ inch and larger</u>	<u>4</u>	<u>10^b</u>
Polypropylene (PP) pipe or tubing 1 inch and smaller	2.67 (32 inches)	10 ^b
Polypropylene (PP) pipe or tubing, 1 ¼ inches and larger	4	10 ^b
<u>Polyvinyl chloride (PVC) pipe</u>	4	10 ^b
Stainless steel drainage systems	10	10 ^b
Steel pipe	12	15

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm

- a. The maximum horizontal spacing of cast-iron pipe hangers shall be increased to 10 feet where 10-foot lengths of pipe are installed.
- b. For sizes 2 inches and smaller, a guide shall be installed midway between required vertical supports. Such guides shall prevent pipe movement in a direction perpendicular to the axis of the pipe.

SECTION 310 WASHROOM AND TOILET ROOM REQUIREMENTS

310.5 Urinal partitions. Each urinal utilized by the public or employees shall occupy a separate area with walls or partitions to provide privacy. **The horizontal dimension between walls or partitions at each urinal shall be not less than 30 inches (762 mm).** The walls or partitions shall begin at a height not more than 12 inches (305 mm) from and extend not less than 60 inches (1524 mm) above the finished floor surface. The walls or partitions shall extend from the wall surface at each side of the urinal a minimum of 18 inches (457 mm) or to a point not less than 6 inches (152 mm) beyond the outermost front lip of the urinal measured from the finished back wall surface, whichever is greater.

Exceptions:

1. Urinal partitions shall not be required in a single occupant or family/assisted-use toilet room with a lockable door.

2. Toilet rooms located in ~~day-care and child~~ **day** care facilities and containing two or more urinals shall be permitted to have one urinal without partitions.

SECTION 314 CONDENSATE DISPOSAL

[M] **314.2.2 Drain pipe materials and sizes.** Components of the condensate disposal system shall be cast iron, galvanized steel, copper **and copper alloy**, cross-linked polyethylene, ~~polybutylene~~, polyethylene, ABS, CPVC, ~~or~~ PVC **or polypropylene** pipe or tubing. ~~All~~ Components shall be selected for the pressure and temperature rating of the installation. Joints and connections shall be made in accordance with the applicable provisions of Chapter 7 relative to the material type. Condensate waste and drain line size shall be not less than 3/4-inch (19.1 mm) internal diameter and shall not decrease in size from the drain pan connection to the place of condensate disposal. Where the drain pipes from more than one unit are manifolded together for condensate drainage, the pipe or tubing shall be sized in accordance with Table 314.2.2.

CHAPTER 4 FIXTURE, FAUCETS, AND FIXTURE FITTINGS

SECTION 403 MINIMUM PLUMBING FACILITIES

403.1 Minimum number of fixtures. Plumbing fixtures shall be provided for the type of occupancy and in the minimum number shown in Table 403.1. Types of occupancies not shown in Table 403.1 shall be considered individually by the code official. The number of occupants shall be determined by the International Building Code. Occupancy classification shall be determined in accordance with the International Building Code.

403.1.2 ~~Family or assisted-use toilet and bath fixtures.~~ Single-user toilet facility and bathing room fixtures. The plumbing fixtures located in single-user toilet facilities and bathing rooms, including ~~within~~ family or assisted-use toilet and bathing rooms **that are required by Section 1109.2.1 of the *International Building Code*, shall contribute toward the total number of required plumbing**

~~fixtures for a building or tenant space. are permitted to be included in the number of required fixtures for either the male or female occupants in assembly and mercantile occupancies.~~ **Single-user toilet facilities and bathing rooms, and family or assisted-use toilet facilities rooms and bathing rooms** shall not be required to be identified for exclusive use by either sex as required by Section 403.4.

403.1.3 Lavatory distribution. Where two or more toilet rooms are provided for each sex, the required number of lavatories shall be distributed proportionately to the required number of water closets.

AC-403.2 Separate facilities. Where plumbing fixtures are required, separate facilities shall be provided for each sex.

Exceptions:

1. Separate facilities shall not be required for dwelling units and sleeping units.
2. Separate facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of 15 or less.
3. Separate facilities shall not be required in mercantile occupancies in which the maximum occupant load is 50 or less.
4. **Separate facilities shall not be required in business occupancies in which the maximum occupant load is 15 or fewer.**

403.3 Required public toilet facilities. Employee and public toilet facilities. For structures and tenant spaces intended for public utilization, Customers, patrons and visitors shall be provided with *public* toilet facilities, in structures and tenant spaces intended for public utilization. The number of plumbing fixtures located within the required toilet facilities shall be provided in accordance with Section 403 for all users. Employees **associated with structures and tenant spaces** shall be provided with toilet facilities in all occupancies. **The number of plumbing fixtures located within the required toilet facilities shall be provided in accordance with Section 403 for all users.** Employee toilet facilities shall be either separate or combined employee and *public* toilet facilities.

Exception: *Public* toilet facilities shall not be required ~~in~~ **for**:

1. ~~Open or enclosed p~~**P**arking garages where there are no **operated without** parking attendants.
2. Structures and tenant spaces intended for quick transactions, including takeout, pickup and drop-off, having a public access area less than or equal to 300 square feet (28 m²).

SECTION 405 INSTALLATION OF FIXTURES

405.3 Setting. Fixtures shall be set level and in proper alignment with reference to adjacent walls.

405.3.1 Water closets, urinals, lavatories and bidets. A water closet, urinal, lavatory or bidet shall not be set closer than 15 inches (381 mm) from its center to any side wall, partition, vanity or other obstruction, ~~or~~. **Where partitions or other obstructions do not separate adjacent fixtures, fixtures shall not be set** closer than 30 inches (762 mm) center-to-center between adjacent fixtures. There shall be ~~at least~~ **not less than** a 21-inch (533 mm) clearance in front of the water closet, urinal, lavatory or bidet to any wall, fixture or door. Water closet compartments shall not be less than 30 inches (762 mm) wide and 60 inches (1524 mm) ~~deep (see Figure 405.3-1)~~ in depth for floor mounted water closets and not less than 30 inches (762 mm) in width and 56 inches (1422 mm) in depth for wall-hung water closets.

Exception: An accessible children's water closet shall be set not closer than 12 inches (305 mm) from its center to the required partition or to the wall on one side.

405.4 Floor and wall drainage connections. Connections between the drain and floor outlet plumbing fixtures shall be made with a floor flange. The flange shall be attached to the drain and anchored to the structure. Connections between the drain and wall-hung water closets shall be made with an approved extension nipple or horn adaptor. The water closet shall be bolted to the hanger with corrosion-resistant bolts or screws. Joints shall be sealed with an approved elastomeric gasket, flange-to-fixture connection complying with ASME A112.4.3 or an approved setting compound.

405.4.1 Floor flanges. Floor flanges for water closets or similar fixtures shall not be less than 0.125 inch (3.2 mm) thick for ~~brass~~ **copper alloy**, 0.25 inch (6.4 mm) thick for plastic, and 0.25 inch (6.4 mm) thick and not less than a 2-inch (51 mm) caulking depth for cast-iron or galvanized malleable iron.

Floor flanges of hard lead shall weigh not less than 1 pound, 9 ounces (0.7 kg) and shall be composed of lead alloy with not less than 7.75-percent antimony by weight. Closet screws and bolts shall be of ~~brass~~ **copper alloy**. Flanges shall be secured to the building structure with corrosion-resistant screws or bolts.

SECTION 408 BIDETS

408.3 Bidet water temperature. The discharge water temperature from a bidet fitting shall be limited to a maximum temperature of 110°F (43°C) by a water temperature limiting device conforming to ASSE 1070/ASME A112.1070/CSA B125.70 or CSA B125.3.

SECTION 409 DISHWASHING MACHINES

409.1 Approval. ~~Domestic~~ **Commercial** dishwashing machines shall conform to ASSE 1006. ~~Commercial dishwashing machines shall conform to ASSE 1004 and NSF 3.~~ **Residential dishwashers shall conform to NSF 184.**

SECTION 410 DRINKING FOUNTAINS

410.1 Approval. Drinking fountains shall conform to ASME A112.19.1M, ASME A112.19.2M or ASME A112.19.9M and water coolers shall conform to AHRI 1010 **ASHRAE 18.** Drinking fountains, ~~and~~ water coolers **and water dispensers** shall conform to NSF 61, Section 9. ~~Where water is served in restaurants, drinking fountains shall not be required. In other occupancies, where drinking fountains are required, water coolers or bottled water dispensers shall be permitted to be substituted for not more than 50 percent of the required drinking fountains.~~ **Electrically operated, refrigerated drinking water coolers and water dispensers shall be listed and labeled in accordance with UL 399.**

SECTION 411
EMERGENCY SHOWER AND EYEWASH STATIONS

411.3 Water supply. Where hot and cold water is supplied to an emergency shower or eyewash station, the temperature of the water supply shall only be controlled by a temperature actuated mixing valve complying with ASSE 1071.

