

# Food Sector Grease Interceptor Bylaw Review:

## Technical Group Meeting

Reviewed and Approved for Issuance: January 6, 2020

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## Table of Contents

Date & Location .....	3
Participants.....	3
Meeting Summary.....	3
Next Steps.....	11

## Date & Location

Monday November 4, 1:30 p.m. – 3:30 p.m.  
Metro Vancouver – 25th Floor Conference Centre  
Metrotower Office Complex  
4730 Kingsway  
Burnaby

## Participants

<p>Jeff Newmarch, Hy-Line Sales Terence Chan, Impetus Plumbing and Heating Ken Loucks, IW Consulting Service Mark Wilson, Zurn Industries Augusto Carreras, Goslyn Environmental (Tele-conference) Ron DeBodt, ITEC Systems Jacek Redlinksi, City of Richmond Faith Winter, Canplas Industries Baxter Wong, FW Engineering Linda Parkinson, Program Manager, Source Control, LWS, Metro Vancouver Marlene Fuhrmann, Permitting Specialist, Environmental Regulation and Enforcement, Metro Vancouver Phillip White, Gas Safety Manager/Asst Trades Manager, City of Vancouver Nicole Montgomery, Assistant Manager, Environmental Protection, City of Vancouver</p>	<p><b>Facilitators</b> Kirsty Dick, Manager Creative Services, Lucent Quay Consulting Galen Aker, Communications Coordinator, Lucent Quay Consulting</p> <p><b>Regrets</b> Maia Penco, Prism Engineering Spencer Murray, Murrayville Plumbing &amp; Heating Inc. Dillon Moulton, Canplas Industries Eric Thompson, Schier Products</p>
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## Meeting Summary

Agenda Item
<b>Welcome, Introductions &amp; Guiding Principles</b>
<b>Metro Vancouver Presentation and Q&amp;A</b> <ul style="list-style-type: none"><li>• Objectives of the Technical Group</li><li>• Purpose of Bylaw Review</li><li>• Review of Phase 1 Engagement</li></ul>

## Policy Recommendations Topic 1 – Alignment with CSA and plumbing codes

- **Consistency between jurisdictions** – Updated language to align with BC Plumbing Code and Canadian Standards Association (CSA) for sizing and installation of GIs. Metro Vancouver is proposing specific requirements for fixture connections and clarity around conforming to CSA standard.

Participants shared the following feedback:

- = Stakeholder comment
- = Metro Vancouver comment

- The B.C. Plumbing Code doesn't outline required size of grease interceptors (GIs)?
  - The 2018 Plumbing Code references the CSA standard for sizing. The previous version did not. Where the CSA language is vague Metro Vancouver (MV) will provide clear and direct language for sizing requirements.
- The CSA standard currently cuts off at 100 GPM rated flow, has that limited been updated?
  - There have been no updates to the current CSA requirements for GPM. Other jurisdictions have begun to cite CSA requirements and aligned with the CSA standard. MV staff have contacted CSA and will confirm if they are reviewing standards for higher rated flows for grease interceptors. Options will be made available in the bylaw to account for GIs over 100 GPM rated flow.
- Will the revised bylaw language remain flexible enough to incorporate new or updated industry standards?
  - We will aim to make the bylaw language flexible, but it is a legal decision. Future changes to industry standards can be incorporated through a bylaw amendment, that would be administrative in nature so could be fast tracked through the Board. Currently CSA standards refer to "local jurisdictional rules". In situations where there is ambiguous language in the CSA standard, MV will provide clear language around the requirements for GIs and sizing. In specific cases such as the CSA rating GIs only up to 100gpm, MV will allow for other options/standards that will satisfy requirements.
  - The plumbing code references the CSA, and where CSA is not clear MV will provide clarity.
- When you are referencing the BC code, are you including the Vancouver Building Bylaw?
  - Yes. Earlier iterations of the policy recommendations included the Vancouver Building Bylaw, but it was excluded as it may have caused confusion amongst other municipalities that Vancouver was the only jurisdiction referenced. The City of Vancouver will confirm, but Vancouver has used similar language that is referenced in the code.
- Is alignment with the new code effective now?
  - The alignment of the Building Code and CSA occurred in 2018. The proposed bylaw revisions are not in effect, the existing bylaw terms and conditions are still enforced. At the completion of this bylaw review, policy recommendations will go to MV Board for approval, anticipating early 2020 pending adoption of the bylaw by the Board. The proposed changes come into effect when the new bylaw is adopted by the GVS&DD Board.

