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- Environmentally Sensitive Areas
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INTRODUCTION

The FEWD Permit Program was created in 1989 following the adoption of Municipal Code, Chapter VI, Article 4, Section 64, Division 7, "Food Establishment Wastewater." The Partial Consent Decree between the United States of America and the City of San Diego (CASE NO. 88-1101-B) required the City to accelerate the enforcement of this section of the Municipal Code.

- Permits for all food establishments were to be issued no later than June 30, 1991.
- All required grease removal equipment was to be installed no later than September 30, 1991.

The Food Establishment Wastewater Discharge (FEWD) Permit Program met both of these deadlines.

In the seven years since its inception, the FEWD Permit Program has undergone many changes and has evolved into an increasingly effective source control program.

- Criteria for the installation of grease removal equipment at both new and existing establishments have been refined.
- The requirement that grease removal equipment be adequately maintained has been more strictly enforced.
- FEWD Inspectors are becoming increasingly well trained in the more technical aspects of grease trap/interceptor functioning. This has become very important in the evaluation of existing grease removal equipment. As a result, a large number of requirements to correct deficiencies have been issued in the last year.

Program results have varied in some years due to staffing levels. However, FEWD now has a full staff of inspectors who handle a manageable backlog.

Pursuant to the Final Stipulated Order, submitted to the Court September 13, 1996, the City is required to submit, no later than December 31, 1996, a report on the implementation of a Supplemental Inspection Program. The present document is submitted in compliance with this order.

Following a brief history of the FEWD Permit Program, a detailed description of the current functioning of the program is set forth. The last section outlines the specific, additional activities for the Supplemental Inspection Program.

The Program will select the establishments that require more frequent inspections by identifying sewer mains that have an incidence of grease related spills and blockages or that have been placed on an accelerated preventive maintenance program. Other rating factors will include potential for contamination of public waters; potential for contamination of environmentally sensitive areas; size and type of main and the concentration of food establishments discharging to the main.

As it is entering the eighth year of its existence, the FEWD Permit Program is confident of its ability to keep food establishment grease out of the sewer system and thereby contribute to reducing sewer spill occurrences in San Diego.

Section I: HISTORICAL BACKGROUND

1. The Food Establishment Wastewater Ordinance

The ordinance that authorizes the Food Establishment Wastewater Discharge (FEWD) Permit Program is Municipal Code, Chapter VI, Article 4, Division 7, adopted July 11, 1988. The ordinance provides that:

- Facilities engaged in preparing food for consumption by the public are required to obtain a Wastewater Discharge Permit. The permits shall be issued for a specified time period, not to exceed five years.
- Permittees may be required to install an approved type of grease pretreatment device in the waste line leading from the food preparation area, or from sinks, drains, appliances and other fixtures or equipment used in food preparation or cleanup where grease may be introduced into the sewerage system.
- Grease pretreatment devices shall be maintained in efficient operating condition by periodic removal of the accumulated grease. Collected grease shall be disposed of properly and may not be reintroduced into the sewerage system.
- Permittees may be required to provide a collection drum or container for the purpose of segregating oils, greases and greasy solids.
- Permittees may be required to keep records of grease pretreatment device cleaning and maintenance.
- Permittees shall allow FEWD Inspectors ready access at all reasonable times to all parts of the premises for purposes of inspections and sampling.
- The City may revoke the permit of any permittee who is found to be in violation of the ordinance or who: a) fails to install required grease pretreatment equipment, b) fails to keep records of pretreatment equipment maintenance, c) refuses reasonable access to the permittee's premise for the purpose of inspection, d) violates conditions of the permit.
- The City may terminate wastewater service to any premise if a violation of any provision of this ordinance is found to exist.

In February 1989, the FEWD Permit Program (then a part of the Water Utilities Department Industrial Waste Section) was assigned three full time staff members, one Program Supervisor, one Industrial Waste Inspector and one Senior Engineering Aide. At that time program emphasis was on inspecting the areas of the city known to have chronic grease-related sewer problems. The inspections were done by the Senior Engineering Aide while the Program Manager and the Industrial Waste Inspector worked on program development and compliance through conferences.

2. Plan Checks

Since 1984, the City's Building Inspection Department had been requiring, for all new restaurant constructions, the installation of grease removal equipment on the pot washing sink only. This had little impact on sewer spills since grease related spills were occurring mostly in older, denser areas of the city with high concentrations of food establishments.

By August 1989, it became apparent that the FEWD Permit Program needed to become involved in the plan check process for new and remodeling food establishments. After negotiations with the Building Inspection Department and the County Department of Health Services, it was agreed that any food establishment submitting plans to either organization would first be required to submit their plans to FEWD for grease removal equipment requirements. This procedure has been in place since September 1, 1989.

Any facility plan checked through FEWD is required to have the "sink list" (or plan check form) on-site for use by Building Inspectors.

3. Consent Decree

In January 1990, the City of San Diego entered into a Consent Decree with the Environmental Protection Agency (EPA). In the Consent Decree the City of San Diego was required to issue Wastewater Discharge Permits to all commercial food establishments by June 30, 1991, and to ensure that all required grease removal equipment be installed by September 30, 1991.

To meet the deadlines imposed by the EPA, the FEWD Permit Program had to more than double the number of staff members originally proposed. Most of 1990 was spent writing personnel classifications, interviewing candidates and hiring staff. Until the program was fully staffed, the existing staff continued to conduct plan checks and conferences with facilities in problem areas.

In January 1991 there was enough trained staff to ensure that 500 facilities would be evaluated each month for grease removal equipment installation requirements. By March of 1991, the FEWD Permit Program staff had grown to thirteen members: one Program Supervisor, two Principal Engineering Aides, five Senior Engineering Aides, two Junior Engineering Aides, one Student Intern and two Clerical support staff.

Until June 1, 1991, only those facilities in compliance were issued discharge permits. Between June 1, 1991 and June 30, 1991, all other facilities were issued a permit with a condition requiring grease

removal equipment to be installed no later than September 30, 1991.

In 1991, there were approximately 4000 food establishments in the San Diego city limits. Of those 4000, over 2000 facilities (mostly smaller establishments) were required to retrofit grease traps. The other 2000 facilities either had grease traps already or were not required to install them (e.g., cold deli, ice cream shops).