SECTION 416
LAVATORIES

AC-416.5 Tempered water for public hand-washing facilities. *Tempered water* shall be delivered from public hand-washing facilities. *Tempered water* shall be delivered through an approved water-temperature limiting device that conforms to ASSE 1070/ASME A112.1070/CSA B125.70 or CSA B125.3.

SECTION 423
SPECIALTY PLUMBING FIXTURES

423.3 Footbaths, and pedicure baths ~~and head shampoo sinks~~. The water supplied to specialty plumbing fixtures, such as pedicure chairs having an integral foot bathtub, and footbaths, ~~and head shampoo sinks~~, shall be limited to a ~~maximum temperature~~ **not greater than** of 120°F (49°C) by a water-temperature-limiting device that conforms to ASSE 1070/ASME A112.1070/CSA B125.70 or CSA B125.3.

SECTION 425
FLUSHING DEVICES FOR WATER CLOSETS AND URINALS

425.2 Flushometer valves and tanks. Flushometer valves and tanks shall comply with ASSE 1037/ASME A112.1037/CSA B1.125.37 or CSA B125.3. Vacuum breakers on flushometer valves shall conform to the performance requirements of ASSE 1001 or ~~CAN/CSA~~

B64.1.1. *Access* shall be provided to vacuum breakers. Flushometer valves shall be of the water-conservation type and shall not be utilized where the water pressure is lower than the minimum required for normal operation. When operated, the valve shall automatically complete the cycle of operation, opening fully and closing positively under the water supply pressure. Each flushometer valve shall be provided with a means for regulating the flow through the valve. The trap seal to the fixture shall be automatically refilled after each valve flushing cycle.

425.3 Flush tanks. Flush tanks equipped for manual flushing shall be controlled by a device designed to refill the tank after each discharge and to shut off completely the water flow to the tank when the tank is filled to operational capacity. The trap seal to the fixture shall be automatically refilled after each flushing. The water supply to flush tanks equipped for automatic flushing shall be controlled with a timing device or sensor control devices.

425.3.1 Fill valves. All flush tanks shall be equipped with an antisiphon fill valve conforming to ASSE 1002/ASME A112.1002/CSA B125.12 or CSA B125.3. The fill valve backflow preventer shall be located at least 1 inch (25 mm) above the full opening of the overflow pipe.

CHAPTER 5 WATER HEATERS

SECTION 501 GENERAL

501.7 Pressure marking of storage tanks. Storage tanks and water heaters installed for domestic hot water shall have the maximum allowable working pressure clearly and indelibly stamped in the metal or marked on a plate welded thereto or otherwise permanently attached. Such markings shall be ~~in an accessible position~~ with access on the outside of the tank so as to make inspection or reinspection readily possible.

SECTION 502 INSTALLATION

502.1 General. Water heaters shall be installed in accordance with the manufacturer's installation instructions. Oil-fired water heaters shall conform to the requirements of this code and the *International Mechanical Code*. Electric water heaters shall conform to the requirements of this code and provisions of NFPA 70. Gas-fired water heaters shall conform to the requirements of the *International Fuel Gas Code*. Solar thermal water heating systems

shall conform to the requirements of the *International Mechanical Code* and *ICC 900/SRCC 300*.

**SECTION 504
SAFETY DEVICES**

AC- 504.6 Requirements for discharge piping. The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:

1. Not be directly connected to the drainage system.
2. Discharge through an *air gap* located in the same room as the water heater.
3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the *air gap*.
4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.
5. Discharge to the floor, or to an indirect waste receptor, or to the outdoors.
6. Discharge in a manner that does not cause personal injury or structural damage.
7. Discharge to a termination point that is readily observable by the building occupants.
8. Not be trapped.
9. Be installed so as to flow by gravity.
10. Terminate not more than 6 inches (152 mm) above and not less than two times the discharge pipe diameter above the floor or *flood level rim* of the waste receptor.
11. Not have a threaded connection at the end of such piping.
12. Not have valves or tee fittings.
13. Be constructed of those materials listed in Section 605.4 or materials tested, rated and *approved* for such use in accordance with ASME A112.4.1.
14. **Be one nominal size larger than the size of the relief valve outlet, where the relief valve discharge piping is installed with insert fittings. The outlet end of such tubing shall be fastened in place.**

504.7 Required pan. Where a storage tank-type water heaters or a hot water storage tanks are is installed in a locations where water leakage of from the tanks or connections will cause damage, the tank or water heater shall be installed in a galvanized steel pan having a minimum thickness of 24 gauge, or other pans approved for such use. constructed of one of the following:

1. Galvanized steel or aluminum of not less than 0.0236 inch (0.6010 mm) in thickness.
2. Plastic not less than 0.036 inch (0.9 mm) in thickness.
3. Other approved materials.

A plastic pan shall not be installed beneath a gas-fired water heater.

CHAPTER 6 WATER SUPPLY AND DISTRIBUTION

SECTION 602 WATER REQUIRED

602.3 Individual water supply. Where a potable public water supply is not available, individual sources of potable water supply shall be utilized.

602.3.1 Sources. Dependent on geological and soil conditions and the amount of rainfall, individual water supplies are of the following types: drilled well, driven well, dug well, bored well, spring, stream or cistern. Surface bodies of water and land cisterns shall not be sources of individual water supply unless properly treated by *approved* means to prevent contamination. Individual water supplies shall be constructed and installed in accordance with the applicable state and local laws. Where such laws do no address all of the requirements set forth in NGWA-01, individual water supplies shall comply with NGWA-01 for those requirements not addressed by state and local laws.

SECTION 604

DESIGN OF BUILDING WATER DISTRIBUTION SYSTEM

604.11 Individual pressure balancing in-line valves for individual fixture fittings. Where individual pressure balancing in-line valves for individual fixture fittings are installed, such valves shall comply with ASSE 1066. Such valves shall be installed in ~~an accessible~~ **a location with access.** ~~and~~ **The valves** shall not be utilized alone as a substitute for the balanced pressure, thermostatic or combination shower valves required in Section 424.3.

SECTION 605 MATERIALS, JOINTS AND CONNECTIONS

605.4 Water distribution pipe. Water distribution pipe **and tubing** shall conform to NSF 61 and shall conform to one of the standards listed in Table 605.4. ~~All h~~ **H**ot water distribution pipe and tubing shall have a minimum pressure rating of 100 psi (690 kPa) at 180°F (82°C).

**TABLE 605.3
WATER SERVICE PIPE**

MATERIAL	STANDARD
Acrylonitrile butadiene styrene (ABS) plastic pipe	ASTM D1527; ASTM D2282
Brass pipe	ASTM B43
Chlorinated polyvinyl chloride (CPVC) plastic pipe	ASTM D2846; ASTM F441; ASTM F442; CSA B137.6
<u>Chlorinated polyvinyl chloride/aluminum/chlorinated polyvinyl chloride (CPVC/AL/CVPC)</u>	<u>ASTM F2855</u>
Copper or copper-alloy pipe	ASTM B42; ASTM B302
Copper or copper-alloy tubing (Type K, WK, L, WL, M or WM)	ASTM B75; ASTM B88; ASTM B251; ASTM B447
Cross-linked polyethylene (PEX) plastic pipe and tubing	ASTM F876; ASTM F877 ; <u>AWWA C904</u> ; CSA B137.5
Cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) pipe	ASTM F1281; ASTM F2262; CSA B137.10 M
Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE)	ASTM F1986
Ductile iron water pipe	AWWA C151/ <u>A21.51</u> ; AWWA C115/ <u>A21.15</u>
Polyethylene (PE) plastic pipe	ASTM D2239; ASTM D3035; <u>AWWA C901</u> ; CSA B137.11
Polyethylene (PE) plastic tubing	ASTM D2737; <u>AWWA C901</u> ; CSA B137.1
Polyethylene/aluminum/polyethylene (PE-AL-PE) pipe	ASTM F1282; CSA B137.9

<u>Polyethylene of raised temperature (PE-RT) plastic tubing</u>	<u>ASTM F2769; CSA B137.18</u>
Polypropylene (PP) plastic pipe or tubing	ASTM F2389; CSA B137.11
Polyvinyl chloride (PVC) plastic pipe	ASTM D1785; ASTM D2241; ASTM D2672; CSA B137.3
Stainless steel pipe (Type 304/304L)	ASTM A312; ASTM A778
Stainless steel pipe (Type 316/316L)	ASTM A312; ASTM A778

