

Plumbing Board
National Code Review Committee – Meeting Minutes
May 21st, 2013 – 9:00 a.m.
Department of Labor and Industry
443 Lafayette Road No., Saint Paul, MN 55155-4344
DLI.CCLDBOARDS@State.MN.US

Committee Members Present

John Parizek
Grant Edwards
Phil Sterner
Chad Filek
Jim Lungstrom (Chair)
Joe Beckel
James Kittleson

Staff Present

Carey Wagner
Cathy Tran
Jim Peterson

Committee Members Absent

Larry Justin
Mike McGowan
Gale Mount

Visitors

Brian Noma
Matthew Marciniak
Ron Thompson
Gary Thaden
Doug Determan
Dan Rookaird
Brian Soderholm
Dave Parney
Bob Taylor
Luther Westman

I. Call To Order

The meeting was called to order by Chair at 9:05 a.m. Announcements were made and introductions were done.

II. Approval of Meeting Agenda

Parizek made a motion, seconded by Beckel, to approve the Agenda. The vote was unanimous and the motion carried.

III. Regular Business

Kittleson made a motion, seconded by Parizek, to approve the minutes of the April 16th, 2013 meeting. The vote was 4 in favor and 3 abstentions.

Chair advised members to turn expense reports over to Parizek for approval.

IV. Special Business

Special Business for today is to review suggested changes to the 2012 Uniform Plumbing Code chapters 7, 8 and 9 for incorporation into the MN version of the code. Suggested changes being brought forth have been developed by National Code Committee members, interested parties, and members of the public. These suggested changes are preliminary and will be forwarded to the full Plumbing Board for consideration at a future Plumbing Board meeting. Suggested changes were proposed for the following chapters:

- Chapter 7
- Chapter 8
- Chapter 9

The following table is a summary of suggested changes with motions and vote. See attached Exhibits 1-9 for language:

Requester	Section	Motion To	Motion By, Second	Vote	Exhibit Number
MDH ¹	702.1	Accept	Edwards, Beckel	Carries	1
MDH	704.3	Accept	Parizek, Edwards	Carries	2
MDH	721.1 DLI language for 721.1 will be the vote for this issue			See DLI Ch. 7	
MDH	722.1 DLI language for 722.1 will be the vote for this issue			See DLI Ch. 7	
MDH	724.0	Accept	Edwards, Filek	Carries	3
Arvella Greenway	704.2	Accept with addition of last paragraph of 4715.1000	Edwards, Parizek	Carries	4
Arvella Greenway	705.10.2	Accept with modified language proposed by John Parizek	Parizek, Kittleson	Carries	5
Arvella Greenway	712.1 DLI language for 712.1 will be the vote for this issue			See DLI Ch. 7	

DLI	Ch. 7, various	Accept All; Exception: 712.1 is changed to reflect the word “shall” instead of “may” as proposed	Edwards, Sterner	Carries	6
MDH	801.2.3 DLI language for 801.2.3 will be vote for this issue			See DLI Ch. 8	
MDH	804.2	Item Withdrawn			
DLI	Ch. 8	Accept All; Exception: Section 814.3 is modified to read: ...disposal approved by the rules governed by the Minnesota Pollution...	Parizek, Beckel	Carries	7
MDH	902.2 DLI language for 902.2 will be the vote for this issue			See DLI Ch. 9	
MDH	902.3 Tabled			See DLI Ch. 9	
MDH	905.3 DLI language for 905.3 will be the vote for this issue			See DLI Ch. 9	
MDH	905.4	Accept	Edwards, Kittleson	Failed to Carry	8
Arvella Green	902.2, 906.1, 911.1	Comments not requiring a vote		No Vote	
DLI	Ch. 9	Accept; 906.7 is modified to remove the minimum	Kittleson, Beckel	Carries	9

¹MDH = Minnesota Department of Health

²DLI = Department of Labor and Industry

V. Open Forum

There were no requests to speak during open forum.

VI. Discussion

There was discussion on the issue of prefabricated plumbing coming into the state without verification that the assemblies were built by licensed plumbers, among other issues such as quality, materials, sizing, etc. This will be discussed at some point in the future.

VII. Announcements

A. Next Regularly Scheduled Meeting: The next National Code Committee meeting will be held on June 18th, 2013.

VII. Adjournment

A motion was made by Edwards, seconded by Kittleson, to adjourn the meeting. The vote was unanimous and the motion carried.

Respectfully Submitted,

Jim Lungstrom

Jim Lungstrom

Exhibits 1-9

Exhibit 1

443 Lafayette Road N.
St. Paul, Minnesota 55155
www.dli.mn.gov



MINNESOTA DEPARTMENT OF
LABOR & INDUSTRY

(651) 284-5005
1-800-DIAL-DLI
TTY: (651) 297-4198

NATIONAL CODE COMMITTEE COMMENT FORM FOR PROPOSED AMENDMENTS TO THE UPC (This form must be submitted electronically)

Author/requestor: Minnesota Department of Health

Email address: ronald.thompson@state.mn.us

Telephone number: (651) 201-3658

Firm/Association affiliation, if any:

Proposed Code Change - Language

Please provide your proposed UPC amendment in strikeout/underline format. Provide the *specific* language you would like to see changed, with new words underlined and words to be deleted should be ~~stricken~~. Also, state whether the language contained in your proposal is from a code book or from an amendment currently found in Minnesota Rule. (You may provide the language (electronically) on a separate, attached sheet).

XXXX.XXXX CHAPTER 7, SANITARY DRAINAGE

UPC section (table) 702.1 is amended as follows:

**TABLE 702.1
DRAINAGE FIXTURE UNIT VALUES (DFU)**

PLUMBING APPLIANCES, APPURTENANCES, OR FIXTURES	MINIMUM SIZE TRAP ARM⁷ (inches)	PRIVATE	PUBLIC	ASSEMBLY⁸
Dishwasher, commercial	2	-	3	-
Sinks				
Commercial-with food-waste	1 1/2 <u>2</u>	-	3	3

Proposed Code Change – Need and Reason

Please provide a thorough explanation of the need for this amendment and why this proposed amendment is a reasonable change. During the rulemaking process, the Agency must defend the need and reasonableness of all its proposed changes. The Agency must submit evidence that it has considered all aspects of the proposal. (You may provide the need and reason (electronically) on a separate attached sheet).