## Policy Recommendations Topic 2 – Fixtures

**Proposed Changes:**

- **Floor drains/mop sinks** – Will not be required to connect to a GI. If an inspection shows that any of the above are being used to dispose of FOG, the Sewage Control Manager may require a connection to a GI.
- **Funnel/hub drains** – New language with definitions will be added and these fixtures must be connected to a grease interceptor.
- **Hand sinks** – Removed from the list of fixtures that must not be connected to a grease interceptor.
- **Dishwashers** – Existing kitchens, at the time of the bylaw amendment adoption, do not have to connect dishwashers to a GI. Dishwashers will not have to be disconnected if already connected. New builds will be required to connect dishwashers.

Participants shared the following feedback:

- = Stakeholder comment
- = Metro Vancouver comment

- As part of your engagement did MV consider the use of food waste disposal units and did you engage with those businesses?
  - MV met with Food Grinder and Food Digester manufacturers in a dedicated meeting to gain information about their industry and practices. This bylaw review is considering options for the regulation of grinders and food digesters, from registration and sampling requirements to a prohibition on these technologies in new buildings.
- A question regarding specific grease removal technology and eligibility under the bylaw was raised and MV committed to a separate dedicated meeting to address this individual concern.
- In regard to floor drains and mop sinks, can you confirm the proposed revisions will remove simultaneous versus non-simultaneous flow?
  - The new policy recommendations mean that the flows from mop sinks and floor drains will not need to be accounted for at all when sizing the grease interceptor. The bylaw will not require disconnection of mop sinks and floor drains if they are already connected to the GI, but in that case, they would need to be accounted for in the sizing methodology.

**Policy Recommendations Topic 3 – Sizing (selection)**

**Amendments to sizing methodology:**

- Revised methodology proposed is likely to result in smaller GIs.
- New methodology proposes using 75% of sink volume (in place of 100%) and there is no need to account for floor drains or mop sinks.
- Dishwashers will be exempt from sizing calculation if determined to be in an existing kitchen as of the date of the bylaw.
- New language will provide clarity where CSA gives options or refers to local jurisdictions.

Participants shared the following feedback:

● = Stakeholder comment

○ = Metro Vancouver comment

- Can MV confirm that the new bylaw requirements will align with CSA load standard of 75% and will still be requiring one-minute drain time?
  - MV staff can confirm that the proposed bylaw revisions align with CSA standard of 75%, for sinks (where the current requirement is 100%), and will still require a one-minute drain time.
- Are MV staff worried that these proposed revisions will not reduce the amount of grease entering the system?
  - Through the stakeholder engagement process MV staff heard interests from many stakeholder groups. The revisions proposed weigh those interests with mitigation measures that are achievable. MV's ultimate goal is to reduce the amount of grease entering the sewer system. Creating strict guidelines that only a small portion of FSEs are able to follow is not as effective as creating achievable goals for the majority of FSE stakeholders.
- What are the requirements regarding existing kitchens that require new fixtures, such as dishwashers?
  - The installation of a new fixture in an FSE that is classified as an existing kitchen will not dictate connection to a GI. In a new kitchen, dishwashers will be required to be connected to a GI and will need to be accounted for when calculating capacity. Dishwashers that are currently connected in existing kitchens will not be required to disconnect.
- Will the rate of flow for dishwashers be determined by the manufacturers' specifications on discharge? And in cases where a pre-rinse sink is upstream of the dishwasher, both fixtures will require connection?
  - Yes, the rate of flow is determined by the manufacturers specifications and both fixtures still need to connect to the GI.
- How will MV approach fixtures that are not being used as described by the manufacturer?
  - At the inspecting officer's discretion, they can require any grease bearing fixture to be connected to a GI despite how it is described by the manufacturer. For example, if a grease bearing fixture is connected to a floor drain, that drain or fixture will require a connection to a GI. Fixtures that are exempt from connection are being exempted under the assumption that they are being utilized for their intended purpose. The Sewage Control Manager may require a fixture to be connected if it is found to be used in a manner that discharges FOG.
- During your engagement process did MV consult with hood operators and determine how they discharge their FOG? In some circumstances, hood cleaning providers will discharge into the floor drain during non-working hours.
  - MV met with several stakeholder groups, including GI maintenance providers, but did not consult with specific fixture manufacturers. As for the practice of illegal discharge of FOG into floor drains, while the practice may not happen often, MV bylaw officers can only regulate what they observe. MV staff will look to include specific language in the proposed bylaw revisions to prohibit discharging FOG from hood cleaning to floor drains and/or mop sinks.

