

**ORDINANCE NO. 700-09-16**

Commissioner Anderson moved, seconded by Commissioner James, the adoption of the following:

**ORDINANCE AMENDING SECTIONS OF CHAPTER 52, SEWER USE REGULATIONS, TO DEFINE FOOD SERVICE ESTABLISHMENTS AND REQUIRE GREASE INTERCEPTORS, AND UPDATING SECTIONS OF CHAPTERS 53 AND 54 ON SURCHARGES**

WHEREAS, the deposit of fats, oil, and grease in the wastewater treated by the City causes problems and increased costs in the treatment process, and

WHEREAS, research and experience indicate that the installation and maintenance of grease interceptors will reduce the fats, oil and grease in the wastewater to be treated at the wastewater treatment plant, and

WHEREAS, a system of surcharges for fats, oil, and grease and other pollutants has been developed,

NOW THEREFORE, THE CITY OF BIG RAPIDS ORDAINS:

1. Section 52.03 DEFINITIONS is amended to include the following definitions of FATS, OIL, AND GREASE CONTROL DEVICES, FOOD SERVICE ESTABLISHMENTS and an amended definition of SUPERINTENDENT.

***FATS, OIL, AND GREASE CONTROL DEVICES (FOG CONTROL DEVICES).*** Any on site devices by which fats, oil, grease, or solvent extractables are removed from wastewater prior to discharge into the sanitary sewer, including but not limited to grease traps and interceptors.

***FOOD SERVICE ESTABLISHMENTS (FSEs).*** Establishments that prepare food for consumption in a dining, carry-out, or institutional setting, or that prepare food for sale on the premises such as a bakery, grocery or convenience store deli.

***SUPERINTENDENT.*** The Superintendent shall be appointed by the Public Works Director, subject to the approval of the City Manager, and shall meet the minimum requirements established by the Michigan Department of Environmental Quality. **All references in this code to the Superintendent shall include the Superintendent's designees.**

2. Section 52.05(A) USER CLASSIFICATION is amended to include a classification for Food Service Establishment.

***(6) Food Service Establishment.*** Any commercial or institutional user that prepares or serves food onsite.

3. Section 52.17 Duties of superintendent is amended to add subsection (E).

**(E) Users with grease interceptors shall submit grease interceptor cleaning and disposal manifests on an annual basis to the Superintendent, at a minimum.**

4. Section 52.19(A) is amended to require Food Service Establishments to install grease, oil and sand interceptors.

**52.19(A) GREASE, OIL AND SAND INTERCEPTORS**

**(A) Grease, oil and sand interceptors or similarly effective fats, oil and grease control devices shall be provided by and for all Food Service Establishments, and for any other sewer user when, in the opinion of the Superintendent, they are necessary for the proper handling of liquid wastes which may contain grease in excessive amounts, or any flammable wastes, sand or harmful ingredients, except that such interceptors shall not be required for private living quarters or dwelling units or FSE's that prove to the Superintendent, through procedures outlined in Section 52.19(C)(8), that the user's discharge of fats, oils and grease into the sanitary sewer is less than the domestic background concentration which is updated annually in the Wastewater User Charge Report as the "Domestic Background Wastewater Strength" table. All interceptors shall be of a type and capacity approved by the Superintendent, and shall be located as to be readily and easily accessible for cleaning by the owner and inspection by the City.**

5. Section 52.19(C) is amended to require maintenance of grease, oil and sand interceptors by the owner and user.

**(C) Where installed, all grease, oil and sand interceptors shall be cleaned and maintained by the owner at his or her expense, in continuously efficient operation.**

**(1) Any user required to install and maintain an interceptor (trap) of any kind shall maintain and clean out the interceptor and shall document and keep:**

**(a) A maintenance schedule;**

**(b) The identity of the person(s) who cleaned and maintained the interceptor;**

**(c) The method and location of grease, oil and sand disposal.**

**(d) The documentation required by this Section shall be available for review by the Superintendent and copies shall be provided to the Superintendent upon request.**

**(2) Problems with or damage to an interceptor/trap shall be reported immediately to the owner and the Superintendent and repaired or corrected.**

**(3) No interceptor/trap clean out material shall be discharged into a sewer.**

**(4) No bacteria or enzyme products shall be used in the maintenance of interceptors/traps without prior written approval from the Superintendent.**

**(5) Users shall implement best practices of grease management to minimize discharge of food grease to the POTW.**

**(a) Under sink grease traps shall be cleaned weekly, or more or less frequently as approved in writing by the Superintendent.**

