CITY OF NAPERVILLE
Transportation, Engineering, & Development (T.E.D.) Business Group

# APPLICATION TO BUILDING REVIEW BOARD

Municipal Code, Title II, Chapter 4, "Building Review Board"

DATE: Aug 2, 2019

*ADDRESS OF SUBJECT PROPERTY*: NA

APPLICANT NAME: Mike Cudahy - Plastic Pipe & Fittings Association PHONE: (630) 858-6540

APPLICANTS ADDRESS: 800 Roosevelt Road Bulding C Suite #312 ZIP CITY/STATE: Glen Ellyn, IL

CODE: 60137

E-MAIL ADDRESS: Mikec@cmservices.com FAX: _____

CONTACT NAME: Mike Cudahy PHONE: (630) - 858-6540

1. Application to the Naperville Building Review Board is hereby made for a:

   ( X ) RULING ( ) VARIATION

2. List the specific section(s) of the City of Naperville's Municipal Code, Title V, Building Regulations, from which a ruling of a variation is requested:

   Ordiance 18-032_____

3. City Departments, Officers and Employees whose statements and decisions have previously been sought are:

   a) Steve Chirico /Mayor of Naperville (d) _____

   b) Peter J. Zibble/ Operation Manager (T.E.D) City of Naperville (e)_____

   c) John Rutkowski City of Naperville (f) _____

4. The location of the site for which a ruling or variation is sought is:

   a) Subdivision and Unit: NA

   b) Lot Numbers(s): NA

   c) Street Address(es): NA

5. My short, concise statement of the question to be resolved, and my position on the question is as follows:

**We request that the Naperville Building Review Board (BRB) send a positive recommendation to the Naperville City Council for the repeal of Naperville Ordiance 18-032. The reasons for seeking repeal are, at least in part, because 18-032 is inimical to the interests of Naperville residents and because the justification for 18-032, as submitted by the City of Naperville ("CITY") to the Illinois department of public health ("IDPH"), was based on false and misleading statements.**

A.) 2 Copies of Application Required
B.) 2 Copies of Plans, include one 8 1/2X11
C.) 1 Plat of Survey With Legal Description

Authorized Signature – Applicant: Michael Cudahy $250 Application Fee Paid _____

Within fifteen (15) days from the date of filing of the application, the Business Group Leader shall determine any additional legal, technical, and staff expenses that may be incurred by the City in the course of the consideration, and obtain from the applicant a guarantee, in a manner acceptable to the Business Group Leader of these additional expenses

**From:** Chirico, Steve <ChiricoS@naperville.il.us>

**To:** ronald davis <ronald766@att.net>

**Sent:** Friday, July 19, 2019, 12:41:42 PM CDT

**Subject:** Re: repeal of naperville amendment to illinois plumbing code: ordinance no. 18-032

Thank you for your email regarding plastic plumbing. If you would like o pursue this issue, I suggest you set a hearing with the Naperville building review board (BRB). That board is the first step in a building code change. The BRB is a citizen board made of of subject matter experts. If they make a positive recommendation to the city council then a formal vote could be taken. Thank you again.

*Steve Chirico (Chair-ah-co)*

*Mayor*

*630-816-4642*

Naperville

The information contained in this email is my opinion and the statements made are not on behalf of the City of Naperville or the Naperville City Council.

**From:** ronald davis <ronald766@att.net>

**Sent:** Friday, July 19, 2019 10:22 AM
**To:** Chirico, Steve
**Subject:** repeal of naperville amendment to illinois plumbing code: ordinance no. 18-032

**CAUTION:** This e-mail originated outside of the City of Naperville (@naperville.il.us).

**DO NOT** click links or open attachments unless you confirm the incoming address of the sender and know the content is safe.

Mayor Chirico,

i am writing to request a meeting to discuss repeal of naperville ordinance no. 18-032 ("18-032"), a copy of which is included in the attachment entitled "IDPH Approval...". the reasons for seeking repeal are, at least in part, because 18-032 is inimical to the interests of naperville residents and because the justification for 18-032, as submitted by the city of naperville ("CITY") to the illinois department of public health ("IDPH"), was based on false and misleading statements.