On September 30, 1991, which was the deadline for installing grease removal equipment per the Consent Decree, there were only 225 facilities not in compliance. These 225 facilities were issued Notices of Violation for failure to install grease pretreatment equipment by the required date and were given approximately two weeks to comply. At the end of this two weeks the number had dwindled down to 58. Compliance hearings (preliminary and show cause), were held during the next year. Eleven wastewater discharge permits were revoked.

4. Garbage Disposal Resolution

The FEWD ordinance requires the installation of grease removal equipment on any fixture where grease may be introduced into the sewer system. A dishwasher or pot sink pre-rinse station where dishes, pots and pans are pre-rinsed prior to washing is where most grease is introduced into the sewer system. Many of these fixtures also had a garbage disposal installed.

The Building Inspection Department has the authority to allow garbage disposals to be connected to grease removal equipment, but only if the grease removal equipment is an interceptor large enough for the extra solids that a garbage disposal discharges. In 1991, the Building Inspection Department did not allow such connections.

Garbage disposals cannot be allowed to discharge to a grease trap as this would result in plugging the trap. Therefore, FEWD required that garbage disposals be removed so that waste lines could be connected to grease removal equipment.

FEWD had not anticipated the negative reaction from restaurants. They complained to the San Diego Restaurant Association which, in turn, asked the City Council to allow them to keep existing garbage disposals. The City Council then directed FEWD to try and reach a compromise with the San Diego Restaurant Association.

FEWD agreed to not require facilities to remove their garbage disposals until the issue was resolved. Fixtures with garbage disposals were placed in an ON HOLD PENDING GARBAGE DISPOSAL RESOLUTION category. All other fixtures with the potential to discharge grease to the sewer system were issued requirements to install grease removal equipment.

After negotiating with the Building Inspection Department and the San Diego Restaurant Association, FEWD developed a Manager's Report (report no. 91-247) dated May 29, 1991 for presentation to the Public Services and Safety Committee on June 5, 1991. This Manager's Report outlined the resolution as follows:

- Garbage disposals should be removed and pre-rinse station waste lines connected to grease removal equipment; garbage disposals should only be allowed at pre-rinse stations when plumbed to a grease interceptor sized large enough for the excess food matter.
- FEWD further recommended that facilities with garbage disposals be allowed a 3-year grace period (to June 30, 1994) by which to comply, with the following exceptions:
 - The facility undergoes a major kitchen remodel.
 - The facility is located on a sewer line that has experienced two or more grease related blockages in the past twelve months.
 - The facility has an existing grease interceptor.
 - The existing garbage disposal is inoperable or is not being used.

This resolution gave relief to food establishments without jeopardizing the sewer system.

In June 1991, 525 facilities had garbage disposals and were eligible for the 3-year grace period. As of December 31, 1993, 184 of these facilities had complied voluntarily or by falling into one of the categories listed above. In January 1994, FEWD notified the remaining 341 facilities of the requirement to remove garbage disposals and install grease removal equipment by June 30, 1994.

In March of this same year the San Diego Restaurant Association again appealed these requirements to the City Council. This resulted in another Manager's Report (report no. 94-58) which upheld the previous recommendations.

On June 30, 1994, there were 46 facilities that had not complied. These facilities were issued Notices of Violation for failure to remove garbage disposals and install grease removal equipment. By June 30, 1995 after a year of compliance hearings (preliminary and show cause) all garbage disposal facilities had complied.

Following compliance with the requirements of the Consent Decree, FEWD was able to focus its activities in three main areas:

- In depth inspection of food establishments with particular emphasis on the maintenance of grease removal equipment.
- Investigation of grease related problems in the sewer system.
- Plan checking of new establishments.

Section II: FEWD PERMITTING PROCESS

All food establishments within the City of San Diego are required to have a Wastewater Discharge Permit. These permits are issued by FEWD after an establishment starts operations. At this time there is no fee charged for permits.

Food establishments are defined as establishments where food is prepared or served for consumption by the public. This includes commercial as well as non-commercial (not-for-profit, governmental) establishments. Bars (that serve no food) and markets that sell exclusively pre-packaged food and unprocessed fruit and vegetables are excluded.

Although initially, permits were issued for a period of one year, staffing/cost considerations have resulted in the current permit duration of approximately two years.

Permits are issued to the owner for a specifically named establishment at a particular location and are not transferable. As a condition of their permit, all permittees are required to notify FEWD upon ownership transfer. They are also required to notify FEWD of any change in name, operations or equipment.

All permits include a set of general conditions imposed on all permit holders. In addition, they may also contain specific conditions applicable to a particular permittee. Generally, all outstanding requirements are the objects of a permit condition.

The FEWD Permit Program has the responsibility of initiating the permit issuance or renewal process. Normally, permits are issued following a site inspection. After the completion of the inspection report and updating of the FEWD database, requirements are issued if needed, and the establishment file is reviewed by a Program Supervisor. Permits are signed by the Program Manager and by the Appointing Authority.

Section III: FEWD INSPECTION PROCESS

FEWD Inspectors are provided with weekly and monthly reports listing the establishments that require inspection:

- Establishments with permits expiring within the next three months.
- Establishments that have recently changed name or ownership.
- Establishments that have been plan checked by FEWD and are now in business.

These inspections are done without notice and typically, during normal business operating hours. Every effort is made to not disrupt business activities during peak serving hours. This is a courtesy to businesses and is particularly appreciated by them due to the odor created when grease removal equipment is opened for inspection. A typical inspection consists of four to six stages:

1. The Interview

The interview is used primarily to obtain the administrative information required to issue a permit and for future communication with the establishment:

- Establishment name and address
- Precise ownership
- Mailing information
- Telephone information
- Name(s) of responsible contact(s)

The interview is also used to elicit general information regarding the establishment's operations and procedures:

- Grease disposal procedures
- Grease removal equipment maintenance procedure
- Examination of grease removal equipment maintenance records
- Hoods, floor and mats cleaning procedures.

2. Inspection and Evaluation

A. Establishments without Grease Removal Equipment.

This stage of the inspection is used to determine whether or not grease removal equipment may in fact be required. The factors taken into consideration are:

- Whether or not any cooking (particularly the cooking of meat and/or chicken) takes place at the establishment.
- The presence of a deep fryer.