**(b) Clean outs of all other interceptor/traps shall be scheduled and conducted so the interceptor/trap does not exceed 25% solids content (including both the top and bottom layers of solids) and there is no visible discharge of grease or oil.**

**(c) The clean out process shall remove the entire grease mat, liquids, sludge, and solids from screens, baffles, air-relief chambers, and wash down the interior walls.**

**(6) The interceptor/trap is subject to inspection by the Superintendent at any time.**

**(7) The Superintendent will maintain a list of all users with FOG control devices. All FSEs and other non-domestic users required to have FOG control devices shall submit to the Superintendent documentation describing the size and location of the control device installed. Each FOG device user may be charged a monthly fee to cover costs associated with the periodic evaluation and review. Users that do not maintain and produce monthly records of the FOG device may be fined for noncompliance in accordance with Section 53.107.**

**(8) FOG Control Devices**

**FSE facilities shall reduce the discharge of fats, oils and grease to the sanitary sewer to less than the domestic**

**background concentration, or install an FOG control device approved by the Superintendent. FSE facilities must have an approved sampling manhole and must, at their own expense, conduct a random grab sample supervised by the Superintendent once a week for four weeks, or otherwise at the discretion of the Superintendent, to prove discharge of fats, oils and grease to the sanitary sewer is less than the domestic background concentration. FSE's that prove to the Superintendent that the user's discharge of fats, oils and grease into the sanitary sewer is less than the domestic background concentration will not be required to install a FOG control device and shall not be surcharged for fats, oils and grease.**

**A grease trap generally is used for small to medium volume establishments such as fast food restaurants or full service restaurants (generally serving less than 400 meals per day). A grease trap is a small reservoir built into the sewer line close to the source of grease production. The reservoir contains baffles which retain the wastewater long enough for grease to congeal and rise to the surface. The accumulated grease is then removed from the trap for proper disposal, reducing the grease entering the sanitary sewer system.**

**Interceptors usually are used for high volume full service restaurants (generally serving more than 400 meals per day) or large institutional food service production such as hotels, hospitals and schools. An interceptor is typically a vault (500 to 750 gallons) that is located on the exterior of the building. The vault contains two chambers with 90° grease retention fittings and additional grease is collected as the wastewater cools and grease congeals on the surface of the water. This grease is then removed from the interceptor for proper disposal.**

#### **(9) Best FOG Management Practices**

**Best FOG management practices should be employed to decrease the amount of FOG discharged from FSEs. The use of best management practices can contribute to a financial benefit through a reduction in grease interceptor maintenance frequency and overall FOG discharge to the sanitary sewer system.**

**Suggested best management practices for food service establishments are posted on the City website.**

6. Section 53.004 DEFINITIONS is amended by adding a definition of FOOD SERVICE ESTABLISHMENTS (FSEs).

**FOOD SERVICE ESTABLISHMENTS (FSEs).** Establishments that prepare food for consumption in a dining, carry-out, or institutional setting, or that prepare food for sale on the premises such as a bakery, grocery or convenience store deli.

7. Section 53.004 DEFINITIONS is amended to modify the list of users in the USER CLASS to include Food Service Establishments.

**USER CLASS.** The kind of user connected to the sanitary sewers, including but not limited to, residential, industrial, commercial, **food service establishment**, institutional and governmental.

8. Section 53.016 Specific Discharge prohibitions is amended by adding prohibitions on the discharge of fats, oils and grease and other substances.

**(M) Soluble substances in a concentration that increases the viscosity to greater than 10% over the viscosity of water or in amounts that will cause obstruction to the flow in the POTW resulting in interference.**

**(N) Any solvent extractable, including, without limitation, oil grease, wax, or fat, whether emulsified or not, in excess of applicable local limits; or other substances that solidify or become viscous (with a viscosity of 110% of water) at temperatures between 32° Fahrenheit and 150° Fahrenheit in amounts that cause obstruction to the flow in sewers or other interference with the operation of the POTW.**

**(O) Any pollutant that results in excess foaming during the treatment process. Excess foaming is any foam that interferes with the treatment process.**

**(P) Any medical infectious waste.**

**(Q) Any sludge, precipitate or waste resulting from any industrial or commercial treatment or pretreatment of any wastewater or air pollutants.**

**(R) Any non-contact cooling water, air-conditioning water, swimming pool water, storm water, surface water, groundwater, roof runoff, and surface or subsurface drainage except as authorized by law, and as approved by the Superintendent).**