Minnesota Rules, part 4715.2300, subpart 3 requires a minimum 2-inch diameter trap arm to prevent plugging with the very large quantities and sizes of food particles and wastes rapidly disposed of in commercial dishwashers and sinks.

Proposed Code Change – Cost/Benefit Analysis

Please consider whether this proposed amendment will increase/decrease costs or indicate that it will not have any cost implications and explain how it will not. If there is an increased cost, will this cost be offset somehow by a life safety or other benefit? If so, please explain. Are there any cost increases/decreases to enforce or comply with this proposed code change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate, attached sheet).

This does not change requirements in existing Minnesota Rules.

Exhibit 2

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XXXX.XXXX CHAPTER 7, SANITARY DRAINAGE

UPC Section 704.3 is amended as follows:

704.3 Commercial Dishwashing Machines and Sinks. Pot sinks, scullery sinks, dishwashing sinks, silverware sinks, commercial kitchen sinks, commercial dishwashing machines, silverware washing machines, and other similar fixtures shall be connected directly to the drainage system. A floor drain shall be provided adjacent to the fixture, and the fixture shall be connected on the sewer side of the floor drain trap, provided that no other drainage line is connected between the floor drain waste connection and the fixture drain. The floor drain on the fixture branch shall be constructed without a backwater valve. The fixture and the floor drain shall be trapped and vented in accordance with this code.

Proposed Code Change – Need and Reason

Please provide a thorough explanation of the need for this amendment and why this proposed amendment is a reasonable change. During the rulemaking process, the Agency must defend the need and reasonableness of all its proposed changes. The Agency must submit evidence that it has considered all aspects of the proposal. (You may provide the need and reason (electronically) on a separate attached sheet).

The Minnesota Food code, Minnesota Rules, Chapter 4626, applies to food services and adopts NSF Standard 7 by reference. NSF Standard 7 requires commercial food service sinks to be

directly wasted and vented. This design is currently allowed by the Minnesota Plumbing Code, Minn. Rules Chapter 4715.1250.

Proposed Code Change – Cost/Benefit Analysis

Please consider whether this proposed amendment will increase/decrease costs or indicate that it will not have any cost implications and explain how it will not. If there is an increased cost, will this cost be offset somehow by a life safety or other benefit? If so, please explain. Are there any cost increases/decreases to enforce or comply with this proposed code change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate, attached sheet).

This amendment to the UPC makes it consistent with the state food code and existing Minnesota Plumbing Code, part 4715.1250.

Exhibit 3

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Proposed Code Change - Language

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XXXX.XXXX CHAPTER 7 SANITARY DRAINAGE

UPC Section 724.0 is amended as follows:

724.0 Recreational Vehicle Sanitary Disposal Station.

724.1 Construction. Each recreational vehicle sanitary disposal (dump) station shall have a concrete slab with the drainage system located as to be on the road (left) side of the recreational vehicle. The slab shall be not less than 3 feet by 3 feet (914 mm by 914 mm), not less than 3 ½ inches (89 mm) thick and properly reinforced. The slab surface must be troweled to a smooth finish and sloped from each side inward to a drainage system inlet.

The drainage system inlet shall consist of a 4 inch (102 mm), self-closing, foot-operated hatch of materials meeting these rules with the cover milled to fit tight. The hatch body shall be set in the concrete of the slab with the lip of the opening flush with its surface to facilitate the cleansing of the slab with water. The hatch shall be properly connected to a drainage system inlet, which shall discharge to a public or private sewer meeting the standards of this section.

724.2 Flushing Device. The recreational vehicle sanitary disposal station flushing device shall consist of a supported riser terminating not less than 2 feet (610 mm) above the ground surface, with a ¾ of an inch (20 mm) valved outlet adaptable for a flexible hose. The flexible hose shall be designed such that it cannot lie on the ground.

The water supply to the flushing device shall be protected from backflow by means of a listed vacuum breaker or backflow prevention device located downstream from the last shutoff valve.

Adjacent to the recreational vehicle sanitary disposal station shall be posted a sign of durable material not less than 2 feet by 2 feet (610 mm by 610 mm) in size. Inscribed thereon in clearly legible letters shall be the following:

"DANGER – NOT TO BE USED FOR DRINKING OR DOMESTIC PURPOSES."

Proposed Code Change – Need and Reason

Please provide a thorough explanation of the need for this amendment and why this proposed amendment is a reasonable change. During the rulemaking process, the Agency must defend the need and reasonableness of all its proposed changes. The Agency must submit evidence that it has considered all aspects of the proposal. (You may provide the need and reason (electronically) on a separate attached sheet).

These sanitary disposal or "dump" stations exist at recreational vehicle parks, and also at campgrounds, parks, gas stations and highway rest stops. The facility allows the RV owner to empty the sewage holding tank. The stations have a source of water to wash any spilled sewage and clean hoses. Public health issues include preventing human contact with, and disease transmission from, feces and other sewage components and preventing backflow of sewage into the water system.

The existing Minnesota Rules, Chapter 4715 appendix contains a diagram titled "Sanitary Dump Station Construction" which details the existing standards for disposal of sewage wastes from recreational vehicle holding tanks. The UPC has language in appendix E, part K that has been simplified and combined with the existing diagram in the Minnesota Plumbing Code.

Proposed Code Change – Cost/Benefit Analysis

Please consider whether this proposed amendment will increase/decrease costs or indicate that it will not have any cost implications and explain how it will not. If there is an increased cost, will this cost be offset somehow by a life safety or other benefit? If so, please explain. Are there any cost increases/decreases to enforce or comply with this proposed code change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate, attached sheet).

This does not change existing sanitary dump station construction standards.

Exhibit 4

Comments from Arvella Greenway

- Chapter 7

704.2 Single Vertical Drainage Pipe: A side by side installation would be hard to service.

705.10.2 Expansion Joints: If expansion joints are allowed all expansion joints shall be accessible.

712.1 Testing Media: we have been successfully air testing plastic piping for years and would find it hard to perform a water test in the middle of the winter on an unheated jobsite.