- Are in-series interceptors considered in the proposed sizing methodology?
  - The CSA standard and the current Metro Vancouver sizing methodology do not address grease interceptors in series. These would be considered one-off applications. Any specific examples would require an application to the Sewage Control Manager. Requests regarding installation of GIs in series should also be directed to CSA. Maintenance requirements for GIs in series could also pose some challenges. The bylaw is concerned not only with initial installation (like the Plumbing Code) but with the ongoing operation and maintenance of the GI(s).
- Would engineering designs for GIs in-series not be accepted?
  - That would form part of an application to the Sewage Control Manager.
- Generally, engineers will include in-series interceptors to increase capacity that can't be achieved through one unit. Often seen in cases of large restaurants who need certain capacity and cannot obtain it through one GI. In the case of some engineering firms, they do have designs for in-series interceptors.
  - In order to have an in-series interceptor considered, engineering firms should submit an application to the Sewage Control Manager. Also it should be noted that the current proposed policy recommendations will likely result in the need for smaller interceptors.
- Considering flow rate of larger pipes, the issue of emulsification comes into question, how is it affecting the actual retention of grease inside the interceptor? Hydromechanical GIs operate the best. During the review process did MV ever consider grease production sizing? (e.g. sandwich shop vs. pizza shop)
  - During a previous bylaw review, MV staff looked at a production-based GI sizing, however that type of classification posed major enforcement challenges as businesses experience high turnover. Changes to existing businesses may increase or decrease their levels of FOG output posing challenges for MV staff to monitor changes.
- What is MV's policy for units that separate FOG at source?
  - The bylaw is written with a performance requirement of less than 300 mg/L total oil and grease into the sewer system, the most common technology to achieve this is a GI. The bylaw describes the methodology for how FSEs can meet those requirements through sizing and maintenance guidelines. If an alternative technology is able to meet the basic requirements for discharging to the sewer system, FSEs can apply to the Sewer Control Manager for approval of that system.
- A challenge that engineers are encountering is the difficulty securing a "Will Comply" letter from MV in situations where a building is designed to accommodate an FSE tenant, but a tenant has not yet been secured. GI requirements are implemented based on estimates but cities are not approving and citing the absence of a "Will Comply" Letter, as MV will not issue one until specs and package are installed. Has that process between cities and MV been reviewed at all?
  - MV cannot issue a Will Comply letter until the requirements for the tenant are confirmed. MV is having a dedicated meeting with municipalities to discuss process issues. Not all municipalities will request "Will Comply" letters, some will grant approval based on the engineers' stamped drawing, each municipality is unique in their requirements. MV heard feedback during the small group meetings about these types of challenges and is reviewing education programs with developers to incorporate space for the GI. We have encountered situations where an FSE wishes to secure tenant space, but a GI was not incorporated into the designs.

