

1 [Plumbing Code - Cross-Connection Controls]

2
3 Ordinance amending the Plumbing Code to delete the local amendment to the
4 California Plumbing Code referring to the San Francisco Public Utilities Commission's
5 Rules and Regulations in the section on cross-connection control, and to add local
6 cross-connection controls for beverage dispensers and industrial water chillers and a
7 testing requirement for backflow prevention assemblies or devices; affirming the
8 Planning Department's determination under the California Environmental Quality Act;
9 and directing the Clerk of the Board of Supervisors to forward this Ordinance to the
10 California Building Standards Commission upon final passage.

11 NOTE: Unchanged Code text and uncodified text are in plain Arial font.
12 Additions to Codes are in *single-underline italics Times New Roman font*.
13 Deletions to Codes are in ~~*strikethrough italics Times New Roman font*~~.
14 Board amendment additions are in double-underlined Arial font.
15 Board amendment deletions are in ~~strikethrough Arial font~~.
16 Asterisks (* * * *) indicate the omission of unchanged Code
17 subsections or parts of tables.

16 Be it ordained by the People of the City and County of San Francisco:

17 Section 1. Findings.

18 (a) The Planning Department has determined that the actions contemplated in this
19 ordinance comply with the California Environmental Quality Act (California Public Resources
20 Code Sections 21000 et seq.). Said determination is on file with the Clerk of the Board of
21 Supervisors in File No. 180969 and is incorporated herein by reference. The Board affirms
22 this determination.

23 (b) On August 21, 2019, the Building Inspection Commission considered this
24 modified ordinance at a duly noticed public hearing pursuant to Charter Section D3.750-5.
25

1 (c) ~~No findings are required for this ordinance~~ Findings under Section 17958.7 of
2 the California Health and Safety Code because the ordinance deletes a local amendment to
3 the California Plumbing Code. are reasonably necessary due to San Francisco's topography:

4 (i) San Francisco has numerous tall buildings, among the tallest in
5 California. The failure of a backflow preventer has a greater potential to allow backflow into
6 the public water system because of higher pressures generated in tall buildings and/or where
7 a building is elevated well above the street-level service connection. Requiring the installation
8 of only backflow preventers that have passed field evaluation tests mitigates against the
9 higher risk of failure due to San Francisco's topography.

10 (ii) Carbonated beverage dispensers with upstream copper pipe pose a risk
11 of health hazard from leached copper in the event of backpressure. ASSE 1022 devices are
12 not testable and therefore cannot undergo testing to assure proper function, as do the vast
13 majority of backflow preventers in San Francisco. Because of the higher consequences of
14 failure due to local topography, as described in (i) above, ASSE 1022 devices are
15 inappropriate for use in San Francisco in systems with upstream copper pipe.

16
17 Section 2. Section 603.0 of the Plumbing Code is hereby amended by revising
18 Sections 603.2, 603.5.12, adding Section 603.4.22 and deleting Section 603.3, as follows:

19 **SEC. 603.0 – CROSS-CONNECTION CONTROL**

20 * * * *

21 Revise Table 603.2 as follows:

22 Add a footnote for the Applicable Standards heading that states:

23 All backflow prevention assemblies or devices that are testable must have passed laboratory
24 and field evaluation tests performed by a recognized testing organization.

25 Revise the tenth entry in the Table to read as follows:

1	Backflow preventer for Carbonated Beverage Dispensers (two independent check valves with a vent to the atmosphere)	ASSE 1022	X	--	X	--	Installation includes carbonated beverage machines or dispensers. These devices operate under intermittent or continuous pressure conditions. <u>This device is only permitted in systems with no upstream copper pipe. Otherwise, a reduced pressure principle backflow prevention assembly is required.</u>
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8 ~~603.3 Add a new second paragraph to this section as follows:~~

9 ~~Refer to SFPUC's Rules & Regs Section "A and/or G Cross-connection Control", Table 1 and~~
 10 ~~Table 603.2 of the CPC. The more stringent shall apply.~~

12 Revise Section 603.5.12 as follows:

13 **603.5.12 Beverage Dispensers.** Potable water supply to beverage dispensers, carbonated
 14 beverage dispensers, or coffee machines shall be protected by an air gap, a reduced
 15 pressure principle backflow prevention assembly, or a vented backflow preventer that
 16 complies with ASSE 1022, except that a vented backflow preventer may not be used to
 17 protect carbonated beverage dispensers in systems with upstream copper pipe. For
 18 carbonated beverage dispensers, piping material installed downstream of the backflow
 19 preventer shall not be affected by carbon dioxide gas.