**(S) Any discharge into the collection system or the wastewater treatment plant which contains any material in excess of the concentrations allowed by the Local Limits or that causes the POTW to violate its NPDES permit, the receiving water quality standards, or associated local, state or federal laws, rules, or regulations, or interferes with the reclamation, reuse or disposal process for treatment residues, sludge, or scums.**

9. Section 53.021(B)(1) is amended to read as follows, changing the BOD concentration from 530 to 1,000mg/l:

(1) No user shall discharge wastewater containing concentrations (and/or mass limitations) in excess of the following:

<b>Material</b>	<b>Concentration (mg/l)</b>
Conventional Pollutants	
Ammonia – N	64
<b>BOD</b>	<b>530-1000</b>
Total Suspended Solids	900
FOG	200
TPH	49
Total Phosphorus as P	36

<b>Material</b>	<b>Concentration (ug/l)</b>
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Nonconventional Pollutants/upper limits:

METALS

Arsenic	60
Cadmium	90
Copper	950
Cyanide	130
Chromium, Total	2,700
Chromium, Hexavalent	300
Lead	570
Mercury	*(LOD)
Nickel	930
Selenium	150
Silver	43
Zinc	3,700

ORGANICS

1,4-Dichlorobenzene	24
Chloroform	50
Lindane	0.6
Benzene	24
Toluene	24
Ethyl Benzene	31
Xylenes, Total	44
Methylene Chloride	41
Tetrachloroethylene	5
Trichloroethylene	21
1,1,1- Trichloroethane	16

\* The local discharge limitation for mercury is established at the level of detection (LOD) in accordance with the following:

There shall be no detectable amounts of mercury discharged into the publicly owned treatment works (POTW). Mercury sampling procedures, preservation, handling, and analytical protocol for compliance monitoring shall be in accordance with EPA Method 245.1. The Level of Detection (LOD), developed in accordance with the procedure specified in 40

CFR 136 shall not be greater than 0.2 ug/L for mercury, unless higher levels are appropriate due to matrix interference.

The evaluation of potential matrix interference(s) shall include, at a minimum, the following:

(a) A demonstration that the laboratory conducting the analysis is capable of achieving the LOD of 0.2 ug/L in reagent water;

(b) A demonstration that the LOD of 0.2 ug/L cannot be achieved in the effluent; and

(c) A demonstration that an attempt has been made to resolve the matrix interference(s).

In cases where true matrix interference(s) can be demonstrated, a discharge-specific LOD will be developed in accordance with the procedure 2005 S-6 in 40 CFR 136. Discharge-specific LOD's will be incorporated into the wastewater discharge permit of the nondomestic user.

10. Section 53.021(B)(3) is amended to read as follows:

**(3) The City of Big Rapids sustains costs to operate and maintain the City's sanitary sewer system and wastewater treatment plant. The Utility is paid by user fees that shall be distributed as equitably as possible among the users. The typical user rates employed by the City of Big Rapids cover costs associated with the treatment of normal domestic strength wastewater. Higher strength wastes incur higher costs for treatment. Industrial and commercial users sometimes discharge high strength wastes and the surcharge program allows the City to recover the costs associated with treating this wastewater.**

**Surcharges are an additional charge used to cover the extra cost of treating conventional pollutants in excess of domestic background concentrations.**

**The City's surcharge procedure shall include, on at least a semi-annual basis, composite sampling on typically four**

consecutive days to determine the user concentration in mg/l of conventional pollutants from each non-domestic user. These user concentrations will be compared to the domestic background concentration for each parameter found under "Surcharge" in the City's User Charge Report. When the user concentration exceeds the domestic background concentration for a parameter, the excess amount will be the concentration used to calculate the pounds to be surcharged. The flow used shall be the actual monthly flow. Example: the domestic background concentration for total phosphorus is 5 mg/l. User A has an user concentration of 8 mg/l. The surcharge concentration for User A would be 3 mg/l. This concentration multiplied by the monthly flow in millions of gallons \* 8.34 pounds per gallon gives the total pounds of phosphorus. If User A consumed 600,000 gallons of water, that would be 0.6 million gallons \* 3 mg/l \* 8.34 = 15.01 pounds of surcharge phosphorus @ \$2.51/lb = \$37.67 for that month. The excess concentration surcharge shall remain in effect until the next sampling. Each user subject to surcharges may be billed monthly or quarterly according to water usage or metered discharge. Sampling and analysis shall be performed by the City. A split of each sample shall be made available to each user upon written request to the Superintendent. The City may obtain additional samples to verify a user's effluent parameters. Any surcharged user may request additional samples based on a changed condition since the last sampling event. Costs for additional samples and analysis shall be paid by the user.