- Chapter 9

902.2 Bars, Soda Fountains, and Counter: We have not run into a circumstance where it is impossible to vent these fixtures with island vents, so Omit not needing to be vented and being able to be drained into a floor sink indirectly.

906.1 Roof Termination and 906.7 Frost or Snow Closure: The proposed 10" would be covered by most winters. We should keep the current minimum of 12" above.

911.1 General: Since this section is titled Engineered Vent System is the registered design professional a professional engineer or a licensed plumbing contractor?

Exhibit 5

Comments from Arvella Greenway

- Chapter 7

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911.1 General: Since this section is titled Engineered Vent System is the registered design professional a professional engineer or a licensed plumbing contractor?

Exhibit 6

Plumbing Board
c/o Department of Labor and Industry
443 Lafayette Road North
Saint Paul, MN 55155-4344
dli.cclboards@state.mn.us

NATIONAL CODE REVIEW COMMITTEE SUGGESTION FORM

(This form must be submitted electronically)

Author/requestor: Cathy Tran

Email address: cathy.tran@state.mn.us

Telephone number: 651/284-5898

Firm/Association affiliation, if any: DLI

Suggested Code Change - Language

Please provide your suggested change using a ~~strikeout~~ and underline format. Provide the *specific* language you would like to see changed, with new words underlined and ~~strikeout~~ the words to be deleted. Tell us whether the language you are suggesting or changing is from a code book or from Minnesota Rules, chapter 4715. (You may provide the language (electronically) on a separate attached sheet).

2012 UPC Chapter 7, Sanitary Drainage-See attached documents.

Suggested Code Change – Need and Reason

Please provide a thorough explanation of the need for the suggested changed and why the change is a reasonable one. During the rulemaking process, the Board must defend the need for and reasonableness of all its proposed changes. (You may provide the need and reason (electronically) on a separate attached sheet).

See attached documentation.

Suggested Code Change – Cost/Benefit Analysis

Please explain whether the change you suggest will increase or decrease costs, or that the change will not have any cost implications. If there is an increased cost, will this cost be offset somehow by a life-safety or other benefit? If so, please explain. Are there any cost increases or decreases to enforce or comply with the suggested change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate attached sheet).

No cost implications.

CHAPTER 7 - 2012 UPC DLI Proposed changes

701.1 Drainage Piping. Materials for drainage piping shall be in accordance with one of the referenced standards in Table 701.1 except that:

- (1) No galvanized wrought-iron or galvanized steel pipe shall be used underground and shall be kept not less than 6 inches (152 mm) aboveground.
- (2) ABS and PVC DWV piping installations shall be installed in accordance with applicable standards referenced in Table 1401.1 and Chapter 15 "Firestop Protection." Except for individual single-family dwelling units, materials exposed within ducts or plenums shall have a flame-spread index of a maximum of 25 and a smoke-developed index of a maximum 50, where tested in accordance with ASTM E 84 and UL 723.

SONAR: The proposed amendment would remove the reference to Chapter 15 since firestop protection is part Chapter 15 regulated in other codes and not plumbing.

**TABLE 702.1
DRAINAGE FIXTURE UNIT VALUES (DFU)**

PLUMBING APPLIANCES, APPURTENANCES, OR FIXTURES	MINIMUM SIZE TRAP AND TRAP ARM ⁷⁶ (inches)	PRIVATE	PUBLIC	ASSEMBLY ⁸⁷
Bathtub or Combination Bath/Shower	1½	2.0	2.0	—
Bidet	1¼	1.0	—	—
Bidet	1½	2.0	—	—
Clothes Washer, domestic, standpipe ⁵	2	3.0	3.0	3.0
Dental Unit, cuspidor	1¼	—	1.0	1.0
Dishwasher, domestic, with independent drain ²	1½	2.0	2.0	2.0
Drinking Fountain or Water Cooler	1¼	0.5	0.5	1.0
Food Waste Grinder, commercial	2	—	3.0	3.0
Floor Drain, emergency	2	—	0.0	0.0
Floor Drain (for additional sizes see Section 702.0)	2	2.0	2.0	2.0
Shower, single-head trap	2	2.0	2.0	2.0
Multi-head, each additional	2	1.0	1.0	1.0
Lavatory, single	1¼	1.0	1.0	1.0
Lavatory, in sets of two or three	1½	2.0	2.0	2.0
Washfountain	1½	—	2.0	2.0
Washfountain	2	—	3.0	3.0
Mobile Home, trap	3	12.0	—	—
Receptor, indirect waste ^{1,3}	1½	See footnote ^{1,3}		
Receptor, indirect waste ^{1,4}	2	See footnote ^{1,4}		
Receptor, indirect waste ¹	3	See footnote ¹		
Sinks	—	—	—	—
Bar	1½	1.0	—	—
Bar ²	1½	—	2.0	2.0
Clinical	3	—	6.0	6.0
Commercial with food waste ²	1½	—	3.0	3.0
Commercial Pot or Scullery	2	—	4.0	4.0
Special Purpose ²	1½	2.0	3.0	3.0
Special Purpose	2	3.0	4.0	4.0
Special Purpose	3	—	6.0	6.0
Kitchen, domestic ² (with or without food waste grinder, dishwasher, or both)	1½	2.0	2.0	—
Laundry ² (with or without discharge from a clothes washer)	1½	2.0	2.0	2.0
Service or Mop Basin	2	—	3.0	3.0
Service or Mop Basin	3	—	3.0	3.0
Service, flushing rim	3	—	6.0	6.0
Wash, each set of faucets	—	—	2.0	2.0
Urinal, integral trap 1.0 GPF ²	2	2.0	2.0	5.0
Urinal, integral trap greater than 1.0 GPF	2	2.0	2.0	6.0
Urinal, exposed trap ²	1½	2.0	2.0	5.0
Water Closet, 1.6 GPF Gravity Tank ⁶	3	3.0	4.0	6.0

Water Closet, 1.6 GPF Flushometer Tank ⁶	3	3.0	4.0	6.0
Water Closet, 1.6 GPF Flushometer Valve ⁶	3	3.0	4.0	6.0
Water Closet, greater than 1.6 GPF Gravity Tank ⁶	3	4.0	6.0	8.0
Water Closet, greater than 1.6 GPF Flushometer Valve ⁶	3	4.0	6.0	8.0

For SI units: 1 inch = 25 mm

Notes:

¹ Indirect waste receptors shall be sized based on the total drainage capacity of the fixtures that drain therein to, in accordance with Table 702.2(b).