21 Add Section 603.5.22 as follows:

22 **603.5.22. Industrial Water Chillers.** Potable water connections to closed-loop industrial
 23 water chillers shall be protected from backflow by a reduced pressure principle backflow
 24 prevention assembly in accordance with Table 603.2.

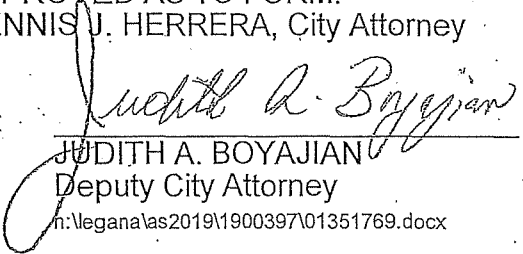
1 Section 3. Effective Date. This ordinance shall become effective 30 days after
2 enactment. Enactment occurs when the Mayor signs the ordinance, the Mayor returns the
3 ordinance unsigned or does not sign the ordinance within ten days of receiving it, or the Board
4 of Supervisors overrides the Mayor's veto of the ordinance.

5
6 Section 4. Scope of Ordinance. In enacting this ordinance, the Board of Supervisors
7 intends to amend only those words, phrases, paragraphs, subsections, sections, articles,
8 numbers, punctuation marks, charts, diagrams, or any other constituent parts of the Municipal
9 Code that are explicitly shown in this ordinance as additions, deletions, Board amendment
10 additions, and Board amendment deletions in accordance with the "Note" that appears under
11 the official title of the ordinance.

12
13 Section 5. Directions to Clerk. The Clerk of the Board of Supervisors is hereby
14 directed to forward a copy of this ordinance to the California Building Standards Commission
15 upon final passage.

16
17 APPROVED AS TO FORM:
18 DENNIS J. HERRERA, City Attorney

19 By:


20 JUDITH A. BOYAJIAN
21 Deputy City Attorney

22 n:\vegana\as2019\1900397\01351769.docx
23
24
25

REVISED LEGISLATIVE DIGEST
(Amended in Committee, 1/13/2020)

[Plumbing Code - Cross-Connection Controls]

Ordinance amending the Plumbing Code to delete the local amendment to the California Plumbing Code referring to the San Francisco Public Utilities Commission's Rules and Regulations in the section on cross-connection control, and to add local cross-connection controls for beverage dispensers and industrial water chillers and a testing requirement for backflow prevention assemblies or devices; affirming the Planning Department's determination under the California Environmental Quality Act; and directing the Clerk of the Board of Supervisors to forward this Ordinance to the California Building Standards Commission upon final passage.

Existing Law

Plumbing Code Section 603.3 adds a second paragraph to the California Plumbing Code's requirements for backflow prevention assemblies, referencing the SFPUC's Rules and Regulations for additional requirements.

Amendments to Current Law

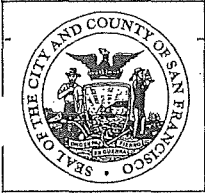
The proposed amendments replace the cross-reference to SFPUC Rules and Regulations with specific more stringent requirements for (1) testing of backflow prevention assemblies or devices and (2) backflow preventers in beverage dispensers and industrial water chillers.

Background Information

San Francisco has many tall buildings, among the tallest in California. Because of the higher pressures generated in a building that is tall and/or elevated well above the street-level service connection, a backflow preventer failure has a greater potential to allow backflow into the public water system and create health hazards. Carbonated beverage dispensers with upstream copper pipe pose a risk of health hazard from leached copper in the event of backpressure. Unlike the vast majority of backflow preventers in San Francisco, ASSE 1022 devices are not testable. Because of the higher consequences of failure due to the City's topography, these devices are inappropriate for use in systems with upstream copper pipe.

