

**PLUMBING AND
GASFITTING CODE
OF
BALTIMORE COUNTY**
(Adopting Ordinance)



Baltimore County Council Bill No. 41-15

EFFECTIVE DATE: July 1, 2015

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THE PLUMBING AND GASFITTING CODE OF BALTIMORE COUNTY

ADOPTING ORDANANCE BALTIMORE COUNTY, MARYLAND

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COUNTY COUNCIL OF BALTIMORE COUNTY, MARYLAND
Legislative Session 2015, Legislative Day No. 9

Bill No. 41-15

Mrs. Cathy Bevins, Chair
By Request of County Executive

By the County Council, May 4, 2015

A BILL
ENTITLED

AN ACT concerning

The Plumbing and Gasfitting Code of Baltimore County

FOR the purpose of adopting with certain deletions, replacements, amendments, and additions, the National Standard Plumbing Code Illustrated, PHCC, 2015 Edition; the National Fuel Gas Code, NFPA 54/ANSI Z223.1, 2015 Edition; and the Liquefied Petroleum Gas Code, NFPA 58, 2014 Edition; all as the "Plumbing and Gasfitting Code of Baltimore County".

BY Repealing

The Plumbing and Gasfitting Code of Baltimore County, Maryland as adopted by Bill No. 17-13.

BY Adopting

The National Standard Plumbing Code, PHCC, 2015 Edition,
The National Fuel Gas Code, NFPA 54/ANSI Z223.1, 2015 Edition, and
The Liquefied Petroleum Gas Code, NFPA 58, 2014 Edition.

EXPLANATION: CAPITALS INDICATE MATTER ADDED TO EXISTING LAW.
 [Brackets] indicate matter stricken from existing law.
 ~~Strike out~~ indicates matter stricken from bill.
 Underlining indicates amendments to bill.

1 SECTION 1. BE IT ENACTED BY THE COUNTY COUNCIL OF BALTIMORE
2 COUNTY, MARYLAND, that the Plumbing and Gasfitting Code of Baltimore County
3 adopted by Bill No. 17-13 be and the same is hereby repealed.
4

5 SECTION 2. AND BE IT FURTHER ENACTED that the PHCC National Standard
6 Plumbing Code - Illustrated, 2015 Edition, the NFPA 54 National Fuel Gas Code, 2015
7 Edition, and the NFPA 58 Liquefied Petroleum Gas Code, 2014 Edition be and they are
8 hereby adopted subject to the modifications set forth herein.
9

10 SECTION 3. AND BE IT FURTHER ENACTED that the Bill No. 41-15 may be
11 referred to as "The Plumbing and Gasfitting Code of Baltimore County".
12

13 SECTION 4. AND BE IT FURTHER ENACTED that the deletions, replacements,
14 amendments, and additions set forth in the following PARTS 100, 200, 300, and 400 are
15 hereby adopted as "The Plumbing and Gasfitting Code of Baltimore County".
16

17 **PART 100 COMMON PROVISIONS**

18 **PART 101 INTRODUCTION**

19 THE PARTS SET FORTH IN THIS PART 100 APPLY TO ALL OF THE CODES
20 ADOPTED IN THIS CODE, THE PLUMBING AND GASFITTING CODE OF
21 BALTIMORE COUNTY.

22 **PART 102 ADOPTED CODES**

23 THE FOLLOWING CODES ARE HEREBY ADOPTED INTO THIS CODE, ALONG
24 WITH ANY DELETIONS, REPLACEMENTS, AMENDMENTS, AND ADDITIONS TO
25 THOSE CODES AS SET FORTH IN THEIR ADOPTION:

- 26 1. THE NATIONAL STANDARD PLUMBING CODE ILLUSTRATED, 2015
27 EDITION, PUBLISHED BY THE PLUMBING-HEATING-COOLING
28 CONTRACTORS - NATIONAL ASSOCIATION.
- 29 2. THE NATIONAL FUEL GAS CODE, NFPA 54/ANSI Z223.1, 2015 EDITION,
30 PUBLISHED BY THE NATIONAL FIRE PROTECTION ASSOCIATION.

1 3. THE LIQUEFIED PETROLEUM GAS CODE, NFPA 58, 2014 EDITION,
2 PUBLISHED BY THE NATIONAL FIRE PROTECTION ASSOCIATION.

3 **PART 103 CODE OFFICIALS**

4 **PART 103.1 ADOPTING AGENCY**

5 THE ADOPTING AGENCY OF THIS CODE IS THE COUNTY COUNCIL OF
6 BALTIMORE COUNTY, MARYLAND.

7 **PART 103.2 AUTHORITY HAVING JURISDICTION**

8 THE AUTHORITY HAVING JURISDICTION FOR THIS CODE IS THE DIRECTOR OF
9 THE BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS AND
10 INSPECTIONS OR HIS DESIGNEE.

11 **PART 104 ADMINISTRATION**

12 **PART 104.1 TITLE**

13 THE REGULATIONS CONTAINED IN THE CODES ADOPTED HEREIN SHALL BE
14 KNOWN AS THE "BALTIMORE COUNTY PLUMBING AND GASFITTING CODE"
15 AND MAY BE CITED AS SUCH, AND HEREINAFTER REFERRED TO AS "THIS
16 CODE".

17 **PART 104.2 SCOPE**

18 THE PROVISIONS OF THIS CODE SHALL APPLY TO EVERY INSTALLATION,
19 INCLUDING THE DESIGN, ERECTION, INSTALLATION, ALTERATION,
20 RELOCATION, REPAIR, REPLACEMENT, ADDITION TO, USE OR MAINTENANCE
21 OF THE PLUMBING AND FUEL GAS SYSTEMS AS DEFINED WITHIN THIS CODE.

22 **PART 104.3 PURPOSE**

23 THIS CODE ESTABLISHES THE MINIMUM REQUIREMENTS AND STANDARDS
24 PERTAINING TO THE DESIGN, INSTALLATION, USE AND MAINTENANCE OF
25 THE PLUMBING AND FUEL GAS SYSTEMS AS DEFINED WITHIN THIS CODE.

26 **PART 104.4 APPLICABILITY**

27 **PART 104.4.1 ADDITION OR REPAIR**

28 ADDITIONS, ALTERATIONS, OR REPAIRS IN COMPLIANCE WITH THIS CODE
29 MAY BE MADE TO ANY EXISTING SYSTEM WITHOUT REQUIRING THE
30 EXISTING INSTALLATION TO COMPLY WITH ALL OF THE REQUIREMENTS OF

1 THIS CODE. ADDITIONS, ALTERATIONS, OR REPAIRS SHALL NOT CAUSE AN
2 EXISTING SYSTEM TO BECOME UNSAFE, INSANITARY, OR OVERLOADED.

3 **PART 104.4.2 EXISTING INSTALLATIONS**

4 SYSTEMS THAT WERE LAWFULLY INSTALLED PRIOR TO THE ADOPTION OF
5 THIS CODE MAY CONTINUE THEIR USE, MAINTENANCE, AND REPAIR,
6 PROVIDED THAT THE OPERATION, MAINTENANCE, AND REPAIR IS IN
7 ACCORDANCE WITH THE ORIGINAL DESIGN AND INSTALLATION, AND NO
8 HAZARD HAS BEEN CREATED TO LIFE, HEALTH, OR PROPERTY BY THE
9 SYSTEM.

10 **PART 104.4.3 EXISTING USE**

11 THE LAWFUL USE OF ANY EXISTING SYSTEM, INCLUDING ITS PIPING,
12 APPLIANCES, FIXTURES, FITTINGS, AND APPURTENANCES MAY HAVE ITS USE
13 CONTINUED, PROVIDED THAT NO HAZARDS TO LIFE, HEALTH, OR PROPERTY
14 HAVE BEEN CREATED BY ITS CONTINUED USE.

15 **PART 104.4.4 MAINTENANCE AND REPAIRS**

16 EXISTING SYSTEMS, INCLUDING MATERIALS, FIXTURES, FITTINGS,
17 APPURTENANCES, CONTROLS, AND SAFETY DEVICES, SHALL BE
18 MAINTAINED IN A SAFE AND OPERABLE CONDITION. REPAIRS SHALL BE
19 MADE IN THE SAME MANNER AND ARRANGEMENT AS THE ORIGINAL
20 INSTALLATION. THE OWNER, OR HIS DESIGNATED AGENT, SHALL BE
21 RESPONSIBLE FOR THE MAINTENANCE AND REPAIRS.

22 **PART 104.4.5 CHANGE OF BUILDING USE**

23 SYSTEMS IN ANY BUILDING OR STRUCTURE THAT IS PROPOSED FOR A
24 CHANGE IN USE OR OCCUPANCY SHALL COMPLY WITH ALL REQUIREMENTS
25 OF THIS CODE FOR THE NEW USE OR OCCUPANCY.

26 **PART 104.4.6 MOVED BUILDINGS OR STRUCTURES**

27 SYSTEMS IN ANY BUILDING OR STRUCTURE TO BE MOVED INTO OR
28 RELOCATED WITHIN THIS JURISDICTION SHALL COMPLY WITH THE
29 PROVISIONS OF THIS CODE FOR NEW CONSTRUCTION.

30 **PART 104.4.7 SPECIAL HISTORIC BUILDINGS**

1 THE PROVISIONS OF THIS CODE RELATED TO ANY ADDITIONS, ALTERATIONS,
2 REPAIR, REPLACEMENT, OR RESTORATION OF THOSE STRUCTURES
3 DESIGNATED AS HISTORIC BUILDINGS SHALL NOT BE MANDATORY IF THE
4 AUTHORITY HAVING JURISDICTION DETERMINES THAT THE LACK OF
5 CONFORMANCE IS NOT A HAZARD TO LIFE, HEALTH, OR PROPERTY AND NOT
6 REQUIRING CONFORMANCE IS IN THE PUBLIC INTEREST.

7 **PART 104.4.8 APPENDICES AND ANNEXES**

8 THE PROVISIONS IN THE APPENDICES AND ANNEXES IN THE CODES THAT ARE
9 ADOPTED IN PART 102 OF THIS CODE ARE FOR INFORMATIONAL PURPOSES
10 ONLY. THESE APPENDICES AND ANNEXES ARE NOT REQUIREMENTS OF THIS
11 CODE UNLESS THEY ARE SPECIFICALLY REFERENCED IN PARTS 200, 300, OR
12 400 HEREIN.

13 **PART 104.5 APPROVALS**

14 **PART 104.5.1 ALTERNATIVE MATERIAL OR METHOD**

15 THE PROVISIONS CITED IN THIS CODE ARE NOT INTENDED TO PREVENT THE
16 USE OF ANY ALTERNATIVE MATERIAL OR METHOD OF INSTALLATION WHEN
17 IT IS DETERMINED TO MEET THE INTENT OF THIS CODE AND IS APPROVED BY
18 THE AUTHORITY HAVING JURISDICTION.

19 **PART 104.5.2 APPROVAL OF ALTERNATIVE MATERIAL OR METHOD**

20 THE AUTHORITY HAVING JURISDICTION MAY APPROVE ANY SUCH
21 ALTERNATIVE MATERIAL OR METHOD OF INSTALLATION NOT EXPRESSLY
22 CONFORMING TO THE REQUIREMENTS OF THIS CODE, PROVIDED THAT IT
23 FINDS THE PROPOSED MATERIAL OR METHOD OF INSTALLATION IS AT LEAST
24 THE EQUIVALENT OF THAT REQUIRED BY THIS CODE.

25 **PART 104.5.3 TESTS REQUIRED**

26 THE AUTHORITY HAVING JURISDICTION SHALL REQUIRE SUFFICIENT
27 EVIDENCE TO SUBSTANTIATE ANY CLAIMS MADE REGARDING THE
28 EQUIVALENCY OF ANY PROPOSED ALTERNATIVE MATERIAL OR METHOD OF
29 INSTALLATION. WHEN THE AUTHORITY HAVING JURISDICTION DETERMINES
30 THAT THERE IS INSUFFICIENT EVIDENCE TO SUBSTANTIATE THE CLAIMS, IT

1 MAY REQUIRE THAT TESTS BE MADE BY A TESTING AGENCY IT APPROVES
2 TO SUBSTANTIATE THE CLAIMS AT THE EXPENSE OF THE APPLICANT.

3 **PART 104.5.4 TEST PROCEDURE**

4 THE AUTHORITY HAVING JURISDICTION SHALL REQUIRE THAT ALL TESTS BE
5 MADE IN ACCORDANCE WITH APPROVED STANDARDS; BUT, IN THE ABSENCE
6 OF SUCH STANDARDS, THE AUTHORITY HAVING JURISDICTION SHALL
7 SPECIFY THE TEST PROCEDURE.

8 **PART 104.5.5 RETESTING**

9 THE AUTHORITY HAVING JURISDICTION MAY REQUIRE ANY ALTERNATIVE
10 MATERIAL OR METHOD OF INSTALLATION TO BE RETESTED IF, AT ANY TIME,
11 THERE IS REASON TO BELIEVE THAT THE MATERIAL OR METHOD OF
12 INSTALLATION NO LONGER CONFORMS TO THE REQUIREMENTS ON WHICH
13 THE ORIGINAL APPROVAL WAS BASED.

14 **PART 104.6 ORGANIZATION AND ENFORCEMENT**

15 **PART 104.6.1 AUTHORITY HAVING JURISDICTION**

16 THE AUTHORITY HAVING JURISDICTION TO ADMINISTER AND ENFORCE THE
17 PROVISIONS OF THIS CODE IS THE DIRECTOR OF THE DEPARTMENT OF
18 PERMITS, APPROVALS AND INSPECTIONS, OR HIS DESIGNEE.

19 **PART 104.6.2 DESIGNEES**

20 THE AUTHORITY HAVING JURISDICTION MAY APPOINT SUCH ASSISTANTS,
21 DEPUTIES, INSPECTORS, OR OTHER DESIGNATED EMPLOYEES TO CARRY OUT
22 THE ADMINISTRATION AND ENFORCEMENT OF THIS CODE.