² Provide a 2 inch (50 mm) minimum drain.

³ For refrigerators, coffee urns, water stations, and similar low demands.

⁴ For commercial sinks; dishwashers, and similar moderate or heavy demands.

⁵ Buildings having a clothes-washing area with clothes washers in a battery of three or more clothes washers shall be rated at 6 fixture units each for purposes of sizing common horizontal and vertical drainage piping.

⁶ Water closets shall be computed as 6 fixture units where determining septic tank sizes based on Appendix H of this code.

³⁶ Trap sizes shall not be increased to the point where the fixture discharge is capable of being inadequate to maintain their self-scouring properties.

⁴⁷ Assembly [Public Use (see Table 422.1)]: (see Minnesota State Building Code rules)

SONAR: This table is amended to add requirements for a 2-inch trap and trap arm for pot and scullery sinks which are commercial kitchen sinks with large size compartments that need to discharge to drainage system within a reasonable period of time for sanitary purposes. It would also remove the references to septic tank sizing in Appendix H and to the fixture requirements in Table 422.1. Septic tank sizing is part of MPCA rules and Table 422.1 specifies fixture requirements which are defined in the Minnesota Building Code. The notes are also renumbered accordingly to reflect the deletion to footnote 6.

704.3 Commercial Dishwashing Machines and Sinks. Commercial food preparation sinks, beverage service sinks, pot sinks, scullery sinks, dishwashing sinks, silverware sinks, commercial dishwashing machines, silverware-washing machines, and other similar fixtures shall be connected directly to the drainage system. A floor drain constructed without a backwater valve shall be provided adjacent to the fixture, and the fixture shall be connected on the sewer side of the floor drain trap, provided that no other drainage line is connected between the floor drain waste connection and the fixture drain. The fixture and floor drain shall be trapped and vented in accordance with this code.

SONAR: This amendment adds food preparation sinks and bar sinks to this section for commercial application and clarifies the function of the floor drain. The installation of a backwater valve on the floor drain branch would defeat the purpose of the floor drain which is to prevent sewage backup into the fixtures and therefore, is necessary to add the language requiring a floor drain constructed without a backwater valve.

710.12 Grinder Pump Ejector. Grinder pumps shall be permitted to be used. The sump basin storage volume and the pump capacity must be sized adequately to prevent overloading and must at minimum accommodate water demand peak flow from all fixtures.

710.12.1 Discharge Piping. The discharge piping shall be sized in accordance with the manufacturer's installation instructions and shall be not less than 1 1/4 inches (32 mm) in diameter. A check valve and fullway-type shutoff valve shall be located within the discharge line.

SONAR: This amendment adds requirements on the sizing of the sump and pump capacity for grinder pumps. These pumps are generally designed with low discharge rates and small sumps and therefore, the sumps can fill up quickly creating an unsanitary condition in any building. By adding this requirement, the designer must consider sizing of the sumps and pumps when considering the use of grinder pumps.

710.13 Macerating Toilet Systems. Listed macerating toilet systems shall be permitted as an alternate to a sewage pump system, where approved by the Authority Having Jurisdiction. A macerating toilet system may only be installed in one- or two-family dwellings when gravity flow is not possible. Not more than one bathroom group, consisting of a toilet, a lavatory, and a shower or bathtub, may discharge into a macerating toilet system. Components of macerating toilet systems shall be accessible.

710.13.1 Sumps. The sump shall be water- and gastight. Location.

710.13.2 Discharge Piping. The discharge piping shall be sized in accordance with manufacturer's instructions and shall be not less than 3/4 of an inch (20 mm) in diameter. The developed length of the discharge piping shall not exceed the manufacturer's instructions. A check valve and fullway-type shutoff valve shall be located within the discharge line or internally within the device.

710.13.3 Venting. The plumbing fixtures that discharge into the macerating device shall be vented in accordance with this code. The sump shall be vented in accordance with the manufacturer's instructions and such vent shall be permitted to connect to the fixture venting.

SONAR: This amendment restricts the installation of the macerating toilet system to one or two family dwellings and when gravity flow is not possible. These systems are not design for commercial application and are only suitable for one and two family dwellings as each system is only able of handling one bathroom group consisting of a toilet, a lavatory, and a shower or tub.

712.0 Test

712.1 Media. The piping of the plumbing, drainage, and venting systems ~~shall~~ may be tested with water or air ~~except that plastic pipe may shall not be tested with air.~~ The Authority Having Jurisdiction shall be permitted to require the removal of cleanouts, etc., to ascertain whether the pressure has reached all parts of the system. ~~After the plumbing fixtures have been set and their traps filled with water, they shall be submitted to a final test.~~

712.2 Water Test. The water test shall be applied to the drainage and vent systems either in its entirety or in sections. Where the test is applied to the entire system, openings in the piping shall be tightly closed, except the highest opening, and the system filled with water to point of overflow. Where the system is tested in sections, each opening shall be tightly plugged, except the highest opening of the section under test, and each section shall be filled with water, but no section shall be tested with less than a 10 foot (3048 mm) head of water. In testing successive sections, not less than the upper 10 feet (3048 mm) of the next preceding section shall be tested, so that no joint or pipe in the building (except the uppermost 10 feet (3048 mm) of the system) shall have been submitted to a test of less than a 10 foot (3048 mm) head of water. The water shall be kept in the system, or in the portion under test, for not less than 15 minutes before inspection starts. The system shall then be tight at points.