11. Section 53.041 CHARGES AND FEES is amended by adding the following text as subsection (J) on fees for reimbursement for sampling and laboratory analyses.

**(J) Reimbursement for sampling and laboratory analysis requested by non-domestic users to change a surcharge user classification.**

12. Section 53.107 ADMINISTRATIVE FINES is amended by labeling the existing paragraph as subsection (A) and adding the following subsection (B).

**(B) Non-domestic users that fail to file required documentation may be charged twice the IPP user charge for each month that the documentation is delinquent, or a minimum charge of twenty-five (\$25) dollars a month.**

13. Section 54.12 SEWER RATES is amended by labeling the existing table and text as subsection (A) and adding the following text as subsections (B)-(F):



## **(B) Surcharges**

**The City's surcharge procedure shall be based on one of two methods:**

**(1) For Non-domestic users with a sampling manhole meeting the Industrial Pretreatment Program (IPP) manual specifications, or other approved method of discharge sampling, on at least a semi-annual basis, the City will conduct composite sampling, on typically four consecutive days to determine the average concentration in mg/l of conventional pollutants from each non-domestic user. These user concentrations will be compared to the domestic background concentration for each parameter found under "Surcharge" in the City's User Charge Report. When the user concentration exceeds the domestic background concentration for a parameter, the excess amount will be the concentration used to calculate the pounds to be surcharged. The flow used shall be the actual monthly flow. Example: the domestic background concentration for total phosphorus is 5 mg/l. User A has an user concentration of 8 mg/l. The surcharge concentration for User A would be 3 mg/l. This concentration multiplied by the monthly flow in millions of gallons \* 8.34 pounds per gallon gives the total pounds of phosphorus. If User A consumed 600,000 gallons of water, that would be 0.6 million gallons \* 3 mg/l \* 8.34 = 15.01 pounds of surcharge phosphorus @ \$2.51/lb = \$37.67 for that month. The excess concentration surcharge shall remain in effect until the next sampling. Sampling and analysis shall be performed by the City. A split of each sample shall be made available to each user upon written request. The City may obtain additional samples to verify a user's effluent parameters. Any surcharged user may request additional samples based on a changed condition since the last sampling event. Costs for additional samples and analysis shall be paid by the user.**

**(2) Non-domestic users without an approved sampling manhole or other approved method of discharge sampling that are Food Service Establishments (FSE), and do not require an industrial discharge permit, may be surcharged according to the surcharge classification procedure established by the City. This allows the City to levy surcharges to FSEs based on the specific type of service conducted (i.e. Full Service Restaurant, Fast Food Restaurant, Institutional Food Service, Grocery Store with Food Preparation, or Baked Goods/Bakery) by the user, in lieu of individual waste sampling results. Users placed in a specific class of FSE by the City may request individual surcharging based on actual sampling and analytical results as long as an adequate sampling manhole is provided and**

**the user reimburses the City for sample collection time and materials and analytical expenses.**

**(3) Each user subject to surcharges may be billed monthly or quarterly according to water usage or metered discharge.**

**(C) Food Service Establishments that do not have sampling manholes.**

**The Superintendent shall classify Food Service Establishments (FSEs) based on type of food product, customer consumption method and food preparation activities within the categories defined below. The waste classification system shall determine how FSEs are surcharged.**

**(1) Full Service Restaurants**

**Definition – This FSE typically prepares and serves food in a dining setting. Attending patrons are provided food items served on plates with utensils that have to be washed after the patrons have completed their meals. Cookware is also cleaned on the premises. Food preparation comprises the many activities that constitute the provision of service at a full service establishment – baking, frying, grilling, broiling, boiling, etc. The overwhelming majority of service is provided in seating areas with a relatively small amount of carryout business.**

**(2) Fast Food Restaurants**

**Definition - This FSE prepares food for intended for immediate consumption. Its food items are often provided in paper or other types of disposable wrappers and containers along with disposable utensils. The patrons of fast food establishments dine in a seating area or take their food on a carryout basis. Cookware is cleaned on the premises. Food preparation comprises the many activities that constitute the provision of service at a full service establishment – baking, frying, grilling, broiling or boiling.**

**(3) Institutional Food Service**

**Definition - This FSE category comprises establishments that basically provide food service to the tenants or employees of a commercial, multi-unit/group residential or institutional facility. The food is prepared and/or provided in the location of the facility, usually in a cafeteria with seating. Depending on the type of facility, the food may be delivered to the room of the patrons or they can consume their food in a dining area. The employees of the food service establishment**

usually work for or are contracted by the facility in which the food is served.