23 **PART 104.6.3 RIGHT OF ENTRY**

24 WHEN INSPECTIONS ARE REQUIRED TO ENFORCE THE PROVISIONS OF THIS
25 CODE, OR THERE IS REASONABLE CAUSE TO BELIEVE THERE EXISTS IN ANY
26 BUILDING, STRUCTURE, OR PREMISES ANY CONDITION OR VIOLATION OF
27 THIS CODE CAUSING THE BUILDING, STRUCTURE, OR PREMISES TO BE
28 UNSAFE, DANGEROUS, OR HAZARDOUS, THE AUTHORITY HAVING
29 JURISDICTION OR HIS DESIGNEE MAY ENTER SUCH BUILDING, STRUCTURE,
30 OR PREMISES AT REASONABLE TIMES TO PERFORM THEIR ADMINISTRATION
31 OF THIS CODE. WHEN THE BUILDING, STRUCTURE, OR PREMISES IS

1 OCCUPIED, PROPER CREDENTIALS SHALL BE PRESENTED TO THE OCCUPANT
2 WHEN ENTRY IS REQUIRED. IN THE EVENT THE BUILDING, STRUCTURE, OR
3 PREMISES IS UNOCCUPIED AND ENTRY IS REQUIRED, A REASONABLE EFFORT
4 SHALL BE MADE TO LOCATE THE OWNER OR HIS AGENT IN CHARGE OF SUCH
5 BUILDING, STRUCTURE, OR PREMISES. IN THE EVENT THE OCCUPANT OR
6 OWNER OF SUCH BUILDING, STRUCTURE, OR PREMISES REFUSES ENTRY, THE
7 AUTHORITY HAVING JURISDICTION SHALL HAVE RECOURSE TO THE
8 REMEDIES PROVIDED BY LAW TO GAIN ENTRY.

9 **PART 104.6.4 STOP WORK ORDER**

10 UPON NOTICE FROM THE AUTHORITY HAVING JURISDICTION, WORK BEING
11 DONE ON ANY BUILDING, STRUCTURE, OR PREMISES CONTRARY TO THE
12 PROVISIONS OF THIS CODE, OR IN AN UNSAFE AND DANGEROUS MANNER,
13 SHALL CEASE IMMEDIATELY. THE STOP WORK ORDER SHALL BE IN WRITING,
14 SERVED ON THE OWNER OF THE PROPERTY, OR HIS AGENT, OR TO THE
15 PERSON DOING SUCH WORK. IT SHALL STATE THE CONDITIONS UNDER
16 WHICH THE AUTHORITY HAVING JURISDICTION MAY GRANT
17 AUTHORIZATION TO PROCEED WITH THE WORK.

18 **PART 104.6.5 AUTHORITY TO CONDEMN**

19 WHEN THE AUTHORITY HAVING JURISDICTION DETERMINES THAT ANY
20 PLUMBING SYSTEM OR PORTION THEREOF THAT IS REGULATED BY THIS
21 CODE HAS BECOME UNSANITARY OR HAZARDOUS TO LIFE, HEALTH, OR
22 PROPERTY, IT SHALL ORDER IN WRITING THAT SUCH PLUMBING SYSTEM OR
23 PORTION THEREOF BE REPAIRED, REPLACED, OR REMOVED SO AS TO BE IN
24 CODE COMPLIANCE. THE WRITTEN ORDER SHALL CONTAIN A REASONABLE
25 TIME LIMIT FOR THE WORK TO BE BROUGHT INTO CODE COMPLIANCE, AND
26 NO PERSON SHALL USE THE CONDEMNED PLUMBING SYSTEM UNTIL SUCH
27 WORK IS COMPLETE AND APPROVED BY THE AUTHORITY HAVING
28 JURISDICTION.

29 **PART 104.6.6 AUTHORITY TO ABATE**

30 ANY PLUMBING SYSTEM OR PORTION THEREOF THAT IS FOUND TO BE
31 UNSANITARY OR CONSTITUTE A HAZARD TO LIFE, HEALTH, OR PROPERTY IS

1 HEREBY DECLARED TO BE A NUISANCE. WHERE A NUISANCE EXISTS, THE
2 AUTHORITY HAVING JURISDICTION SHALL REQUIRE THE NUISANCE TO BE
3 ABATED AND SHALL SEEK SUCH ABATEMENT IN THE MANNER PRESCRIBED
4 BY LAW.

5 **PART 104.6.7 LIABILITY**

6 THE AUTHORITY HAVING JURISDICTION OR ANY INDIVIDUAL DULY
7 APPOINTED OR AUTHORIZED BY THE AUTHORITY HAVING JURISDICTION TO
8 ENFORCE THIS CODE, ACTING IN GOOD FAITH AND WITHOUT MALICE, SHALL
9 NOT THEREBY BE RENDERED PERSONALLY LIABLE FOR ANY DAMAGE THAT
10 MAY OCCUR TO PERSONS OR PROPERTY AS A RESULT OF ANY ACT OR BY
11 REASON OF ANY ACT OR OMISSION IN THE LAWFUL DISCHARGE OF HIS
12 DUTIES. SHOULD A SUIT BE BROUGHT AGAINST THE AUTHORITY HAVING
13 JURISDICTION OR A DULY APPOINTED REPRESENTATIVE BECAUSE OF SUCH
14 ACT OR OMISSION, THEY SHALL BE DEFENDED BY LEGAL COUNSEL
15 PROVIDED BY THIS JURISDICTION UNTIL FINAL DISPOSITION OF THE
16 PROCEEDINGS.

17 **PART 104.7 VIOLATIONS AND PENALTIES**

18 **PART 10.7.1 VIOLATIONS**

19 IT SHALL BE UNLAWFUL FOR ANY INDIVIDUAL, PARTNERSHIP, FIRM, OR
20 CORPORATION TO, OR CAUSE TO, INSTALL, CONSTRUCT, ERECT, ALTER,
21 REPAIR, IMPROVE, CONVERT, MOVE, USE, OR MAINTAIN ANY SYSTEM IN
22 VIOLATION OF THIS CODE.

23 **PART 104.7.2 PENALTIES**

24 ANY INDIVIDUAL, PARTNERSHIP, FIRM OR CORPORATION WHO VIOLATES OR
25 FAILS TO COMPLY WITH ANY OF THE REQUIREMENTS OF THIS OR ANY OTHER
26 BALTIMORE COUNTY CODE SHALL BE DEEMED A VIOLATOR AND SUBJECT
27 TO THE ENFORCEMENT PROCEDURES SET FORTH IN ARTICLE 3, TITLE 6,
28 BALTIMORE COUNTY CODE, 2003, AS AMENDED, AND THE PENALTIES SET
29 FORTH IN SECTIONS 1-2-217 AND 35-2-204, BALTIMORE COUNTY CODE, 2003,
30 AS AMENDED, AS WELL AS PART 119 OF THE MOST RECENT EDITION OF THE
31 BALTIMORE COUNTY BUILDING CODE.

1 **PART 104.8 PERMITS**

2 **PART 104.8.1 PERMITS REQUIRED**

3 IT SHALL BE UNLAWFUL FOR ANY INDIVIDUAL, PARTNERSHIP, FIRM, OR
4 CORPORATION TO COMMENCE, OR CAUSE TO COMMENCE, ANY
5 INSTALLATION, ALTERATION, REPAIR, REPLACEMENT, CONVERSION, OR
6 ADDITION TO ANY SYSTEM, OR PART THEREOF, REGULATED BY THIS CODE,
7 EXCEPT AS PERMITTED IN PART 104.8.2 OF THIS CODE, WITHOUT FIRST
8 OBTAINING A PERMIT FOR EACH SEPARATE BUILDING OR STRUCTURE ON
9 FORMS PREPARED AND PROVIDED BY THE AUTHORITY HAVING
10 JURISDICTION.

11 **PART 104.8.2 PERMITS NOT REQUIRED FOR THE FOLLOWING**

12 A. PERMITS SHALL NOT BE REQUIRED FOR THE FOLLOWING WORK:

- 13 1. THE STOPPAGE OF LEAKS IN WATER, DRAIN, VENT, OR FUEL
14 GAS PIPING. HOWEVER, SHOULD THE DEFECT NECESSITATE
15 REMOVAL AND REPLACEMENT WITH NEW MATERIAL, IT
16 SHALL CONSTITUTE NEW WORK AND A PERMIT SHALL BE
17 OBTAINED AND INSPECTIONS MADE AS REQUIRED IN THIS
18 CODE.
- 19 2. THE CLEARING OF STOPPAGES OR OBSTRUCTIONS TO FLOW.
- 20 3. THE REPAIRING OF LEAKS IN VALVES OR FIXTURES.
- 21 4. THE REMOVAL AND REINSTALLATION OF A WATER CLOSET
22 FOR A CLEANOUT OPENING, PROVIDED THE REINSTALLATION
23 DOES NOT REQUIRE REPLACEMENT OR REARRANGEMENT OF
24 VALVES, PIPES, OR FIXTURES.
- 25 5. THE REPAIR OF FAUCETS AND REPLACEMENT OF WATER
26 CLOSET PARTS.

27 B. EXEMPTIONS FROM OBTAINING A PERMIT REQUIRED BY THIS
28 CODE SHALL NOT BE CONSTRUED AS AUTHORIZATION TO PERMIT
29 ANY WORK THAT IS IN VIOLATION OF THIS CODE.

30 **PART 104.9 PROCESS FOR OBTAINING PERMITS**

31 **PART 104.9.1 APPLICATION**

1 APPLICATIONS FOR A PERMIT SHALL BE MADE IN WRITING BY THE PERSON,
2 OR HIS AGENT, PROPOSING TO DO SUCH WORK COVERED BY THE PERMIT.
3 THE APPLICANT SHALL FILE THE APPLICATION FOR PLUMBING PERMIT
4 USING THE FORM PROVIDED BY THE AUTHORITY HAVING JURISDICTION.

5 **PART 104.9.2 PLANS**

6 TWO OR MORE SETS OF PLANS SHALL BE SUBMITTED WITH EACH PERMIT
7 APPLICATION. IF REQUIRED BY THE AUTHORITY HAVING JURISDICTION, THE
8 PLANS SHALL CONTAIN ALL OF THE ENGINEERING CALCULATIONS,
9 DRAWINGS, DIAGRAMS, AND OTHER DATA AS REQUIRED FOR APPROVAL.
10 THE AUTHORITY HAVING JURISDICTION MAY ALSO REQUIRE THAT THE
11 PLANS, DRAWINGS, DIAGRAMS, AND CALCULATIONS BE DESIGNED BY AN
12 ENGINEER WHO IS LICENSED BY THE STATE OF MARYLAND. THE AUTHORITY
13 HAVING JURISDICTION MAY WAIVE THE SUBMISSION OF PLANS AND OTHER
14 DOCUMENTATION, PROVIDED THAT IT IS DETERMINED THAT THE NATURE OF
15 THE WORK COVERED BY THE PERMIT DOES NOT REQUIRE PLAN REVIEW TO
16 OBTAIN CODE COMPLIANCE.

17 **PART 104.9.3 SPECIFICATIONS**

18 ALL SPECIFICATIONS THAT ARE REQUIRED TO BE SUBMITTED FOR A PERMIT
19 SHALL BE COORDINATED WITH THE PROPOSED WORK AND SHALL CONFIRM
20 THAT THE WORK WILL COMPLY WITH THE REQUIREMENTS OF THIS CODE.

21 **PART 104.9.4 PERMIT ISSUANCE**

22 IF, AFTER REVIEWING THE PLANS AND SPECIFICATIONS, THE AUTHORITY
23 HAVING JURISDICTION FINDS THAT THEY ARE COMPLETE AND CONFORM TO
24 THE REQUIREMENTS OF THIS CODE, IT SHALL AUTHORIZE THE ISSUANCE OF
25 A PERMIT UPON PAYMENT OF ALL OF THE FEES ASSOCIATED WITH THE
26 PERMIT.

27 **PART 104.9.5 APPROVED PLANS**

28 WHEN THE AUTHORITY HAVING JURISDICTION ISSUES A PERMIT AND PLANS
29 WERE REQUIRED, IT SHALL ENDORSE THE PLANS EITHER IN WRITING OR BY
30 STAMPING THE PLANS "APPROVED BY BALTIMORE COUNTY". ALL WORK

1 SHALL BE DONE IN ACCORDANCE WITH THE APPROVED PLANS WITHOUT
2 DEVIATION.

3 **PART 104.9.6 PLANS RETENTION**

4 ONE SET OF THE APPROVED PLANS SHALL BE RETURNED TO THE APPLICANT
5 AND THAT SET OF THE APPROVED PLANS, OR A COPY OF THAT APPROVED
6 SET, SHALL BE KEPT ON THE JOB SITE AT ALL TIMES UNTIL FINAL APPROVAL
7 OF THE INSTALLED WORK CONTAINED THEREIN. THE AUTHORITY HAVING
8 JURISDICTION SHALL RETAIN ONE SET OF THE APPROVED PLANS UNTIL
9 FINAL APPROVAL OF THE INSTALLED WORK CONTAINED THEREIN.

10 **PART 104.9.7 PERMIT VALIDITY**

11 THE ISSUANCE OF A PERMIT BY THE AUTHORITY HAVING JURISDICTION IS
12 NOT AND SHALL NOT BE CONSTRUED TO BE AUTHORIZATION OR APPROVAL
13 OF ANY VIOLATION OF THE REQUIREMENTS OF THIS CODE. ANY
14 PRESUMPTION THAT A PERMIT IS AUTHORIZATION TO VIOLATE OR CANCEL
15 ANY PROVISIONS OF THIS CODE SHALL BE INVALID. THE ISSUANCE OF A
16 PERMIT BASED ON SUBMITTED PLANS SHALL NOT PREVENT THE AUTHORITY
17 HAVING JURISDICTION FROM REQUIRING THE CORRECTION OF ANY ERRORS
18 IN THE PLANS OR PREVENTING THE PROGRESS OF THE CONSTRUCTION WHEN
19 IT IS IN VIOLATION OF ANY PROVISION OF THIS CODE.

20 **PART 104.9.8 TIME LIMIT ON PERMITS**

21 ALL PERMITS SHALL BE ISSUED TO EXPIRE ONE YEAR AFTER THE DATE SUCH
22 PERMIT IS ISSUED, UNLESS THE TIME OF COMPLETION STATED IN THE
23 APPLICATION CALLS FOR A LONGER OR SHORTER PERIOD THAN ONE YEAR,
24 IN WHICH CASE THE TIME OF EXPIRATION ON THE PERMIT SHALL ALLOW A
25 REASONABLE TIME TO COMPLETE THE WORK.