712.3 Air Test. The air test shall be made by attaching an air compressor testing apparatus to a suitable opening and, after closing all other inlets and outlets to the system, forcing air into the system until there is a uniform gauge pressure of 5 pounds-force per square inch (psi) (34 kPa) or sufficient to balance a column of mercury 10 inches (34 kPa) in height. The pressure shall be held without introduction of additional air for a period of not less than 15 minutes.

712.4 Negative Test. In lieu of five pound air test, concrete manholes and sewer lines may be tested by negative pressure in accordance with ASTM Standards C1214-92 and C1244-93.

712.5 Finished Plumbing. After the plumbing fixtures have been set and their traps filled with water, their connections shall be tested and proven gas and water tight by plugging the stack openings on the roof and the building drain where it leaves the building, and air introduced into the system equal to the pressure of a one inch water column. Such pressure shall remain constant for 15 minutes or the duration of the inspection without the introduction of additional air.

712.6 Test Plugs or Caps. Test plugs or caps for roof terminals must extend above or outside the end of the vent pipe to provide a visible indication for removal after the test has been completed.

SONAR: This amendment adds an air test as an option for testing DWV and negative pressure test for manholes and sewers. This is needed to address testing that is specific for Minnesota climate conditions which water tests are not possible in the winter when the temperature is below zero when majority of buildings are not heated during winter construction. In addition, specific final testing requirements in sections 712.4 & 712.5 are added to clarify for testing of finished plumbing with fixtures set. It is necessary to add finish testing language so all installers can understand the requirements and can be enforced consistently statewide to ensure that once fixtures are installed the system is airtight.

713.5 Permit. ~~No permit shall be issued for the installation, alteration, or repair of a private sewage disposal system, or part thereof, on a lot for which a connection with a public sewer is available.~~

SONAR: This amendment eliminates the prohibition to permit the installation, alteration, and repair of a septic system which are regulated by MPCA rules and statutes. Section 713.7 was amended since the plumbing code applies to all piping within the property line unless an official easement is placed over the sewer.

713.7 Installation. In cities, counties, or both where the installation of building sewers is under the jurisdiction of a municipal utility easement ~~department other than the Authority Having Jurisdiction~~, the provisions of this code relating to building sewers need not apply.

Exception: Single-family dwellings and buildings or structures accessory thereto, existing and connected to an approved private sewage disposal system prior to the time of connecting the premises to the public sewer shall be permitted, where no hazard, nuisance, or insanitary condition is evidenced and written permission has been obtained from the Authority Having Jurisdiction, remain connected to such properly maintained private sewage disposal system where there is insufficient grade or fall to permit drainage to the sewer by gravity.

SONAR: Section 713.7 is amended to clarify that if a building sewer is under a municipal utility easement, the sewer does not have to comply with this code. The code applies to all piping within the property line unless an official utility easement is placed over the sewer.

715.3 Existing Sewers. Replacement of existing building sewers and building storm sewers using cured-in-place pipe lining trenchless methodology and materials shall be installed in accordance with ASTM F 1216. Replacement using cured-in-place pipe liners must not be used on collapsed piping or when the existing piping is compromised to a point where the installation of the liners will not eliminate hazardous or insanitary conditions.

SONAR: This amendment would add conditions where the existing sewers are significantly damaged and using cured-in-place lining technology must not be used. This is necessary to clarify that some existing sewers are substantially damaged, collapsed, or compromised to the point that lining will not provide sufficient remedy to eliminate insanitary conditions. Replacement with code approved pipe materials may be necessary in those cases.

**TABLE 717.1
MAXIMUM/MINIMUM FIXTURE UNIT LOADING
ON BUILDING SEWER PIPING***

SIZE OF PIPE (inches)	SLOPE, (inches per foot)		
	1/16	1/8	1/4
6 and smaller	(As specified in Table 703.2/ No minimum loading)		
8	1950/1500	2800/625	3900/275
10	3400/1600	4900/675	6800/300
12	5600/1700	8000/725	11 200/325

For SI units: 1 inch = 25 mm, 1 inch per foot = 83.3 mm/m

* See also Appendix H, Private Sewage Disposal Systems. For alternate methods of sizing drainage piping, see Appendix C.

SONAR: This amendment would eliminate the reference to Appendix H which is part of MPCA rules, and is not part of this code.

720.0 Sewer and Water Pipes.

720.1 General. When possible, underground water service pipes and sewers or drainage piping shall not be less than 10 feet apart horizontally and shall be separated by undisturbed or compacted earth. Building sewers or drainage piping of clay or materials that are not approved for use within a building shall not be run or laid in the same trench as the water pipes unless approved by the Authority Having Jurisdiction and the following requirements are met:

- (1) The bottom of the water pipe, at points, shall be not less than 12 inches (305 mm) above the top of the sewer or drain line.
- (2) The water pipe shall be placed on a solid shelf excavated at one side of the common trench with a clear horizontal distance of not less than 12 inches (305 mm) from the sewer or drain line.
- (3) Water pipes crossing sewer or drainage piping constructed of clay or materials that are not approved for use within a building shall be laid not less than 12 inches (305 mm) above the sewer or drain pipe.

For the purpose of this section, "within a building" shall mean within the fixed limits of the building foundation.

SONAR: This amendment is to add language to separate water and sewers when possible at 10 feet to protect the water service lines from any source of contamination. In addition, discretion is given to the AHJ to provide allowance on having water and sewers be laid in the same trench. This is necessary since soil conditions and soil contamination vary from one location to the next and only the local AHJ are familiar with all the contaminated sites.

721.0 Location.

721.1 Building Sewer. Except as provided in Section 721.2, no building sewer shall be located in a lot other than the lot that is the site of the building or structure served by such sewer. ~~nor shall a building sewer be located at a point having less than the minimum distances referenced in Table 721.1.~~

**TABLE 721.1
MINIMUM HORIZONTAL DISTANCE REQUIRED FROM BUILDING SEWER (feet)**

Buildings or structures ¹	2
Property line adjoining private property	Clear ²
Water supply wells	50 ³
Streams	50
On-site domestic water service line	1 ⁴
Public water main	10 ^{5,6}

For SI units: 1 foot = 304.8 mm

Notes:

¹ Including porches and steps, whether covered or uncovered; breezeways; roofed porte cocheres; roofed patios; carports; covered walks; covered driveways; and similar structures or appurtenances.