**TABLE 605.4
WATER DISTRIBUTION PIPE**

MATERIAL	STANDARD
Brass pipe	ASTM B43
Chlorinated polyvinyl chloride (CPVC) plastic pipe	ASTM D2846; ASTM F441; ASTM F442; CSA B137.6
<u>Chlorinated polyvinyl chloride/aluminum/chlorinated polyvinyl chloride (CPVC/AL/CVPC)</u>	<u>ASTM F2855</u>
Copper or copper-alloy pipe	ASTM B42; ASTM B302; <u>ASTM B43</u>
Copper or copper-alloy tubing (Type K, WK, L, WL, M or WM)	ASTM B75; ASTM B88; ASTM B251; ASTM B447
Cross-linked polyethylene (PEX) plastic tubing	ASTM F876; ASTM F877 ; CSA B137.5
Cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX) pipe	ASTM F1281; ASTM F2262; CAN/CSA B137.10M
Cross-linked polyethylene/aluminum/high-density polyethylene (PEX-AL-HDPE)	ASTM F1986
Ductile iron water pipe	AWWA C151/A21.51; AWWA C115/A21.15
Polyethylene/aluminum/polyethylene (PE-AL-PE) pipe	ASTM F1282
<u>Polyethylene of raised temperature (PE-RT) plastic tubing</u>	<u>ASTM F2769; CSA B137.18</u>
Polypropylene (PP) plastic pipe or tubing	ASTM F2389; CSA B137.11
Stainless steel pipe (Type 304/304L)	ASTM A312; ASTM A778
Stainless steel pipe (Type 316/316L)	ASTM A312; ASTM A778

**TABLE 605.5
PIPE FITTINGS**

MATERIAL	STANDARD
Cast-iron	ASME B16.4; ASME B16.12
*****	*****
Copper or copper alloy	ASSE 1061; ASME B16.15; ASME B16.18; ASME B16.22; ASME B16.23 ; ASME B16.26; ASME B16.29 ; <u>ASME B16.51; ASTM F1476; ASTM F1548</u>

*****	*****
Fittings for cross-linked polyethylene (PEX) plastic tubing	ASSE 1061, ASTM F877; ASTM F1807; ASTM F1960; ASTM F2080; ASTM F2098; ASTM F2159; ASTM F2434; <u>ASTM F2735</u> ; CSA B137.5
<u>Fittings for polyethylene of raised temperature (PE-RT) plastic tubing</u>	<u>ASSE 1061, ASTM D3261; ASTM F1807; ASTM F2098; ASTM F2159; ASTM F2735; ASTM F2769; CSA B137.18</u>
*****	*****
Gray iron and ductile iron	<u>ASTM F1476; ASTM F1548</u> ; AWWA C110/ <u>A21.10</u> ; AWWA C153/ <u>A21.53</u>
Insert fittings for polyethylene/aluminum/polyethylene (PE-AL-PE) and cross-linked polyethylene/aluminum/cross-linked polyethylene (PEX-AL-PEX)	ASTM F1974; ASTM F1281; ASTM F1282; CAN/CSA B137.9; CAN/CSA B137.10
*****	*****
Stainless steel (Type 304/304L)	ASTM A312; ASTM A778; <u>ASTM F1476; ASTM F1548</u>
Stainless steel (Type 316/316L)	ASTM A312; ASTM A778; <u>ASTM F1476; ASTM F1548</u>
Steel	ASME B16.9; ASME B16.11; ASME B16.28; <u>ASTM F1476; ASTM F1548</u>

TABLE 605.7
VALVES

<u>MATERIAL</u>	<u>STANDARD</u>
<u>Chlorinated polyvinyl chloride (CPVC) plastic</u>	<u>ASME A112.4.14; ASME A112.18.1/CSA B125.1; ASTM F1970; CSA B125.3; IAPMO Z1157; MSS SP-122</u>
<u>Copper or copper alloy</u>	<u>ASME A112.4.14; ASME A112.18.1/CSA B125.1; ASME B16.34; CSA B125.3; MSS SP-67; MSS SP-80; MSS SP-110; IAPMO Z1157; MSS SP-139</u>
<u>Cross-linked polyethylene (PEX) plastic</u>	<u>ASME A112.4.14; ASME A112.18.1/CSA B125.1; CSA B125.3; NSF 359; IAPMO Z1157</u>
<u>Gray iron and ductile iron</u>	<u>AWWA C500; AWWA C504; AWWA C507; MSS SP-67; MSS SP-70; MSS SP-71; MSS SP-72; MSS SP-78; IAPMO Z1157</u>
<u>Polypropylene (PP) plastic</u>	<u>ASME A112.4.14; ASTM F2389; IAPMO Z1157</u>
<u>Polyvinyl chloride (PVC) plastic</u>	<u>ASME A112.4.14; ASTM F1970; IAPMO Z1157;</u>

	<u>MSS SP-122</u>
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**TABLE 605.8
MANUFACTURED PIPE NIPPLES**

MATERIAL	STANDARD
Brass, e Copper, <u>copper alloy, and</u> chromium-plated	ASTM B687
Steel	ASTM A733

AC-605.15 Copper tubing. Joints between copper or copper-alloy pipe or fittings shall comply with Sections 605.15.1 through 605.15.5 **6**.

AC-605.15.6 Push-fit joints. Push-fit joints shall conform to ASSE 1061 and shall be installed in accordance with the manufacturer's instructions.

AC-605.16 CPVC plastic. Joints between CPVC plastic pipe and fitting shall comply with Sections 605.16.1 through 605.16.3**4**.

AC-605.16.4 Push-fit joints. Push-fit joints shall conform to ASSE 1061 and shall be installed in accordance with the manufacturer's instructions.

605.17 PEX Plastic. Joints between cross-linked polyethylene plastic tubing or fittings shall comply with Sections 605.17.1 and 605.17.2**3**.

605.17.3 Push-fit joints. Push-fit joints shall conform to ASSE 1061 and shall be installed in accordance with the manufacturer's instructions.

SECTION 606
INSTALLATION OF THE BUILDING WATER DISTRIBUTION SYSTEM

606.5 Water pressure booster systems. Water pressure booster systems shall be provided as required by Sections 606.5.1 through 606.5.10.

606.5.9 Pressure tanks, vacuum relief. All ~~w~~Water pressure tanks shall be provided with a vacuum relief valve at the top of the tank that will operate up to a maximum water pressure of 200 psi (1380 kPa) and up to a maximum temperature of 200°F (93°C). The ~~minimum~~ size of such vacuum relief valve shall be **not less than** 1/2 inch (12.7 mm).

SECTION 607
HOT WATER SUPPLY SYSTEM

~~607.3 Thermal expansion control. A means of controlling increased pressure caused by thermal expansion shall be provided where required in accordance with Sections 607.3.1 and 607.3.2.~~

Where a storage water heater is supplied with cold water that passes through a check valve, pressure reducing valve or backflow preventer, a thermal expansion control device shall be connected to the water heater cold water supply pipe at a point that is downstream of all check valves, pressure reducing valves and backflow preventers. Thermal expansion tanks shall be sized in accordance with the tank manufacturer's instructions and shall be sized such that the pressure in the water distribution system shall not exceed that required by Section 604.8.

SECTION 608
PROTECTION OF POTABLE WATER SUPPLY

608.3 Devices, appurtenances, appliances and apparatus. All ~~d~~Devices, appurtenances, appliances and apparatus intended to serve some special function, such as sterilization, distillation, processing, cooling, or storage of ice or foods, and that connect to the water supply

system, shall be provided with protection against backflow and contamination of the water supply system. ~~Water pumps, filters, softeners, tanks and all other appliances and devices that handle or treat potable water shall be protected against contamination.~~

608.3.2 Potable water handling and treatment equipment. Water pumps, filters, softeners, tanks and other appliances and devices that handle or treat potable water to be supplied to the potable water distribution system shall be located to prevent contamination from entering the appliances and devices. Overflow, relief valve and waste discharge pipes from such appliances and devices shall terminate through an air gap.

**TABLE 608.1
APPLICATION OF BACKFLOW PREVENTERS**

DEVICE	DEGREE OF HAZARD ^a	APPLICATION ^b	APPLICABLE STANDARDS
<u>Backflow prevention assemblies:</u>			
Double check backflow prevention assembly and double check fire protection backflow prevention assembly	Low hazard	Backpressure or backsiphonage Sizes 3/8"–16"	ASSE 1015, AWWA C510, CSA B64.5, CSA B64.5.1
Double check detector fire protection backflow assemblies	Low hazard	Backpressure or backsiphonage (Fire-sprinkler systems) Sizes 2"–16"	ASSE 1048
Pressure vacuum breaker assembly	High or low hazard	Backsiphonage only Sizes 1/2"–2"	ASSE 1020, CSA B64.1.2
Reduced pressure principle backflow preventer <u>prevention assembly</u> and reduced pressure principle fire protection backflow preventer	High or low hazard	Backpressure or backsiphonage Sizes 3/8"–16"	ASSE 1013, AWWA C511, CAN/CSA B64.4, CSA B64.4.1
Reduced pressure detector fire protection backflow prevention assemblies	High or low hazard	Backsiphonage or backpressure (Fire sprinkler systems)	ASSE 1047
Spill- <u>resistant</u> proof vacuum breaker <u>assembly</u>	High or low hazard	Backsiphonage only Sizes 1/4"–2"	ASSE 1056, <u>CSA B64.1.3</u>
<u>Backflow preventer plumbing devices:</u>			
Antisiphon-type fill valves for gravity water closet flush tanks	High hazard	Backsiphonage only	ASSE 1002/ <u>ASME A112.1002/CSA B125.12</u> , CSA B125.3

