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AGM 2018 HIGHLIGHTS

OACETT provides opportunities for collaboration, engagement and inclusivity at our 2018 AGM and Conference

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Sanitation, Reliability and Sustainability

BY CLARENCE WALTERS, C.TECH., FMA, MMP, SFP

With the new grease removal technology and annual maintenance of drainage lines, we have been able to reduce the number of failures on the main drain lines from about one per month to around two annually.

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▶ At Toronto Pearson International Airport, we were experiencing a major problem with drain pipe blockages and failures of cast iron drain lines. Drain water was leaking into tenant and passenger spaces, increasing the risk of contamination which caused operational delays for restaurants, baggage systems and several other areas through which drain lines were routed.

To remedy the problem, a Root Cause Analysis was conducted to determine why the failures were occurring. This clarified several technical issues with the system and revealed that our leasing agreement clauses pertaining to tenant and landlord responsibilities, were not clearly defined.

We found heavy fats, oil and grease build up in the lines wherever the failures were occurring. Quite often a large volume of organic waste was also in the mix. We started looking at food and beverage tenants, the type of grease interceptors they were using, and the frequency of cleaning and maintenance of their equipment.

We learned that the frequency of grease interceptor cleaning by tenants was inadequate due to the rapidly increasing passenger growth at the Airport. The demand it put on the drainage system caused fats, oil and grease to coagulate on the inner walls of the cast iron drain pipe. Organic matter then combined with the grease, hardened and caused a chemical reaction that rapidly corroded the pipe.

A new grease separation equipment called the Goslyn was installed at the source in kitchens which reduced interceptor cleanout costs to almost zero for tenants.

We then investigated drainage pipes that could stand up to a rigorous 24-hour heavy use, resist corrosion and fats, oils and grease build up, and meet the required fire codes. The XFR piping system met the criteria for our application, and was easy to install. We specified this pipe to be used in our Airport Construction Code for drainage in all buildings. We also made some other changes to our code that allowed our maintenance teams and contractors to maintain the lines via jetting, to minimize operation interruptions, and remove a cumbersome procedure from tenant requirements.

We built a working model to demonstrate the efficiency of the new kitchen equipment and used it to get buy-in from tenants and senior management. It was well received. Over a period of two years, we replaced the grease interceptors in more than 80 dining locations. The working model was used for training front-end staff, who carry out daily maintenance on the equipment.

With the new grease removal technology and annual maintenance of drainage lines, we have been able to reduce the number of failures on the main drain lines from about one per month to around two annually. We now have a plan in place to gradually convert all the cast iron main drain lines to XFR and will see fewer unplanned failures going forward. As an added benefit, the oil captured is now recycled and diverted from landfill sites.

We are currently evaluating our sewage systems, pumps, detection devices, agitators and control equipment to determine whether we need to make further improvements.

Thank you to the Abstract Peer Review Committee for selecting this outstanding group of professionals to participant in this year's AGM and Conference's Technical Program.