

SPECIAL Meeting Minutes: Plumbing Board

Date: Feb. 10, 2023
Time: 9:30 a.m.
Minutes by: Lyndy Logan
Location: Minnesota Room, DLI, 443 Lafayette Rd. No., St. Paul, MN 55155

Members

1. Karl Abrahamson
2. Richard Becker (Chair)
3. Kent Erickson (Secretary) – WebEx
4. Mike Herman (Vice Chair)
5. Jonathan Lemke
6. Justin Parizek
7. Troy Seitz – WebEx
8. Scott Stewart
9. Rick Wahlen – WebEx
10. Mike Westemeier (DLI CO’s Designee)

Members Absent

Sam Arnold
Mike Dryke
David Weum (MDH CO’s Designee)

DLI Staff & Visitors

Brittany Wysokinski (Board. Counsel, DLI)
Lyndy Logan (DLI)
Tom Eisert (DLI) – WebEx
Brad Jensen (DLI)
Chuck Olson (DLI)
Anita Anderson (Dept. of Health) – WebEx
Mike Arends (ADS)
Kevin Bohl (BKBM)
Jake Brunoehler (Adspipe)
Nick Erickson (Housing First) – WebEx
John Galt – WebEx
Rick Jacobs (Plumbers Local 34) – WebEx
Joel Maier (BKBM)
Stephanie Menning (MUCA) – WebEx
Tom Pahkala (Plumbers #15)
David Skallet (City of St. Louis Park) - WebEx
Gary Thaden (MMCA)

1. Call to Order, Chair Presiding

- A. The meeting was called to order by Chair Becker at 9:32 AM. Roll call was taken by the Secretary and a quorum was declared with 10 of 12 voting members present in person or via WebEx.
- A. Announcements – Introductions (members and attendees) – Chair Becker
 - Everyone present in person and remotely are able to hear all discussions.
 - All votes will be taken by roll call if any member is attending remotely.
 - All handouts discussed and WebEx instructions are posted on the Board’s website.
 - WebEx instructions/procedures can be found on the board’s website at:
<https://www.dli.mn.gov/about-department/boards-and-councils/plumbing-board>

2. Approval of meeting agenda

A motion was made by Herman, seconded by Westemeier, to approve the agenda as presented. The roll call vote was unanimous with 10 votes in favor; the motion carried.

3. Approval of previous meeting minutes

A motion was made by Herman, seconded by Lemke, to approve the Jan. 17, 2023, regular meeting minutes as presented. The roll call vote was unanimous with 10 votes in favor and two abstentions (Lemke, Herman); the motion carried.

4. Regular Business

Expense reports were approved.

5. Special Business

A. Request for Interpretation PB0159 – BKBM Engineers – see **Attachment A**

- Joel Maier and Kevin Bohl addressed the Board and summarized their request for interpretation on UPC sections 310.5 and 206, as incorporated in the Minnesota Plumbing Code by Minnesota Rules, part 4714.0050. They described the main issue is the surcharging of the storm sewer lines and the interplay between the plumbing code and MPCA policies.
- Bohl and Maier stated their question as:
 - *Are we allowed to surcharge the storm sewer within the site outside of the building footprint to account for stormwater management requirements by the Minnesota Pollution Control Agency?*
- Chair Becker said he believes what they are asking is:
 - *Are storm sewers outside the building footprint allowed to be surcharged to meet MPCA discharge requirements for retention systems?*
- Wysokinski reminded the Board that it has the authority to interpret the plumbing code, and that the Board cannot interpret MPCA requirements since that is beyond the scope of the plumbing code and, therefore, outside of the Board's authority.
- Maier said the way the code was written says that the sewer pipe for this site would have to come in at the high water level of the pond. The high water level is a 100-year flood event. Therefore, this pipe outlet would be up in the air, and they would need to somehow create a concrete plume or a rip grab channel to have it drop down to the pond. Other agencies insist that this pipe outlet be at the bottom of pond or in a wet pond condition at the normal water level of the pond so that they're not creating a scour. But what this code is saying is that this pipe outlet is elevated above the pond bottom.
- Westemeier explained the department's interpretation of the code. He stated that the department looks at 310.5 and finds that it effectively prohibits the surcharge of the piping. It's allowed if it's permitted elsewhere in the code; therefore, the department looks at chapter 11. There's nothing in chapter eleven that says you can do it or in 301.2, which is related to standards of materials. The only place that the department can find permission for surcharge, with regards to 301.2, is siphonic roof drains for ASME chapter 45. Westemeier reminded the Board that the department's interpretation is that all piping outside the building but within the property lines is part of the plumbing code. That is why the code applies all the way out to the pond. Westemeier stated that, the RFI made a statement about the restriction applying on the outlet side of the pond. Westemeier stated that the department does not consider the pond or the tank part of the plumbing code. The department just looks at the pipes on the inlet and outlet, and the department doesn't see a restriction when just looking at materials. Westemeier explained that the department understands that sites have differing conditions, so the department does try to find

an alternative means when necessary, such as looking at 4714.100 and the Basic Plumbing Principles A through W and item F, which requires the water to flow at a velocity to prevent deposition of solids. Anytime you surcharge the pipe, you're going to deposit solids into that pipe.

