

APPENDIX J

Recommended Monitoring Program for Fats, Oil and Grease (FOG)

**SEWPCC
Recommended Monitoring Program for
Fats, Oil and Grease (FOG)
SEWPCC Upgrade / Expansion Design
Draft: November, 2008**

Purpose:

To assess the potential demulsification of FOG compounds in the SEWPCC treatment systems, causing oily films, grease globules, and/or scum; and possibly contributing to foaming problems.

Overview:

Series of grab samples daily through the plant, supplemented by 24-hour composite samples at influent. Influent composite sampling should mimic the recent influent sampling done at the raw wastewater influent pump pipeline sample taps, to allow comparison.

Duration of Program:

One month chronology initial monitoring; to be performed early in the SEWPCC upgrade / expansion detailed design phase.

General Notes:

Sample collection and handling for FOG testing is susceptible to loss of material by filming on the surface of sample containers and tubing. Particular items to be addressed include: glass sampling containers, no overfill, no transfer containers, acid preservation for long holding times, and solvent extraction with hexane or other currently acceptable solvent.

Demulsification of FOG materials is strongly subject to temperature. Recent advances in sampling handling and test methods have been made. Specific sample preparation and analysis methods should be selected through consultation with City of Winnipeg personnel and review of current approved methods; on review of methods and guidelines from the CCME, ASTM, USEPA, and other organizations. Exact time of sample collection should be recorded and compared with times of hauled wastewater load input to the SEWPCC.

Collection of samples directly from hauled waste loads or sewer system grease interceptors is not included in this outline, but may be recommended if the results of this SEWPCC monitoring indicate a significant problem with FOG.

Recommended FOG Sample Collection Program Outline for SEWPCC:

Sample Collection Location	Sample Type and Frequency	Sample Chronology
Influent screen channel (pumped discharge)	6 grabs per day	1-4 weeks (a)
Influent to Primary Clarifier 1, 2 and 3	6 grabs per day	1-4 weeks (a)
Effluent of Primary Clarifier 1, 2 and 3	6 grabs per day	1-4 weeks (a)
HPO ML to Secondary Clarifiers	6 grabs per day	1-4 weeks (a)
Effluent of Secondary Clarifiers (select different clarifier each week)	6 grabs per day	1-4 weeks (a)
Raw WW pump discharge sample tap (select different pump each week)	24-hour composite	1-4 weeks (a)

Notes:

(a): If the first week of sample analysis and hauling records indicates no significant problem with FOG and scum formation, sample collection may be terminated after the first week.