

NORTH CHARLESTON SEWER DISTRICT
GREASE TRAP AND GREASE INTERCEPTOR
STANDARDS

RESOLUTION 97-13

A RESOLUTION PROVIDING FOR SPECIFIC STANDARDS FOR
GREASE TRAP LOCATION, DESIGN, INSTALLATION,
CONSTRUCTION, OPERATION, AND MAINTENANCE. NORTH
CHARLESTON SEWER DISTRICT, STATE OF SOUTH CAROLINA.

Adopted: December 8, 1997

INDEX

I.	Preface	1
II.	Definitions	1
III.	Administrative, General and Operational Requirements	2
IV.	Construction Standards	
	A. New Food Service Establishments	3
	B. Existing Food Service Establishments	4
	C. New Food Service Establishments in Existing Building	6
V.	Enforcement	6
VI.	Recommended Ratings	7
VII.	Attachments	8

I. PREFACE

Article VII, Section 7.05 of the current North Charleston Sewer District's (NCSDD) Sewer Use Resolution states, "Grease, oil, and sand interceptors or traps shall be provided when, in the opinion of the District, they are necessary for the proper handling of liquid wastes containing grease in excessive amounts, any flammable wastes, sand, grit, or other harmful ingredients, except that such interceptors shall not be required for private living quarters or dwelling units. All interceptors shall be of a type and capacity approved by the District and shall be located to be readily and easily accessible for cleaning and inspection. All interceptors shall be supplied and properly maintained continuously in satisfactory and effective operation by the owner at his expense."

Additionally, Article VII, Section 7.03, Item (a) of the Sewer Use Resolution, prohibits the discharge to NCSDD's sewer collection system of "any wastewater containing fats, oils or grease of an animal or vegetable origin in excess of 100 mg/l without prior approval of the District." Article VII, Section 7.02, Item (d) prohibits the discharge of "solid or viscous substances in quantities or of such size capable of causing obstruction in the flow of sewage or other interference to the proper operation of the wastewater system. . . ."

It is the intent of this North Charleston Sewer District Grease Trap Standard to provide for specific standards for grease trap location, design, installation, construction, operation and maintenance so as to comply with the above requirements. It should be noted that failure to comply with this Standard shall be considered a violation of applicable sections of the existing Sewer Use Resolution and subject to applicable penalties and/or denial or discontinuance of sewer service.

II. DEFINITIONS

All definitions shall be as currently supplied in the existing NCSDD Sewer Use Resolution with the following additions:

1. Food Service Establishment

Any commercial facility discharging kitchen or food preparation wastewater including restaurants, motels, hotels, cafeterias, hospitals, schools, bars, etc. and any other facility that, in NCSDD's opinion, would require a grease trap installation by virtue of its operation. Such definition normally includes any establishment required to have a South Carolina Department of Health and Environmental Control (SC DHEC) food service license.

2. Grease Trap/Grease Interceptor

The device that is utilized to affect the separation of grease and oils in wastewater effluents from food service establishments. Such traps or interceptors may be of the "outdoor" or underground type normally referred to as large grease interceptors, or the "under-the-counter" package units normally referred to as the smaller grease traps. However, for the purposes of this Standard, the words "trap" and "interceptor" are generally used interchangeably.

III. GENERAL REQUIREMENTS

The following administrative, operational, and other general requirements are applicable to all food service establishments, new or existing. Particular requirements for grease trap/interceptor construction, specifically pertaining to both new and existing food service establishments, can be found in Section IV of this Standard.

1. All food service establishments in NCSD's sewer service area shall have grease-handling facilities approved by NCSD. Establishments whose grease-handling facilities are not in accordance with this Standard shall be given a compliance schedule with a deadline not to exceed 3 months from the initial notification date.
2. All food service establishment grease-handling facilities/operations shall be subject to periodic review, evaluation, and inspection by NCSD representatives at any time. Results of inspections will be made available to facility owners, with overall ratings assigned and recommendations for correction/improvement (if necessary) delineated.
3. The facility receiving 3 consecutive unsatisfactory evaluations shall be subject to penalties/restrictions provided in the NCSD Sewer Use Resolution for noncompliance with the Resolution's requirements.
4. Violations of this NCSD Grease Trap and Grease Interceptor Standard will be considered grounds for discontinuance of sewer service.
5. Food service establishments whose operations cause or allow excessive grease to discharge or accumulate in the sewer collection system are liable to NCSD for all costs related to NCSD service calls for line blockages, line cleanings, line and pump repairs, property damages, etc. including all labor, materials, equipment, and overhead. Failure to pay all service-related charges may be grounds for sewer service discontinuance.
 - 6.(a) At the discretion of the NCSD maintenance contracts and/or records of grease removal frequencies for grease-handling facilities may be required to be submitted periodically to ensure routine and adequate system maintenance.
 - 6.(b) In maintaining grease interceptors, the owner(s) shall be responsible for the proper removal and disposal by appropriate means of the captured material and shall maintain on-site records of the dates and means of disposal that are subject to review by the NCSD. Any removal and hauling of the collected materials not performed by owner's personnel must be performed by currently licensed waste disposal firms.
7. Any food service establishment whose effluent is suspected or perceived by the NCSD to contain a concentration of greater than 100 mg/l of oil and grease may be required to routinely sample their grease trap effluent, have it analyzed for oil and grease at the expense of the owner and furnish a copy of the analysis to NCSD.