- Whether or not the establishment is 100% single service.

and, for those establishments that had a FEWD plan check:

- Whether or not the establishment operations conform to the description that was provided during the plan check process.
- Whether or not grease removal equipment was required during the plan check.

If it is determined that no grease removal equipment is required, it will typically be under the condition that those (few) greasy/oily items that need cleaning, be thoroughly wiped prior to washing. Determination of “no grease removal equipment required” will be changed if the establishment changes its operations, undergoes extensive remodeling or discharges to a sewer main that experiences sewer spills.

If an Inspector determines that grease removal equipment is required, the on-site owner or owner’s representative is notified. An explanation of the requirement is given and they are advised that formal requirements will be issued in writing.

The inspection is concluded by making an inventory of all plumbed fixtures and all cooking and warming equipment used during food preparation and/or cleanup procedures.

B. Establishments with Grease Removal Equipment.

The focus of this inspection stage is to insure that all required plumbed fixtures are connected to grease removal equipment. To this end the inspector makes an inventory of all plumbed fixtures and inquires as to the specific use of each. Applicable FEWD standards are used to determine which fixtures need to be intercepted.

The installation of grease removal equipment on a particular fixture may be waived if it is only infrequently or secondarily used in a way that produces grease/oil in its wastewater and if the establishment commits to stop using the fixture for such a use. An example would be a vegetable prep sink, occasionally used to handle the overflow from the pot sink. This commitment will be reflected in the form of a specific permit condition on the establishment’s permit.

Other fixtures such as soup kettles and/or tilt skillets may also be allowed to operate without grease removal equipment, provided that the management commits to manually discharge the wastewater they generate, to a fixture that is connected to grease removal equipment. This too is the object of a specific permit condition.

The next step is to determine whether or not the fixtures identified above are actually connected to grease removal equipment. This can be done by visually inspecting the piping, examining “as built” drawings or performing flow/dye tests.

If an establishment is found not to be in compliance with FEWD standards, the inspection contact is informed as specified in A (above). This stage of the inspection concludes with an inventory of the

cooking equipment.

C. Storm Drain Protection

While storm drain protection is not part of the FEWD Permit Program's mission, every food establishment inspection is used as an opportunity to remind management of their obligations and responsibilities with respect to storm water pollution. In particular, they are reminded of their obligation to discharge wastewater from floor and/or matwashing, exclusively to the sewer system. Establishment representatives are asked to state explicitly how they ensure that all their wastewater is confined to the sewer and their answers are noted on the inspection report.

D. Grease Disposal

Every establishment is required to state how they dispose of waste grease. FEWD requires that any establishment that uses frying oil have a practicable method of disposing of such oil (typically a grease recycling barrel) to ensure that this oil is not disposed of in the sewer or the storm drain. If necessary, FEWD will require the installation of a grease recycling barrel.

Every establishment that has a deep fryer is required to subscribe to an approved cleaning method in the event of a grease/oil spill. Typical spill containment procedures have been outlined by FEWD in a bilingual (English-Spanish) poster that is distributed free to food establishments for posting and for use in their employee training program.

3. Grease Removal Equipment Inspection

All grease removal devices are opened at inspection time to evaluate their functional integrity and the adequacy of the maintenance methods and frequency.

A. Integrity

Factors taken into consideration are:

- i. For Interceptors:
 - Integrity of the Tee's, crossover pipes and standpipes.
 - Proper venting.
 - Integrity of the concrete structure.
 - No modification of the unit has been made without official approval.
 - Integrity of lids and seals.

- ii. For Grease Traps
 - Proper installation of a vented flow control device.

- Presence and proper installation of internal baffle(s).
- Internal vents are free of grease and debris.
- Integrity of lids and seals.

Any deficiency in the integrity of a trap or interceptor (unless fixed during the inspection) is made the object of a written requirement with a due date.

B. Adequacy of Maintenance

i. For Interceptors:

The approximate depth of the grease/oil layer in each of the interceptor's chambers is measured and, if one has been provided, the sample box is visually inspected. All internal pipes are inspected for grease build up and the baffles(s) are examined for signs of past overflows. In the typical 2-chamber interceptor the maximum allowable grease build up in the last chamber is one foot. If maintenance records indicate that this figure will be reached prior to the next scheduled cleaning a higher cleaning frequency is recommended or mandated. Other evidence of improper maintenance, such as grease build up at the outlet Tee is also grounds for requiring more frequent pumping.

Even though this is discouraged, the City of San Diego allows garbage disposals to discharge to grease interceptors. Where garbage disposals are present, more frequent interceptor cleaning is required due to:

- Reduced effectiveness because of solids accumulation.
- Greater concentrations of hydrogen sulphide caused by decaying organic matter.

The presence of any grease in the sample box is considered unacceptable and FEWD will require that maintenance be adjusted to the point where the sample box is totally free of grease.

In cases where interceptor maintenance adequacy is disputed or uncertain, sampling is performed and the sample tested by the City's lab.

ii. For Grease Traps:

The approximate depth of the grease/oil build up at the top of the trap is measured. Given the date of last cleaning and the cleaning frequency as provided by the maintenance records, it is possible to determine whether or not the grease retention capacity of the unit will be reached prior to the next scheduled cleaning. Where the cleaning frequency is found to be inadequate, a better frequency is recommended (and in some circumstances mandated) by the Inspector. If a grease trap is found to have already exceeded its stated grease retention capacity, immediate cleaning is required.

Immediate and/or more frequent cleaning may also be required if a trap is found to contain an unacceptable amount of food debris.

TRAP CAPACITY	MAXIMUM DEPTH OF GREASE/OIL ALLOWED
20GPM/40LBS	Between 2" and 2 ½"
25GPM/50LBS	Between 2 " and 2 ½"
35GPM/70LBS	Between 2 ½" and 3"
50GPM/100LBS	Between 3" and 3 ½"

Table 1

Table 1 shows the correlation between trap capacity and allowable depth of grease/oil for some of the most current trap styles. However, it is important to note that:

- The table figures are not applicable to all styles and makes of traps; in particular they are not applicable to low profile traps.
- Accumulation of debris is assumed to be minimal. If this is not the case, the actual thickness of the debris layer must be added to that of the grease layer to determine whether or not a trap has reached 100% of its retention capacity.