26 **PART 104.9.9 SUSPENSION OR REVOCATION**

27 AT ANY TIME, THE AUTHORITY HAVING JURISDICTION MAY SUSPEND OR
28 REVOKE A PERMIT ISSUED IN ERROR, ISSUED ON THE BASIS OF INCORRECT
29 INFORMATION SUBMITTED, OR ISSUED IN VIOLATION OF ANY PROVISION OF
30 THIS CODE.

31 **PART 104.9.10 PERMITS FOR PUBLIC UTILITY SUBSTATIONS**

1 ALL PERMITS FOR A SUBSTATION ISSUED TO A PUBLIC SERVICE COMPANY,
2 AS DEFINED IN TITLE 1 OF THE PUBLIC UTILITY COMPANIES ARTICLE OF THE
3 ANNOTATED CODE OF MARYLAND, SHALL BE ISSUED TO EXPIRE FIVE YEARS
4 AFTER THE DATE SUCH PERMIT IS ISSUED, PROVIDED THAT WITHIN ONE
5 YEAR AFTER THE ISSUANCE OF THE PERMIT THE SITE IS FENCED AND
6 LANDSCAPED AND A SIGN POSTED STATING THE PROPOSED USE OF THE
7 COMPLETED PROJECT. HOWEVER, AS TO ANY PERMIT, THE AUTHORITY
8 HAVING JURISDICTION IS HEREBY AUTHORIZED TO GRANT ANY EXTENSION
9 OF TIME NOT IN EXCESS OF ONE YEAR IN WHICH TO COMPLETE THE WORK.
10 IF THE WORK UNDER A PERMIT IS NOT COMPLETE BEFORE THE PERMIT
11 EXPIRATION DATE OR ANY EXTENSION THEREOF GRANTED BY THE
12 AUTHORITY HAVING JURISDICTION, THAT PERMIT BECOMES A NULLITY.

13 **PART 104.10 FEES**

14 **PART 104.10.1 PERMIT FEE SCHEDULE**

15 THE PERMIT FEES FOR ALL PLUMBING AND GASFITTING WORK SHALL BE IN
16 ACCORDANCE WITH THE CURRENTLY EFFECTIVE FEE SCHEDULE
17 ESTABLISHED BY THE COUNTY ADMINISTRATIVE OFFICER.

18 **PART 104.10.2 PLAN REVIEW FEE**

19 IF PLANS ARE REQUIRED TO BE SUBMITTED TO BE REVIEWED PRIOR TO
20 ISSUING A PERMIT, THE AUTHORITY HAVING JURISDICTION MAY CHARGE A
21 PLAN REVIEW FEE NOT TO EXCEED THE SUM OF \$500.00. PLAN REVIEW FEES
22 SHALL BE PAID IN FULL PRIOR TO REVIEW OF THE PLANS.

23 **PART 104.10.3 PERMIT APPLICATION AND PLAN REVIEW EXPIRATION**

24 PERMIT APPLICATIONS AND PLAN REVIEWS FOR WHICH NO PERMIT IS ISSUED
25 SHALL EXPIRE 6 MONTHS FOLLOWING THE DATE OF THE APPLICATION. ANY
26 REVIEWED PLANS MAY BE DESTROYED BY THE AUTHORITY HAVING
27 JURISDICTION IF NOT RECLAIMED BY THEIR APPLICANT.

28 **PART 104.10.4 WORK WITHOUT A PERMIT**

29 WHEN ANY WORK IS PERFORMED ON-SITE WITHOUT FIRST OBTAINING A
30 PERMIT FROM THE AUTHORITY HAVING JURISDICTION, AN INVESTIGATION

1 OF SUCH WORK SHALL BE MADE BY THE AUTHORITY HAVING JURISDICTION
2 AND THE INVESTIGATION FEE PAID BEFORE A PERMIT MAY BE ISSUED.

3 **PART 104.11 INSPECTIONS**

4 **PART 104.11.1 REQUIRED INSPECTIONS**

5 ALL WORK SHALL BE CHECKED AND TESTED BY THE PERMITTEE AS
6 REQUIRED BY THIS CODE. ALL WORK IS SUBJECT TO INSPECTION BY THE
7 AUTHORITY HAVING JURISDICTION AS NECESSARY TO CONFIRM
8 COMPLIANCE WITH THIS CODE.

9 **PART 104.11.2 REQUESTS FOR INSPECTIONS**

10 THE PERMITTEE SHALL NOTIFY THE AUTHORITY HAVING JURISDICTION
11 WHEN THE WORK, OR ANY PORTION THEREOF, HAS BEEN COMPLETED AND
12 TESTED AND IS READY FOR INSPECTION BY THE AUTHORITY HAVING
13 JURISDICTION. THE PERMITTEE SHALL COORDINATE THE SCHEDULING OF
14 THE REQUIRED INSPECTIONS WITH THE AUTHORITY HAVING JURISDICTION
15 AND PROVIDE THE NECESSARY ACCESS AND MEANS OF TESTING AND
16 OPERATION TO DEMONSTRATE THAT THE WORK IS COMPLIANT WITH THE
17 REQUIREMENTS OF THIS CODE. WHERE WORK HAS BEEN CONCEALED PRIOR
18 TO INSPECTION, IT SHALL BE MADE ACCESSIBLE AS REQUIRED UNTIL THE
19 NECESSARY INSPECTIONS ARE COMPLETE.

20 **PART 104.11.3 REINSPECTIONS**

21 WHERE WORK DOES NOT PASS ITS INITIAL INSPECTION BY THE AUTHORITY
22 HAVING JURISDICTION, THE WORK SHALL BE CORRECTED AND
23 REINSPECTED.

24 **PART 104.11.4 INSPECTION FEES**

25 A. AN INSPECTION FEE MAY BE APPLIED BY THE AUTHORITY
26 HAVING JURISDICTION FOR ANY OF THE FOLLOWING
27 CONDITIONS:

- 28 1. FAILURE TO PROVIDE ACCESS FOR INSPECTION ON THE DATE
29 AND TIME SCHEDULED.
- 30 2. FAILURE TO HAVE APPROVED PLANS ON SITE AVAILABLE TO
31 THE INSPECTOR WHERE REQUIRED.

1 3. THE WORK IS NOT COMPLETED FOR THE SCHEDULED
2 INSPECTION.

3 4. CORRECTIVE WORK IS NOT COMPLETED FOR RE-INSPECTION
4 AS SCHEDULED.

5 5. CORRECTIVE WORK DOES NOT PASS ITS RE-INSPECTION.

6 6. THE WORK DEVIATES FROM APPROVED PLANS AND REQUIRES
7 RESUBMITTAL, APPROVAL, AND RE-INSPECTION.

8 B. WHERE AN INSPECTION FEE IS ASSESSED, THE PERMITTEE SHALL
9 PAY THE FEE BEFORE ANY FURTHER WORK ON THE PROJECT IS
10 INSPECTED BY THE AUTHORITY HAVING JURISDICTION.

11 **PART 104.12 FINAL CONNECTIONS**

12 **PART 104.12.1 PLUMBING PIPING**

13 NO PLUMBING PIPING SHALL BE CONNECTED TO ANY FIXTURE, APPLIANCE,
14 OR EQUIPMENT BEING INSTALLED PRIOR TO THE APPROVAL OF THE
15 AUTHORITY HAVING JURISDICTION.

16 **PART 104.12.2 ENERGY OR FUEL**

17 NO SOURCES OF ENERGY OR FUEL SHALL BE CONNECTED TO ANY
18 EQUIPMENT BEING INSTALLED PRIOR TO THE APPROVAL OF THE AUTHORITY
19 HAVING JURISDICTION.

20 **PART 104.12.3 TEMPORARY CONNECTIONS**

21 SOURCES OF ENERGY OR FUEL USED ONLY FOR TESTING PURPOSES DURING
22 INSTALLATION MAY BE TEMPORARILY CONNECTED TO EQUIPMENT WHEN
23 AUTHORIZED IN WRITING BY THE AUTHORITY HAVING JURISDICTION.

24 **PART 104.13 UNCONSTITUTIONALITY/SEVERABILITY**

25 IF ANY PART, CHAPTER, SECTION, SUBSECTION, SENTENCE, CLAUSE,
26 PHRASE, OR TABLE OF THIS CODE IS HELD FOR ANY REASON AS
27 UNCONSTITUTIONAL, SUCH DECISION SHALL NOT AFFECT THE VALIDITY OF
28 THE REMAINING PARTS, CHAPTERS, SECTIONS, SUBSECTIONS, SENTENCES,
29 CLAUSES, PHRASES, OR TABLES OF THIS CODE.

30 **PART 105 LICENSING**

31 **PART 105.1 PLUMBERS AND GASFITTERS**

1 INDIVIDUALS PERFORMING PLUMBING AND GASFITTING WORK WITHIN THE
2 SCOPE OF THIS CODE SHALL BE PROPERLY LICENSED IN ACCORDANCE WITH
3 ARTICLE 21, TITLE 15, SUBTITLE 2 OF THE BALTIMORE COUNTY CODE.

4 **PART 105.2 PROPANE GAS SERVICE INSTALLERS**

5 INDIVIDUALS PERFORMING PROPANE GAS SERVICE INSTALLATION WORK
6 WITHIN THE SCOPE OF THIS CODE SHALL BE QUALIFIED FOR THE
7 INSTALLATION OF THE CONTAINERS, PIPING, AND ASSOCIATED EQUIPMENT
8 FOR DELIVERING PROPANE GAS TO A BUILDING FOR USE AS ITS FUEL GAS BY
9 BEING CERTIFIED FOR CATEGORIES 1.0, 4.1, AND 4.2 OF THE CERTIFIED
10 EMPLOYEE TRAINING PROGRAM (CETP) OF THE NATIONAL PROPANE GAS
11 ASSOCIATION.

12 **PART 200 NATIONAL STANDARD PLUMBING CODE**

13 THE PARTS SET FORTH IN THIS PART 200 INCLUDE DELETIONS, ADDITIONS,
14 REPLACEMENTS, AND AMENDMENTS TO THE NATIONAL STANDARD
15 PLUMBING CODE ILLUSTRATED, PHCC, 2015 EDITION, IN ACCORDANCE WITH
16 BILL 41-15, THE PLUMBING AND GASFITTING CODE OF BALTIMORE COUNTY.

17 **PART 201 ILLUSTRATIONS, EXPLANATORY NOTES, AND COMMENTS**

18 ANY CONFLICTS BETWEEN THE 2015 NATIONAL STANDARD PLUMBING CODE
19 ILLUSTRATED AND THE BALTIMORE COUNTY PLUMBING AND GASFITTING
20 CODE SHALL BE RESOLVED IN FAVOR OF THE BALTIMORE COUNTY
21 PLUMBING AND GASFITTING CODE. THE FIGURES, ILLUSTRATIONS,
22 DIAGRAMS, EXPLANATORY NOTES, AND EDITORIAL COMMENTS CONTAINED
23 WITHIN THE NATIONAL STANDARD PLUMBING CODE ILLUSTRATED ARE
24 INTENDED TO SUPPLEMENT THE ACTUAL CODE TEXT AND HELP TO EXPLAIN
25 THE GENERAL INTENT AND MEANING OF THE CODE. THE PIPING DIAGRAMS
26 AND FIGURES ARE NOT INTENDED TO RESTRICT THE USE OF OTHER
27 ARRANGEMENTS THAT SATISFY THE REQUIREMENTS OF THE WRITTEN
28 CODE.

29 **PART 202 APPENDICES**

30 THE APPENDICES IN THE NATIONAL STANDARD PLUMBING CODE
31 ILLUSTRATED INCLUDE SUPPLEMENTAL INFORMATION THAT CAN BE USED

1 IN THE DESIGN AND INSTALLATION OF PLUMBING SYSTEMS, BUT THEY DO
2 NOT INCLUDE ENFORCEABLE CODE REQUIREMENTS UNLESS THE
3 REQUIREMENTS ARE IDENTIFIED AS SUCH IN THE NATIONAL STANDARD
4 PLUMBING CODE ILLUSTRATED.

5 **PART 203 DELETIONS**

6 THE FOLLOWING ITEMS ARE DELETED AND NOT ADOPTED BY THIS CODE
7 FROM THE NATIONAL STANDARD PLUMBING CODE ILLUSTRATED AND NOT
8 REPLACED: ADMINISTRATION, 1.2 LEAD CONTENT, FIGURE 5.4.7, 16.1.2, 16.1.3,
9 16.1.4, 16.1.5, 16.1.6, 16.1.7, 16.1.8, 16.3.1, 16.3.2, 16.3.3, 16.3.5, 16.3.6, 16.3.7, TABLE
10 3.7, 16.4, 16.5, 16.7, 16.8, 16.9.1, 16.9.3, 16.9.4, 16.9.6, 16.10, 16.11, 16.12, 17.2, 17.3, 17.4,
11 17.5, 17.6, 17.7, 17.8, 17.9.1, 17.9.2, 17.9.3, 17.9.4, 17.9.5, 17.9.6, 17.10, 17.11, 17.12,
12 17.13, AND 17.14.

13 **PART 204 ADDITIONS**

14 THE FOLLOWING ITEMS ARE ADDED TO THE NATIONAL STANDARD
15 PLUMBING CODE ILLUSTRATED AND ADOPTED HEREIN: 1.2 END-USE DEVICE,
16 1.2 LEAD-FREE, 1.2 PIPE OR TUBE FITTING, 1.2 PLUMBING SUPPLY FITTING, 1.2
17 WEIGHTED AVERAGE LEAD CONTENT, 2.31, 10.5.9.1, 10.14.3.C, 10.15.9.3.A,
18 10.16.6.I, 10.20.8, 12.21, 12.21.1, 15.3.2, 17.2, AND 17.9.

19 **PART 205 REPLACEMENTS**

20 THE FOLLOWING ITEMS REPLACE THE EXISTING ITEMS IN THE NATIONAL
21 STANDARD PLUMBING CODE ILLUSTRATED: 2.16.A.1, 2.16.A.2, TABLE 3.4.2,
22 3.4.6, 4.2.4.E, 4.3.9.C, 4.3.9.D, 5.4.7, 6.2.12, 7.2, 10.15.2, 10.15.7, 10.20.1, 13.1.13, 16.1.1,
23 16.6.1, 16.9.5, 17.1.2, AND 17.15.1, STANDARDS IN TABLE 19.1 - ASCE 24.