² See also Section 312.3.

³ Drainage piping shall clear domestic water supply wells by not less than 50 feet (15 240 mm). This distance shall be permitted to be reduced to not less than 25 feet (7620 mm) where the drainage piping is constructed of materials approved for use within a building.

⁴ See Section 720.0.

⁵ For parallel construction.

⁶ For crossings, approval by the Health Department or the Authority Having Jurisdiction shall be required.

SONAR: This amendment deletes the entire table of separation distances from building sewers. These separation distances listed in the table are regulated by other agencies and/or regulations. The minimum horizontal distance between water service pipes and sewers are addressed in Section 720.0.

722.0 Abandoned Sewers and Sewage Disposal Facilities.

722.1 Building (House) Sewer. An abandoned building (house) sewer, or part thereof, shall be plugged or capped in an approved manner within 5 feet (1524 mm) of the property line.

722.2 Cesspools, Septic Tanks, and Seepage Pits. A cesspool, septic tank, and seepage pit that has been abandoned or has been discontinued otherwise from further use, or to which no waste or soil pipe from a plumbing fixture is connected, shall have the sewage removed therefrom and be completely filled with earth, sand, gravel, concrete, or other approved material.

722.3 Filling. The top cover or arch over the cesspool, septic tank, or seepage pit shall be removed before filling, and the filling shall not extend above the top of the vertical portions of the sidewalls or above the level of the outlet pipe until inspection has been called and the cesspool, septic tank, or seepage pit has been inspected. After such inspection, the cesspool, septic tank, or seepage pit shall be filled to the level of the top of the ground.

722.4 Ownership. No person owning or controlling a cesspool, septic tank, or seepage pit on the premises of such person or in that portion of a public street, alley, or other public property abutting such premises, shall fail, refuse, or neglect to comply with the provisions of this section or upon receipt of notice so to comply from the Authority Having Jurisdiction.

722.5 Disposal Facilities. Where disposal facilities are abandoned consequent to connecting a premises with the public sewer, the permittee making the connection shall fill abandoned facilities in accordance with the Authority Having Jurisdiction within 30 days from the time of connecting to the public sewer.

SONAR: Sections 722.0, 722.1, 722.2, 722.3, 722.4 and 722.5 are proposed for deletion in its entirety. These parts are regulated in other codes under the authority of the MPCA and not the Plumbing Code.

723.0 Building Sewer Test.

723.1 General. Building sewers shall be tested by plugging the end of the building sewer at its points of connection with the public sewer or private sewage disposal system and completely filling the building sewer with water from the lowest to the highest point thereof, or by approved equivalent low-pressure air test. Testing of building sewers shall be in

accordance with Section 712.0. Plastic DWV piping systems shall not be tested by the air test method. The building sewer shall be gastight or watertight.

SONAR: Sections 723.1 is amended to reflect the testing of building sewers to section 712.0 for consistency so the language is not redundant since it has been established and addressed in another section.

Exhibit 7

Plumbing Board
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NATIONAL CODE REVIEW COMMITTEE SUGGESTION FORM

(This form must be submitted electronically)

Author/requestor: Cathy Tran

Email address: cathy.tran@state.mn.us

Telephone number: 651/284-5898

Firm/Association affiliation, if any: DLI

Suggested Code Change - Language

Please provide your suggested change using a strikeout and underline format. Provide the *specific* language you would like to see changed, with new words underlined and ~~strikeout~~ the words to be deleted. Tell us whether the language you are suggesting or changing is from a code book or from Minnesota Rules, chapter 4715. (You may provide the language (electronically) on a separate attached sheet).

2012 UPC Chapter 8, Indirect Wastes-See attached document.

Suggested Code Change – Need and Reason

Please provide a thorough explanation of the need for the suggested change and why the change is a reasonable one. During the rulemaking process, the Board must defend the need for and reasonableness of all its proposed changes. (You may provide the need and reason (electronically) on a separate attached sheet).

See attached documentation.

Suggested Code Change – Cost/Benefit Analysis

Please explain whether the change you suggest will increase or decrease costs, or that the change will not have any cost implications. If there is an increased cost, will this cost be offset somehow by a life-safety or other benefit? If so, please explain. Are there any cost increases or decreases to enforce or comply with the suggested change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate attached sheet).

No cost implications.

CHAPTER 8 - 2012 UPC DLI Proposed changes

Chapter 8 Indirect Waste- Proposed Amendments

801.2.2 Walk-In Coolers. Floor drains shall not be located inside walk-in coolers unless they are specifically required by the licensing authority. ~~For walk-in coolers, Where required,~~ floor drains shall be permitted to be connected to a separate drainage line discharging into an outside receptor. The flood-level rim of the receptor shall be not less than 6 inches (152 mm) lower than the lowest floor drain. Such floor drains shall be trapped and individually vented. Cleanouts shall be provided at 90 degree (1.57 rad) turns and shall be accessibly located. Such waste shall discharge through an air gap or air break into a trapped and vented receptor, except that a full-size air gap is required where the indirect waste pipe is under vacuum.

SONAR: This section is amended to address licensing requirements and provide consistency with licensing regulations to only allow floor drains inside walk in coolers when required.

801.2.3 Food-Handling Fixtures. ~~Food preparation sinks, cooking ranges,~~ steam kettles, potato peelers, ice cream dipper wells, and similar equipment shall be indirectly connected to the drainage system by means of an air gap. ~~Bins, sinks, cooling counters, compartments,~~ receptacles, and other equipment having drainage connections and used for the storage of unpackaged ice used for human ingestion, or used in direct contact with ready-to-eat food, shall be indirectly connected to the drainage system by means of an air gap. Each indirect waste pipe from food-handling fixtures, storage or holding compartments, or equipment shall be separately trapped and piped to the indirect waste receptor and shall not combine with other indirect waste pipes. The piping from the equipment to the receptor shall be not less than the drain on the unit, and in no case less than $\frac{1}{2}$ $\frac{3}{4}$ of an inch (± 20 mm).