4. Inspection Reports

Every inspection results in a written report. This report reflects every inspection element mentioned above as well as any other fact or event that may be relevant to the evaluation of the establishment or may otherwise need to be officially noted. If applicable, this report will contain an explanation of actions taken and requirements issued. If a re-inspection is required, a due date will be assigned.

Following each inspection, all necessary information is entered in the computerized FEWD database and each establishment is assigned a descriptive code (e.g., full service restaurant, health care facility, ice cream parlor, hotel, etc.). Every specific permit condition assigned to an establishment is also entered in the database. All specific permit conditions remain in effect for the life of the permit.

5. Re-inspection

Food establishments are subject to a re-inspection under the following conditions:

- The establishment was found not to be in compliance with FEWD standards (most typically because of poor grease removal equipment maintenance).
- Special procedures or limitations were imposed during a previous inspection.
- Requirements were issued.
- Grease trap/interceptor could not be opened.
- Maintenance could not be usefully evaluated because the units were not functioning properly or were almost completely filled with grease.

- A flow/dye test could not be performed because of the grease removal unit's condition.

Apart from confirming basic administrative information, re-inspections are usually limited to confirming that deficiencies have been corrected or that required procedures are in place.

6. Additional Inspection

Any establishment may be the subjected to an additional inspection if:

- It is the object of a complaint to FEWD.
- It discharges to a sewer main that has experienced a spill or blockage caused by grease.

The purpose of these inspections is manifold:

- To investigate and resolve the complaint (if applicable).
- To attempt to determine the cause(s) of the spill or blockage.
- To ensure that all establishments on an affected main remain in full compliance with FEWD requirements.
- To notify business operators of the fact that their establishment discharges to a problem main.
- To determine what remedial action(s) might be taken to prevent a recurrence of the problem. It is to be noted that establishments that discharge to a "problem" main will be subjected to more stringent retrofit standards than others.

These inspections will include every step of a regular inspection and, in addition:

- The interview stage will try to elicit information relating to any unusual event that may have taken place prior to the spill/blockage (e.g., a fryer oil spill, jetting of internal lines or of the lateral, a sudden upsurge in business volume, problems related to the grease removal equipment, etc.).
- Each plumbed fixture is re-evaluated to determine its potential as a discharge point for grease.
- All business procedures (particularly: hood filter cleaning, floor and mat cleaning, fryer oil changing, used oil storage and disposal) are re-evaluated to determine their potential for causing grease to be introduced into the sewer system.

Section IV: FEWD SPECIAL INVESTIGATIONS

Special investigations are initiated:

- any time that a sewer blockage or spill is determined to have grease a contributing cause or when substantial amounts of grease are found in a sewer line during preventive maintenance cleaning.
- when a complaint of a grease related problem involving a food establishment is brought to FEWD's attention.

I. SEWER SPILLS/BLOCKAGES

A FEWD investigation of a sewer spill/blockage consists of four stages:

1. Preliminary Stage

Special investigations are typically initiated when a spill, blockage or other finding of excessive grease in the sewer system is reported to FEWD. The first stage of an investigation consists of determining whether any establishment on the FEWD database discharges to the affected main. At this time, FEWD neither records nor investigates spills or blockages where no food establishment is involved.

If any food establishment is found to discharge to a blocked main, a special investigation is formally initiated and logged into the FEWD database and assigned to a Fewd Inspector for investigation.

2. Initial Stage

The first step in any investigation is to draw a list of all food establishments that discharge to the affected main. (In the case of very long mains a cut-off point of a half mile or less is used). This is done by comparing lateral addresses provided by our Maps and Records section with addresses in the FEWD database. The file for each of these contributors is reviewed prior to the next stage.

3. Field Investigation Stage

Every contributor identified in the previous stage is the object of an additional inspection as outlined in Section III of this report.

During these inspections, extra attention is given to the following:

- Discharge points that have previously been considered to have minimal potential for grease/oil discharge. Items such as mop sinks, can washes, floor drains and floor sinks on cooklines and dishwashing areas, soup kettle/tilt skillet drains and Food preparation sinks that do not normally require grease removal equipment under current FEWD retrofit standards might be the object of a requirement to install

grease removal equipment if the sewer main to which they discharge suffers repeated spills/blockages.

- Grease removal equipment maintenance. If an establishment's maintenance procedures are found to be inadequate, the inspector may immediately mandate an increased cleaning frequency rather than seek voluntary compliance.
- Other investigative tools such as effluent sampling and/or the televising of the main or lateral may also be used to determine the cause of a spill/blockage.

The field investigation stage is also used to:

- Ascertain whether any unusual events have occurred in or around the facility, such as accidental or deliberate dumping of grease and/or oil.
- Determine whether or not there are any food establishments discharging to this main that were not previously on the FEWD database. Such establishments are inspected and entered in the FEWD database.
- Determine whether there are any industrial establishments likely to discharge grease to this sewer. Such establishments are referred to the Department's Industrial Waste Program.

4. Final Stage

Following the field investigation stage, a report on each investigation is written and entered in the FEWD database. Whenever possible responsible establishments are identified and necessary remedial actions taken. The results of any special investigation are reviewed by a FEWD Supervisor before being made final. All necessary requirements are promptly issued.

II. COMPLAINTS

All complaints brought to FEWD's attention are reviewed and, if appropriate, logged in the FEWD database and assigned to an Inspector. The inspector will perform an additional inspection of the relevant facility(ies) to determine the validity of the complaint and what remedial action, if any, needs to be taken. Requirements are issued if applicable.

It is worth noting that investigations of complaints not obviously related to the illegal discharge of grease to the sewer such as, Bad Sewer Odor (BSO) investigations have resulted in the discovery of problems related to the malfunctioning or inadequate maintenance of grease removal equipment. Many complaints result in an establishment being referred to an appropriate agency such as the County of San Diego Department of Environmental Health or the City of San Diego Engineering Department Stormwater Section.

Section V: FEWD PLAN CHECKS

As stated previously, the FEWD Permit Program has been performing plan checks on new or remodeling food establishments since September 1, 1989. Customers are informed by the Department of Environmental Health (DEH), who issues health permits and by the Development Services Department (DSD), who issue building permits, that they must obtain a plan check from FEWD before submitting plans to them.

The FEWD Permit Program is responsible for identifying fixtures that may discharge grease into the sewer and for sizing grease removal equipment. Plans are only approved when all required fixtures are shown to be connected to grease removal equipment of adequate size. The FEWD plan check process is typically an over-the-counter process that may take from 15-60 minutes.