24 **PART 206 AMENDMENTS**

25 THE FOLLOWING ITEMS IN THE NATIONAL STANDARD PLUMBING CODE
26 ILLUSTRATED ARE AMENDED BY CHANGES, ADDITIONS, OR DELETIONS:
27 2.19.1, 2.25.5, 3.1.5, TABLE 3.4, TABLE 3.5, TABLE 3.6, TABLE 3.7, 3.4.2, 10.5.9,
28 11.2.3, TABLE 11.5.1A, 13.1.2, 13.1.5.D, 16.3.4, 16.6.7, 16.9.2, AND 17.15.2.

29 **PART 207 COPIES OF ADDITIONS, REPLACEMENTS, AND AMENDMENTS**

1 COPIES OF THE ADDITIONS, REPLACEMENTS, AND AMENDMENTS TO ITEMS
2 IN THE NATIONAL STANDARD PLUMBING CODE ILLUSTRATED ARE
3 INCLUDED HEREIN.

4 **CHAPTER 1 DEFINITIONS**

5 **1.2 END-USE DEVICE**

6 A WATER SUPPLY DEVICE THAT DISPENSES POTABLE WATER SUCH AS A
7 FAUCET, DRINKING FOUNTAIN, KITCHEN HOT WATER DISPENSER, BATHTUB
8 AND/OR SHOWER FAUCET, SHOWER HEAD, FLUSH VALVE, HOSE BIBB, OR
9 SUPPLY CONNECTION TO AN APPLIANCE.

10 **1.2 LEAD-FREE**

11 CONTAINING NOT MORE THAN A WEIGHTED AVERAGE OF 0.25% LEAD FOR
12 THE WETTED SURFACES OF PIPES, TUBES, FITTINGS FOR PIPES AND TUBES,
13 PLUMBING SUPPLY FITTINGS, END-USE DEVICES, AND FIXTURES. LEAD-FREE
14 SOLDER CONTAINS NO MORE THAN 0.2% LEAD.

15 **1.2 PIPE OR TUBE FITTING**

16 A PIPING COMPONENT THAT CONNECTS PIPES OR TUBES, SUCH AS A
17 COUPLING, ELBOW, REDUCER, TEE, FLANGE, UNION, OR FLEXIBLE
18 CONNECTOR.

19 **1.2 PLUMBING SUPPLY FITTING**

20 A PIPING COMPONENT OTHER THAN A PIPE FITTING OR TUBE FITTING THAT
21 PERFORMS A REQUIRED FUNCTION IN POTABLE WATER SUPPLY PIPING SUCH
22 AS A FAUCET, ADAPTER, VALVE, STRAINER, FILTER, TEMPERATURE
23 LIMITING OR CONTROL DEVICE, PRESSURE SWITCH, THERMOMETER WELL,
24 EXPANSION COMPENSATOR, OR WATER HAMMER ARRESTOR.

25 **1.2 WEIGHTED AVERAGE LEAD CONTENT**

26 THE WEIGHTED AVERAGE LEAD CONTENT OF A PIPE, PIPE FITTING,
27 PLUMBING FITTING, OR FIXTURE SHALL BE CALCULATED BY USING THE
28 FOLLOWING FORMULA: FOR EACH WETTED COMPONENT, THE PERCENTAGE
29 OF LEAD IN THE COMPONENT SHALL BE MULTIPLIED BY THE RATIO OF THE
30 WETTED SURFACE AREA OF THAT COMPONENT TO THE TOTAL WETTED
31 SURFACE AREA OF THE ENTIRE PRODUCT TO ARRIVE AT THE WEIGHTED

1 PERCENTAGE OF LEAD OF THE COMPONENT. THE WEIGHTED PERCENTAGE
2 OF LEAD OF EACH WETTED COMPONENT SHALL BE ADDED TOGETHER, AND
3 THE SUM OF THESE WEIGHTED PERCENTAGES SHALL CONSTITUTE THE
4 WEIGHTED AVERAGE LEAD CONTENT OF THE PRODUCT. THE LEAD CONTENT
5 OF THE MATERIAL USED TO PRODUCE WETTED COMPONENTS SHALL BE
6 USED TO DETERMINE COMPLIANCE WITH "LEAD-FREE". FOR LEAD CONTENT
7 OF MATERIALS THAT ARE PROVIDED AS A RANGE, THE MAXIMUM CONTENT
8 OF THE RANGE SHALL BE USED.

9 **CHAPTER 2 GENERAL REQUIREMENTS**

10 **2.16 FREEZING OR OVERHEATING**

11 **A.1** THE MINIMUM EARTH COVER ABOVE THE TOP OF EXTERIOR WATER
12 PIPING SHALL BE 36 INCHES.

13 **A.2** THE MINIMUM EARTH COVER ABOVE THE TOP OF EXTERIOR BUILDING
14 DRAINS AND BUILDING SEWERS SHALL BE 30 INCHES IF CONNECTED TO
15 PUBLIC SEWAGE SYSTEMS AND 24 INCHES IF CONNECTED TO A PRIVATE
16 SEWAGE DISPOSAL SYSTEM.

17 **2.19 CONNECTION TO WATER AND SEWER SYSTEMS**

18 **2.19.1** PUBLIC WATER AND SEWER SHALL BE CONSIDERED AS AVAILABLE IF
19 IT IS WITHIN 500 FEET OF ANY PROPERTY LINE OR OTHER REASONABLE
20 DISTANCE AS DETERMINED BY THE AUTHORITY HAVING JURISDICTION.

21 **2.25 FOOD HANDLING ESTABLISHMENTS AND FOOD HANDLING AREAS** 22 **WITHIN BUILDINGS**

23 **2.25.5** SANITARY FLOOR SINKS SHALL BE INSTALLED FLUSH WITH THE
24 SURROUNDING FINISHED FLOOR.

25 **2.31 PLUMBING IN FLOOD HAZARD AREAS**

26 A. PLUMBING IN BUILDINGS AND STRUCTURES THAT ARE LOCATED
27 IN FLOOD HAZARD AREAS SHALL COMPLY WITH THE
28 REQUIREMENTS OF BALTIMORE COUNTY FOR THE DESIGN AND
29 CONSTRUCTION OF UTILITY SYSTEMS IN FLOOD-PRONE AREAS.

30 B. IN NEW CONSTRUCTION OR SUBSTANTIAL IMPROVEMENT, NO
31 PLUMBING SHALL BE INSTALLED ON OR ABOVE THE LOWEST

1 FLOOR LEVEL UNTIL THE CONSTRUCTED ELEVATION OF THE
2 LOWEST FLOOR HAS BEEN INSPECTED, MEASURED, VERIFIED FOR
3 COMPLIANCE, DOCUMENTED, AND ACCEPTED BY BALTIMORE
4 COUNTY.

5 C. PLUMBING WORK SHALL NOT BE INSTALLED ON OR PENETRATE
6 THROUGH WALLS THAT ARE DESIGNED TO BREAK AWAY UNDER
7 FLOOD CONDITIONS.

8 D. UNDERGROUND PIPING FOR WATER SERVICE, BUILDING DRAINS,
9 AND BUILDING SEWERS SHALL BE INSTALLED ACCORDING TO
10 ASCE 24, SECTION 7.3.1.

11 E. PLUMBING PIPING, FIXTURES, AND EQUIPMENT WITHIN A
12 BUILDING OR STRUCTURE SHALL BE INSTALLED AT OR ABOVE
13 THE REQUIRED BASE FLOOD ELEVATION (BFE) OR DESIGN FLOOD
14 ELEVATION (DFE) AS INDICATED IN ASCE 24, TABLE 7-1.
15 PLUMBING PIPING INCLUDES PIPING FOR WATER SERVICE, WATER
16 DISTRIBUTION, SANITARY DRAINAGE, VENTING, AND STORM
17 WATER DRAINAGE.

18 F. SANITARY DRAIN PIPING AND VENT PIPING SHALL BE INSTALLED
19 ACCORDING TO ASCE 24, SECTION 7.3.4 TO PREVENT
20 INFILTRATION FROM OR DISCHARGE INTO FLOODWATER.

21 G. VERTICAL PIPING FROM UNDERGROUND TO ABOVE THE FLOOD
22 LEVEL ELEVATION SHALL BE SUPPORTED FROM A FLOOD-
23 PROTECTED BUILDING STRUCTURAL MEMBER AND COVERED TO
24 PROTECT IT FROM DAMAGE BY DEBRIS ACCORDING TO ASCE 24,
25 SECTION 7.3.2.

26 H. WATER HEATERS SHALL BE INSTALLED AT AN ELEVATION AT OR
27 ABOVE THE REQUIRED BFE OR DFE PROTECTION LEVEL IN ASCE
28 24, TABLE 7-1. IF INSTALLED IN AN ATTIC OR UNFINISHED AREA,
29 THEY SHALL HAVE ADEQUATE STRUCTURAL SUPPORT, ACCESS
30 FOR MAINTENANCE AND REPLACEMENT, AND A DRIP PAN PER
31 NSPC SECTION 10.15.9 WITH DRAINAGE.

1 I. WHERE A PLUMBING FIXTURE OR PIPING HAS A DRAIN OR VENT
2 OPENING BELOW THE REQUIRED BFE OR DFE PROTECTION LEVEL
3 IN ASCE 24, TABLE 7-1 THAT IS SUBJECT TO BACKFLOW OR
4 INFILTRATION, IT SHALL BE PROTECTED ACCORDING TO ASCE 24,
5 SECTION 7.3.3.

6 J. MANHOLE COVERS SHALL BE SEALED UNLESS ELEVATED TO OR
7 ABOVE THE REQUIRED BFE OR DFE PROTECTION LEVEL IN ASCE
8 24, TABLE 7-1.

9 CHAPTER 3 MATERIALS

10 3.1 MATERIALS

11 3.1.5 HEALTH EFFECTS ON DRINKING WATER COMPONENTS

12 REFER TO SECTION 3.4.6 FOR THE LIMIT ON THE LEAD CONTENT OF PIPES,
13 TUBES, PIPE AND TUBE FITTINGS, PLUMBING SUPPLY FITTINGS, FIXTURES,
14 AND END-USE DEVICES THAT ARE ANTICIPATED TO BE USED TO DISPENSE
15 WATER FOR HUMAN CONSUMPTION BY DRINKING OR COOKING.

16 3.4 POTABLE WATER PIPING

17 TABLE 3.4 MATERIALS FOR POTABLE WATER PIPING

18 THE FOLLOWING AMENDMENTS IN TABLE 3.4 ARE WITH THE TABLES AT THE
19 END OF PART 200 HEREIN.

20 WATER SERVICE PIPING MUST BE WATER PRESSURE RATED FOR NOT LESS
21 THAN 200 PSI AT 73 DEG F INSTEAD OF 160 PSI. ASTM F2769 PE-RT, ASTM F876
22 PEX, ASTM F877 PEX, AND AWWA 904 PEX ARE NOT RATED FOR 200 PSI. ASTM
23 B88 TYPE M COPPER, ASTM D2846 CPVC, ASTM F441 SCHEDULE 40 CPVC AND
24 ASTM F442 CPVC ARE NOT APPROVED FOR INSTALLATION UNDERGROUND.

25 TABLE 3.4.2 PLASTIC WATER SERVICE PIPING

26 WATER SERVICE PIPING MUST BE WATER PRESSURE RATED FOR NOT LESS
27 THAN 200 PSI AT 73 DEG F INSTEAD OF 160 PSI. THIN-WALL CPVC PIPING IN
28 TABLE 3.4 IS NOT APPROVED FOR INSTALLATION UNDERGROUND.
29 REPLACEMENT TABLE 3.4.2 IS INCLUDED WITH THE TABLES AT THE END OF
30 PART 200 HEREIN.

31 3.4.6 LIMITS ON LEAD CONTENT

- 1 A. PIPES, TUBES, FITTINGS FOR PIPES AND TUBES, PLUMBING SUPPLY
2 FITTINGS, FIXTURES, AND END-USE DEVICES THAT ARE
3 ANTICIPATED TO BE USED TO DISPENSE POTABLE WATER FOR
4 HUMAN CONSUMPTION BY DRINKING AND COOKING SHALL BE
5 "LEAD-FREE", CONTAINING NOT MORE THAN A WEIGHTED
6 AVERAGE OF 0.25% LEAD WITH RESPECT TO THE WETTED
7 SURFACES, AS DEFINED IN SECTION 1.2 OF THIS CODE.
- 8 B. SOLDER FOR JOINTS IN "LEAD-FREE" POTABLE WATER PIPING
9 SHALL NOT CONTAIN MORE THAN 0.2% LEAD. FLUX SHALL BE
10 RATED FOR USE WITH "LEAD-FREE" SOLDER.
- 11 C. POTABLE WATER SUPPLY COMPONENTS THAT ARE WITHIN THE
12 SCOPE OF NSF 61 FOR DRINKING WATER SYSTEM COMPONENTS
13 AND ARE REQUIRED TO BE "LEAD-FREE" SHALL BE CERTIFIED TO
14 COMPLY WITH NSF 61 AND NSF 372.
- 15 D. POTABLE WATER SUPPLY COMPONENTS THAT ARE NOT WITHIN
16 THE SCOPE OF NSF 61 FOR DRINKING WATER SYSTEM
17 COMPONENTS BUT ARE REQUIRED TO BE "LEAD-FREE" SHALL BE
18 CERTIFIED TO COMPLY WITH NSF 372.
- 19 E. POTABLE WATER SUPPLY COMPONENTS THAT ARE NOT
20 REQUIRED TO BE "LEAD-FREE" SHALL BE RATED FOR USE WITH
21 POTABLE WATER AND SHALL NOT CONTAIN MORE THAN 8% LEAD
22 BY DRY WEIGHT.
- 23 F. THE FOLLOWING POTABLE WATER END-USE DEVICES AND WATER
24 SUPPLY PIPING ARE ANTICIPATED TO BE USED TO CONVEY
25 WATER FOR HUMAN CONSUMPTION THROUGH DRINKING OR
26 COOKING AND SHALL BE "LEAD-FREE", INCLUDING THEIR
27 ASSOCIATED SUPPLY PIPING:
 - 28 1. KITCHEN SINK FAUCETS
 - 29 2. BAR SINK FAUCETS
 - 30 3. PRIVATE BATHROOM SINK FAUCETS
 - 31 4. DRINKING FOUNTAIN FAUCETS

- 1 5. KITCHEN HOT WATER DISPENSERS
- 2 6. POINT-OF-USE WATER TREATMENT DEVICES
- 3 7. THE WATER SUPPLY TO ICE MAKERS
- 4 8. THE WATER SUPPLY TO POTABLE WATER HEATERS
- 5 9. RECIRCULATED HOT WATER PIPING
- 6 10. THE WATER SUPPLY TO MISTING SYSTEMS FOR PRODUCE IN
- 7 FOOD MARKETS
- 8 11. THE WATER SUPPLY TO COOKING EQUIPMENT FOR FOOD IN
- 9 COMMERCIAL KITCHENS
- 10 12. THE WATER SUPPLY TO PRODUCTION EQUIPMENT FOR
- 11 PROCESSED FOOD CONTAINING WATER
- 12 13. ANY OTHER END-USE DEVICES, EQUIPMENT, AND PIPING
- 13 THAT CONVEY WATER FOR HUMAN CONSUMPTION.