SONAR: This section is amended to add similar related food storage compartments provide consistency with licensing regulations and clarify that the indirect piping must be trapped to prevent insects or living creatures from crawling into the food compartments.

801.3 Bar and Fountain Sink Traps. ~~Where the sink in a bar, soda fountain, or counter is so located that the trap serving the sink cannot be vented, the sink drain shall discharge through an air gap or air break (see Section 801.2.3) into an approved receptor that is vented. The developed length from the fixture outlet to the receptor shall not exceed 5 feet (1524 mm).~~

SONAR: Repealed. This section is proposed to be deleted in its entirety. Bar sinks must be at all times directly connected and vented properly for sanitation purpose and maintain consistent with the licensing authority's requirements. When a conventional vent is not possible, there are other options to venting in this code.

804.2 Domestic or Culinary Type Fixtures prohibited as receptors.

No plumbing fixture which is used for domestic or culinary purposes shall be used to receive the discharge of an indirect waste. Domestic use dishwashers may discharge into a sink, or discharge to a sink tailpiece or food-waste grinder when installed in accordance with section 807.4.

SONAR: 804.2 This amendment is added to clarify that sinks that are intended for food preparation in commercial application must not receive any indirect waste piping as there is a possibility of contaminating food in sinks intended for those uses. Allowance is made recognize that dishwashers in domestic installation such as residential applications are acceptable.

814.3 Point of Discharge. Air-conditioning condensate waste pipes shall connect indirectly to the drainage system through an air gap or air break to properly trapped and vented receptors, ~~dry wells, leach pits, or the tailpiece of a plumbing fixtures,~~ or to a place of disposal approved by the rules governed by the Minnesota Pollution Control Agency.

Condensate waste shall not drain over a public way or in areas causing nuisance.

SONAR: 814.3 The amendments to this section is necessary since dry wells, leach pits, or any other means of disposals that are exterior that may discharge into the waters of the states are points of disposal regulated in rules governed by the MPCA and not by the MN Plumbing Code.

813.0 Swimming Pools.

813.1 General. Pipes carrying wastewater from swimming or wading pools, including pool drainage and backwash from filters, including water from scum gutter drains and pool deck drains shall be installed as an indirect waste. Where a pump is used to discharge waste pool water to the drainage system, the pump discharge shall be installed as an indirect waste.

SONAR: 813.1 The amendments to this section is necessary to clarify that deck drains and water from the pool gutters must also discharge to the drainage system through an indirect connection. This is necessary to prevent possibility of any sewage back-ups into areas of the pool that will contaminate pool water.

814.0 Condensate Wastes and Control.

814.1 Condensate Disposal. Condensate from air washers, air-cooling coils, fuel-burning condensing appliances, the overflow from evaporative coolers, and similar water-supplied equipment or similar air-conditioning equipment shall be collected and discharged to an approved plumbing fixture or disposal area. Where discharged into the drainage system, equipment shall drain by means of an indirect waste pipe. The waste pipe shall have a slope of not less than 1/8 inch per foot (10.4 mm/m) or 1 percent slope and shall be of approved corrosion-resistant material ~~not smaller than the outlet size in accordance with Table 814.1 for condensing fuel-burning appliances, respectively. Condensate or wastewater shall not drain over a public way.~~

**TABLE 814.1
MINIMUM CONDENSATE PIPE SIZE**

EQUIPMENT CAPACITY IN TONS OF REFRIGERATION	MINIMUM CONDENSATE PIPE DIAMETER (inches)
Up to 20	3/4
21-40	1
41-90	1 1/4
91-125	1 1/2
126-250	2

For SI units: 1 ton = 3.52 kW, 1 inch = 25 mm

SONAR: Table 814.1 The table is currently regulated by the mechanical code and is deleted in its entirety to avoid discrepancies and overlapping requirements.

~~**814.2 Size.** The size of condensate waste pipes is for one unit or a combination of units, or as recommended by the manufacturer. The capacity of waste pipes assumes a 1/8 inch per foot (10.4 mm/m) or 1 percent slope, with the pipe running three quarters full at the following pipe conditions:~~

~~Outside Air — 20% Room Air — 80%
DB — WB — DB — WB
90°F — 73°F — 75°F — 62.5°F
For SI units: °C = (°F - 32)/1.8~~

~~Condensate drain sizing for other slopes or other conditions shall be approved by the Authority Having Jurisdiction. Air conditioning waste pipes shall be constructed of materials specified in Chapter 7.~~

SONAR: 814.2 Repealed. This section is regulated by the mechanical code and is deleted in its entirety.

Exhibit 8

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MINNESOTA DEPARTMENT OF
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NATIONAL CODE COMMITTEE COMMENT FORM FOR PROPOSED AMENDMENTS TO THE UPC

(This form must be submitted electronically)

Author/requestor: Minnesota Department of Health

Email address: ronald.thompson@state.mn.us

Telephone number: (651) 201-3658

Firm/Association affiliation, if any:

Proposed Code Change - Language

Please provide your proposed UPC amendment in strikeout/underline format. Provide the *specific* language you would like to see changed, with new words underlined and words to be deleted should be ~~stricken~~. Also, state whether the language contained in your proposal is from a code book or from an amendment currently found in Minnesota Rule. (You may provide the language (electronically) on a separate, attached sheet).

XXXX.XXXX CHAPTER 9, VENTS

UPC Section 905.4 is amended as follows:

905.4 Roof Termination. Vent pipes shall extend undiminished in size above the roof, or shall be reconnected with a soil or waste vent of proper size. A vent pipe serving one or more plumbing fixtures in an elevated water storage tower may exit the side wall of the riser tube at least 12 feet above the floor level. The vent pipe shall not be located within 5 feet of the door.

Proposed Code Change – Need and Reason

Please provide a thorough explanation of the need for this amendment and why this proposed amendment is a reasonable change. During the rulemaking process, the Agency must defend the need and reasonableness of all its proposed changes. The Agency must submit evidence that it has considered all aspects of the proposal. (You may provide the need and reason (electronically) on a separate attached sheet).