#### **(4) Grocery Store with Food Preparation**

**Definition - This FSE encompasses the various grocers, delis and supermarkets that prepare food. Food preparation comprises the many activities that constitute the provision of service at a full service restaurant– baking, frying, grilling, broiling or boiling. The patrons of these establishments buy food that is ready for consumption and they usually take the food items with them when they leave the establishment, although some may have relatively small areas for patrons to consume food. Cookware and utensils are cleaned on the premises.**

#### **(5) Baked Goods or Bakery**

**Definition - This FSE typically prepares a variety of baked goods, such as bread, pastries, and cakes for retail sale and for consumption by patrons who come to the establishment for baked goods for immediate consumption. The area dedicated to serving walk-in patrons is relatively small compared the total size of the facility with an equally small area dedicated to on premise consumption.**

### **(D) Standard FSE Wastewater Strengths**

**Standard FSE wastewater strengths are established for each pollutant of concern including Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS), Total Phosphorus (TP), and Ammonia.**

<b>Category</b>	<b>BOD (mg/L)</b>	<b>TSS (mg/L)</b>	<b>TP (mg/L)</b>	<b>Ammonia (mg/L)</b>
<b>Full Service Restaurant</b>	<b>647</b>	<b>-</b>	<b>7.6</b>	<b>-</b>
<b>Fast Food Restaurant</b>	<b>620</b>	<b>344</b>	<b>8.6</b>	<b>-</b>
<b>Institutional Food Service</b>	<b>487</b>	<b>-</b>	<b>7.9</b>	<b>-</b>
<b>Grocery with Food Preparation</b>	<b>746</b>	<b>600</b>	<b>17.0</b>	<b>64.0</b>
<b>Baked Goods or Bakery</b>	<b>655</b>	<b>745</b>	<b>-</b>	<b>-</b>

**The Standard FSE Wastewater Strengths are established based on sampling at locations within each classification in Big Rapids and are posted on the City's website and will be included in the annual Big Rapids Wastewater User Charge Report. These Standard FSE Wastewater Strengths will be updated annually to reflect the results of ongoing sampling.**

#### **(E) Surcharge Rates**

**The Superintendent shall assess a surcharge rate for each FSE user based on the standard FSE wastewater strength for that classification unless sampling is being conducted at the facility. The established surcharge rate for each pollutant and domestic background concentration for each pollutant of concern is updated annually as part of the City's User Charge Report.**

**Surcharge amounts shall be determined for FSEs by determining the difference between the standard FSE wastewater strength and the domestic background concentration for that pollutant. The measured flow from the facility shall be applied to determine a cost per pound for each pollutant of concern. A facility may choose to conduct site specific sampling if they believe the standard FSE wastewater strengths listed do not adequately represent their discharge. Sampling procedures and frequency must be approved, and are subject to oversight, by the Superintendent. Costs associated with such sampling and lab analysis would be the responsibility of the user. Surcharge calculations shall then be established by averaging grab or composite (as determined by the City to be appropriate) samples taken from the facility's discharge.**

#### **(F) Site Specific Testing**

**The owner of a FSE may elect to have the industrial surcharge billed according to representative samples taken at the facility. The FSE owner is required to pay for installation of a sampling point and all sampling costs. Sampling frequency shall be determined by the City and analytical results shall be submitted to the City for review.**

**Non domestic users that conduct site specific testing shall install an approved sampling manhole together with any meters and equipment deemed necessary by the Superintendent or the city manager, in order to adequately sample wastewater. Unrestricted access to the sampling manholes shall be available at all times for the Superintendent. A sampling manhole or chamber must be located near the outlet of each lateral, sewer, drain or pipe which connects to the wastewater system. Site inspections may be conducted by the City to verify the user's discharge and note the presence of any sampling devices or grease traps.**

14. This ordinance shall become effective 20 days after publication.
15. The City Clerk is directed to publish this ordinance or a summary of this ordinance in the Pioneer.

Yeas: Anderson, Hogenson, James, Warba

Nays: None

The Mayor declared the ordinance adopted.

Date: September 6, 2016

Published: September 13, 2016