There are three different types of plan checks performed.

I. NEW CONSTRUCTIONS AND NEW TENANT IMPROVEMENTS

1. The Process

During this plan check FEWD staff will:

- Check the establishment's address to verify that the proposed facility was not previously a food establishment.
- Transfer all plumbed kitchen fixtures from the equipment schedule to the FEWD plan check form.
- Check the equipment plan against the equipment schedule.
- Determine the need for grease removal equipment.

The criteria for this determination are as follows:

- New construction requires the installation of a grease interceptor (minimum capacity 750 gallons).
- Tenant improvements in existing buildings require the installation of grease traps (minimum size 20GPM/40LBS to maximum size 50GPM/100LBS). FEWD may, if deemed necessary, require a grease interceptor.
- Check plumbing drawings to ensure that:
 - All required fixtures are connected to grease removal equipment.
 - Location, correct size and approved detail of grease removal equipment are shown.

Satisfactory plans are approved and stamped "GRE REQUIRED". Unsatisfactory plans are stamped

“CORRECTIONS REQUIRED” and the customer is given a list of corrections. These plans must be resubmitted to FEWD.

2. Fixtures Requiring Grease Removal Equipment

FEWD determines which plumbed fixtures are required to be connected to grease removal equipment because of their potential for grease discharge. Typical fixtures are:

- Pot Sinks
- Cook Sinks
- Utility Sinks
- Utensil Sinks
- Soak Sinks
- Pre-rinse Stations (Garbage Disposals are only allowed if they can be connected to grease interceptors 750 gallons or larger)
- Chinese Wok Ranges
- Meat/Poultry Preparation Sinks
- Dishwashers (only if they can be connected to a grease interceptor 750 gallons or larger)
- Water Wash Hood Systems
- Soup/Steam Kettles and Tilt Skillets
- Chicken Rotisseries (plumbed)
- Mop Sinks/Can Washes
- Floor Sinks/Floor Drains (on cook line and scullery)

3. Grease Removal Equipment Sizing

Grease interceptors are sized based on the Uniform Plumbing Code (UPC) formula:

$$1 \text{ Number of meals per peak hour} \times 2 \text{ Waste flow rate} \times 3 \text{ Retention time} \times 4 \text{ Storage factor} = \text{Interceptor size}$$

1 Meals served at peak hour

2 Waste flow rate:

with dishwashing machine 6 gallon flow

without dishwashing machine 5 gallon flow

single service kitchen 2 gallon flow

food waste disposer 1 gallon flow

3 Retention time:

commercial kitchen waste w/dishwasher 2.5 hours

single service kitchen 1.5 hours

4 Storage factor:

fully equipped commercial kitchen 8 hour operation: 1

16 hour operation: 2

II. REMODEL OF AN EXISTING FOOD ESTABLISHMENT

When checking plans for the remodeling of an existing food establishment FEWD will:

- Verify address and reference the establishment's file so that all existing conditions at the facility are known during plan check.
- Verify the equipment schedule and document all new and existing kitchen fixtures on the FEWD plan check form.
- Verify the equipment plan against the equipment schedule.
- Determine if any additional grease removal equipment is required.

The criteria are as follows:

- A major remodeling of an existing facility requires the installation of a grease interceptor (minimum capacity 750 gallons). It is considered to be a major remodeling if, the remodeling includes rebuilding a major portion of the establishment kitchen area.
- An existing establishment with existing grease removal unit(s) which is adding new fixtures that require grease removal equipment (see previous section) will either be required to connect these fixtures to the existing unit, or install additional unit(s).

Check plumbing drawing to ensure that:

- All required new and existing fixtures are connected to grease removal equipment.
- Location, correct size and approved details are shown for all new grease removal equipment.

Approve plans or require corrections be made. See Section I above.

III. RETROFITS

Retrofit requirements are made in the field during site inspections. These requirements are typically made on:

- Fixtures installed without the benefit of a plan check.
- Fixtures being used for a purpose other than originally intended (i.e., prep sink being used to wash dishes).
- Fixtures which were identified at plan check as requiring grease removal equipment but were installed without it.

During a retrofit plan check FEWD checks plans or drawings to ensure that:

- Grease removal equipment is being connected to the proper fixture as required on the retrofit requirement form.
- Grease removal equipment is the proper size as required on the retrofit requirement form.

A completed, stamped FEWD plan check form is issued to the customer. This form is required by the Department of Development Services prior to the issuance of a plumbing permit.

Section VI: FEWD REQUIREMENT PROCESS

As a result of a site inspection, requirements may be issued for an establishment. There are three main requirement categories.

1. Connection to Grease Removal Equipment

When an establishment is found not to have adequate sewer protection in place, it may be required to:

- to install a new grease removal unit to serve additional fixtures.
- to install a new grease removal unit of greater capacity.
- to connect additional fixtures to an existing grease removal unit.

Requirements are issued in writing and sent to the establishment owner. The requirement form states the capacity of the unit required and lists the fixtures that need to be intercepted. It also states that the installation of any grease pre-treatment device requires a FEWD plan review and a plumbing permit from the City of San Diego Development Services Department. Installations are also required to meet the requirements of all other agencies concerned (e.g., the County of San Diego Department of Environmental Health).

All installation requirements carry a due date. The due date is established taking in consideration a number of criteria:

- The urgency of correcting the problem (i.e., the degree of likelihood that the unprotected fixture(s) will contribute to a sewer spill in the coming month if left unprotected).
- The cost and complexity of the installation.
- The means available to the establishment.
- Whether or not this requirement is the result of an unauthorized action by the establishment operator (e.g., removal of an existing grease trap).

If an establishment is unable to meet its due date, it will be allowed to negotiate a new due date with the Inspector who issued the requirement. In assigning a new due date, the inspector will take into consideration all the factors listed above plus any evidence of cooperation on the establishment side.

The number and length of extensions granted are, within program guidelines, at the discretion of the Inspector and are subject to review by the Program Manager.

- Under normal circumstances due dates are not extended more than a year past the date the requirement was issued.
- In circumstance of extreme urgency, the Program Manager will restrict allowable extensions .
- Requirement due dates are not to be extended in the absence of any evidence of

cooperation on the establishment side.