in summary, 18-032 prohibits use of plastic plumbing materials and effectively restricts plumbing systems in naperville to use of copper. plastic plumbing materials have been used in residential plumbing systems since the 1970s. plastic plumbing materials are approved for use in potable water systems in all 50 states. plastic plumbing systems allow consumers to enjoy substantially lower costs when compared to copper plumbing systems. plastic plumbing materials, such as cross-linked polyethylene (PEX, hereinafter, reference to "plastic plumbing materials" will specifically refer to PEX since PEX is the predominant plastic plumbing material in use), are less expensive than copper. but more signficantly, installation of copper plumbing materials requires substantially more labor time in comparison to installation of PEX. at least 2/3 of new residential construction projects in the US utilize PEX. however, 18-032 denies residents of the city of naperville ("RESIDENTS") of the ability to avail themselves of this more cost-effective alternative to copper (such as, during a kitchen or bathroom renovation project).

to better understand the rationale behind the adoption of 18-032 by the CITY, i first contacted the naperville code enforcement group. i was directed to contact the IDPH to obtain background information that supported 18-032. when i contacted the IDPH, Brian Cox, manager of the plumbing and water quality program at IDPH, sent me a copy of the ordinance submittal form ("OSF") that was submitted by the CITY to the IDPH, a copy of which is included in the attachment entitled "OSF.Naperville". with regard to the justification for 18-032, the OSF makes the following statements, the first statement articulating the purpose for 18-032 and the second statement ("STATEMENT") providing a justification for 18-032:

"The effect of this language is to limit the material for water service and distribution material to copper only."

"The primary reason for this requirement is the fact that copper is a bacteriostatic material; bacteria will not grow on its surface. Because of this characteristic, copper piping is the optimal material for the prevention of Legionnaire's and polio disease outbreaks. It is documented that copper surfaces are inhospitable to the growth of Legionella, e. Coli and polio bacteria. It has also been demonstrated that copper plumbing tube inhibits the growth of Pseudomonas fluorescens, Bacillus subtilis, and Bacteriophage MS2, which can cause gastrointestinal disturbance. In addition, unlike copper tube, plastic products, present the potential for many undesirable chemicals to leach through to the drinking water."

to get additional information, i next contacted Peter Zibble, operations manager at the naperville traffic, engineering and development group ("TED"), to obtain the information sources the CITY relied upon to support the STATEMENT. Mr. Zibble's email response is forwarded in this message. according to Mr. Zibble, the CITY relied upon two sources: 1)a master's degree thesis by a former student at virginia tech ("PROCTOR"), a copy of which is included in the attachment entitled "Copper Pipe - Thesis Paper"; and 2)a wikipedia entry dated october 13, 2014 ("WIKIPEDIA"), a copy of which is included in the attachment entitled "Copper Pipe - Antimicrobialpropertiesof copper".

it appears that the CITY relied on WIKIPEDIA to support assertions about the intrinsic bacteria and virus inhibiting properties of copper. WIKPIEDIA does not mention the legionella bacteria, but WIKPEDIA does indicate that copper must be combined with ascorbic acid to inactive the polio virus. this would render moot the assertion made in the STATEMENT that "copper piping is the optimal material" to prevent polio outbreaks because copper alone does not appear to be sufficient for the control of polio virus. WIKIPEDIA does not mention Pseudomonas fluorescens or Bacteriophage MS2, but the assertion: "copper plumbing tube inhibits the growth of Pseudomonas fluorescens, Bacillus subtilis, and Bacteriophage MS2, which can cause gastrointestinal disturbance"; is moot because copper tubing leaches copper into drinking water, and excessive levels of copper have also been shown to cause gastrointestinal disturbances. but most siginficantly, setting aside the highly dubious practice of relying on entries in wikipedia as a basis for policy making, one cannot read statements in WIKIPEDIA, about the interactions between copper and various bacteria and viruses in an isolated environment, and then jump to the conclusion that use of copper plumbing materials in the complex environment that exists in residential plumbing systems will produce the same results as reported in WIKIPEDIA.

the limitations of application of statements in WIKIPEDIA to results obtained in actual plumbing systems becomes readily apparent when one refers to PROCTOR. for example, PROCTOR notes: "Copper is known to be toxic to some bacteria, and the metal ion is utilized in building-level copper-silver ionization systems for disinfection (citations omitted). Copper from copper pipes, however, may not be beneficial for controlling regrowth, as it may require a higher disinfectant residual for control of regrowth issues than plastic pipes (citation omitted) (PROCTOR, at page 44).