Backflow preventer for carbonated beverage machines	Low hazard	Backpressure or backsiphonage Sizes 1/4"–3/8"	ASSE 1022
Backflow preventer with intermediate atmospheric vents	Low hazard	Backpressure or backsiphonage Sizes 1/4"–3/4"	ASSE 1012, CAN/ CSA B64.3
Dual-check-valve-type backflow preventer	Low hazard	Backpressure or backsiphonage Sizes 1/4"–1"	ASSE 1024, CSA B64.6
Hose connection backflow preventer	High or low hazard	Low head backpressure, rated working pressure, backpressure or backsiphonage Sizes 1/2"–1"	<u>ASME A112.21.3,</u> ASSE 1052, CSA B64.2.1.1
Hose connection vacuum breaker	High or low hazard	Low head backpressure or backsiphonage Sizes 1/2", 3/4", 1"	<u>ASME A112.21.3,</u> ASSE 1011, CAN/ CSA B64.2, CSA B64.2.1
Laboratory faucet backflow preventer	High or low hazard	Low head backpressure and backsiphonage	ASSE 1035, CSA B64.7
Pipe-applied atmospheric-type vacuum breaker	High or low hazard	Backsiphonage only Sizes 1/4"–4"	ASSE 1001, CSA B64.1.1
Vacuum breaker wall hydrants, frost-resistant, automatic-draining type	High or low hazard	Low head backpressure or backsiphonage Sizes 3/4", 1"	<u>ASME A112.21.3,</u> ASSE 1019, CAN/ CSA B64.2.2
<u>Other means or methods:</u>			
Air gap	High or low hazard	Backsiphonage or backpressure	ASME A112.1.2
Air gap fittings for use with plumbing fixtures, appliances and appurtenances	High or low hazard	Backsiphonage or backpressure	ASME A112.1.3
Barometric loop	High or low hazard	Backsiphonage only	(See Section 608.13.4)

For SI: 1 inch = 25.4 mm.

- a. Low hazard—See Pollution (Section 202).
High hazard—See Contamination (Section 202).
- b. ~~See Backpressure (Section 202).~~
See Backpressure, low head (Section 202).
See Backsiphonage (Section 202).

608.9 Reutilization prohibited. Water utilized for the **heating or** cooling of equipment or other processes shall not be returned to the potable water system. Such water shall be discharged into a drainage system through an *air gap* or shall be utilized for nonpotable purposes.

608.11 ~~Painting of~~ Potable water tanks. Where in contact with potable water intended for drinking water, water tanks, coatings for the inside of tanks and liners for water tanks shall conform to NSF 61. The interior surface of a potable water tank shall not be lined, painted or repaired with any material that changes the taste, odor, color or potability of the water supply when the tank is placed in, or returned to, service.

608.13 Backflow protection. Means of protection against backflow shall be provided in accordance with Sections 608.13.1 through 608.13.9.

608.13.5 Pressure-type vacuum breakers. Pressure-type vacuum breakers assemblies shall conform to comply with ASSE 1020 or CSA B64.1.2, and spillproof Spill-resistant vacuum breakers assemblies shall comply with ASSE 1056 or CSA B64.1.3. ~~These devices are designed for installation under continuous pressure-conditions when the critical level is installed at the required height.~~ These assemblies shall be installed with the critical level of the assembly located not less than 12 inches (305 mm) above all downstream piping and outlets. Pressure-type vacuum breakers assemblies shall not be installed in locations where spillage could cause damage to the structure.

608.16 Connections to the potable water system. Connections to the potable water system shall conform to Sections 608.16.1 through 608.16.411.

608.16.11 Humidifiers. The water supply connection to humidifiers that do not have internal backflow protection shall be protected against backflow by a backflow preventer conforming to ASSE 1012 or by an air gap.

SECTION 611 DRINKING WATER TREATMENT UNITS

611.1 Design. Point-of-use reverse osmosis drinking water treatment units shall comply with NSF 58 or CSA B483.1. Drinking water treatment units shall meet the

requirements of NSF 42, NSF 44, NSF 53, ~~or NSF 62,~~ or CSA B483.1.

CHAPTER 7 SANITARY DRAINAGE

SECTION 702 MATERIALS

**TABLE 702.1
ABOVE-GROUND DRAINAGE AND VENT PIPE**

MATERIAL	STANDARD
*****	*****
Brass pipe	ASTM B43
*****	*****
Copper or copper-alloy pipe	ASTM B42; ASTM B43 ; ASTM B302
*****	*****
Polyvinylidene fluoride (PVDF) plastic pipe	ASTM F1673; CAN/CSA B181.3
*****	*****

**TABLE 702.2
UNDERGROUND BUILDING DRAINAGE AND VENT PIPE**

MATERIAL	STANDARD
*****	*****
<u>Polyethylene (PE) plastic pipe (SDR-PR)</u>	<u>ASTM F714</u>
Polyolefin pipe	ASTM F1412; ASTM F714 ; CAN/CSA B181.3
*****	*****
Polyvinylidene fluoride (PVDF) plastic pipe	ASTM F1673; CAN/CSA B181.3
*****	*****

For SI: 1 inch = 25.4 mm.

**TABLE 702.3
BUILDING SEWER PIPE**

MATERIAL	STANDARD
*****	*****
Concrete pipe	ASTM C14; ASTM C76; CAN/CSA A257.1M ; CAN/CSA A257.2M

*****	*****
<u>Polypropylene (PP) plastic pipe</u>	<u>ASTM F2736; ASTM F2764; CSA B182.13</u>
*****	*****
Polyvinylidene fluoride (PVDF) plastic pipe	ASTM F1673; CAN/CSA B181.3
*****	*****

For SI: 1 inch = 25.4 mm.

**TABLE 702.4
PIPE FITTINGS**

MATERIAL	STANDARD
Acrylonitrile butadiene styrene (ABS) plastic pipe in IPS diameters	ASTM D2661; ASTM F628; CAN/CSA B181.1
*****	*****
Gray iron and ductile iron	AWWA C 110/ <u>A21.10</u>
Malleable iron	ASME B 16.3
<u>Polyethylene</u>	<u>ASTM D2683</u>
Polyolefin	ASTM F1412; CAN/CSA B181.3
*****	*****
Polyvinylidene fluoride (PVDF) plastic pipe	ASTM F1673; CAN/CSA B181.3
*****	*****

**SECTION 703
BUILDING SEWER**

703.2 Drainage pipe in filled ground. Where a *building sewer* or *building drain* is installed on filled or unstable ground, the drainage pipe shall conform to one of the standards for ABS plastic pipe, cast-iron pipe, copper or copper-alloy tubing, ~~or~~ PVC plastic pipe **or polypropylene plastic pipe** listed **indicated** in Table 702.3.

703.4 Existing building sewers and drains. Existing building sewers and drains shall connect with new building sewer and drainage systems only where found by examination and test to conform to the new system in quality of material. The code official shall notify the owner to make the changes necessary to conform to this code. **Where the entire sanitary drainage system of an existing building is replaced, existing building drains under concrete slabs and existing building sewers that will serve the new system**

shall be internally examined to verify that the piping is sloping in the correct direction, is not broken, is not obstructed and is sized for the drainage load of the new plumbing drainage system to be installed.

SECTION 705 JOINTS

705.19 Joints between different materials. Joints between different piping materials shall be made with a mechanical joint of the compression or mechanical-sealing type conforming to ASTM C1173, ASTM C1460 or ASTM C1461. Connectors and adapters shall be *approved* for the application and such joints shall have an elastomeric seal conforming to ASTM C425, ASTM C443, ASTM C564, ASTM C1440, ~~ASTM D1869~~, ASTM F477, ~~CAN/CSA A257.3M~~ or ~~CAN/CSA B602~~, or as required in Sections 705.19.1 through 705.19.7~~9~~. Joints between glass pipe and other types of materials shall be made with adapters having a TFE seal. Joints shall be installed in accordance with the manufacturer's instructions.

705.19.1 Copper pipe or ~~copper-alloy~~ tubing to cast-iron hub pipe. Joints between copper pipe or ~~copper-alloy~~ tubing and cast-iron hub pipe shall be made with a ~~brass~~ **copper or copper alloy** ferrule or compression joint. The copper pipe or ~~copper-alloy~~ tubing shall be soldered to the ferrule in an *approved* manner, and the ferrule shall be joined to the cast-iron hub by a caulked joint or a mechanical compression joint.

705.19.2 Copper or copper-alloy pipe or tubing to galvanized steel pipe. Joints between copper or copper-alloy pipe or tubing and galvanized steel pipe shall be made with a ~~brass converter~~ **copper-alloy** fitting or dielectric fitting. The copper tubing shall be soldered to the fitting in an *approved* manner, and the fitting shall be screwed to the threaded pipe.

705.19.9 Polypropylene plastic. The joint between polypropylene plastic pipe and fittings shall incorporate an elastomeric seal. The joint shall conform to ASTM D3212. Mechanical joints shall not be installed above ground.