2. Correction of a Deficiency

Deficiencies in grease removal equipment fall into two categories:

- Installation deficiencies, the most common being the absence of an approved, vented flow control device on the inlet side of the unit (for grease traps)
- Loss of functional integrity, the most common being the loss of the internal flow diffusing baffle (for traps) and broken or missing internal piping (for interceptors).

These requirements also carry a due date and are handled in the same fashion as installation requirements above.

3. Maintenance Requirements

In the matter of grease removal equipment maintenance the FEWD Permit Program stresses voluntary compliance and cooperation over formal requirements and compliance action.

When an establishment's grease removal units are found not to be satisfactorily maintained, the FEWD Inspector will discuss available alternatives with the establishment operator and recommend a course of action. In most cases this will be the only action needed.

If maintenance is still unsatisfactory at the next inspection, FEWD may again try to gain voluntary compliance provided that it is satisfied of management's willingness to cooperate. Only when there is clear evidence that proper maintenance cannot be ensured by any other means will FEWD issue formal maintenance requirements.

Grease removal equipment maintenance requirements fall into two categories:

- Mandated cleaning frequency.
- Periodic reporting of all maintenance activities during the covered period.

These requirements are communicated in writing to the establishment owner and are effective immediately and for an indeterminate time span. They may be canceled at the discretion of the Inspector who issued them if the establishment shows evidence of being committed to an on-going, effective maintenance program.

Section VII: FEWD COMPLIANCE ACTIONS

When an establishment fails to meet a requirement due date or otherwise fails to comply with a FEWD requirement, compliance action may be initiated. It is FEWD's policy to initiate compliance action only as a last resort when it has proved impossible to obtain an acceptable level of cooperation from an establishment. There are four levels of compliance action.

1. Notice of Violation

The primary reasons for the issuance of a Notice of Violation are:

- Failure to install grease removal equipment on a particular fixture or set of fixtures by an assigned due date.
- Failure to repair grease removal equipment by an assigned due date.
- Failure to properly maintain grease removal equipment.
- Failure to provide grease removal equipment maintenance records.

Notices of Violation are issued to owners for a specific establishment and sent by registered mail. Notices of Violation require that corrective action be taken by a given date. Failure to comply will result in the issuance of a further Notice of Violation. Notices of Violation may require attendance at an administrative hearing in lieu of corrective action.

2. Administrative Hearings

There are two types of administrative hearings: preliminary and show cause. The FEWD Permit Program Manager serves as hearing officer at all hearings. An establishment owner (or the owner's representative) is required to attend any scheduled administrative hearing. Failure to attend a scheduled hearing may result in the issuance of an additional Notice of Violation.

A. PRELIMINARY HEARINGS

The goal of a preliminary hearing is to provide a formal setting wherein an establishment and the FEWD Permit Program can negotiate a compliance schedule for the establishment. Typically, FEWD will state the particulars of an establishment's non-compliance and state the legal and technical rationales for its requirements. The establishment is expected to explain the reasons for its non-compliance and to submit its plan to achieve compliance.

As a result of the hearing a detailed compliance schedule will be drawn, normally not to exceed three months. The establishment owner is notified in writing of the results of the hearing.

B. SHOW CAUSE HEARINGS

At a show cause hearing, an establishment is expected to show why, in view of protracted non-

compliance with its FEWD permit and/or requirements, its permit should not be revoked. If, in the opinion of the hearing officer, an establishment has shown sufficient cause, a new compliance schedule is issued with a final due date no more than 3 months in the future.

Note that due dates issued at a hearing can no longer be extended or otherwise re-negotiated. Also, while show cause hearings typically arise from non-compliance with a due date issued at a preliminary hearing, FEWD may, in exceptional cases, move directly to a show cause hearing.

If an establishment fails to meet its show cause hearing due date, no further Notice of Violation is issued and no further hearing scheduled. Instead the establishment is moved to the permit revocation stage.

3. Permit Revocation

When an establishment fails to meet a due date imposed at its show cause hearing, the Program Manager issues a letter notifying its owner of Pending Permit Revocation. This letter will advise the owner that unless compliance is achieved by a specified date (no more than 15 days in the future) its Wastewater Discharge Permit will be revoked. It is FEWD's policy to make every effort to hand-deliver these letters to the owner or a designated representative.

If compliance has not been achieved by the date specified in the letter of Pending Permit Revocation, the establishment's permit is revoked and a notification of the fact addressed to the owner. Notice is thereby served that the establishment is operating without a valid Wastewater Discharge Permit and is ordered to cease any wastewater discharge related to food preparation and/or service within seven days. The owner is also notified of the fact that the case may be referred to the City Attorney's office for prosecution.

4. Termination of Service

Although the Municipal Code specifically grants the City Manager authority to suspend sewer service to a food establishment for reason of non-compliance, FEWD has never had to exercise this option nor does it anticipate having to exercise it in the future.

Section VIII: PROGRAM ACCOMPLISHMENTS

The FEWD Permit Programs came into existence with the purpose of reducing sewer spills caused by grease. Therefore, the primary way to measure the Program's accomplishment is to consider the actual reduction in the number of these spills. The following chart shows the number of spills caused by grease and the total number of sewer spills in San Diego for the years 1989 to 1996.

YEAR	TOTAL SPILLS	SPILLS CAUSED BY GREASE
1989	561	235
1990	476	174
1991	395	159
1992	313	126
1993	351	127
1994	404	121
1995	429	149
1996 YTD *	405	134

* Year-to-date: November 30, 1996.

Table 3.

This table calls for some explanations:

- In September of 1993 the City was to change its reporting practices to include certain spills that were not previously recorded as such. This resulted in an apparent increase in the number of spills of approximately 20-25% in the subsequent years.
- At least part of the increase in spills recorded in 1995 must be attributed to the fact that total rainfall was approximately double that of the preceding year.

Therefore, if we compare the benchmark year 1989 (the year the FEWD Program was created) with 1993 (the last year for which we have a mostly similar recording practice) we find a 48% reduction in sewer spills caused by grease. If the change in recording practice is taken into consideration, it can be estimated that this percentage remains true in 1995 and 1996.