Cross-connection control requirements in the San Francisco Public Utilities Commission Rules and Regulations are more stringent than those in the Plumbing Code. Deleting the cross-reference and adding the more stringent requirements to the Plumbing Code will allow the Department of Building Inspection to enforce them and eliminate any potential confusion among the public about what the City's requirements are.

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BUILDING INSPECTION COMMISSION (BIC)

Department of Building Inspection Voice (415) 558-6164 - Fax (415) 558-6509
1660 Mission Street, San Francisco, California 94103-2414

October 1, 2018

London N. Breed
Mayor

COMMISSION

Angus McCarthy
President

Debra Walker
Vice-President

Kevin Clinch
John Konstin
Frank Lee
Sam Moss
James Warshell

Sonya Harris
Secretary

Tom C. Hui
Director

Ms. Angela Calvillo
Clerk of the Board
Board of Supervisors, City Hall
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco, CA 94102-4694

Dear Ms. Calvillo:

RE: Plumbing Code – Cross-Connection Control

Ordinance amending the Plumbing Code to delete the local amendment to the California Plumbing Code referring to the San Francisco Public Utilities Commission's Rules and Regulations in the section on Cross-Connection Control; affirming the Planning Department's determination under the California Environmental Quality Act; and directing the Clerk of the Board of Supervisors to forward this ordinance to the California Building Standards Commission upon final passage.

The Building Inspection Commission met and held a public hearing on September 19, 2018 regarding the proposed amendment to the San Francisco Plumbing Code referenced above. The Commissioners voted unanimously to recommend this proposed amendment and to forward it to the Board of Supervisors.

The Commissioners voted as follows:

President McCarthy	Yes	Vice-President Walker	Yes
Commissioner Clinch	Excused	Commissioner Konstin	Yes
Commissioner Lee	Yes	Commissioner Moss	Yes
Commissioner Warshell	Excused		

Please schedule this legislation for a hearing at the Board of Supervisors. Should you have any questions, please do not hesitate to call me at 558-6164.

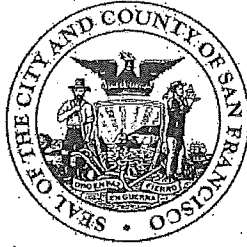
Sincerely,

Sonya Harris
Commission Secretary

cc: Tom C. Hui, S.E., Director
Mayor London N. Breed
Building Inspection Commission
Board of Supervisors

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BOARD of SUPERVISORS



City Hall
Dr. Carlton B. Goodlett Place, Room 244
San Francisco 94102-4689
Tel. No. 554-5184
Fax No. 554-5163
TDD/TTY No. 554-5227

October 23, 2018

File No. 180969

Lisa Gibson
Environmental Review Officer
Planning Department
1650 Mission Street, Ste. 400
San Francisco, CA 94103

Dear Ms. Gibson:

On October 16, 2018, Building Inspection Commission submitted the proposed legislation:

File No. 180969

Ordinance amending the Plumbing Code to delete the local amendment to the California Plumbing Code referring to the San Francisco Public Utilities Commission's Rules and Regulations in the section on Cross-Connection Control; affirming the Planning Department's determination under the California Environmental Quality Act; and directing the Clerk of the Board of Supervisors to forward this Ordinance to the California Building Standards Commission upon final passage.

This legislation is being transmitted to you for environmental review.

Angela Calvillo, Clerk of the Board

A handwritten signature in cursive script, appearing to read "Erica Major".

By: Erica Major, Assistant Clerk
Land Use and Transportation Committee

Attachment

c: Joy Navarrete, Environmental Planning
Laura Lynch, Environmental Planning

Not defined as a project under CEQA Guidelines Sections 15378 and 15060 (c) (2) because it would not result in a direct or indirect physical change in the environment.