14 EXCEPTION: TANK-TYPE WATER HEATERS SHALL NOT BE REQUIRED TO BE
15 "LEAD-FREE" UNLESS THERE IS AN INDUSTRY STANDARD FOR "LEAD-FREE"
16 TANK-TYPE WATER HEATERS AND THEY ARE REQUIRED BY THE AUTHORITY
17 HAVING JURISDICTION.

18 G. THE FOLLOWING PIPING COMPONENTS SHALL BE "LEAD-FREE"
19 WHEN ASSOCIATED WITH "LEAD-FREE" END-USE DEVICES AND
20 PIPING THAT IS REQUIRED TO BE "LEAD-FREE:"

- 21 1. MAIN SERVICE SHUTOFF VALVES
- 22 2. WATER SERVICE BACKFLOW PREVENTION ASSEMBLIES AND
- 23 DEVICES
- 24 3. WATER METERS
- 25 4. PRESSURE BOOSTER PUMPS
- 26 5. PRESSURE REDUCING VALVES
- 27 6. STRAINERS
- 28 7. WATER FILTERS
- 29 8. CHECK VALVES
- 30 9. CONTROL VALVES
- 31 10. VACUUM BREAKERS

- 1 11. WATER HAMMER ARRESTORS
- 2 12. MASTER HOT WATER MIXING VALVES
- 3 13. IN-LINE TEMPERING VALVES
- 4 14. HOT WATER RECIRCULATING PUMPS
- 5 15. BRANCH PIPING SHUTOFF VALVES
- 6 16. BALANCING VALVES
- 7 17. FIXTURE SHUTOFF VALVES
- 8 18. SOLENOID VALVES
- 9 19. TANKLESS WATER HEATERS
- 10 20. ANY OTHER PIPING COMPONENTS ASSOCIATED WITH END-
- 11 USE DEVICES OR PIPING THAT ARE REQUIRED TO BE "LEAD-
- 12 FREE"
- 13 H. THE FOLLOWING POTABLE WATER END-USE DEVICES, WATER
- 14 SUPPLIES, AND COMPONENTS ARE NOT ANTICIPATED TO CONVEY
- 15 WATER FOR HUMAN CONSUMPTION THROUGH DRINKING OR
- 16 COOKING AND ARE NOT REQUIRED TO BE "LEAD-FREE",
- 17 INCLUDING THEIR ASSOCIATED WATER SUPPLY PIPING.
- 18 1. BATHTUB FAUCETS
- 19 2. SHOWER VALVES, HEADS, AND ADAPTERS
- 20 3. TANK-TYPE WATER HEATERS
- 21 4. FLUSH VALVES FOR WATER CLOSETS
- 22 5. FLUSH VALVES FOR URINALS
- 23 6. FLUSH VALVES FOR BIDETS
- 24 7. SHUTOFF VALVES FOR CLOTHES WASHING MACHINES
- 25 8. LAVATORY FAUCETS IN PUBLIC TOILET ROOMS
- 26 9. LAUNDRY SINK FAUCETS
- 27 10. SERVICE SINK FAUCETS
- 28 11. FAUCETS FOR LABORATORY APPLICATIONS
- 29 12. HOSE BIBBS
- 30 13. TRAP SEAL PRIMING DEVICES

- 1 14. BACKFLOW PREVENTION DEVICES THAT SUPPLY NON-
- 2 POTABLE APPLICATIONS
- 3 15. FIRE HOSE VALVES
- 4 16. WATER HAMMER ARRESTERS
- 5 17. THE WATER SUPPLY TO DISH WASHERS
- 6 18. THE WATER SUPPLY TO WHIRLPOOLS, SPAS, THERAPY POOLS,
- 7 AND SWIMMING POOLS
- 8 19. THE WATER SUPPLY TO BOILERS AND HEATING HOT WATER
- 9 GENERATORS
- 10 20. THE WATER SUPPLY TO HUMIDIFIERS
- 11 21. THE WATER SUPPLY TO IRRIGATION SYSTEMS AND OTHER
- 12 NON-POTABLE APPLICATIONS
- 13 22. THE WATER SUPPLY TO FOOD PRODUCTION EQUIPMENT
- 14 THAT DOES NOT CONTACT THE FOOD
- 15 23. ANY OTHER END-USE DEVICES AND WATER SUPPLIES THAT
- 16 DO NOT CONVEY WATER FOR HUMAN CONSUMPTION

17 EXCEPTION: TANK-TYPE WATER HEATERS SHALL NOT BE REQUIRED TO BE
18 "LEAD-FREE" UNLESS THERE IS AN INDUSTRY STANDARD FOR "LEAD-FREE"
19 TANK-TYPE WATER HEATERS AND THEY ARE REQUIRED BY THE AUTHORITY
20 HAVING JURISDICTION.

21 **TABLE 3.5 MATERIALS FOR SANITARY WASTE AND DRAIN PIPING**

22 THE AMENDMENTS TO TABLE 3.5 ARE LOCATED IN THE TABLES AT THE END
23 OF PART 200 HEREIN.

24 **TABLE 3.6 MATERIALS FOR VENT PIPING**

25 THE AMENDMENTS TO TABLE 3.6 ARE LOCATED IN THE TABLES AT THE END
26 OF PART 200 HEREIN.

27 **TABLE 3.7 MATERIALS FOR STORM DRAIN PIPING** THE AMENDMENTS TO
28 TABLE 3.7 ARE LOCATED IN THE TABLES AT THE END OF PART 200 HEREIN.

29 **CHAPTER 4 JOINTS AND CONNECTIONS**

30 **4.2 TYPES OF JOINTS FOR PIPING MATERIALS**

31 **4.2.4 SOLDERED**

1 E. SOLDER FOR "LEAD-FREE" JOINTS SHALL CONTAIN NO MORE
2 THAN 0.2% LEAD. FLUX SHALL BE RATED FOR USE WITH "LEAD-
3 FREE" SOLDER.

4 **4.3 TYPES OF JOINTS BETWEEN DIFFERENT PIPING MATERIALS**

5 **4.3.9 PLASTIC DWV PIPE TO OTHER MATERIALS**

6 C. SOLID WALL PVC SCHEDULE 40 DWV PLASTIC PIPE INTO CAST-
7 IRON HUB ENDS: WHERE SOLID WALL PVC SCHEDULE 40 DWV
8 PLASTIC PIPE IS CONNECTED TO A SERVICE WEIGHT CAST-IRON
9 HUB END, A HUB END ADAPTER SHALL BE LEAD CAULKED INTO
10 THE HUB OR INSERTED INTO A COMPRESSION GASKET IN THE HUB
11 AND SOLVENT CEMENTED TO THE PVC PIPE. ADAPTERS WITHOUT
12 A CAULKING BEAD SHALL BE PERMITTED TO BE LEAD CAULKED.
13 WHERE SOLID WALL PVC SCHEDULE 40 DWV PLASTIC PIPE IS
14 CONNECTED TO AN EXTRA HEAVY CAST-IRON HUB END, THE
15 JOINT SHALL BE PERMITTED TO BE LEAD CAULKED OR INSERTED
16 INTO A COMPRESSION GASKET IN THE HUB WITHOUT AN
17 ADAPTER. *SEE FIGURES 4.3.9-B THROUGH 4.3.9-D*

18 D. CELLULAR CORE PVC SCHEDULE 40 DWV PLASTIC PIPE INTO
19 CAST-IRON HUB ENDS: WHERE CELLULAR CORE PVC SCHEDULE
20 40 DWV PLASTIC PIPE IS CONNECTED TO A SERVICE WEIGHT CAST-
21 IRON HUB END, A HUB END ADAPTER SHALL BE LEAD CAULKED
22 INTO THE HUB OR INSERTED INTO A COMPRESSION GASKET IN
23 THE HUB AND SOLVENT CEMENTED TO THE PVC PIPE. ADAPTERS
24 WITHOUT A CAULKING BEAD SHALL BE PERMITTED TO BE LEAD
25 CAULKED. WHERE CELLULAR CORE PVC SCHEDULE 40 DWV
26 PLASTIC PIPE IS CONNECTED TO AN EXTRA HEAVY CAST-IRON
27 HUB END, THE JOINT SHALL BE PERMITTED TO BE MADE WITH A
28 COMPRESSION GASKET IN THE HUB WITHOUT AN ADAPTER.
29 CELLULAR CORE PLASTIC PIPE SHALL NOT BE LEAD CAULKED.

30 **CHAPTER 5 TRAPS, CLEANOUTS, AND BACKWATER VALVES**

31 **5.4 DRAIN PIPE CLEANOUTS**

1 **5.4.7 DIRECTION OF FLOW**

- 2 A. CLEANOUTS SHALL BE INSTALLED SO THAT THEIR CONNECTION
3 TO THE DRAIN LINE OPENS IN ITS DIRECTION OF FLOW.
4 B. TWIN CLEANOUTS AND TWO-WAY CLEANOUTS ARE PROHIBITED.

5 **CHAPTER 6 LIQUID WASTE TREATMENT EQUIPMENT**

6 **6.2 GREASE INTERCEPTORS**

7 **6.2.12 COMBINATION SYSTEMS**

8 A COMBINATION OF INTERIOR HYDRO-MECHANICAL AND EXTERIOR
9 GRAVITY GREASE INTERCEPTORS SHALL BE PERMITTED IF NECESSARY TO
10 MEET THE SEPARATION NEEDS OF THE AUTHORITY HAVING JURISDICTION
11 WHERE SPACE OR EXISTING PHYSICAL CONSTRAINTS OF EXISTING
12 STRUCTURES NECESSITATES SUCH INSTALLATIONS.

13 **CHAPTER 7 PLUMBING FIXTURES, FIXTURE FITTINGS, AND PLUMBING**
14 **APPLIANCES**

15 **7.2 FIXTURES FOR ACCESSIBLE USE**

16 PLUMBING FIXTURES FOR ACCESSIBLE USE AND THEIR INSTALLATION
17 SHALL COMPLY WITH THE MARYLAND ACCESSIBILITY CODE (COMAR
18 05.02.02) FOR FACILITIES WITHIN ITS SCOPE.

19 **CHAPTER 10 WATER SUPPLY AND DISTRIBUTION**

20 **10.5 BACKFLOW PREVENTION**

21 **10.5.9 PROTECTION FROM FIRE SYSTEMS**

22 EXCEPTIONS:

- 23 6. IN EXCEPTION (4) FOR FIRE SPRINKLER SYSTEMS WITH A FIRE
24 DEPARTMENT CONNECTION, ASSE 1015 OR ASSE 1048 DOUBLE
25 CHECK BACKFLOW PREVENTERS MAY BE USED IN LIEU OF ASSE
26 1013 OR ASSE 1047 REDUCED PRESSURE BACKFLOW PREVENTERS
27 IF APPROVED BY THE AUTHORITY HAVING JURISDICTION, BASED
28 ON THE POTENTIAL BACKFLOW HAZARD.
29 7. IN EXCEPTION (1) FOR NFPA 13D RESIDENTIAL FIRE SPRINKLER
30 SYSTEMS, IF THERE IS INSUFFICIENT PRESSURE IN THE PUBLIC
31 WATER SUPPLY FOR AN ASSE 1024 DUAL CHECK BACKFLOW

1 PREVENTER, THE AUTHORITY HAVING JURISDICTION MAY
2 PERMIT THE USE OF A SINGLE CHECK VALVE IF ALL OF THE
3 REQUIREMENTS OF SECTION 10.5.9.1 ARE MET.

4 **10.5.9.1 INSUFFICIENT PRESSURE FOR A BACKFLOW PREVENTER**

5 A. IF THE MINIMUM AVAILABLE WATER PRESSURE IN A PUBLIC
6 WATER SUPPLY IS INSUFFICIENT TO OVERCOME THE RATED
7 PRESSURE DROP FOR THE REQUIRED BACKFLOW PREVENTER
8 LISTED IN SECTION 10.5.9 FOR AN NFPA 13D ONE- OR TWO FAMILY
9 RESIDENTIAL FIRE SPRINKLER SYSTEM, THE AUTHORITY HAVING
10 JURISDICTION MAY PERMIT THE INSTALLATION OF A SINGLE
11 CHECK VALVE FOR BACKFLOW PROTECTION IF ALL OF THE
12 FOLLOWING CONDITIONS ARE MET:

- 13 1. THE FIRE SPRINKLER SYSTEM IS DESIGNED ACCORDING TO
14 NFPA 13D.
- 15 2. THE PIPING MATERIALS IN THE FIRE SPRINKLER SYSTEM,
16 INCLUDING THE SPRINKLERS, ARE "LEAD-FREE" AND
17 APPROVED FOR POTABLE WATER IN ACCORDANCE WITH
18 SECTION 3.4.6.
- 19 3. THE WATER SERVICE PIPING IS INCREASED TO 1-1/2" MINIMUM
20 PIPE SIZE.
- 21 4. THE WATER METER IS INCREASED TO 1" MINIMUM PIPE SIZE.
- 22 5. THE SHUTOFF VALVE FOR THE FIRE SPRINKLER SYSTEM IS A
23 GATE VALVE, FULL-PORTED BALL VALVE, OR OTHER FULL-
24 WAY VALVE.
- 25 6. THE FIRE SPRINKLER SYSTEM IS FILLED WITH POTABLE WATER
26 AND CONTAINS NO ANTI-FREEZE SOLUTIONS OR OTHER
27 CHEMICAL ADDITIVES.
- 28 7. THE CHECK VALVE IS RESILIENTLY SEATED AND IS APPROVED
29 BY THE AUTHORITY HAVING JURISDICTION.

1 8. PRESSURE GAUGES ARE INSTALLED ON THE INLET AND
2 OUTLET SIDES OF THE CHECK VALVE TO INDICATE LEAKAGE
3 BACKFLOW FROM THE FIRE SPRINKLER SYSTEM.