- Could you implement an approval for “Will Comply” letters for a minimum of 500 GPM rated flow to secure approval from an inspector?
  - MV will research possible options to issue “Will Comply” letters and will discuss the issue at the dedicated municipality meeting.
- Does the current bylaw, or the revisions proposed, address FSEs sharing a GI? Many jurisdictions do not allow for the sharing of GI equipment.
  - There is no language in the current bylaw or in any proposed revisions to prohibit multiple FSEs utilizing the same GI. The GI that is connected to multiple establishments must still comply with sizing methodology based on the connected fixtures. Malls are an example of multiple FSEs utilizing the same GI and often they have a smaller GI installed on their premises that leads to a larger GI maintained by the mall.
- Does MV issue permits for GIs to FSEs? Other jurisdictions have found this as an effective tool to enforce compliance.
  - FSEs in MV operate under a bylaw and permits are not issued. There are also resourcing implications to a permitting system, but it would solve some challenges.

#### Policy Recommendations Topic 4 – Grease Interceptor Maintenance

- **Grease Interceptor maintenance schedule** – Maintenance of GIs must occur at least once every 90 days or when FOG is 25% or more of wastewater (CSA requires every 4 weeks).
- **Non-conforming grease interceptor** – If GI is non-conforming (for sizing requirements) but all required fixtures are attached, FSEs are eligible to apply to the Sewage Control Manager for a more frequent maintenance program. The maintenance frequency will be determined by the Sewage Control Manager. Maintenance records must be submitted. This program will only be available for three years before requiring upgrades to meet the sizing requirements. The intent is after three years, FSEs have had enough time to plan for and finance the necessary upgrades.

Participants shared the following feedback:

- = Stakeholder comment
- = Metro Vancouver comment

- Do these policy recommendations apply to existing GIs? Is this proposal an idea or is it currently in effect?
  - These proposed bylaw revisions are what MV staff will present to the Board for adoption. The proposed maintenance schedule and exemptions are not currently in effect but will go into effect once Board approval is obtained. During stakeholder meetings MV staff heard that the capital expenditure to come into compliance with the bylaw was challenging. The proposed measure allows FSEs to account for future costs to upgrade and plan for the capital cost of the upgrade over a three-year period.
- Can the bylaw be connected to the business licensing system in anyway?
  - Metro Vancouver, as a regional district, does not have a business licensing system – this happens at the municipal level. For some jurisdictions, like Vancouver and Richmond who have their own inspectors, this type of system may work, but it will not work for all municipalities that fall under MV’s jurisdiction. In the future, MV is looking to align the bylaw with a preferred hauler program and electronic records submission. This would allow FSEs, or maintenance providers at the approval of their client, to electronically



submit maintenance records and prove compliance. This future plan would help ensure compliance and is in process as it requires significant work to implement, from both cost and procurement perspectives.

- How are grease haulers/maintenance providers regulated in discharging grease?
  - MV does not have the authority to regulate haulers/maintenance providers, only those entities that are discharging into the sewer system. Haulers do not directly discharge to the sewer.
- Has MV considered something similar to the back-flow prevention system?
  - The challenge with implementing that type of system is lack of resources to manage such a robust system. The bylaw does require GI maintenance records be kept on the premises.
- Does MV have a way to specify the maintenance schedule of individual FSEs? A potential issue with the required 90-day maintenance schedule is that some FSEs may interpret that minimum as the only requirement and not monitor the GI as needed.
  - The proposed required maintenance schedule of 90 days is the maximum amount of days an FSE can allow between GI maintenance visits and works in combination with maintaining 25% FOG and solids levels. It is the FSE's responsibility to ensure their GI is within compliance and being maintained properly. Many FSEs rely upon their maintenance provider to determine % levels.
- The challenge with that requirement is newer technologies are able to hold higher a percentage without reaching its capacity. An FSE owner who invested in extra capacity to prevent additional maintenance costs is now required to clean out at 25% loses that investment in better technology. The standards proposed appear to cater to lower capacity GIs and don't take into account newer technologies with higher capacities or capability. CSA dictates cleaning a GI every 4 weeks, but this standard is not in a mandatory section.
  - The Sewage Control Manager is given the flexibility to make decisions. MV cannot create a bylaw for specific technologies. MV writes the bylaw as a set of rules that apply to most and allow for consideration of exceptions. What would be a solution?
- Maintenance requirements could be in accordance with manufacturers recommendations. A certain manufacturer could be approved by the Sewage Control Manager for a percentage of capacity.
  - To ensure consistency across jurisdictions, it is advised that those companies to write to the CSA and have it written into a Canadian standard so every Sewage Control Manager across the country can all rely on the same thing.
- Who is doing the measurement of percentage?
  - The FSE is responsible for it. Often they rely on the maintenance provider for advice.
- You could set the maintenance schedule as either 90 days or 25% of capacity or to the manufacturer instructions. For those with manufacturers' instructions, the bylaw would rely on those instructions and to set schedule and the maintenance provider would rely on those instructions in assisting the FSE.
  - MV would like to avoid tailored maintenance schedules for individual FSEs in Metro Vancouver as much as possible. But we will consider in accordance with manufacturers' instructions.
  - Would need to demonstrate what compliance according to manufacturers' maintenance looks like to enforcement officers.