- Chair Becker asked for clarification as to why tanks don't fall within the plumbing code. Westemeier explained that the tank is part of the retention system, which is MPCA's territory.
- Chair Becker said item F of 4714.100 states "*drainage system shall be designed and constructed and maintained to conduct the wastewater with velocities that present fouling, deposition of solids, and clogging.*" Chair Becker asked if stormwater is considered wastewater?
- Westemeier responded that a drainage system is defined as including storm and sanitary.
- Chair Becker said waste is defined as "*liquid waste and industrial waste.*" Liquid waste is defined as "*the discharge from a fixture, appliance, or appurtenance in connection with a plumbing system that does not receive fecal matter.*"
- Discussion of high water level determination:
 - Chair Becker asked how is that high water level for that pond or that retention tank determined
 - Westemeier said high water level is determined by MPCA requirements. The department has seen everything from a ten year high water level listed to a 100-year high water level listed. He noted that most of the plan's the department is reviewing are including the 100-year line.
 - Chair Becker asked what that duration of the rain event was at—an hour or 24 hours, for example?
 - Maier stated that for 100-year event in the metro area, the duration is anywhere from 7 to 7.5 inches over a 24 hour period.
 - Westemeier said that the department uses four inches per hour, and seven inches in 24 hours.
- Westemeier said the second thing to think about is the pipe materials. When you start surcharging and holding water, you're adding head pressure and most of the materials are not designed to handle pressure for piping outside the building.
 - Chair Becker said you would then be outside the listing of the material then and you can't do that because code says we have to install it per its listing. Westemeier agreed.
- Abrahamson said they have a lot of these systems going in in St. Paul, not using ponds but rather tanks right outside the footprint of the building. A lot of things that come to mind is a typical building that's kind of a slab on grade design. There's a bunch of different designs. Typically, an underground parking garage with hang. There's a lot of footing drains. There are elevator *footing* drains that are tied into these storm systems. He stated that while it was mentioned that water was not going to back up into the building, but that's the direction this is going with this if the Board approves surcharging. For example, if you have a check valve holding back all that water, you're going to flood out the building's footings, and take 48 hours to drain them. The plumbing code and plumbing system is not designed to surcharge the storm piping for all the reasons the Board has talked about here – deposits, settlement. Abrahamson explained that the piping is designed to flow and to scour and that the pipe needs to be scoured to keep it clean, to keep it from backing up

and keep it from creating issues in the building. He reiterated that they are fighting this big time in St. Paul and that it's not a pond. It's a seven foot diameter, 100 foot tank right up against the building and people are trying to tie the pipes in at the bottom of the tank for this reason and you can't do it. He stated that it's a bad practice. These water systems are going to create a problem in the future. So, he cannot support the request, he would have to support what the state is saying.

- Chair Becker summarized what Abrahamson said – *the plumbing code doesn't allow us to surcharge that pipe* – Abrahamson replied correct.
- Herman agreed the plumbing code does not allow for that and that's all we can do is interpret the plumbing code. You can't change it for the project. Other board members voiced their agreement.
- Chair Becker reminded the board their job is to interpret what the code says. It is outside the board's purview to look at it from an engineering standpoint.

A motion was made by Abrahamson, seconded by Parizek, to publish a formal interpretation with the question and answer below. The majority vote ruled with 9 in favor and one abstention (Westemeier); the motion carried.

- **Question: Are storm sewers outside the building footprint allowed to be surcharged?**
- **Answer: The MN State Plumbing code does not allow surcharged pipe.**

Chair Becker will coordinate a formal interpretation with Wysokinski to be published within 10 business days.

6. **Announcements**

Next regularly scheduled meeting, 9:30 a.m., in-person at DLI / WebEx

- April 18, 2023

7. **Adjournment**

A motion was made by Herman, seconded by Erickson, to adjourn the meeting at 10:09 a.m. The roll call vote was unanimous with 10 votes in favor of the motion; the motion passed.