4 **10.14 MINIMUM REQUIREMENTS FOR WATER DISTRIBUTION SYSTEMS**

5 **10.14.3 SIZING WATER DISTRIBUTION PIPING**

6 C. THE MINIMUM SIZE OF WATER SUPPLY PIPING SERVICING TWO OR
7 MORE PLUMBING FIXTURES SHALL BE ¾-INCH.

8 **10.15 HOT WATER**

9 **10.15.2 HOT WATER TEMPERATURE MAINTENANCE WHERE REQUIRED**

10 A. WHERE THE DEVELOPED LENGTH OF THE HOT WATER SUPPLY
11 PIPING TO ANY HOT WATER OUTLET EXCEEDS 100 FEET FROM THE
12 HOT WATER SOURCE, THE SYSTEM SHALL MAINTAIN THE
13 TEMPERATURE OF THE HOT WATER TO WITHIN 25 FEET OF THAT
14 OUTLET.

15 B. WHERE TEMPERATURE MAINTENANCE IS REQUIRED BY SECTION
16 10.15.2.A, THE HOT WATER TEMPERATURE WITHIN THE PIPING
17 SHALL BE MAINTAINED BY RECIRCULATION OR HEAT TRACING
18 OF THE HOT WATER PIPING. THE TEMPERATURE OF THE HOT
19 WATER IN THE PIPING SHALL BE MAINTAINED BY AUTOMATIC
20 CONTROLS WITH MANUAL AUTO-OFF.

21 C. HOT WATER SOURCES SHALL INCLUDE HOT WATER HEATERS AND
22 HOT WATER SUPPLY PIPING THAT IS RECIRCULATED OR HEAT
23 TRACED FROM A HOT WATER SOURCE.

24 D. RECIRCULATED HOT WATER SHALL BE RETURNED TO THE HOT
25 WATER SOURCE THROUGH DEDICATED HOT WATER RETURN
26 PIPING. RETURN PIPING SHALL HAVE MEANS OF ADJUSTING THE
27 WATER FLOW RATE IN EACH SECTION OF RECIRCULATED SUPPLY
28 PIPING.

29 E. EXCEPTION: A DEMAND-CONTROLLED HOT WATER SUPPLY UNIT
30 SERVING AN INDIVIDUAL PLUMBING FIXTURE SHALL BE
31 PERMITTED TO RETURN WATER TO THAT FIXTURE'S COLD WATER

1 SUPPLY UNTIL HOT WATER REACHES THAT FIXTURE AND THE
2 DEMAND CYCLE STOPS.

3 F. THE REQUIREMENTS OF THIS SECTION FOR TEMPERATURE
4 MAINTENANCE SHALL ALSO APPLY TO TEMPERED WATER
5 SUPPLY PIPING.

6 **10.15.7 THERMAL EXPANSION CONTROL**

7 A. WHERE A WATER PRESSURE REGULATOR (WITH OR WITHOUT AN
8 INTERNAL THERMAL EXPANSION BYPASS), A BACKFLOW
9 PREVENTER, OR A CHECK VALVE IS INSTALLED SUCH THAT A
10 CLOSED SYSTEM IS CREATED BETWEEN HOT WATER HEATING
11 EQUIPMENT AND THE INCOMING WATER SERVICE, A THERMAL
12 EXPANSION TANK SHALL BE PROVIDED.

13 B. EXCEPTIONS: (1) INSTANTANEOUS WATER HEATERS. (2) WELL
14 SYSTEMS WITH WATER PRESSURE TANKS.

15 C. THERMAL EXPANSION TANKS SHALL BE THE ADJUSTABLE PRE-
16 CHARGED TYPE FOR POTABLE WATER, ASME STEEL
17 CONSTRUCTION WITH A FLEXIBLE BLADDER OR BELLOWS,
18 RATED FOR NOT LESS THAN 125 PSIG AND 200 DEG F, AND SIZED
19 TO LIMIT THE WATER SYSTEM PRESSURE TO NO HIGHER THAN 100
20 PSIG. TANKS SHALL BE SIZED, INSTALLED, AND ADJUSTED IN
21 ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

22 D. THERMAL EXPANSION TANKS SHALL BE CONNECTED TO THE
23 COLD WATER SUPPLY PIPING FOR THE HOT WATER HEATING
24 EQUIPMENT, BETWEEN THE HEATING EQUIPMENT AND ITS COLD
25 WATER SHUTOFF VALVE.

26 **10.15.9 DRIP PANS**

27 **10.15.9.3 DRAINAGE**

28 A. DRIP PAN DRAINS SHALL NOT DISCHARGE TO THE FLOOR UNLESS
29 APPROVED BY THE AUTHORITY HAVING JURISDICTION.

30 **10.16 SAFETY DEVICES FOR PRESSURE VESSELS**

31 **10.16.6 RELIEF VALVE PIPING**

- 1 I. RELIEF VALVES SHALL NOT DISCHARGE TO THE FLOOR UNLESS
2 APPROVED BY THE AUTHORITY HAVING JURISDICTION.

3 **10.20 NFPA 13D MULTIPURPOSE RESIDENTIAL FIRE SPRINKLER SYSTEMS**
4 **10.20.1 WHERE PERMITTED.**

5 NFPA 13D MULTIPURPOSE RESIDENTIAL FIRE SPRINKLER SYSTEMS ARE
6 PERMITTED IN BALTIMORE COUNTY.

7 **10.20.8 “LEAD-FREE” PIPING REQUIREMENTS**

8 A. NFPA 13D MULTIPURPOSE PIPING SYSTEMS SHALL COMPLY WITH
9 THE “LEAD-FREE” REQUIREMENTS OF THIS CODE IF THE PIPING,
10 INCLUDING PARALLEL LOOPED BRANCHES, SUPPLIES ONE OR
11 MORE END-USE DEVICES OR EQUIPMENT THAT ARE REQUIRED TO
12 BE “LEAD-FREE”.

13 B. IF ONE OR MORE FIRE SPRINKLERS IN A MULTIPURPOSE SYSTEM
14 ARE LOCATED IN PIPING THAT IS REQUIRED TO BE "LEAD-FREE",
15 ALL OF THE FIRE SPRINKLERS IN THAT SYSTEM SHALL BE “LEAD-
16 FREE”.

17 **CHAPTER 11 SANITARY DRAINAGE SYSTEMS**

18 **11.2 BUILDING SEWERS AND BUILDING DRAINS**

19 **11.2.3 BUILDING SEWER AND BUILDING DRAIN SIZE.**

20 **EXCEPTIONS**

- 21 1. BUILDING SEWERS SHALL BE NOT LESS THAN 4-INCH PIPE SIZE.
22 2. BUILDING DRAINS SHALL BE NOT LESS THAN 4-INCH PIPE SIZE
23 FROM THEIR CONNECTION TO THE BUILDING SEWER TO THEIR
24 CONNECTION TO THE FIRST DRAIN STACK OR BRANCH DRAIN
25 SERVING TWO OR MORE FIXTURES.

26 **11.5 DETERMINING DRAIN PIPE SIZES**

27 **TABLE 11.5.1A BUILDING DRAINS AND SEWERS**

28 **NOTES FOR TABLE 11.5.1A**

- 29 3. BUILDING DRAINS SHALL BE NOT LESS THAN 4-INCH PIPE SIZE
30 FROM THEIR CONNECTION TO THE BUILDING SEWER TO THEIR

1 CONNECTION TO THE FIRST DRAIN STACK OR BRANCH DRAIN
2 SERVING TWO OR MORE FIXTURES.

3 4. BUILDING SEWERS SHALL BE NOT LESS THAN 4-INCH PIPE SIZE.

4 **CHAPTER 12 VENTS AND VENTING**

5 **12.21 AIR ADMITTANCE VALVES**

6 **12.21.1 LIMITED USE**

7 A. AN INDIVIDUAL FIXTURE MAY BE VENTED BY AN AIR
8 ADMITTANCE VALVE UNDER THE FOLLOWING CONDITIONS, IF
9 PERMITTED BY THE AUTHORITY HAVING JURISDICTION:

- 10 1. THE FIXTURE IS AN ADDITION OR MODIFICATION TO AN
11 EXISTING PLUMBING SYSTEM.
- 12 2. THE FIXTURE IS A LAVATORY OR SINK HAVING A 1-1/4" OR 1-
13 1/2" DRAIN CONNECTION. TWO SUCH FIXTURES CONNECTED
14 TO A VERTICAL DRAIN AT THE SAME LEVEL MAY BE COMMON
15 VENTED BY ONE AIR ADMITTANCE VALVE.
- 16 3. THERE IS AN EXISTING PHYSICAL CONDITION THAT PREVENTS
17 THE PROPER INSTALLATION OF A VENT PIPE FOR THE FIXTURE.
- 18 4. THE MAXIMUM LENGTH OF THE FIXTURE TRAP ARM COMPLIES
19 WITH SECTION 12.8.1.
- 20 5. THE AIR ADMITTANCE VALVE IS INSTALLED VERTICALLY AT
21 LEAST 4 INCHES ABOVE THE FIXTURE TRAP ARM.
- 22 6. THE AIR ADMITTANCE VALVE COMPLIES WITH ASSE 1051 FOR
23 INDIVIDUAL FIXTURES AND IS INSTALLED IN ACCORDANCE
24 WITH THE MANUFACTURER'S INSTRUCTIONS.
- 25 7. THE AIR ADMITTANCE VALVE IS LOCATED WHERE THERE IS
26 FREE MOVEMENT OF ITS REQUIRED INLET AIR AND THE VALVE
27 IS ACCESSIBLE FOR REPLACEMENT.
- 28 8. THE FIXTURE DRAIN PIPING BEYOND THE AIR ADMITTANCE
29 VALVE IS CONNECTED TO SANITARY DRAIN PIPING SERVING
30 FIXTURES THAT ARE VENTED BY PIPING IN ACCORDANCE
31 WITH CHAPTER 12.

1 9. THE AIR ADMITTANCE VALVE SHALL NOT BE INSTALLED
2 UNTIL AFTER THE LEAK TESTING OF THE ROUGH PLUMBING IS
3 SUCCESSFULLY COMPLETED IN ACCORDANCE WITH SECTION
4 15.4.1. THE AIR ADMITTANCE VALVE SHALL THEN BE
5 INSTALLED AND GAS LEAK TESTED WITH THE FINISHED
6 PLUMBING IN ACCORDANCE WITH SECTION 15.4.2.

7 **CHAPTER 13 STORM WATER DRAINAGE**

8 **13.1 GENERAL**

9 **13.1.2 STORM WATER DRAINAGE TO SANITARY SEWER PROHIBITED**

10 STORM WATER, INCLUDING FOUNDATION DRAINAGE, SHALL NOT BE
11 DRAINED INTO SEWERS INTENDED FOR SEWAGE ONLY, UNLESS APPROVED
12 BY THE AUTHORITY HAVING JURISDICTION.

13 **13.1.5 FOUNDATION DRAINS**

14 D. DRAINAGE FROM FOUNDATIONS SHALL BE DISCHARGED TO A
15 STORM DRAIN, STREET, ALLEY, APPROVED WATER COURSE, OR
16 AT GRADE. WHEN DISCHARGED AT GRADE, THE POINT OF
17 DISCHARGE SHALL BE AT LEAST 10 FEET FROM ANY PROPERTY
18 LINE WHERE POSSIBLE.

19 **13.1.13 WATER-OPERATED SUMP PUMPS**

20 A. WATER-OPERATED SUMP PUMPS SHALL NOT BE USED AS A
21 PRIMARY SUMP PUMP. THEY SHALL BE SECONDARY TO AN
22 ELECTRIC-POWERED SUMP PUMP.

23 B. BACKFLOW PROTECTION FOR THE WATER SUPPLY TO A WATER-
24 OPERATED SUMP PUMP SHALL BE AN ASSE 1013 (RP) REDUCED
25 PRESSURE PRINCIPLE BACKFLOW PREVENTER IN ACCORDANCE
26 WITH SECTION 10.5.13.D. VACUUM BREAKERS ARE NOT
27 PERMITTED.

28 **CHAPTER 15 TESTS AND MAINTENANCE**

29 **15.3 TESTING OF PLUMBING SYSTEMS**

30 **15.3.2 EXISTING CONCEALED WORK**

1 A. WHERE AN EXISTING CONCEALED SEWER OR DRAIN IS REUSED AS
2 PART OF A NEW OR RENOVATED DRAINAGE SYSTEM, THE LINE
3 SHALL BE TRACED TO ITS POINT OF TERMINATION AND SHALL BE
4 TESTED TO DETERMINE THAT:

- 5 1. IT IS CONNECTED TO THE PROPER DRAINAGE SYSTEM, SUCH
6 AS SANITARY OR STORM,
- 7 2. IT WILL WITHSTAND A LEAK TEST, AND
- 8 3. IT IS FREE-FLOWING AND NOT RESTRICTED.

9 **CHAPTER 16 REGULATIONS GOVERNING INDIVIDUAL SEWAGE DISPOSAL**
10 **SYSTEMS FOR HOMES AND OTHER ESTABLISHMENTS WHERE PUBLIC**
11 **SEWAGE SYSTEMS ARE NOT AVAILABLE**

12 **16.1 GENERAL PROVISIONS**

13 **16.1.1 GENERAL**

14 THE USE AND MAINTENANCE OF AN ON-SITE SEWAGE DISPOSAL SYSTEM IS
15 GOVERNED BY TITLE 9 OF THE ENVIRONMENT ARTICLE OF THE ANNOTATED
16 CODE OF MARYLAND AND CHAPTERS 26.04.02 AND 26.04.03 OF THE CODE OF
17 MARYLAND REGULATIONS. THESE STATE OF MARYLAND REGULATIONS
18 ARE HEREIN ADOPTED BY REFERENCE.

19 **16.3 DESIGN OF INDIVIDUAL SEWAGE DISPOSAL SYSTEMS**

20 **16.3.4 DISCHARGE**

21 THE SYSTEM SHALL CONSIST OF A SEPTIC TANK, INCLUDING BEST
22 AVAILABLE TECHNOLOGY (BAT), DISCHARGING INTO A CONVENTIONAL OR
23 NON-CONVENTIONAL ON-SITE SEWAGE DISPOSAL SYSTEM WITHIN AN
24 APPROVED ON-SITE DISPOSAL AREA, IF FOUND ADEQUATE AS SUCH AND
25 APPROVED BY THE DIRECTOR OF THE DEPARTMENT OF ENVIRONMENTAL
26 PROTECTION AND SUSTAINABILITY OR THE DIRECTOR'S DESIGNEE.