- Some interceptors will be full (at 25-30%) in 4-5 days. Most FSEs are producing more grease than is being trapped; once an interceptor is “full” it is not as effective at trapping grease. It can be hard to tell when that “full” point is actually reached unless the unit is being checked more frequently.
  - CSA standard also requires grease interceptors be serviced before depth of FOG and solids reaches 25%. It is noted that determining the actual time period it takes for a grease interceptor in an FSE to reach 25% is a challenge for enforcement.
- Will there be specific language around what fixtures need to be connected? Will those exempt fixtures that are still connected count towards capacity?
  - MV will be direct and clear in the proposed revisions regarding the fixtures that are required to be connected and those that will be exempt. Exempt fixtures, if connected to a GI, will still need to be accounted for when sizing the GI.
  - In the proposed bylaw changes, MV will introduce specific language for the handling of yellow grease. This type of grease is generally collected for free or may even have value. It is proposed that the bylaw will include a prohibition on disposing yellow grease to a drain, sink or GI.
- Industry representatives have been receiving calls from engineers who wish to implement digesters in conjunction with GIs, are those technologies permitted?
  - There is no specific language referencing digesters in the current bylaw, but MV is considering all measures from permitting to prohibition. As a potential grease-bearing device, at a minimum it should be connected to the GI. The manufacturer’s rated flow should be used for sizing purposes.
- Is industry prohibited from using enzymes in a GI?
  - Yes, the use of enzymes in a GI and their discharge into the sewer system is prohibited in the current bylaw. MV is able to regulate discharge into the sewer system but not the contents of a specific fixture if it does not discharge into the sewer. MV is asking for more information on the composition of the discharge from digesters to determine the level of compliance with MV standards for discharge.
- Is the use of food grinders widespread amongst FSEs?
  - MV is not aware of the widespread use of grinders within the industry, but surveys have estimated it is around 5%. Those who are utilizing grinders are primarily larger institutions such as hospitals and schools. There is more to be learned about maintenance on solids interceptors and there will need to be rules about maintenance for the units.

### Final Thoughts

Participants provided the following final thoughts:

- = Stakeholder comment
- = Metro Vancouver comment

- When proposed recommendations are presented to the Board, can the public oppose at that time?
  - Yes, once the recommendations are put to the Committee and Board, stakeholders will be notified when the Committee and Board meetings will take place and there is a process to present as a delegation to the relevant Board or Committee.

- Is the recommendation to continue normal operations until the bylaw is adopted?
  - The bylaw has not been officially revised and only proposed revisions have been drafted to date. The final recommendations will incorporate feedback heard during the consultation process and be voted on by the Board in March or April 2020.

## Next Steps

A Meeting Summary Report will be provided within three weeks of the meeting date and will be distributed to attending and non-attending participants.

The following are the upcoming meeting dates scheduled by Metro Vancouver:

- Municipal Meeting (November 13)
- Working Group Meeting # 2 (cancelled)
- Grinders & Digesters Group Meeting (spring 2020)