Respectfully submitted,

Kent Erickson

Kent Erickson
Secretary

Green meeting practices

The State of Minnesota is committed to minimizing in-person environmental impacts by following green meeting practices. DLI is minimizing the environmental impact of its events by following green meeting practices. DLI encourages you to use electronic copies of handouts or to print them on 100% post-consumer processed chlorine-free paper, double-sided.

Plumbing Board
 c/o Department of Labor and Industry
 443 Lafayette Road North
 St. Paul, MN 55155-4344
 www.dli.mn.gov

Plumbing Board Request for Interpretation

PRINT IN INK or TYPE

NAME OF SUBMITTER BKBM Engineers - Joel Maier	Rule(s) to be interpreted (e.g., 4714.0330) Section 310.5
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The Minnesota Plumbing Code (MN Rules, Chapter 4714) is available at www.dli.mn.gov/CCLD/PlumbingCode.asp

Has a request for interpretation been submitted to Department of Labor and Industry (DLI) staff, either as a verbal request or a written request? Yes No

If "No," contact DLI staff at 651-284-5898. The DLI is responsible for administration and interpretation of the Minnesota Plumbing Code, and all requests must be processed and provided a DLI interpretation before being referred to the Plumbing Board. This form is intended to be used to request an interpretation from the Plumbing Board only as a resolution of dispute with DLI interpretation.

Code/Rule to be interpreted: Section 310.5	Name of DLI employee gave interpretation: Mike Westemeier	Date interpretation originally requested: 1/13/2023
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Provide a copy of the DLI interpretation with this request (a copy must be provided as reference).

Is there a local dispute with an Inspector of other official? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If Yes, state the name or type of official
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State the circumstances of the initial dispute:

BKBM received a comment on a specific project stating:

Storm drainage pipes may not be surcharged by design (see Section 310.5 and Section 206.0, Drainage System). The highwater level of the ponds will surcharge all the storm sewers currently shown on the plan to their upper terminals. The highwater level of the pond must be at or below the inverts of all sewers discharging into the pond.

BKBM called Mike Westemeier and expressed our concern stating on a majority of our projects, site constraints will not allow for this type of elevation differential. These challenges will be most prevalent on sites with limited slope across them, sites with poorly draining soils, sites with shallow storm sewer in the public right of way, and sites where long stretches of sewer are needed to convey stormwater.

Explain what you disagree with the interpretation given to you by DLI staff:

We do not believe it is feasible to have the high-water level of a stormwater management system at or below the inverts of all site storm sewer discharging to a system. We contend that this rule is not consistent with and is not good engineering practice based on the MPCA's state stormwater permit guidance and permits through local watershed districts. The MPCA, cities, and watershed districts require that stormwater runoff from the site be rate controlled to match the existing site runoff conditions. These agencies also require that the stormwater management systems' inlet pipe should come into the bottom elevation of infiltration ponds or the normal water elevation of wet ponds so that as the basin fills with stormwater the energy at the inlet dissipates. As the stormwater elevation in the basin rises the inlet pipe becomes partially or fully submerged for a period of time until the surge of stormwater slowly draws down to pre-rainstorm conditions.

The current code interpretation suggests that the pond's inlet pipe must be above the 100-year high water elevation. This elevation could be on the order of 3 to 4-feet above the normal water elevation or bottom of pond elevation. Designing systems in this manner would increase potential for scour, shorten stormwater basin maintenance intervals, reduce efficiency of infiltration systems, and increase the cost of the stormwater system due to the increased size.

While making the stormwater management systems larger could potentially be a way to mitigate the current DLI code interpretation, the result could easily double or triple the size of the stormwater management systems. Making the stormwater management systems larger or deeper is not always a feasible practice as many times the site is constrained by site size, proximity to wetlands/waterbodies, slow draining soils, or shallow sewer in the public right of way. In addition, the MPCA has requirements on the maximum infiltration depth (0.8' sandy clay to 1.8' sand) which prohibits installing the systems deeper. This volume of water is required to be infiltrated within 48 hours after any rain event. Because of these requirements, a deeper stormwater system is not always feasible.

What is your interpretation of the language:

The storm drain system located within the footprint of the building cannot be surcharged by pond backwater.

List any other information you would like the Board to consider:

Based on the current code interpretation, site stormwater rate control systems that are required by other governing agencies would not be compliant with current Minnesota Plumbing Code because rate control systems work by restricting flow by decreasing the system's outlet size.

Information regarding submitting this form:

- Submit any supporting documentation to be considered electronically to DLI.CCLDBOARDS@state.mn.us. Once your Request For Interpretation form has been received, it will be assigned a file number. Please reference this file number on any correspondence and supplemental submissions.