Joy
Navarrete

Digitally signed by Joy Navarrete
DN: cn=Joy Navarrete, o=Planning,
ou=Environmental Planning,
email=joy.navarrete@sfgov.org,
c=US
Date: 2018.11.01 15:57:01 -0700



BUILDING INSPECTION COMMISSION (BIC)

Department of Building Inspection Voice (415) 558-6164 - Fax (415) 558-6509
1660 Mission Street, San Francisco, California 94103-2414

August 26, 2019

London N. Breed
Mayor

COMMISSION
Angus McCarthy
President

Debra Walker
Vice-President

Kevin Clinch
John Konstin
Frank Lee
Sam Moss
James Warshell

Sonya Harris
Secretary

Shirley Wong
Assistant
Secretary

Tom C. Hui
S.E.,
C.B.O., Director

Ms. Angela Calvillo
Clerk of the Board
Board of Supervisors, City Hall
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco, CA 94102-4694

RE: File No. 180969

Ordinance amending the Plumbing Code to delete the local amendment to the California Plumbing Code referring to the San Francisco Public Utilities Commission's Rules and Regulations in the section on Cross-Connection Control, and to add local cross-connection controls for beverage dispensers and industrial water chillers and a testing requirement for backflow prevention assemblies or devices; affirming the Planning Department's determination under the California Environmental Quality Act; and directing the Clerk of the Board of Supervisors to forward this ordinance to the California Building Standards Commission upon final passage.

Dear Ms. Calvillo:

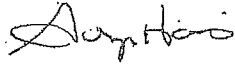
This amendment was heard at the Code Advisory Committee (CAC) meeting on June 12, 2019. The Department of Public Health and the San Francisco Public Utilities Commission are the sponsors of the proposed amendment to provide a greater level of back flow prevention to beverage dispensers and industrial water chillers. The CAC recommended adoption of the ordinance and unanimously voted to approve, as written, the proposed amendment to the 2016 San Francisco Plumbing Code Section 603.0.

The Building Inspection Commission met and held a public hearing on August 21, 2019 regarding the proposed amendment to the San Francisco Building Code referenced above. The Commissioners voted unanimously to **recommend approval** of the proposed Ordinance.

The Commissioners voted as follows:

President McCarthy	Excused	Vice-President Walker	Yes
Commissioner Clinch	Yes	Commissioner Konstin	Yes
Commissioner Lee	Yes	Commissioner Moss	Yes
Commissioner Warshell	Yes		

Sincerely,



Sonya Harris
Commission Secretary

cc: Tom C. Hui, S.E., C.B.O., Director
Mayor London N. Breed
Board of Supervisors