it appears that the CITY relied on PROCTOR to support assertions about the legionella fighting properties of copper. however, PROCTOR reviewed scientific research literature comparing copper and plastic plumbing materials and reported the following: "studies have compared copper and plastic pipe materials directly, and found that with age of pipes greater than a couple of months, many measures of biological regrowth, including the occurrence of L(egionella) pneumophila, were not significantly different, although initial differences occurred" (PROCTOR, at page 56). PROCTOR further goes on the mention evidence that copper may even enhance growth of legionella bacteria: "a German survey indicated that homes with copper pipe were more likely to be contaminated by Legionella than homes with galvanized iron or plastics" (PROCTOR, at page 67). thus, the assertion made in the STATEMENT: "copper piping is the optimal material for the prevention of Legionnaire's and polio disease outbreaks"; while not necessarily outright false, is highly misleading.

however, the assertion made in the STATEMENT: "unlike copper tube, plastic products, present the potential for many undesirable chemicals to leach through to the drinking water"; is both outright false and highly misleading. this assertion is outright false in that it states that copper tubing does not leach "undesirable chemicals" into

drinking water. copper tubing leaches both copper and lead (from the solder used in the installation of copper tubing) into drinking water. as stated above, ingestion of excessive levels of copper can result in acute gastrointestinal symptoms. this assertion is highly misleading because it states that plastic plumbing leaches "undesirable chemicals" into drinking water but does not provide any information as to whether these "undesireable chemicals" exist in any significant quantities to pose a public health risk.

the bottom line is that all plumbing materials used in residential potable water systems are going to "leach" something into the drinking water. but to return to reality, it is highly unlikely that you will die, or suffer significant negative health consequences from drinking water distributed through copper plumbing systems. but the same is true with regard to drinking water distributed through plastic plumbing systems. the water division of NSF international (previously known as the national sanitation foundation) has established standard NSF-61 (also known as NSF/ANSI 61 because the standard has been adopted by ANSI), which sets standards for certification of for products that come into contact with drinking water. both copper and PEX products have been certified under NSF/ANSI 61. this is, at least in part, the basis by which all 50 states have approved the use of PEX in potable water plumbing systems.

Mr. Cox, of the IDPH, made the following statement with regard to naperville's restriction of plumbing materials to copper only:

The Department offers advisement to units of local government establishing plumbing ordinances, in accordance with Sections 36 and 38 of the Plumbing License Law. The Department includes PEX amongst other approved materials noted under Title 77 IAC 890 Appendix A, Table A. Therefore, the Department does not feel that these materials present a significant risk to public health when installed in accordance with the Illinois Plumbing Code. That being said, a Governmental Unit establishing an ordinance to exclude PEX is ultimately more stringent than the Illinois Plumbing Code, therefore the Department's ability to restrict such an ordinance is limited.

in other words, the fact that IDPH approved 18-032 was because IDPH did not feel that they had a legal basis under the plumbing licence law to reject the requested exception to the illinois plumbing code contained in 18-032. the approval of 18-032 by IDPH is not an indication that the justification provided by the CITY in the OSF had substantive merit. when i expressed to Mr. Cox that the STATEMENT contained statements that were false and misleading, he responded by advising me that the proper course of action would be for me to raise my concerns with representatives of the CITY. this email message constitutes my raising of my concerns about 18-032 to representatives of the CITY.

the impression that i got from Mr. Zibble, is that TED does not intend to review the substance of 18-032 until 2024. but that would mean 5 more years of adherence to an ordinance, which is based on false and misleading statements. that would mean 5 more years of RESIDENTS needlessly paying higher costs for plumbing work. the naperville city council sets the work priorities for the staff members working for the CITY. the naperville city council can set priorities for TED, such that 18-032 can be reconsidered now, and not 5 years from now.

one of the problems with building codes is that these things fly under the radar for the typical RESIDENT. i only discovered the existence of 18-032 when i recently replaced the hot water heater in my house. to do this work, i applied for a permit for which i had to have both electrical and plumbing inspections. i installed the hot water

heater in accordance with my understanding of the illinois plumbing code and the national electrical code. while i passed the electrical inspection, i was shocked when i failed the plumbing inspection because i used PEX for the final segment hookup to the hot water heater. the inspector then showed me the exception granted to the CITY by the IDPH (18-032) that formed the basis for the rejection. i then began to investigate the genesis of 18-032. the more i saw, the less i liked what i saw.

naperville building regulations should be centered on advancing the interests of RESIDENTS. naperville building regulations should not be utilized to advance the parochial interests of plumbing contractors and copper plumbing material producers. 18-032 does not advance the interests of RESIDENTS. for that reason, i request to schedule a meeting to discuss with you the repeal 18-032.

regards,

ronald davis