27 **16.6 CAPACITY OF SEPTIC TANKS**

28 **16.6.1 LIQUID CAPACITY**

29 A. THE LIQUID CAPACITY OF SEPTIC TANKS FOR SINGLE DWELLING
30 UNITS HAVING UP TO FIVE BEDROOMS SHALL BE NOT LESS THAN
31 1500 GALLONS. AN ADDITIONAL 250 GALLONS OF CAPACITY

1 SHALL BE PROVIDED FOR EACH BEDROOM IN EXCESS OF FIVE.
2 SINGLE DWELLING UNITS HAVING THREE OR MORE BEDROOMS
3 SHALL BE SERVED BY SEPTIC TANKS HAVING TWO
4 COMPARTMENTS.

5 B. REQUIRED SEPTIC TANK CAPACITIES FOR BUILDINGS OTHER
6 THAN SINGLE DWELLING UNITS SHALL BE DETERMINED BY THE
7 DIRECTOR OF THE DEPARTMENT OF ENVIRONMENTAL
8 PROTECTION AND SUSTAINABILITY, OR THE DIRECTOR'S
9 DESIGNEE, BASED ON THE PROJECTED PEAK SEWAGE FLOW OR
10 OTHER PERTINENT CRITERIA.

11 **16.6.7 DEPTH OF SEPTIC TANK**

12 THE TOP OF THE SEPTIC TANK SHALL BE BROUGHT TO WITHIN 24 INCHES OF
13 THE FINISHED GRADE. AN ACCESS MANHOLE MUST BE EXTENDED TO THE
14 FINISHED GRADE.

15 **16.9 ABSORPTION TRENCHES**

16 **16.9.2 FILTER MATERIAL**

17 THE FILTER MATERIAL SHALL COVER THE ABSORPTION LINES AND EXTEND
18 THE FULL WIDTH OF THE TRENCH AND SHALL BE NOT LESS THAN 6 INCHES
19 DEEP BENEATH THE BOTTOM OF THE ABSORPTION LINES, AND 2 INCHES
20 ABOVE THE TOP OF THE ABSORPTION LINES. THE FILTER MATERIAL MAY BE
21 WASHED GRAVEL, CRUSHED STONE, SLAG, OR CLEAN BANK-RUN GRAVEL
22 RANGING FROM 1/2 TO 2-1/2 INCHES. THE FILTER MATERIAL SHALL BE
23 COVERED WITH BURLAP, FILTER CLOTH, 2 INCHES OF STRAW, OR
24 EQUIVALENT PERMEABLE MATERIAL PRIOR TO BACKFILLING THE
25 EXCAVATION.

26 **16.9.5 ABSORPTION LINES**

27 ABSORPTION LINES SHALL BE 4 INCH PERFORATED PLASTIC PIPE
28 CONFORMING TO APPROVED STANDARDS. VERTICAL OBSERVATION PIPES
29 SHALL BE PROVIDED AT THE END OF EACH ABSORPTION LINE THAT IS 4 FEET
30 OR MORE IN DEPTH. OBSERVATION PIPES SHALL BE PERFORATED WITHIN
31 THE ENTIRE DEPTH OF THE FILTER MATERIAL. THE PORTION OF

1 OBSERVATION PIPES THAT IS ABOVE THE FILTER MATERIAL SHALL BE SOLID
2 EXTENDING TO 4 INCHES MINIMUM ABOVE GRADE AND BE CLOSED WITH A
3 REMOVABLE CAP.

4 **CHAPTER 17 PRIVATE POTABLE WATER SUPPLY SYSTEMS**

5 **17.1 GENERAL REGULATIONS**

6 **17.1.2 CODE REFERENCES**

7 WATER WELL CONSTRUCTION IN THE STATE OF MARYLAND IS REGULATED
8 UNDER AUTHORITY OF TITLE 9, SUBTITLE 13, OF THE ENVIRONMENT ARTICLE
9 OF THE ANNOTATED CODE OF MARYLAND AND CHAPTER 26.04.04 OF THE
10 CODE OF MARYLAND REGULATIONS (COMAR). ADDITIONALLY, NON-
11 COMMUNITY POTABLE WATER SYSTEMS ARE GOVERNED BY COMAR
12 CHAPTER 26.04.02. THESE STATE OF MARYLAND REGULATIONS ARE HEREIN
13 ADOPTED BY REFERENCE.

14 **17.2 QUANTITY OF WATER REQUIRED**

15 A. THE QUANTITY OF WATER REQUIRED SHALL BE SUBJECT TO THE
16 REQUIREMENTS IN COMAR 26.04.04.04.P, WHICH ARE ADOPTED
17 HEREIN BY REFERENCE.

18 B. WHERE THE AVAILABLE PRIMARY SOURCE OF WATER DOES NOT
19 MEET THE REQUIREMENTS OF SECTION 17.2.A, ONE OF THE
20 FOLLOWING SECONDARY WATER SUPPLY SOURCES SHALL BE
21 PROVIDED:

- 22 1. A PRESSURE STORAGE TANK OF SUFFICIENT SIZE.
- 23 2. A GRAVITY STORAGE TANK OF SUFFICIENT SIZE AND A
24 PRESSURE BOOSTER PUMP SYSTEM

25 **17.9 WELL TERMINALS**

26 WELL TERMINALS SHALL BE SUBJECT TO THE REQUIREMENTS OF COMAR
27 26.04.04.21, WHICH ARE ADOPTED HEREIN BY REFERENCE.

28 **17.15 INTERCONNECTIONS**

29 **17.15.1 BETWEEN SYSTEMS**

30 THERE SHALL BE NO CONNECTIONS BETWEEN A PRIVATE POTABLE WATER
31 SUPPLY SYSTEM AND A PUBLIC WATER SUPPLY SYSTEM.

1 **17.15.2 BETWEEN PROPERTIES**

2 NO PRIVATE POTABLE WATER SUPPLY SYSTEM SHALL SERVE MORE THAN
 3 ONE PROPERTY UNLESS APPROVED BY THE AUTHORITY HAVING
 4 JURISDICTION.

5 **CHAPTER 19 REFERENCED STANDARDS**

6 **TABLE 19.1 REFERENCED STANDARDS**

7 ASCE 24 - 2014: FLOOD RESISTANT DESIGN AND CONSTRUCTION (SEE
 8 CHAPTER 2, 2.31)

9
 10 **TABLES FOR PART 200**

11

| Table 3.4 MATERIALS FOR POTABLE WATER PIPING | | | | | |
|---|--|---|---|---|------------|
| HOT WATER DISTRIBUTION (2) (5) | | | | | PIPE |
| COLD WATER DISTRIBUTION (2) (5) | | | | | |
| WATER SERVICE (1) (4) | | | | | |
| 2 | Copper Water Tube, seamless, Type K or L | A | A | A | ASTM B88 |
| | Copper Water Tube, seamless, Type M | X | A | A | ASTM B88 |
| 6 | CPVC Plastic HW/CW Tubing | X | A | A | ASTM D2846 |
| 18 | PE-RT Plastic HW/CW Tubing | X | A | A | ASTM F2769 |
| 21 | PEX Crosslinked Water Service Pipe | X | X | X | AWWA C904 |
| 22 | PEX Plastic Tubing | X | A | A | ASTM F876 |
| 23 | PEX Plastic HW/CW Tubing | X | A | A | ASTM F877 |
| 28 | PVC Plastic Pipe, schedule 40 | X | X | X | ASTM D1785 |

12
 13 **NOTES FOR TABLE 3.4**

14 (1) Piping for water service shall be water pressure rated for not less than 200 psi at 73 degree
 15 F.

16

| Table 3.4.2 PLASTIC WATER SERVICE PIPING (1) (2) (3) (4) (water pressure rated for not less than 200 psi at 73 deg F) | | | | |
|--|-------------|-------------|----------|-------------------|
| MATERIAL | COMPOSITION | DIMENSIONS | JOINTS | PIPE SIZES |
| CPVC (ASTM F441) | CPVC 4120 | Schedule 80 | threaded | up through 2-1/2" |

| | | | | |
|---|-------------------------------|-----------------|--------------|----------------|
| | | Schedule 80 | not threaded | up through 16" |
| CPVC-AL-CPVC (ASTM F2855) | CPVC-AL-CPVC | ASTM F2855 | not threaded | all sizes |
| PE (ASTM D2239) | PE 1404 | none | none | none |
| | PE 2708 PE 3608 PE 4608 | SIDR 7 or lower | not threaded | all sizes |
| | PE 4710 | SIDR 9 or lower | not threaded | all sizes |
| PE (ASTM D2737) | PE 2708 PE 3608 PE 4608 | SDR 9 or lower | not threaded | all sizes |
| | PE 4710 | SDR 11 or lower | not threaded | all sizes |
| PE (ASTM D3035) | PE 1404 | none | none | none |
| | PE 2708 PE 3608 PE 4608 | DR 9 or lower | not threaded | all sizes |
| | PE 4710 | DR 11 or lower | not threaded | all sizes |
| PE (ASTM F714) IPS/DIPS | PE 2708 PE 3608 PE 4608 | DR 9 or lower | not threaded | all sizes |
| | PE 4710 | DR 11 or lower | not threaded | all sizes |
| PE (AWWA C901) SIDR ID-Controlled IPS Pipe | PE 2708 PE 3608 | SIDR 7 or lower | not threaded | 1/2" - 3" |
| | PE 4710 | SIDR 9 or lower | not threaded | 1/2" - 3" |
| PE (AWWA C901) SDR OD-Controlled IPS Pipe | PE 2708 PE 3608 | SDR 9 or lower | not threaded | 1/2" - 3" |
| | PE 4710 | SDR 11 or lower | not threaded | 1/2" - 3" |
| PE (AWWA C901) SDR | PE 2708 | SDR 9 or lower | not threaded | 1/2" - 2" |

| | | | | |
|-------------------------|------------|-----------------|--------------|-------------------|
| OD-Controlled CTS Pipe | PE 3608 | | | |
| | PE 4710 | SDR 11 or lower | not threaded | 3/4" - 2" |
| PE-AL-PE (ASTM F1282) | PE-AL-PE | ASTM F1282 | not threaded | all sizes |
| PE-AL-PE (AWWA C903) | PE-AL-PE | AWWA C903 | not threaded | all sizes |
| PEX-AL-PEX (ASTM F1281) | PEX-AL-PEX | ASTM F1281 | not threaded | all sizes |
| PEX-AL-PEX (ASTM F2262) | PEX-AL-PEX | SDR 9 | not threaded | all sizes |
| PEX-AL-PEX (AWWA C903) | PEX-AL-PEX | AWWA C903 | not threaded | all sizes |
| PP (ASTM F2389) IPS | PP-R | Schedule 80 | not threaded | up through 1-1/2" |

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|------------------|----------|--------------|--------------|-------------------|
| PVC (ASTM D1785) | PVC 1120 | Schedule 40 | not threaded | up through 4" |
| | | Schedule 80 | threaded | up through 2-1/2" |
| | PVC 2120 | Schedule 80 | not threaded | up through 24" |
| | | Schedule 120 | threaded | up through 5" |
| | | Schedule 120 | not threaded | up through 12" |
| | PVC 2110 | Schedule 40 | not threaded | up through 1" |
| | | Schedule 80 | threaded | 1/2" |
| | | Schedule 80 | not threaded | up through 2-1/2" |
| | | Schedule 120 | threaded | 1/2" |
| | | Schedule 120 | not threaded | up through 5" |
| | PVC 2112 | Schedule 40 | not threaded | up through 1-1/2" |
| | | Schedule 80 | threaded | up through 1" |
| | | Schedule 80 | not threaded | up through 4" |
| | | Schedule 120 | threaded | up through 1" |
| | | Schedule 120 | not threaded | up through 12" |
| | PVC 2116 | Schedule 40 | not threaded | up through 3" |

| | | | | |
|------------------|----------------------|-------------------|--------------|-------------------|
| | | Schedule 80 | threaded | up through 1-1/4" |
| | | Schedule 80 | not threaded | up through 8" |
| | | Schedule 120 | threaded | up through 1-1/2" |
| | | Schedule 120 | not threaded | up through 12" |
| PVC (ASTM D2241) | PVC 1120 | SDR 21 or lower | not threaded | all sizes |
| | PVC 1220 PVC 2120 | | | |
| | PVC 2110 | none | none | none |
| | PVC 2112 | SDR 13.5 or lower | not threaded | all sizes |
| | PVC 2116 | SDR 17 or lower | not threaded | all sizes |
| PVC (AWWA C900) | PVC 1120 | DR 14 (4) | not threaded | all sizes |

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NOTES FOR TABLE 3.4.2

- (1) The application of a pipe material for water service piping and its required water pressure rating of not less than 200 psi at 73 deg F shall be indicated in the manufacturer's data.
- (2) Refer also to the manufacturer's recommendations, instructions, and limitations.
- (3) Lower SDR, SIDR, IDR, and DR numbers for the same material composition have heavier wall thickness and higher pressure rating.
- (4) AWWA C900 pipe shall be rated by FM pressure class.

| Table 3.5 MATERIALS FOR SANITARY WASTE AND DRAIN PIPING | | | | | |
|--|--------------------------------|---|---|---|----------|
| ABOVE GROUND WITHIN BUILDINGS | | | | | PIPE |
| UNDERGROUND WITHIN BUILDINGS | | | | | |
| SEWERS OUTSIDE OF BUILDINGS | | | | | |
| 8 | Copper Drainage Tube, DWV (7) | X | | X | A |
| 9 | Copper Water Tube, Type K or L | A | A | A | ASTM B88 |
| | Copper Water Tube, Type M | X | X | A | ASTM B88 |

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| Table 3.6 MATERIALS FOR VENT PIPING | | | | | |
|--|--------------------------------|---|---|---|-----------|
| ABOVE GROUND | | | | | PIPE |
| UNDERGROUND | | | | | |
| 5 | Copper Drainage Tube, DWV (7) | X | X | A | ASTM B306 |
| 6 | Copper Water Tube, Type K or L | A | A | A | ASTM B88 |
| | Copper Water Tube, Type M | X | X | A | ASTM B88 |

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| Table 3.7 MATERIALS FOR STORM DRAIN PIPING | | | | | |
|---|--------------------------------|---|---|---|-----------|
| ABOVE GROUND WITHIN BUILDINGS | | | | | PIPE |
| UNDERGROUND WITHIN BUILDINGS | | | | | |
| SEWERS OUTSIDE OF BUILDINGS | | | | | |
| 8 | Copper Drainage Tube, DWV (7) | X | X | A | ASTM B306 |
| 9 | Copper Water Tube, Type K or L | A | A | A | ASTM B88 |
| | Copper Water Tube, Type M | X | X | A | ASTM B88 |

3

PART 300 NATIONAL FUEL GAS CODE

THE PARTS SET FORTH IN THIS PART 300 INCLUDE DELETIONS, ADDITIONS, REPLACEMENTS, AND AMENDMENTS TO THE NATIONAL FUEL GAS CODE, NFPA 54/ANSI Z223.1, 2015 EDITION, IN ACCORDANCE WITH BILL 41-15, THE PLUMBING AND GASFITTING CODE OF BALTIMORE COUNTY.