File 180969:
Cross-Connection Control

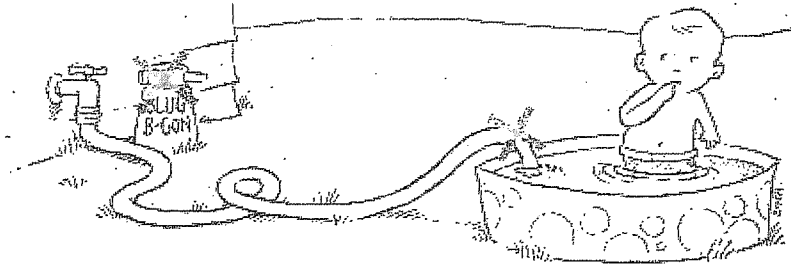
John Scarpulla

SFPUC

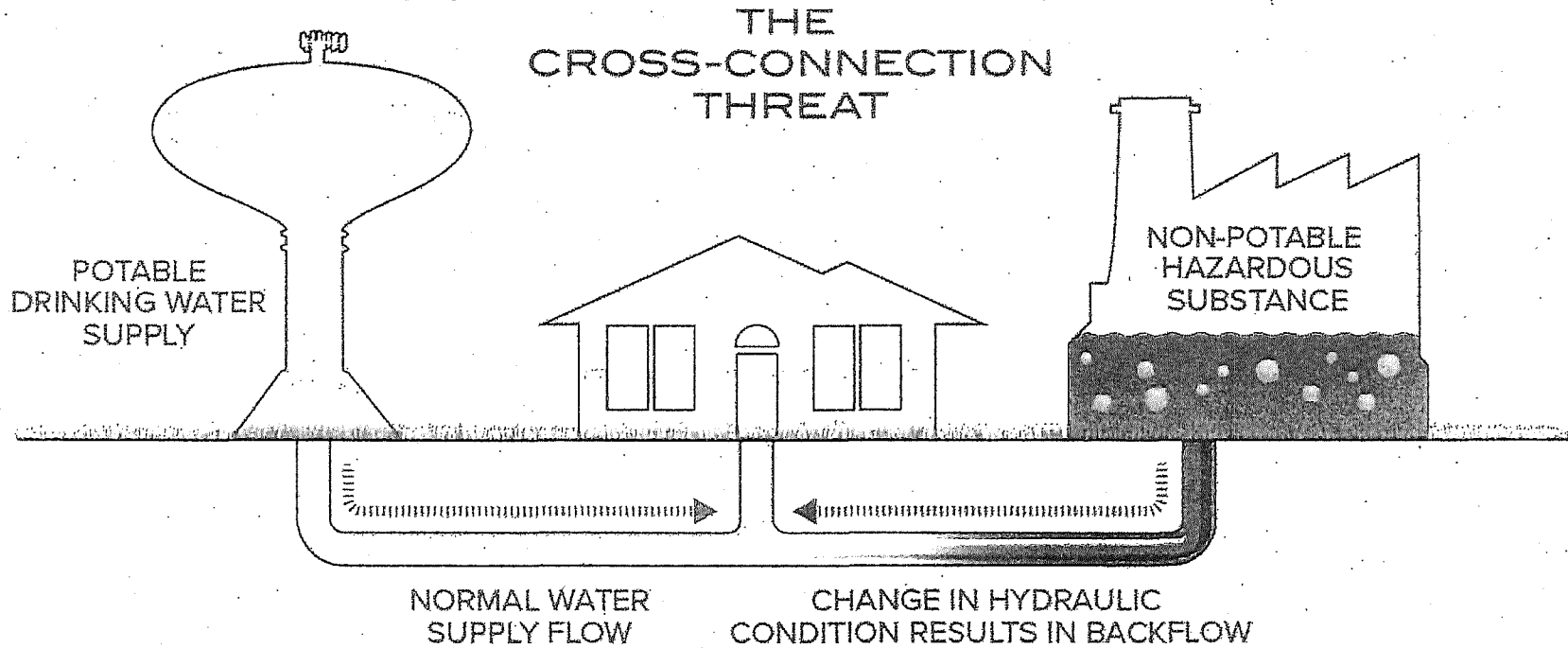
January 13, 2020

180969
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01/13/2020

What is a Cross-Connection?