SECTION 709 FIXTURE UNITS

709.3 Values for continuous and semicontinuous flow. Drainage fixture unit values for continuous and semicontinuous flow into a drainage system Conversion of gpm flow to dfu values. Where discharges to a waste receptor or to a drainage system are only known in gallons per minute (liters per second) values, the drainage fixture unit values for those flows shall be computed on the basis that 1 gpm (0.06 L/s) of flow is equivalent to two drainage fixture units.

SECTION 712 SUMPS AND EJECTORS

712.3 Sump design. The sump pump, pit, and discharge piping shall conform to the requirements of Sections 712.3.1 through 712.3.5.

712.3.3 Discharge piping pipe and fittings. Discharge pipe and fittings shall be constructed of approved materials. Sumps, sump pumps and ejectors shall be constructed of materials in accordance with Sections 712.3.3.1 and 712.3.3.2 and shall be approved.

712.3.3.1 Materials. Pipe and fitting fitting materials shall be constructed of brass, copper or copper-alloy, CPVC, ductile iron, PE, or PVC.

SECTION 717 REPLACEMENT OF UNDERGROUND SEWERS BY PIPE-BURSTING METHODS

~~717.1~~ **717.4 Pipe.** The replacement piping shall be made of high-density polyethylene (HDPE) and shall have a standard dimension ratio (SDR) of 17, and The pipe shall be in compliance with ASTM F714.

~~717.2~~ **717.5 Pipe fittings.** Pipe fittings to be connected to the replacement piping shall be made of extra-high-molecular-weight PE3408 material high-density polyethylene (HDPE) and shall be manufactured with an SDR of 17 and in compliance with ASTM D2683.

CHAPTER 8 INDIRECT/SPECIAL WASTE

SECTION 801 GENERAL

801.1 Scope. This chapter shall govern matters concerning indirect waste piping and special wastes. This chapter shall further control matters concerning food-handling establishments, sterilizers, **humidifiers**, clear-water wastes, swimming pools, methods of providing *air breaks* or *air gaps*, and neutralizing devices for corrosive wastes.

801.2 Protection. All **ed** devices, appurtenances, appliances and apparatus intended to serve some special function, such as sterilization, **humidification**, distillation, processing, cooling, or storage of ice or foods, and that discharge to the drainage system, shall be provided with protection against backflow, flooding, fouling, contamination and stoppage of the drain.

CHAPTER 10 TRAPS, INTERCEPTORS, AND SEPARATORS

SECTION 1003 INTERCEPTORS AND SEPARATORS

1003.3 Grease interceptors. Grease interceptors shall comply with the requirements of Sections 1003.3.1 through 1003.3.58.

CHAPTER 11 STORM DRAINAGE

SECTION 1102 MATERIALS

**TABLE 1102.4
BUILDING STORM SEWER PIPE**

MATERIAL	STANDARD
Acrylonitrile butadiene styrene (ABS) plastic pipe <u>in IPS diameters, including Schedule 40, DR 22 (PS 200) and Dr 24 (PS140); with a solid, cellular core or composite wall.</u>	ASTM D2661; ASTM D2751 ; ASTM F628; ASTM F1488 ; CAN/CSA B181.1 ; CAN/CSA B182.1
Cast-iron pipe	ASTM A74; ASTM A888; CISPI 301
Concrete pipe	ASTM C14; ASTM C76; CAN/CSA A257.1M ; CAN/CSA A257.2M
Copper or copper-alloy tubing (Type K, L, M or DWV)	ASTM B75; ASTM B88; ASTM B251; ASTM B306
Polyethylene (PE) plastic pipe	<u>ASTM F667</u> ; ASTM F2306/F2306M; <u>ASTM F2648/F2648M</u>
<u>Polypropylene (PP) pipe</u>	<u>ASTM F2881</u> ; <u>CSA B182.13</u>
Polyvinyl chloride (PVC) plastic pipe (Type DWV, SDR26, SDR35, SDR41, PS50 or PS100) <u>in IPS diameters, including Schedule 40, DR 22 (PS 200) and Dr 24 (PS 140); with a solid, cellular core or composite wall.</u>	ASTM D2665; ASTM D3034; ASTM F891; ASTM F1488 ; CSA B182.4; CSA B181.2; CSA B182.2
Vitrified clay pipe	ASTM C4; ASTM C700
Stainless steel drainage systems, Type 316L	ASME A112.3.1

**SECTION 1103
TRAPS**

1103.4 Cleanout. An accessible cleanout shall be installed on the building side of the trap **and shall be provided with access.**

**SECTION 1113
SUMPS AND PUMPING SYSTEMS**

1113.1 Pumping system. The sump pump, pit and discharge piping shall conform to Sections 1113.1.1 through 1113.1.4.

1113.1.2 Sump pit. The sump pit shall not be less than 18 inches (457 mm) in diameter and 24 inches (610 mm) deep in depth, unless otherwise *approved*. The pit shall be accessible provided with access and shall be located such that all drainage flows into the pit by gravity. The sump pit shall be constructed of tile, steel, plastic, cast-iron, concrete or other *approved* material, with a removable cover adequate to support anticipated loads in the area of use. The pit floor shall be solid and provide permanent support for the pump.

CHAPTER 13 NONPOTABLE WATER SYSTEMS

SECTION 1301 GENERAL

1301.6 ~~Approved e~~Components and materials. Piping, plumbing components and materials used in collection and conveyance systems shall be ~~manufactured~~ of material approved for the intended application and compatible with any disinfection and treatment systems used by the manufacturer for the intended application.

1301.9 Nonpotable water storage tanks. Nonpotable water storage tanks shall comply with Sections 1301.9.1 through 1301.9.11.

1301.9.1 Sizing. ~~The holding capacity of the storage tank shall be sized in accordance with the anticipated demand.~~

1301.9.21 Location. ~~Storage tanks shall be installed above or below grade. Above-grade storage tanks shall be protected from direct sunlight and shall be constructed using opaque, UV-resistant materials such as, but not limited to, heavily tinted plastic, fiberglass, lined metal, concrete, wood, or painted to prevent algae growth, or shall have specially constructed sun barriers including, but not limited to, installation in garages, crawl spaces or sheds. Storage tanks and their manholes shall not be located directly under soil piping, waste piping or any source of contamination.~~ Any storage tank or portion thereof that is above grade shall be protected from direct exposure to sunlight by one of the following methods:

1. **Tank construction using opaque, UV-resistant materials such as heavily tinted plastic, fiberglass, lined metal, concrete, wood, or painted to prevent algae growth.**
2. **Specially constructed sun barriers.**
3. **Installation in garages, crawl spaces or sheds.**

1301.9.32 Materials. Where collected on site, water shall be collected in an approved tank constructed of durable, nonabsorbent and corrosion-resistant materials. The storage tank shall be constructed of materials compatible with any disinfection systems used to treat water upstream of the tank and with any systems used to maintain water quality in the tank. Wooden storage tanks that are not equipped with a makeup water source shall be provided with a flexible liner.

1301.9.43 Foundation and Supports. Storage tanks shall be supported on a firm base capable of withstanding the weight of the storage tank when filled to capacity. Storage tanks shall be supported in accordance with the International Building Code.

1301.9.43.1 Ballast. Where the soil can become saturated, an underground storage tank shall be ballasted, or otherwise secured, to prevent the tank from floating out of the ground when empty. The combined weight of the tank and hold down ballast shall meet or exceed the buoyancy force of the tank. Where the installation requires a foundation, the foundation shall be flat and shall be designed to support the weight of the storage tank when full, consistent with the bearing capability of adjacent soil.

1301.9.43.2 Structural Support. Where installed below grade, storage tank installations shall be designed to withstand earth and surface structural loads without damage and with minimal deformation when empty or filled with water.

1301.9.54 Makeup Water. Where an uninterrupted supply is required for the intended application, potable or reclaimed water shall be provided as a source of makeup water for the storage tank. The makeup water supply shall be protected against backflow by a reduced pressure backflow prevention assembly or an air gap installed in accordance with Section 608. A full-open valve located on the makeup water supply line to the storage tank shall be provided. Inlets to the storage tank shall be controlled by fill valves or other automatic supply valves installed to prevent the tank from overflowing and to prevent the water level from dropping below a predetermined point. Where makeup water is provided, the water level shall not be permitted to drop below the source water inlet or the intake of any attached pump.

1301.9.65 Overflow. The storage tank shall be equipped with an overflow pipe having a diameter not less than that shown in Table 606.5.4. The overflow pipe shall be protected

from insects or vermin and shall discharge in a manner consistent with storm water runoff requirements of the jurisdiction. The overflow pipe shall discharge at a sufficient distance from the tank to avoid damaging the tank foundation or the adjacent property. Drainage from overflow pipes shall be directed to prevent freezing on roof walkways. The overflow drain shall not be equipped with a shutoff valve. A cleanout shall be provided on each overflow pipe in accordance with Section 708.