PART 301 DELETIONS

THE FOLLOWING ITEM IS DELETED AND NOT ADOPTED BY THIS CODE:
A.7.13.3.

PART 302 ADDITIONS

THE FOLLOWING ITEMS ARE ADDED TO THE NATIONAL FUEL GAS CODE, NFPA 54/ANSI Z223.1, 2015 EDITION AND ADOPTED HEREIN: 5.6.3.4.1, 5.6.3.4.2, 5.6.3.4.3, 5.6.3.4.4, 7.13.5, AND A.7.13.5.

PART 303 REPLACEMENTS

THE FOLLOWING ITEMS REPLACE THE EXISTING ITEMS IN THE NATIONAL FUEL GAS CODE, NFPA 54/ANSI Z223.1, 2015 EDITION: 5.6.3.4, 7.13.1, 7.13.2, 7.13.2.1, 7.13.2.2, 7.13.2.3, 7.13.2.4, 7.13.2.5, 7.13.3, 7.13.4, AND A.7.13.4.

PART 304 AMENDMENTS

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1 THE FOLLOWING ITEMS IN THE NATIONAL FUEL GAS CODE, NFPA 54/ANSI
2 Z223.1, 2015 EDITION ARE AMENDED BY CHANGES, ADDITIONS, DELETIONS,
3 OR UPDATES: 2.3.3 ANSI LC 1.

4 **PART 305 COPIES OF ADDITIONS, REPLACEMENTS, AND AMENDMENTS**

5 COPIES OF THE ADDITIONS, REPLACEMENTS, AND AMENDMENTS TO ITEMS
6 IN THE NATIONAL FUEL GAS CODE, NFPA 54/ANSI Z223.1, 2015 EDITION, ARE
7 INCLUDED HEREIN.

8 **CHAPTER 2 REFERENCED PUBLICATIONS**

9 **2.3.3 CSA AMERICAN PUBLICATIONS**

10 ANSI LC 1/CSA 6.26, FUEL GAS PIPING SYSTEMS USING CORRUGATED
11 STAINLESS STEEL TUBING (CSST), 2014.

12 **CHAPTER 5 GAS PIPING SYSTEM DESIGN, MATERIALS, AND**
13 **COMPONENTS**

14 **5.6.3.4 CORRUGATED STAINLESS STEEL TUBING (CSST)**

15 **5.6.3.4.1** CORRUGATED STAINLESS STEEL TUBING (CSST) SHALL BE LISTED IN
16 ACCORDANCE WITH ANSI LC 1/CSA 6.26, *FUEL GAS PIPING SYSTEMS USING*
17 *CORRUGATED STAINLESS STEEL TUBING*.

18 **5.6.3.4.2** CSST WITH AN ARC RESISTANT JACKET SHALL BE CERTIFIED FOR
19 COMPLIANCE WITH ANSI LC 1/CSA 6.26 AND ITS CLAUSE 5.16 - *ARC RESISTANT*
20 *JACKET OR COVERING*. MANUFACTURING AND PRODUCTION TESTS SHALL
21 INCLUDE RESISTANCE TO EXTREME TEMPERATURE CYCLES, RESISTANCE TO
22 CORROSION, ROBUSTNESS AGAINST ARCING, AND RESISTANCE TO
23 INSTALLATION DAMAGE.

24 **5.6.3.4.3** ARC RESISTANT CSST SHALL BE CERTIFIED FOR INSTALLATION
25 WITHOUT THE ADDITIONAL ELECTRICAL BOND REQUIRED BY 7.13.2 FOR CSST
26 THAT IS NOT ARC RESISTANT.

27 **5.6.3.4.4** CSST SHALL BE INSTALLED IN ACCORDANCE WITH THIS CODE AND
28 THE MANUFACTURER'S INSTRUCTIONS.

29 **CHAPTER 7 GAS PIPING INSTALLATION**

30 **7.13 ELECTRICAL BONDING AND GROUNDING**

31 **7.13.1 PIPE AND TUBING OTHER THAN CSST**

1 EACH ABOVEGROUND PORTION OF A GAS PIPING SYSTEM, OTHER THAN
2 CSST, THAT IS LIKELY TO BECOME ENERGIZED SHALL BE ELECTRICALLY
3 CONTINUOUS AND BONDED TO AN EFFECTIVE GROUND-FAULT CURRENT
4 PATH. GAS PIPING, OTHER THAN CSST, SHALL BE CONSIDERED TO BE
5 BONDED WHEN IT IS CONNECTED TO APPLIANCES THAT ARE CONNECTED TO
6 THE APPLIANCE GROUNDING CONDUCTOR OF THE CIRCUIT SUPPLYING THAT
7 APPLIANCE.

8 **7.13.2 CSST OTHER THAN ARC RESISTANT**

9 CSST GAS PIPING SYSTEMS THAT ARE NOT ARC RESISTANT, AND GAS PIPING
10 SYSTEMS CONTAINING ONE OR MORE SEGMENTS OF CSST THAT IS NOT ARC
11 RESISTANT, SHALL BE BONDED TO THE ELECTRICAL SERVICE GROUNDING
12 ELECTRODE SYSTEM OR, WHERE PROVIDED, BONDED TO A LIGHTNING
13 PROTECTION GROUNDING ELECTRODE SYSTEM.

14 **7.13.2.1** THE BONDING JUMPER SHALL CONNECT TO A METALLIC PIPE, PIPE
15 FITTING, OR CSST FITTING.

16 **7.13.2.2** THE BONDING JUMPER SHALL NOT BE SMALLER THAN 6 AWG COPPER
17 WIRE OR EQUIVALENT.

18 **7.13.2.3** THE LENGTH OF THE JUMPER BETWEEN THE CONNECTION TO THE
19 GAS PIPING SYSTEM AND THE GROUNDING ELECTRODE SYSTEM SHALL NOT
20 EXCEED 75 FT (22 M). ANY ADDITIONAL ELECTRODES SHALL BE BONDED TO
21 THE ELECTRICAL SERVICE GROUNDING ELECTRODE SYSTEM OR, WHERE
22 PROVIDED, LIGHTNING PROTECTION GROUNDING ELECTRODE SYSTEM.

23 **7.13.2.4** BONDING CONNECTIONS SHALL BE IN ACCORDANCE WITH NFPA 70,
24 NATIONAL ELECTRICAL CODE.

25 **7.13.2.5** DEVICES USED FOR THE BONDING CONNECTION SHALL BE LISTED
26 FOR THE APPLICATION IN ACCORDANCE WITH ANSI/UL 467, GROUNDING AND
27 BONDING EQUIPMENT.

28 **7.13.3 ARC RESISTANT CSST**

29 ALL CSST IN AN ARC RESISTANT GAS PIPING SYSTEM SHALL BE ARC
30 RESISTANT. EACH PORTION OF AN ARC RESISTANT CSST GAS PIPING SYSTEM
31 SHALL BE ELECTRICALLY CONTINUOUS AND BONDED TO AN EFFECTIVE

1 GROUND-FAULT CURRENT PATH. ARC RESISTANT CSST GAS PIPING SHALL
2 BE CONSIDERED TO BE BONDED WHEN IT IS CONNECTED TO APPLIANCES
3 THAT ARE CONNECTED TO THE APPLIANCE GROUNDING CONDUCTOR OF THE
4 CIRCUIT SUPPLYING THAT APPLIANCE.

5 **7.13.4 PROHIBITED USE**

6 GAS PIPING SHALL NOT BE USED AS A GROUNDING CONDUCTOR OR
7 ELECTRODE.

8 **7.13.5 LIGHTNING PROTECTION SYSTEMS**

9 WHERE A LIGHTNING PROTECTION SYSTEM IS INSTALLED, THE BONDING OF
10 THE GAS PIPING SHALL BE IN ACCORDANCE WITH NFPA 780, STANDARD FOR
11 THE INSTALLATION OF LIGHTNING PROTECTION SYSTEMS.

12 **ANNEX A EXPLANATORY MATERIAL**

13 **A.7.13.4** THIS REQUIREMENT DOES NOT PRECLUDE THE BONDING OF
14 METALLIC PIPING TO A GROUNDING SYSTEM.

15 **A.7.13.5** NFPA 780, STANDARD FOR THE INSTALLATION OF LIGHTNING
16 PROTECTION SYSTEMS, SECTION 4.14, REQUIRES THAT ALL GROUNDING
17 MEDIA, INCLUDING UNDERGROUND METALLIC PIPING SYSTEMS, BE
18 INTERCONNECTED TO PROVIDE A COMMON GROUND POTENTIAL. THESE
19 UNDERGROUND PIPING SYSTEMS SHALL NOT BE PERMITTED TO BE
20 SUBSTITUTED FOR GROUNDING ELECTRODES BUT MUST BE BONDED TO THE
21 LIGHTNING PROTECTION GROUNDING SYSTEM. WHERE GALVANIC
22 CORROSION IS OF CONCERN, THE BOND MAY BE VIA A SPARK GAP OR GAS
23 DISCHARGE TUBE.

24 **PART 400 LIQUEFIED PETROLEUM GAS CODE**

25 THIS PART SETS FORTH DELETIONS, ADDITIONS AND REPLACEMENTS FROM
26 AND TO THE LIQUEFIED PETROLEUM GAS CODE, NFPA 58, 2014 EDITION, IN
27 ACCORDANCE WITH BILL 41-15, THE PLUMBING & GASFITTING CODE OF
28 BALTIMORE COUNTY.

29 **PART 401 DELETIONS**

30 THE FOLLOWING SECTIONS AND CHAPTERS ARE DELETED FROM THE
31 LIQUEFIED PETROLEUM GAS CODE, NFPA 58, 2014 EDITION: 5.20; 5.21; 5.22;

1 6.2.2; 6.19; 6.20; 6.21; 6.22; 6.23; 6.24; 6.25; 6.26; 6.27; 6.28; CHAPTER 7, CHAPTER 8,
2 CHAPTER 9, CHAPTER 10, CHAPTER 11, CHAPTER 12, CHAPTER 13, AND
3 CHAPTER 14.

4 **PART 402 ADDITIONS**

5 THE FOLLOWING SECTION IS ADDED TO THE LIQUEFIED PETROLEUM GAS
6 CODE, NFPA 58, 2014 EDITION AND ADOPTED HEREIN: 4.4.5

7 **PART 403 REPLACEMENTS**

8 THE FOLLOWING SECTIONS REPLACE THE EXISTING ITEMS IN THE LIQUEFIED
9 PETROLEUM GAS CODE, NFPA 58, 2014 EDITION: 1.3.1, AND 1.3.2.

10 **PART 404 COPIES OF ADDITIONS AND REPLACEMENTS**

11 COPIES OF THE ADDITIONS AND REPLACEMENT TO THE ITEMS IN THE
12 LIQUEFIED PETROLEUM GAS CODE, NFPA 58, 2014 EDITION ARE INCLUDED
13 HEREIN.

14 **CHAPTER 1 ADMINISTRATION**

15 **1.3.1 APPLICATION OF CODE**

16 THE LIQUEFIED PETROLEUM GAS CODE, NFPA 58, 2014 EDITION, IS LIMITED
17 TO THE DESIGN, INSTALLATION, AND OPERATION OF CONTAINERS, PIPING,
18 AND ASSOCIATED EQUIPMENT FOR DELIVERING LP-GAS TO A BUILDING FOR
19 USE AS ITS FUEL GAS. THIS CODE DOES NOT APPLY TO PORTIONS OF LP-GAS
20 SYSTEMS COVERED BY NFPA 54/ANSI Z223.1, NATIONAL FUEL GAS CODE.

21 **1.3.2 NONAPPLICATION OF CODE**

22 THE LIQUEFIED PETROLEUM GAS CODE, NFPA 58, 2014 EDITION, SHALL NOT
23 APPLY TO THE FOLLOWING: EXISTING NON-APPLICATIONS (1) THROUGH (11),
24 (12) HIGHWAY TRANSPORTATION OF LP-GAS, (13) THE DESIGN,
25 CONSTRUCTION, INSTALLATION, AND OPERATION OF MARINE TERMINALS
26 WHOSE PRIMARY PURPOSE IS THE RECEIPT OF LP-GAS FOR DELIVERY TO
27 TRANSPORTERS, DISTRIBUTERS, OR USERS, AND (14) THE DESIGN,
28 CONSTRUCTION, INSTALLATION, AND OPERATION OF PIPELINE TERMINALS
29 THAT RECEIVE LP-GAS FROM PIPELINES UNDER THE JURISDICTION OF THE
30 U.S. DEPARTMENT OF TRANSPORTATION (DOT).

31 **CHAPTER 4 GENERAL REQUIREMENTS**

1 **4.4.5** PERSONS INSTALLING LP-GAS SERVICE WITHIN THE SCOPE OF THIS
2 CODE SHALL BE QUALIFIED FOR THE LAYOUT, INSTALLATION, AND
3 OPERATION OF THE CONTAINERS, PIPING, AND ASSOCIATED EQUIPMENT FOR
4 DELIVERING LP-GAS TO A BUILDING OR STRUCTURE FOR USE AS ITS FUEL
5 GAS BY BEING CERTIFIED FOR CERTIFICATION AREAS 1.0, 4.1, AND 4.2 OF THE
6 CERTIFIED EMPLOYEE TRAINING PROGRAM (CETP) OF THE NATIONAL
7 PROPANE GAS ASSOCIATION.

8
9 SECTION 5. AND BE IT FURTHER ENACTED that this Act, having been passed
10 by the affirmative vote of five members of the County Council, shall take effect July 1, 2015.