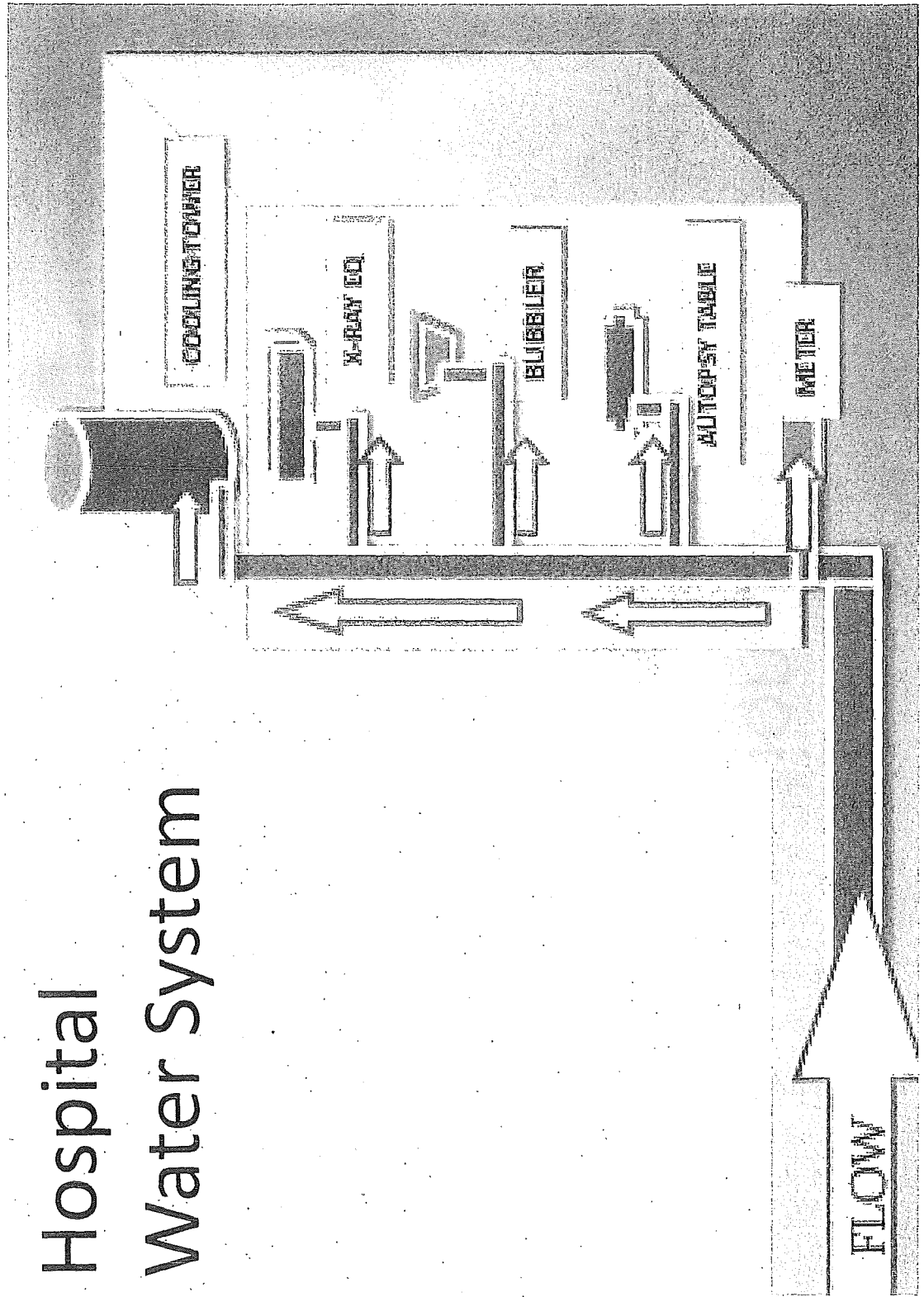


Prevent Water Backflow

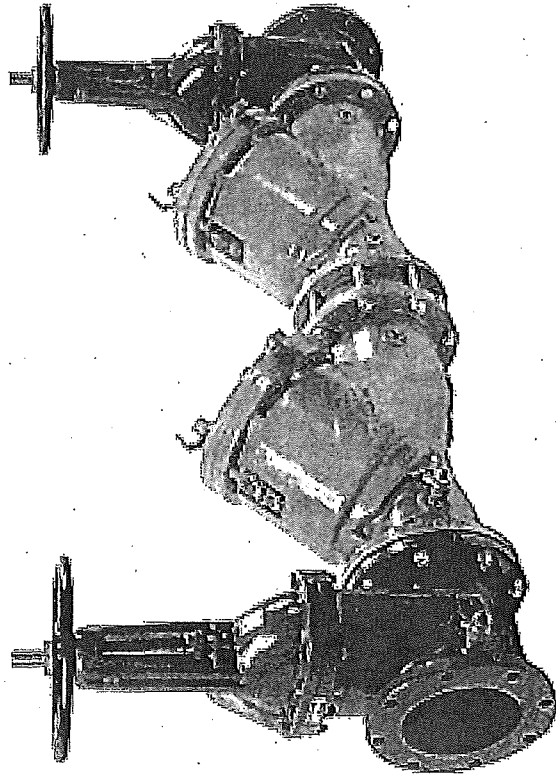
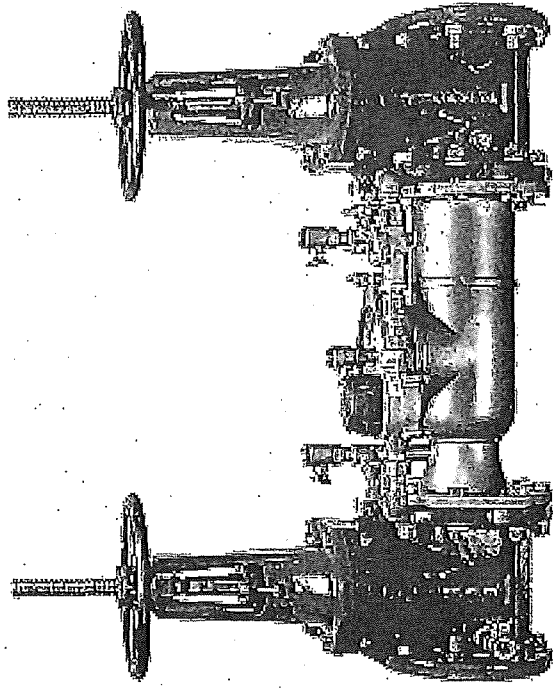