1301.9.76 Access. Not less than one access opening shall be provided to allow inspection and cleaning of the tank interior. Access openings shall have an *approved* locking device or other *approved* method of securing access. Below-grade storage tanks, located outside of the building, shall be provided with a manhole either not less than 24 inches (610 mm) square or with an inside diameter not less than 24 inches (610 mm). Manholes shall extend not less than 4 inches (102 mm) above ground or shall be designed to prevent water infiltration. Finished grade shall be sloped away from the manhole to divert surface water. Manhole covers shall be secured to prevent unauthorized access. Service ports in manhole covers shall be not less than 8 inches (203 mm) in diameter and shall be not less than 4 inches (102 mm) above the finished grade level. The service port shall be secured to prevent unauthorized access.

Exception: Treated water storage tanks **that are** less than 800 gallons (3028 L) in volume and installed below grade shall not be required to be equipped with a manhole, ~~but shall have a~~ **provided that the tank has a** service port not less than 8 inches (203 mm) in diameter.

1301.9.87 Venting. Storage tanks shall be provided with a vent sized in accordance with Chapter 9 and based on the aggregate diameter of all tank influent pipes. The reservoir vent shall not be connected to sanitary drainage system vents. Vents shall be protected from contamination by means of an approved cap or U-bend installed with the opening directed downward. Vent outlets shall extend not less than 4 inches (102 mm) above grade or as necessary to prevent surface water from entering the storage tank. Vent openings shall be protected against the entrance of vermin and insects in accordance with the requirements of Section 1301.7.

1301.9.98 Draining of Tanks. ~~Where tanks require draining for~~ **Tanks shall be provided with a means of emptying the contents for the purpose of** service or cleaning. ~~¶~~ **T**anks shall be drained by using a pump or by a drain located at the lowest point in the tank. The tank drain pipe shall discharge as required for overflow pipes and shall not be smaller in size than specified in Table 606.5.7. Not less than one cleanout shall be provided on each drain pipe in accordance with Section 708.

1301.9.109 Marking and Signage. Each nonpotable water storage tank shall be labeled with its rated capacity. The contents of storage tanks shall be identified with the words "CAUTION: NONPOTABLE WATER – DO NOT DRINK." Where an opening is provided that could allow the entry of personnel, the opening shall be marked with the words, "DANGER – CONFINED SPACE." Markings shall be indelibly printed on the

tank or on a tag or sign constructed of corrosion-resistant waterproof material that is mounted on the tank. The letters of the words shall be not less than 0.5 inch (12.7 mm) in height and shall be of a color in contrast with the background on which they are applied.

1301.9.110 Storage Tank Tests. Storage tanks shall be tested in accordance with the following:

Storage tanks shall be filled with water to the overflow line prior to and during inspection. All seams and joints shall be left exposed and the tank shall remain water tight without leakage for a period of 24 hours.

1. After 24 hours, supplemental water shall be introduced for a period of 15 minutes to verify proper drainage of the overflow system and that there are no leaks.
2. The tank drain shall be observed for proper operation.
3. The makeup water system shall be observed for proper operation and successful automatic shutoff of the system at the refill threshold shall be verified.

SECTION 1302 ON-SITE NONPOTABLE WATER REUSE SYSTEMS

1302.1 General. The provisions of ASTM E2635 and Section 1302 shall govern the construction, installation, alteration and repair of on-site nonpotable water reuse systems for the collection, storage, treatment and distribution of on-site sources of nonpotable water as permitted by the jurisdiction.

1302.2 Sources. On-site nonpotable water reuse systems shall collect waste discharge from only the following sources: bathtubs, showers, lavatories, clothes washers and laundry trays. ~~Water from other approved nonpotable sources including swimming pool backwash operations, air conditioner condensate, rainwater, cooling tower blow down water, foundation drain water, steam system condensate, fluid cooler discharge water, food steamer discharge water, combination oven discharge water, industrial process water and fire pump test water shall also be permitted to be collected for reuse by on-site nonpotable water reuse systems, as approved by the code official and as appropriate for the intended application.~~ **Where approved and as appropriate for the intended application, water from other nonpotable sources shall be collected for reuse by on-site nonpotable water reuse systems.**

1302.8 Valves. Valves shall be supplied on on-site nonpotable water reuse systems in accordance with Sections 1302.8.1 and 1302.8.2.

1302.8.1 Bypass Valve. One three-way diverter valve listed and labeled to NSF 50 or other approved device shall be installed on collection piping upstream of each storage tank, or drainfield, as applicable, to divert untreated on-site reuse sources to the sanitary sewer to allow servicing and inspection of the system. Bypass valves shall be installed downstream of fixture traps and vent connections. Bypass valves shall be marked to indicate the direction of flow, connection and storage tank or drainfield connection. Bypass valves shall be ~~installed in accessible locations~~ **provided with access that allows for removal.** Two shutoff valves shall not be installed to serve as a bypass valve.

SECTION 1303 NONPOTABLE RAINWATER COLLECTION AND DISTRIBUTION SYSTEMS

1303.1 General. The provisions of Section 1303 shall govern the construction, installation, alteration and repair of rainwater collection and conveyance systems for the collection, storage, treatment and distribution of rainwater for nonpotable applications, as permitted by the jurisdiction.

1303.1.1 Fire protection systems. The storage, treatment and distribution of nonpotable water to be used for fire protection systems shall be in accordance with the *International Fire Code*.

1303.2 Collection Surface. Rainwater shall be collected only from above-ground impervious roofing surfaces constructed from *approved* materials. ~~Collection of water from~~ **and where approved,** vehicular parking or pedestrian **walking** surfaces, ~~shall be prohibited except where the water is used exclusively for landscape irrigation. Overflow and bleed off pipes from roof-mounted appliances including, but not limited to, evaporative coolers, water heaters, and solar water heaters shall not discharge onto rainwater collection surfaces.~~

1303.3 Debris Excluders. Downspouts and leaders shall be connected to a roof washer and shall be equipped with a debris excluder or equivalent device ~~to prevent the contamination of collected rainwater with~~ **that is designed to remove** leaves, sticks, pine needles and similar material **debris to prevent such from entering the storage tank.** ~~Debris excluders and equivalent devices shall be self-cleaning.~~

1303.4 Roof Washer First-flush diverter. A sufficient amount of rainwater shall be diverted at the beginning of each rain event, and not allowed to enter the storage tank, to wash accumulated debris from the collection surface. The amount of rainfall to be diverted shall be field adjustable as necessary to minimize storage tank water contamination. The roof washer

shall not rely on manually operated valves or devices, and shall operate automatically. **First-flush diverters shall operate automatically and shall not rely on manually operated valves or devices.** Diverted rainwater shall not be drained to the roof surface, and shall be discharged in a manner consistent with the storm water runoff requirements of the jurisdiction. ~~Roof washers~~ **First-flush diverters** shall be accessible **provided with access** for maintenance and service.

1303.12 Pumping and Control System. Mechanical equipment including pumps, valves and filters shall be ~~easily accessible and removable~~ **provided with access that allows for removal** in order to perform repair, maintenance and cleaning. The minimum flow rate and flow pressure delivered by the pumping system shall be appropriate for the application and in accordance with Section 604.

1303.15 Tests and Inspections. Tests and inspections shall be performed in accordance with Sections 1303.15.1 through 1303.15.8~~9~~.

1303.15.2 ~~Roofwasher~~ First-flush diverter test. ~~Roofwashers~~ **First-flush diverters** shall be tested by introducing water into the ~~gutters~~ **the collection system upstream of the diverter.** Proper diversion of the first ~~quantity~~ **amount** of water **shall be** in accordance with the requirements of Section 1303.4 ~~shall be verified.~~

1303.15.9 Collected raw rainwater quality. **ASTM E2727 shall be used to determine what, if any, site conditions impact the quality of collected raw rainwater and whether those site conditions require treatment of the raw water for the intended end use or make the water unsuitable for specific end uses.**

For Board of Health review July 13, 2022.

The Air Program is seeking Board approval to submit this regulation revision to public comment.

(The Air Advisory Committee recommended such approval at their June 13, 2022 meeting.)

Proposed

**Revision to ALLEGHENY COUNTY'S portion of the
PENNSYLVANIA STATE IMPLEMENTATION PLAN**

For the

**Attainment and Maintenance of the National
Ambient Air Quality Standards**

Revision Tracking No. 98

**Allegheny County Health Department
Rules and Regulations
Article XXI, Air Pollution Control**

§2105.08

**Additional RACT Requirements for Major Sources of Nitrogen Oxides and Volatile
Organic Compounds For the 2015 Ozone NAAQS**

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1. Proposed Regulation Revision

Article XXI, §2105.08 is new and printed in regular type.

§2105.08 Additional RACT Requirements for Major Sources of Nitrogen Oxides and Volatile Organic Compounds for the 2015 Ozone NAAQS *(Added mm/dd/yyyy, effective mm/dd/yyyy.)*

- a. Except as otherwise provided under this Section, the additional RACT requirements for major sources of nitrogen oxides and volatile organic compounds promulgated by the Pa. Environmental Quality Board and Dept. of Environmental Protection (DEP) under the Pa. Air Pollution Control Act at 25 Pa. Code §129.111 to §129.115, and the related definitions at 25 Pa. Code §121.1, are hereby incorporated, by reference, into this Article.