The proposed language is specific to the unique construction of an elevated water storage tower. The proposed amendment allows the vent to exit out the sidewall of the water tower structure since it unnecessary and impractical to pipe the vent up through the "roof" of the structure, which is a water tank, not a building and which is typically 100 to 200 feet above the ground. If the vent is required to extend above the "roof", then it would have to run through the water tower bowl, which could lead to contamination of the potable water. The plumbing vent in these structures

typically serves a small number of fixtures, such as a few floor drains needed for infrequent spillage or leakage or potable water.

Proposed Code Change – Cost/Benefit Analysis

Please consider whether this proposed amendment will increase/decrease costs or indicate that it will not have any cost implications and explain how it will not. If there is an increased cost, will this cost be offset somehow by a life safety or other benefit? If so, please explain. Are there any cost increases/decreases to enforce or comply with this proposed code change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate, attached sheet).

This amendment reduces the cost for elevated water storage tanks and is consistent with current practice.

Exhibit 9

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NATIONAL CODE REVIEW COMMITTEE SUGGESTION FORM

(This form must be submitted electronically)

Author/requestor: Cathy Tran

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Telephone number: 651/284-5898

Firm/Association affiliation, if any: DLI

Suggested Code Change - Language

Please provide your suggested change using a ~~strikeout~~ and underline format. Provide the *specific* language you would like to see changed, with new words underlined and ~~strikeout~~ the words to be deleted. Tell us whether the language you are suggesting or changing is from a code book or from Minnesota Rules, chapter 4715. (You may provide the language (electronically) on a separate attached sheet).

2012 UPC Chapter 9 Vents - See attached document below.

Suggested Code Change – Need and Reason

Please provide a thorough explanation of the need for the suggested change and why the change is a reasonable one. During the rulemaking process, the Board must defend the need for and reasonableness of all its proposed changes. (You may provide the need and reason (electronically) on a separate attached sheet).

See attached documentation.

Suggested Code Change – Cost/Benefit Analysis

Please explain whether the change you suggest will increase or decrease costs, or that the change will not have any cost implications. If there is an increased cost, will this cost be offset somehow by a life-safety or other benefit? If so, please explain. Are there any cost increases or decreases to enforce or comply with the suggested change? If so, please explain. (You may provide the cost/benefit analysis (electronically) on a separate attached sheet).

No cost implications.

CHAPTER 9 - 2012 UPC DLI Proposed changes

CHAPTER 9 (VENTS) Proposed Amendments

~~902.2 Bars, Soda Fountains, and Counter.~~ Traps serving sinks that are part of the equipment of bars, soda fountains, and counters need not be vented where the location and construction of such bars, soda fountains, and counters is such as to make it impossible to do so. Where such conditions exist, said sinks shall discharge by means of approved indirect waste pipes into a floor sink or other approved type of receptor.

SONAR: This amendment is necessary to require all sinks are directly connected, trapped and vented accordingly. This change is also consistently with section 801.3 for proper sanitation and maintaining consistency with the licensing authority's requirements.

903.1 Applicable Standards. Vent pipe and fittings shall comply with the applicable standards referenced in Table 701.1, except that:

- (1) No galvanized steel or 304 stainless steel pipe shall be installed underground and shall be not less than 6 inches (152 mm) aboveground.
- (2) ABS and PVC DWV piping installations shall be in accordance with the applicable standards referenced in Table 1401.1, and Chapter 15 "Firestop Protection." ~~Except for individual single family dwelling units, materials exposed within ducts or plenums shall have a flame spread index of a maximum of 25 and a smoke developed index of not more than 50 where tested in accordance with ASTM E 84 or UL 723.~~

SONAR: This amendment would remove the reference to Chapter 15. Chapter 15 is governed by rules that are regulated by other codes and agency.

~~905.3 Vent Pipe Rise.~~ Unless prohibited by structural conditions as provided elsewhere in this code, each vent shall rise vertically to a point not less than 6 inches (152 mm) above the flood-level rim of the fixture served before offsetting horizontally, and where two or more vent pipes converge, each such vent pipe shall rise to a point not less than 6 inches (152 mm) in height above the flood-level rim of the plumbing fixture it serves before being connected to any other vent. ~~Vents less than 6 inches (152 mm) above the flood-level rim of the fixture shall be installed with approved drainage fittings, material, and grade to the drain.~~

SONAR: This amendment would remove the allowance of vents to be installed below 6 inches of the flood-level rim of the fixture. Proper venting is important to prevent siphoning of the traps and sewer gas to escape to the environment. This is necessary to protect public health & safety.

906.1 Roof termination Each vent pipe or stack shall extend through its flashing and shall terminate vertically not less than 12 6-inches (152 mm) above the roof ~~or less than 1 foot (305 mm) from a vertical surface.~~

SONAR: This amendment is necessary to address Minnesota winter weather/snow conditions. It is common to have snow load higher than 6 inches on the roof in a typical winter in Minnesota which may block the opening of the vent pipe.

906.3 Use of Roof. Vent pipes shall be extended separately or combined, of full required size, not less than 12 6-inches (152 mm) above the roof ~~or fire wall.~~ Flagpoling of vents shall be prohibited except where the roof is used for purposes other than weather protection. Vents within 10 feet (3048 mm) of a part of the roof that is used for such other purposes shall extend not less than 7 feet (2134 mm) above such roof and shall be securely stayed.

SONAR: Consistent with proposed changes in 906.1, this amendment is necessary to address Minnesota winter weather/snow conditions.

906.7 Frost or Snow Closure. ~~Where frost or snow closure is likely to occur in locations having minimum design temperature below 0°F (-17.8°C);~~ The minimum vent terminals shall be not less than 2 inches (50 mm) in diameter, but in no event smaller than the required vent pipe. The change in diameter shall be made inside the building not less than 1 foot (305 mm) below the roof in an insulated space and terminate not less than 12 ±0 inches (254 mm) above the roof, ~~or in accordance with the Authority Having Jurisdiction.~~

SONAR: Consistent with proposed changes in 906.1, this amendment is necessary to address Minnesota winter weather/snow conditions. In addition, clarification is made that the minimum size vent terminal is 2 inches to prevent freezing in pipes which are smaller than 2 inches. Temperatures in Minnesota winter is consistently below zero degrees Fahrenheit.