Cross-Connection Example

Hospital Water System



Cross-Connection Controls



Cross-Connection Control Regulations

- San Francisco Plumbing Code
- San Francisco Health Code Article 12A
- SFPUC Water Service Agreement



Proposed Amendments

- Recognize that SF is at a higher risk of cross-connection failure due to our topography and tall buildings, creating higher pressures and larger differences in pressure.
- All backflow prevention assemblies or devices that are testable must have passed laboratory and field evaluation tests performed by a recognized testing organization;

Proposed Amendments – Cont'd.

- Carbonated beverage dispensers with upstream copper pipe pose a risk of health hazard from leached copper in the event of backpressure.
 - Amendment allows reduced pressure principle backflow prevention assemblies to be used (higher level of protection);
 - Can still use other types of cross-connection controls for beverage dispensers if copper piping isn't used.
- Potable water connections to closed-loop industrial water chillers shall be protected from backflow by a reduced pressure principle backflow prevention assembly.

Thank you for your consideration.

Questions?

BOARD of SUPERVISORS



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October 23, 2018

File No. 180969

Lisa Gibson
Environmental Review Officer
Planning Department
1650 Mission Street, Ste. 400
San Francisco, CA 94103

Dear Ms. Gibson:

On October 16, 2018, Building Inspection Commission submitted the proposed legislation:

File No. 180969

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This legislation is being transmitted to you for environmental review.

Angela Calvillo, Clerk of the Board

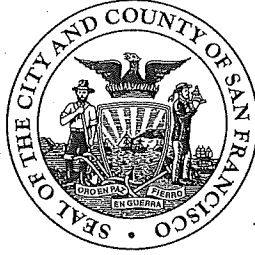
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By: Erica Major, Assistant Clerk
Land Use and Transportation Committee

Attachment

c: Joy Navarrete, Environmental Planning
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MEMORANDUM

TO: Harlan Kelly, Jr., General Manager, Public Utilities Commission

FROM: Erica Major, Assistant Clerk
Land Use and Transportation Committee

DATE: October 24, 2018

SUBJECT: LEGISLATION INTRODUCED

The Board of Supervisors' Land Use and Transportation Committee has received the following proposed legislation, introduced by the Building Inspection Commission, on October 16, 2018:

File No. 180969

Ordinance amending the Plumbing Code to delete the local amendment to the California Plumbing Code referring to the San Francisco Public Utilities Commission's Rules and Regulations in the section on Cross-Connection Control; affirming the Planning Department's determination under the California Environmental Quality Act; and directing the Clerk of the Board of Supervisors to forward this Ordinance to the California Building Standards Commission upon final passage.

If you have comments or reports to be included with the file, please forward them to me at the Board of Supervisors, City Hall, Room 244, 1 Dr. Carlton B. Goodlett Place, San Francisco, CA 94102 or by email at: erica.major@sfgov.org.

c: Juliet Ellis, Public Utilities Commission
Donna Hood, Public Utilities Commission
John Scarpulla, Public Utilities Commission
Christopher Whitmore, Public Utilities Commission