Additions, revisions, and deletions to such requirements adopted by the EQB and the DEP are incorporated into this Article and are effective on the date established by the state regulations, unless otherwise established by regulation under this Article.

- b. Under the regulations incorporated by reference under this Section and for purposes of this Article:
1. "Combustion unit" shall mean 'Fuel burning and combustion equipment,' as defined in this Article;
 2. "Plan approval" shall mean Installation permit;
 3. The terms "Department" and "approved local air pollution control agency" shall mean Department as defined under this Article;
 4. "Facility" shall mean Source as defined under this Article;
 5. With respect to the requirements of 25 Pa. Code §129.111 to §129.115, the sections of 25 Pa. Code Chapter 129 cited there shall mean the corresponding Article XXI sections listed in the following table. Where there is no corresponding Article XXI section as indicated by "None" in the table, follow the requirements of the Pennsylvania Code.

25 Pa. Code	Article XXI		25 Pa. Code	Article XXI
§129.51	§2105.01		§129.71	§2105.19
§129.52	§2105.10 incl. Table 2105.10		§129.72	None*
§129.52a	§2105.77		§129.73	§2105.74
§129.52b	§2105.79		§129.75	§2105.75
§129.52c	§2105.78		§129.77	§2105.85
§129.52d	§2105.83		§129.91, §§129.93-95	§2105.06 applicable subsections
§129.52e	§2105.84		§129.92	§2105.06.a-c and §129.92
§129.54	§2105.04		§§129.96-100	None*
§129.55	§2105.70		§129.101	§2105.76
§129.56	§2105.12		§129.102	§2105.76
§129.57	§2105.12		§129.103	§2105.76
§129.58	§2105.70		§129.104	§2105.76
§129.59	§2105.13		§129.105	§2105.76
§129.60	§2105.13		§129.105	§2105.76

§ 129.61	§2105.13	§ 129.106	§2105.76
§ 129.62	§2105.13	§ 129.107	§2105.76
§ 129.63	§2105.15	§ 129.301	§2105.101
§ 129.63a	§2105.82	§ 129.302	§2105.101
§ 129.64	§2105.16	§ 129.303	§2105.101
§ 129.65	§2105.17	§ 129.304	§2105.101
§ 129.66	None*	§ 129.305	§2105.101
§ 129.67	§2105.11	§ 129.306	§2105.101
§ 129.67a	§2105.81	§ 129.307	§2105.101
§ 129.67b	§2105.80	§ 129.308	§2105.101
§ 129.68	§2105.71	§ 129.309	§2105.101
§ 129.69	§2105.72	§ 129.310	§2105.101

*25 Pa. Code §129.66, §129.72, and §§129.96-100 have no corresponding Article XXI sections. Additional Notes on Corresponding Regulations: 25 Pa. Code §129.201-205 apply to certain sources only in Bucks, Chester, Delaware, Montgomery or Philadelphia County. 25 Pa. Code §145.111-113 are part of the NOx SIP call and not regulated by Allegheny County. 25 Pa. Code §145.141-145, Cement Manufacturing – no Allegheny Count Sources.

6. Regarding 25 Pa. Code §129.112(e)(1), and with respect to a municipal solid waste landfill constructed, reconstructed or modified on or before July 17, 2014, §2105.73 of this Article applies, and "§122.3" shall mean Subsection §2105.05 of this Article;
7. Regarding 25 Pa. Code §129.112(e)(2), and with respect to a municipal solid waste landfill constructed after July 18, 2014, "§122.3" shall mean Subsections §2105.05 of this Article;
8. Regarding 25 Pa. Code §129.112(l) and RACT permits issued to the owner or operator of an air contamination source:
 - A. 25 Pa. Code §§129.91 – 129.95, shall mean Section 2105.06 of this Article;
 - B. “stationary” sources shall mean “major” sources.
9. Regarding 25 Pa. Code §129.112(m) and any other portions of §§129.111-115:
 - A. 25 Pa. Code §§129.201 - 205, do not apply to Allegheny County; {Editor’s Note: They apply to the counties around Philadelphia.}
 - B. 25 Pa. Code §§129.301 - 310, shall mean Section 2105.101 of this Article;
 - C. 25 Pa. Code §§145.111 - 113, there are no corresponding Article XXI regulations; {Editor’s Note: 25 Pa. Code §§145.111 – 113 are part of the NOx SIP Call regulations, for which DEP prohibits ACHD from enacting regulations.}
 - D. 25 Pa. Code §§145.141 - 146, do not apply to Allegheny County. {Editor’s Note: There are no Portland cement plants in Allegheny County.}
10. Regarding 25 Pa. Code §129.114(d)(1), and (d)(3), “25 Pa. Code §129.92(a)(1)-(5), (7)-(10) and (b)” shall mean that and Article XXI §2105.06.a, b, and c.
11. Regarding 25 Pa. Code §129.114(f) and (j), “25 Pa. Code Chapter 127” shall mean Article XXI Parts Band C.
12. Regarding 25 Pa. Code §129.114(j)(2), the Department shall publish notice in accordance with Article XXI §2102.03.m.2.

13. Regarding 25 Pa. Code §129.115(b)(1), (3), (4) and (5), monitoring and testing shall be in accordance with “Chapter 139, Subchapter C” as incorporated by Article XXI, §2108.02.g.
14. Regarding 25 Pa. Code §129.115(b)(6) and (e)(2), monitoring and testing shall be in accordance with “Chapter 139, Subchapter A” as incorporated by Article XXI, §2107.01.b.
15. Regarding 25 Pa. Code §129.115(f), “25 Pa. Code, Part 1, Subpart C, Article III” shall mean Article XXI.

End of Regulation Changes

2. Technical Support Document

Additional RACT Requirements for Major Sources of Nitrogen Oxides and Volatile Organic Compounds For the 2015 Ozone NAAQS

The ACHD Air Quality Program is proposing the addition of regulations regarding Reasonably Available Control Technology (RACT) for major sources of nitrogen oxides and volatile organic compounds (VOCs) to match those that are being added by the state of Pennsylvania at 25 Pa. Code §129.111 through §129.115.

Addition of Article XXI, §2105.08, “Additional RACT Requirements for Major Sources of Nitrogen Oxides and Volatile Organic Compounds for the 2015 Ozone NAAQS.”

The ACHD Air Program is amending Article XXI relating to source emission and operating standards in order to satisfy Federal Clean Air Act (CAA) obligations for reasonably available control technology (RACT) requirements for the National Ambient Air Quality Standards (NAAQS) for ozone. The amendment adds new §2105.08 relating to additional RACT requirements for major sources of NO_x and VOCs for the 2015 Ozone NAAQS, which establishes RACT requirements for the owner and operator of certain types of stationary air contamination sources located at any major NO_x emitting facility or any major VOC emitting facility that was in existence in Allegheny County on or before August 3, 2018. (Note: For this regulation revision, it is not necessary to make any changes to §2101.20, Definitions, to correspond to changes made by the state to the definitions at 25 Pa. Code §121.)

Purpose of the Regulation Revision

The regulation revision is mandated by Federal law or regulation. Section 109(b) of the CAA provides that the Administrator of the U.S. Environmental Protection Agency (EPA) must establish NAAQS for criteria air pollutants at requisite levels that protect public health and public welfare. The EPA set the ground-level ozone NAAQS in July 1997 at 0.08 part per million (ppm) averaged over 8 hours and lowered it in March 2008 to 0.075 ppm. On October 26, 2015, the EPA lowered the standard once again, this time to 0.070 ppm.

The EPA made designations for the 2015 8-hour ozone standards on June 4, 2018, with an effective date of August 3, 2018. The EPA designated areas around Philadelphia as “marginal” nonattainment, with the rest of the Commonwealth designated attainment/unclassifiable.

For RACT implementation purposes, the entire Commonwealth is treated as a “moderate” ozone nonattainment area, because this Commonwealth is included in the Ozone Transport Region (OTR) established by operation of law under sections 176A and 184 of the CAA. Section 184(b) of the CAA addresses provisions for the SIP of a state included in the OTR. Section 184(b)(1)(B) of the CAA requires that states in the OTR, including this Commonwealth, submit a SIP revision requiring implementation of RACT for all major stationary sources of NO_x and VOC emissions in the state and not just for those sources that are located in designated nonattainment areas of the state. The proposed RACT requirements would apply to all major facilities or sources in this Commonwealth that emit or have a potential to emit equal to or greater than 100 TPY of NO_x or 50 TPY of VOCs, as

required under section 184 of the CAA for states in the OTR. Consequently, the Commonwealth's SIP must include RACT regulations applicable Statewide to affected major stationary sources of NO_x and VOC emissions.