Besides contributing to the measurable reduction in the number and volume of spills, FEWD is investing long term efforts in increasing environmental awareness and cooperation on the part of the food business community:

- Increased environmental awareness: While food establishment operators were acutely aware of the impact that grease had on their internal sewer line, they had little awareness of the impact that grease from their wastewater had on the environment as a whole. This has changed as a result of FEWD's actions.
- The activities of the FEWD Program have coincided with a difficult time for the San Diego economy. Meeting FEWD requirements has been a serious hardship for a large number of establishments. FEWD takes pride in the fact that, in spite of this, it has had a very successful compliance record and has consistently operated in a business friendly fashion. To date, FEWD has only had to revoke eleven permits and has never had to terminate a sewer service. Whatever FEWD accomplishments may be, they could not have happened without the wholehearted cooperation of the food business community.
- Food establishment operators regularly express their thanks to FEWD for helping them maintain a safe environment which, in turn, improves their business outlook. As an added benefit, they have found that since installing grease removal equipment they have had fewer problems with their internal lines providing them with a substantial saving.

Section IX: THE SUPPLEMENTAL INSPECTION PROGRAM

The FEWD Permit Program has long been aware of the fact that any increase in its activities would need to focus on those establishments that have the greatest potential to cause sewer spills. However, at the level of staffing available until now, such a focus could only have been achieved at the cost of neglecting all other establishments to an extent that was deemed unacceptable.

In the current fiscal year, additional personnel has been included in the FEWD budget for the purpose of staffing a Supplemental Inspection Program.

The purpose of this Program is to increase the frequency of inspection at selected establishments while maintaining the present inspection level within the rest of the city. Selected establishments will be those that are determined to be more likely to cause sewer spills in the future and to be a potential hazard for the environment.

There are, therefore, two essential tasks of the Supplemental Inspection Program: determining which establishments need increased inspection frequency and the actual performance of supplemental inspections.

Establishments will be selected on the basis of having demonstrated a higher potential for environmental hazard either:

- Because of their history of poor compliance with FEWD standards/requirements or
- Because of discharging to mains that have an incidence of grease related sewer spills/blockages or high preventive cleaning frequencies due to excessive grease build-up.

1. The Targeting Process

a. Main Identification

The first step in the targeting process is to identify all mains/main sections which constitute a greater potential hazard to the environment and to which food establishments discharge.

The following criteria may be used to identify these sewer mains:

- Sewer mains in close proximity to environmentally sensitive areas such as the ocean, bays, lakes, creeks, rivers, storm channels, and open water ways: any area where there is a high danger of public contact with spilled sewer (See Attachment: Environmentally Sensitive Areas).
- Sewer mains with a high incidence of grease related sewer spills/blockages: This data will be available in the new Sewer & Water Infrastructure Management (SWIM) system. Grease spill locations are identifiable in the Department's Sewer Overflow Tracking (SOFT) system. Data for the last two years is available in the FEWD

records of special investigations. These records include lists of all food establishments that contributed to any grease related sewer spill/blockage in the last two years.

- Sewer mains on the accelerated preventive cleaning program because of grease build up: this data is available in the Department's Work Order Assignment (WAO) database (soon to be replaced by the SWIM system).
- Sewer mains serving a large concentration of food establishments: at this time, this information cannot be generated automatically. However, most FEWD inspectors are thoroughly familiar with their assigned area and can, with the help of sewer maps, generate a fairly adequate listing of these mains within their area.

The following criteria may be used to further prioritize the identified sewer mains:

- Incidence of contamination of public waters: this information is available in the Department's Sewer Overflow Tracking (SOFT) system.
- Volume of spilled sewage that reached public waters (available in SOFT).
- Frequency of spill incidents in the recent past (from FEWD records).
- Age, size and type of main: size & type is immediately available on sewer maps; in most cases, age can readily be inferred from size, type and/or area of town.

b. Establishments Prioritization

All food establishments connected to the sewer mains selected above will be identified by using existing FEWD records of past special investigations or by comparing addresses in the FEWD database with the location of these mains. Those establishments will be targeted for more frequent inspections. They will be assigned a specific inspection frequency which will reflect a priority rating which may be based, among others, on the following criteria:

- Volume of business (estimated at inspection time): everything else being equal, high volume food establishments are more likely than others to contribute grease to the sewer system.
- Type of operation (determined at inspection time):
 - Non single service establishments have a greater potential for discharging grease to the sewer than single service establishments with a comparable volume of business.
 - Establishments where food is cooked are likely to have larger amounts of grease in their wastewater than comparable establishments where the food served was prepared off-site or where only cold, pre-cooked food is served.

- Compliance: food establishments that have a history of non compliance with FEWD standards/requirements are considered to have greater potential for non-compliance in the future.

In addition, all establishments with a continuing history of poor compliance will be subjected to more frequent inspections, regardless of the status of the main to which they discharge.

It must be noted that targeting is an on-going process:

- As the pattern of grease related spills and blockages changes over time, new mains will be added to the targeted lists while others are deleted.
- Similarly, mains may be dropped from (or added to) the increased preventive cleaning program or the amount of grease found during cleaning may considerably increase or decrease. Such factors will be taken into account in updating the list of targeted mains.
- Establishments that were compliance problems may cease to be so, due to a change in ownership or management or as a result of FEWD enforcement actions. Conversely, establishments that have no past history of poor compliance may become compliance problems.
- An establishment's priority rating may also change due to any of the factors mentioned above.

2. Inspections

Supplemental inspections at targeted food establishments will be used to ensure continuing compliance with FEWD standards and to verify ownership, operation type and procedures.

Inspection factors may include:

- The adequacy of grease removal equipment maintenance procedures.
 - Review of grease removal inspection maintenance records: Such records must be available at time of inspection for evaluation. Grease removal equipment maintenance adequacy will be evaluated by means of such records. The requirement to keep complete and accurate maintenance records will be strictly enforced.
 - Visual inspection of all grease removal units (see Section III).
 - In cases where adequacy of grease removal equipment maintenance cannot be conclusively determined, effluent sampling may be performed.
- Compliance with existing specific permit conditions. In cases where permit conditions were imposed in lieu of grease removal equipment installation, non-compliance may result in installation requirements being issued.
- Proper handling of waste grease and oil including adherence to a grease spill containment plan. Unsatisfactory handling of waste grease may result in a

- requirement to obtain a grease recycling barrel.
- Review of all procedures for compliance with current FEWD standards.
- Review of the establishment's operations to determine whether the current level of wastewater pre-treatment is still adequate.
- In the event of procedures and/or operation changes, re-evaluation of all plumbed fixtures for their potential to introduce grease into the sewer system.
- If deemed appropriate, a flow/dye test may be conducted to confirm that all required fixtures are connected to grease removal equipment and to verify that no plumbing modifications have been made without FEWD approval.