Information for presentation to the Committee:

- You will be notified with the date of the Committee Meeting in which your Request For Interpretation will be heard.
- Limit presentations to 5 minutes or less.
- Be prepared to answer questions regarding the Code, the circumstances that led to the dispute and please bring copies of any documentation.

What you can do if you disagree with the Board's determination:

- You may appeal the Board's determination pursuant to Minn. Stat. Chapter 14.

Office Use Only

RFI File No.	Date Received by DLI	Dated Received by Board	Date of Board Meeting
PB0159	1/13/2023	2/3/2023	2/10/2023

Title of RFI

PB0159.RFI BKBM Engineers Joel Maier.310.5 and 206.0 Storm Drainage

This material can be made available in different forms, such as large print, Braille or on a tape. To request, call 1-800-342-5354 (DIAL-DLI).

Submitted by:

NAME		FIRM NAME	
Joel Maier		BKBM Engineers	
ADDRESS		CITY	STATE ZIP CODE
6120 Earle Brown Dr., Suite 700		Minneapolis	MN 55430
PHONE	SIGNATURE (original or electronic)		DATE
763-843-0477			1/13/2023

For assistance or questions on completing this form, please call 651-284-5898 or 651-284-5889.

Mailing address:

Plumbing Board
c/o Department of Labor and Industry
443 Lafayette Road North
St. Paul, MN 55155-4344

*** Please remember to attach all necessary explanations and supporting documentation*** Page 2 of 2



Division of Construction Codes and Licensing
REPORT ON PLUMBING PLANS

PROJECT: ISD 756 Blooming Prairie High School Additions and Renovation, 202 4th Avenue NW,
 Blooming Prairie, Steele County, Minnesota, *Plan No. PB-R2208-0101*

OWNERSHIP: Chris Staloch, Superintendent, Blooming Prairie Public Schools, 202 4th Avenue NW,
 Blooming Prairie, MN 55917

SUBMITTER: Paulson & Clark Engineering Inc., 2352 County Road J E, White Bear Lake, MN 55110

Plans Dated: August 29, 2022 with revisions dated through December 22, 2022.

Initial Date Received: August 10, 2022

Last Date Received: December 27, 2022

Date Approved: January 3, 2023

This review is limited to the provisions of the Minnesota Plumbing Code, Minnesota Rules, Chapter 4714 and assumes the data on which the design is based are correct. Approval is contingent upon meeting the requirements listed below. **A copy of the approved plans and this report must be retained at the project location.**

INSPECTIONS: The Minnesota Department of Labor and Industry (DLI) will be inspecting the plumbing for this project, including utility installations. Please contact Kara Topper at 651/279-3418 for all plumbing inspections. No plumbing work may be covered prior to inspection. The installer must verify that the required inspection fee has been submitted before scheduling. A separate permit may be required for interior plumbing and site utilities. For additional information, visit our website at: <http://www.dli.mn.gov/business/plumbing-contractors/plumbing-inspections>

REQUIREMENT(S):

1. This office has received the following alternate material/product requests from Chris Staloch, Superintendent, Independent School District 756; and Nathaniel Anderson, BKBM Engineers:
 - ASTM C76 RCP pipe for site storm drainage
 - ASTM F2306 HDPE pipe for site storm drainage
 - AWWA C515 water service gate valves for exterior installation
 - AWWA C800 water service corporation stop for greenhouse winterization
 - SNOUT Oil-Water-Debris Separator device for stormwater structure installation

These requests were reviewed under Section 301.3. These materials/products appear to be suitable, safe, and sanitary for their intended purpose. The approval of these materials/products apply to this project only. The Minnesota Department of Labor and Industry is in no way endorsing these products and is not responsible for any condition that may arise from their use.

2. Storm drainage pipes may not be surcharged by design (see Section 310.5 and Section 206.0, Drainage System). The high water level of the ponds (1295.29 feet and 1292.74 feet) will surcharge all the storm sewers currently shown on the plan to their upper terminals. The high water level of the pond must be at or below the inverts of all sewers discharging into the pond.
3. The following comments pertain to the roof drainage system and compliance with Table 1103.2:
 - a. The 5-inch horizontal storm conductor located near Grid G7/ H on Sheet M4.01b serving 3,854 square feet of roof area must be installed with a slope of at least ¼-inch per foot.
 - b. A 5-inch vertical storm conductor located near Grid EC/S on Sheet M4.00e is shown reducing to 4-inch in the direction of flow. Drainage pipe size cannot decrease in the direction of flow (see Section 315.2).