Because Allegheny County, as part of Pennsylvania, is located in the Ozone Transport Region, the County is thus required to implement RACT requirements for major stationary sources of nitrogen oxides (NO_x) and volatile organic compounds (VOCs) as part of a Federally approvable State Implementation Plan (SIP) for the 2015 8-hour ozone NAAQS.

States in the OTR are required to submit SIP revisions addressing the RACT requirements of Section 184 of the CAA not later than two years after the effective date of the designations. The RACT SIP submittal for the 2015 8-hour ozone standard was due to the EPA August 3, 2020, two years after the effective date (August 3, 2018) of the 8-hour ozone designations. Sources subject to this set of RACT requirements must comply by January 1, 2023.

The regulation revision amends Article XXI to establish presumptive RACT requirements and emission limitations for the owners and operators of certain major stationary sources of NO_x and VOC emissions. The source categories include combustion units, boilers, process heaters, turbines, engines, municipal solid waste landfills, municipal waste combustors, cement kilns and other NO_x and VOC emission sources not regulated by RACT requirements elsewhere in Article XXI.

The final rulemaking also includes provisions establishing a petition process for approval of an alternative compliance schedule by the Department, a facility-wide or system wide NO_x emissions averaging plan provision, an alternative RACT proposal petition process, and compliance demonstration and recordkeeping requirements.

This regulation revision will be submitted to the EPA as a revision to the Allegheny County portion of the Pennsylvania SIP.

3. Attachment – For Information Only
“RACT 3 MS FRN DRAFT Annex A AQTAC 4-7-2022”
Pennsylvania DEP Draft Final Form Annex

The document below contains the Pennsylvania DEP’s draft “final form” RACT III regulation.

It is attached to this ACHD document only to illustrate what the ACHD is “incorporating by reference” into its Article XXI. ACHD would not be submitting the DEP as a part of its SIP submittal.



post approved
RACT_3_MS_FRN_DF

At the time of this writing, the PA DEP RACT III regulation has been the subject of a public comment period and public hearings, and the resultant draft final form regulation has been presented at the Air Quality Technical Advisory Committee (AQTAC) on April 7, 2022. PA DEP anticipates presenting it to the SBCAC and CAC in the second quarter of 2022.

4.

Documentation of Public Hearing and Certifications

Notice of Public Hearing (later)
Transmittals of hearing notice to EPA & PA DEP (later)
News Release (later)
Proof of publication of notice of hearing (later)
Certification of hearing (later)
Summary of Comments and responses (later)
Certification of approval and adoption (later)

Allegheny County Health Department Environmental Health Fund Application

Allegheny County Health Department Rules and Regulations Article XVI, Environmental Health Civil Penalties, §1608, defines how the Environmental Health Fund may be used to support activities related to improving environmental health in Allegheny County:

§1608 ALLEGHENY COUNTY ENVIRONMENTAL HEALTH FUND

- a. The purpose of Allegheny County Environmental Health Fund is to support activities related to the improvement of environmental health within Allegheny County and to support activities which will increase or improve knowledge of the environment as it related to public health and its control so as to benefit public health.

Proposals requesting Environmental Health funding will be limited to those purposes listed below:

- A. Projects with direct and measurable environmental health benefits to Allegheny County;
- B. The support of research and development;
- C. Health effects studies and surveys concerning environmental health;
- D. Public/staff education and professional development concerning environmental Health;
- E. The acquisition of consulting or other services from persons with special experience and/or expertise; or
- F. The purchase of equipment, materials, or services to supplement the County's environmental health enforcement programs.

All applicants must be in good standing with the ACHD and follow all relevant Federal, State, and local regulations. The fund cannot be used to cover indirect costs. Submission of an application does not guarantee funding. Only a limited number of projects will be funded per year.

Please submit completed applications to:

Deputy Director of Environmental Health
Allegheny County Health Department
542 Fourth Avenue
Pittsburgh, PA 15219
Fax: 412-578-8325

Allegheny County Health Department Environmental Health Fund Application

Please fill out this form in its entirety.

Applicant Contact Information:

Agency:			
Contact Person:			
Street Address:			
City:	State:	Zip:	Phone:
Email:		Fax:	

Type of project: Check all project categories that apply

<input type="checkbox"/> Support for research and development	<input type="checkbox"/> Health effects studies and surveys concerning environmental health	<input type="checkbox"/> Public/staff education and professional development concerning environmental health
<input type="checkbox"/> Consulting or other services from persons with special experience and/or expertise	<input type="checkbox"/> Purchasing of equipment, materials, or services to supplement the County's environmental health enforcement programs	

Funding Request:

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Project Description: Please provide a brief description of the candidate project or program. If you need additional space, use and attach as many "Additional Information" forms as needed.

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Allegheny County Health Department
Environmental Health Fund Application

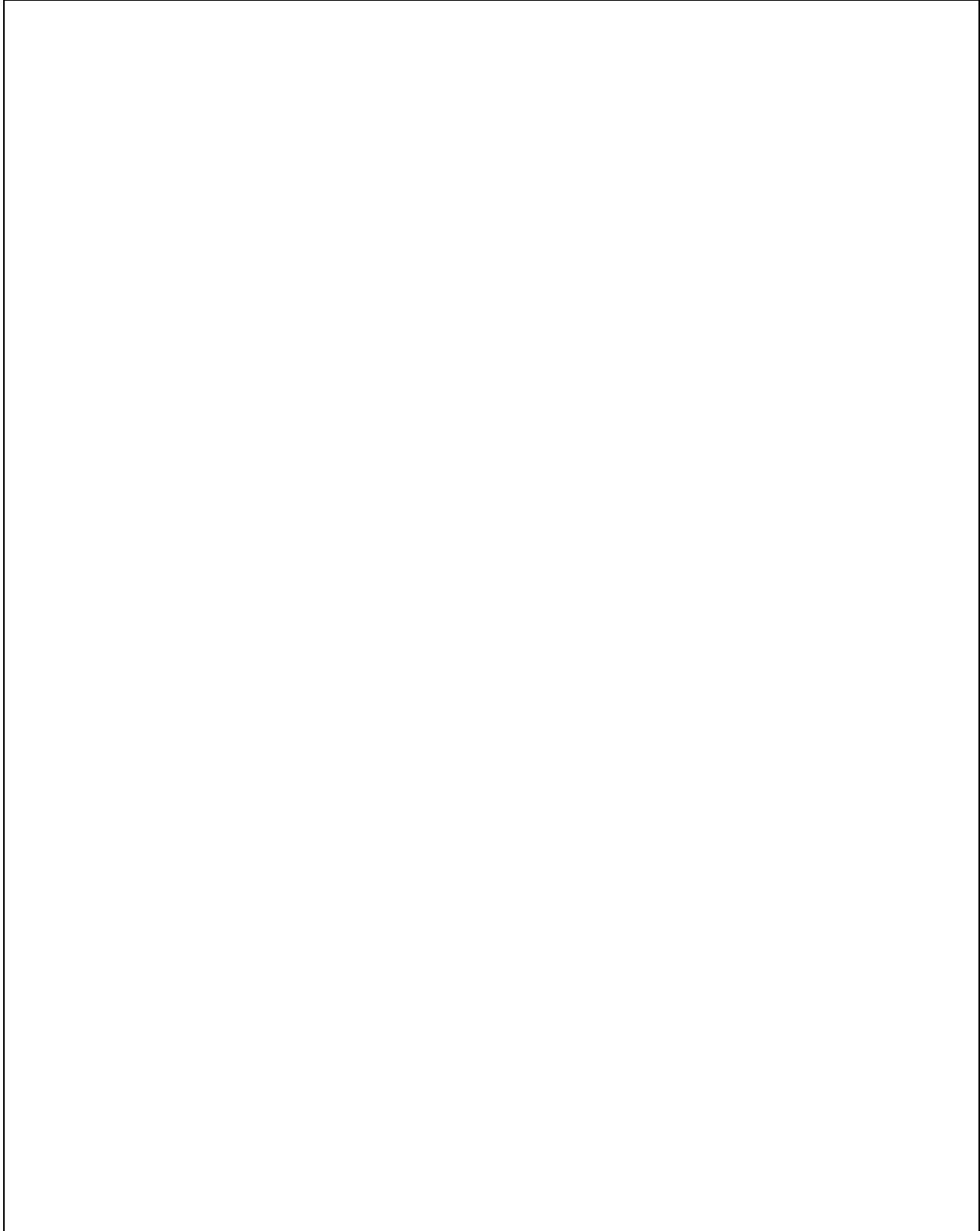
Quantifiable Results: Please describe how the success of this project or program will be measured. Attach any documentation of calculated pollutant reductions expected, health benefits, and/or other metrics that will be used to measure outcomes and evaluate success.

Describe the project location and/or coverage area: Please identify where this project or program will take place, and where improvements will be measured (if applicable)

Have you been funded through the Environmental Health Fund in the past? If so, please describe the project and amount funded.

Allegheny County Health Department
Environmental Health Fund Application

Additional Information: Include as many forms as needed

A large, empty rectangular box with a thin black border, occupying the majority of the page below the header and instruction. It is intended for the applicant to provide additional information or attach forms as needed.