If, during the course of the supplemental inspection, any procedures not in compliance with current FEWD standards are noticed, requirements may be issued and/or compliance actions may be taken.

Note that the FEWD Program already performs additional inspections prompted by complaints, findings of grease in the sewer or poor compliance (See Section III). In the future, these inspections will be incorporated within the Supplemental Inspection Program.

3. Staffing

Staffing of the Supplemental Inspection Program will be made possible by the addition of two FEWD Inspectors and one FEWD Supervisor. The breakdown of associated costs for the first year is as follows:

a. Personnel	\$ 141,482
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for:

- 1 Principal Engineering Aide *
- 2 Senior Engineering Aide *

b. Non-Personnel	\$ 51,432
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for:

- 3 Personal Computers w/software
- 3 Network Connections *
- 3 Emulation Charge *
- 3 LAN Charge *
- 3 Phone
- 3 Annual Phone Network Expense *
- 3 Cubicles
- "C" Mileage Reimbursement Increase *

- Travel budget Increase *

Total: \$ 192,194
 (*) On-going expenses

Based on past experience, it is estimated that the addition of staff will result in the performance of an additional eight hundred inspections a year. It is the intention of the FEWD Program to keep permit duration at its present level of 18-24 months. Therefore, it is intended that these 800 inspections will take place exclusively at those establishments targeted by the Supplemental Inspection Program.

4. Main Categorization

Until now, whether or not any food establishment was a contributor to a sewer spill/blockage was determined exclusively by considering establishments already on the FEWD database. All other spills/blockages were labeled “residential” and were not recorded by FEWD.

As part of the Supplemental Inspection Program, FEWD will investigate the area of all spills/blockages caused by grease in order to determine the type of establishment that discharge to the affected main. One of the aims of this investigation will be to verify that all food establishments that contribute to this main are included in the FEWD database.

Affected mains will be categorized according to the type of establishment that discharge to them:

- Food establishments.
- Industrial establishments.
- Single family dwellings.
- Multi-family dwellings.

As the FEWD Permit Program becomes more effective in controlling grease discharge from commercial facilities, the occurrence of grease spills and blockages is increasingly limited to the residential areas of the City.

A Public Information Campaign to educate the public on how they can help prevent pollution from sewer spills caused by grease, is in the preliminary stages of planning. The above-mentioned evaluation will aid in identifying targeted areas for this campaign. The aims of the campaign will be to promote awareness of :

- Proper waste grease handling procedures.
- The effect of grease on the sewer system.
- The impact of sewer spills on the quality of life in San Diego.

Through the recently formed Wastewater Collection Advisory Committee, contacts have already been made with various community and professional groups that have volunteered their newsletters and/or meetings as vehicles for the Public Information Campaign.

5. Time Line

The FEWD Supplemental Inspection Program will be enacted according to the following schedule:

1) Beginning January 1, 1997:

The Supplemental Inspection Program will be responsible for immediately investigating and categorizing the areas of all grease related spill/blockages as outlined in 4. above. All sewer grease related spills/blockages will be logged by FEWD whether or not food establishments are involved.

2) January 1, 1997- March 30, 1997:

In January of 1997, FEWD will begin identifying the most urgent areas within the city where to begin the Supplemental Inspection Program. Sewer mains will be selected according to the following criteria:

- Frequency of grease related sewer spills.
- Proximity to public water.

All food establishments that discharge to these mains will be identified and will be assigned an inspection frequency and a due date for inspection. This date shall be no later than the last date at which they were inspected plus their assigned inspection frequency.

3) After April 1, 1997:

All targeted mains will be identified according to the criteria set forth in 1. above. Identification of all targeted mains is not expected to take more than two months. As each main is identified, the food establishments that discharge to it will be assigned an inspection frequency. The first inspection due date will be determined as in 1) above.

5. Evaluation of Results

The goals of the Supplemental Inspection Program are:

- Immediate reduction of the number and volume of sewer spills and the number of blockages caused by grease.
- Immediate reduction in the number of beach closures due to grease related sewer overflows .
- Reduction in the number of preventive maintenance sites and/or in the frequency of preventive main cleaning by 1999.

These will be the standards by which the effectiveness of the Supplemental Inspection Program will be measured.

The program's effectiveness will be monitored on an on-going basis. However, the first full Program evaluation will not be conducted before January 1, 1999. This date has been chosen because:

- 1998 will be the first complete year during which the Supplemental Inspection Program will have been fully implemented.
- Grease removal equipment required in 1997 may not be installed until the next year
- The effect of procedures put in place by food establishments in 1997 may not be measurable until the next year.
- Since there is a considerable variation in the number of grease related spills/blockages, meaningful measurements require that, at a minimum, an entire year's worth of data be considered.

Data for the year 1998 will be compared to data for the benchmark year 1996, the last year prior to the implementation of the Supplemental Inspection Program.

The following items will be compared:

- Number of grease related spills, city-wide and for targeted mains: this information will be available in the new SWIM system.
- Volume of the sewage spilled because of grease blockages, city-wide and for targeted mains (from SWIM).
- Level of grease found in mains during preventive cleaning in targeted mains (from SWIM).
- Number of beach closures due to grease related spills (City wide); this data is available in the SOFT system.

Because the Supplemental Inspection Program is expected to have an impact on the city as a whole, the above comparisons will be performed City wide as well as for mains specifically targeted by the Supplemental Inspection Program.

Because of the increased presence in the field of FEWD inspectors, this new program is expected to result, City-wide, in a greater awareness of:

- FEWD standards/requirements and of FEWD determination to enforce them.
- The impact of grease on the sewer system and of the role of food establishments as major contributors.
- The impact of sewer spills on the physical and economic health of the City (particularly in those areas of town that are most dependent on tourism).

Ultimately, the FEWD Supplementary Inspection Program cannot and should not be evaluated apart from the rest of the Program's activities. The question that will need to be answered is: "Is the

FEWD Permit Program as a whole more effective after implementation of the Supplemental Inspection Program than it was before?" We confidently expect a positive answer.