8. All grease traps/interceptors shall be designed, installed and located in accordance with this Standard to allow for complete access for inspection, maintenance, etc.
9. All grease traps/interceptors must be installed by properly licensed plumbing contractors.

IV. CONSTRUCTION STANDARDS

A. New Food Service Establishments

1. All newly constructed (or newly located) food service establishments shall be required to install a grease interceptor, approved by the NCSD. Grease interceptors shall be sized at 20 gallons per food service seat, with no interceptor less than 1,000 gallons total capacity (unless such interceptors are not feasible to install).
- 1.(a) New food service establishments are to complete an initial grease trap application to install a grease trap and to submit such application with plans, specifications, plumbing diagrams, riser diagrams, etc. to NCSD for review. See sample application form, page 8.
2. All grease trap/interceptor plans and specifications must be reviewed and approved by the NCSD prior to installation. An approval letter for each new trap will be issued by NCSD prior to construction and/or installation.
3. The construction and location criteria for grease interceptors shall be in accordance with Environmental Protection Agency (EPA) Guidance Document, "On-site Wastewater Treatment and Disposal Systems," Chapter 8. Typical construction detail drawings for acceptable grease traps are attached to this Standard.
4. All grease interceptors, whether singular or in series, must be directly accessible from the surface and must be fitted with an extended outlet sanitary tee that terminates 6 inches to 12 inches above the tank floor. The minimum access opening dimensions shall be 18 inches x 18 inches or a minimum of 24 inches in diameter. Two access openings (inlet and outlet) to underground traps are required and should be removable with ease by one person.
See typical detail for 1,000 gallon and 1,500 gallon capacity traps on pages 9 and 10.
5. All below ground grease interceptors must either be two-chambered or individual tanks in series. If two-chambered, the dividing wall must be equipped with an extended elbow or sanitary tee terminating 6 inches to 12 inches above the tank floor. An extended outlet sanitary tee must also be provided at the outlet of the second chamber. Both chambers must be directly accessible from the surface. See attached drawings included in this Standard for underground-type grease traps, pages 9 and 10.

6. Above criteria (1 thru 5) apply primarily to outdoor-type (underground) grease trap units.
7. Maintenance of grease traps/interceptors must include thorough pump-out and/or cleaning as needed, with a minimum frequency of 4 times per year. Maintenance contracts may be required to be submitted to the NCSO as called for in Section III, Paragraph 6 of this Standard. The owner, however, is ultimately responsible for the proper maintenance of the grease trap facility(s).
8. No new food service establishment will be allowed to initiate operations until grease-handling facilities are installed and approved by the NCSO.
9. For cases in which underground-type grease interceptors are not feasible to install, new food service establishments will be required to install adequate and approved "under-the-counter" grease traps for use on individual fixtures, including pot sinks, mop sinks, pre-rinse sinks, wok ovens, and other potential grease-containing drains. In such cases, units will be considered acceptable only if approved flow control fittings are provided to the grease interceptor inlet to prevent overloading of the grease trap and to allow for proper interceptor operation.

Approved manufacturers include Zurn, Rockford, Thermaco, or equal as approved by NCSO. NCSO approval of flow control devices and grease trap design must be given prior to installation. Dishwashers and garbage grinders shall not be piped directly to under-the-counter or underground-type grease traps without prior NCSO approval.

B. Existing Food Service Establishments

1. All existing food service establishments (or renovated or expanded establishments) shall have grease-handling facilities approved by NCSO. Food service establishments without any grease-handling facilities will be given a compliance deadline not to exceed 3 months from date of notification to have approved and installed grease-handling equipment in compliance with this Standard. Failure to do so will be considered a violation of the existing NCSO Sewer Use Resolution and will subject the establishment to penalties regarding sewer service discontinuance.
2. For cases in which "outdoor" units are feasible to install, construction requirements will be as specified in Section IV (A) of this Standard, i.e., New Facilities.
3. Sizing of "under-the-counter" grease trap units will be in accordance with the EPA recommended ratings for commercial grease traps, attached to this Standard on page 7. The grease retention capacity rating in pounds shall be at least 2 times the GPM flow rate of the type fixture that it serves.

4. Location of "under-the-counter" units must be as close to the source of the wastewater as physically possible, while remaining accessible for maintenance.
5. Wastewater from dishwashers and garbage grinders should not be discharged to greasetraps/interceptors, unless approved by NCSD in advance.
6. In maintaining existing grease traps/interceptors, the owner(s) shall be responsible for the proper removal and disposal by appropriate means of the captured material and shall maintain records of the dates and means of disposal that are subject to review by the NCSD.
7. If an existing food service establishment's grease-handling facilities are either under-designed, substandard, or poorly operated, the owner(s) will be notified, in writing, of the required improvements and given a compliance deadline not to exceed 3 months to comply with the requirements of this Standard.
8. Exclusive use of enzymes or other grease solvents, emulsifiers, etc. in lieu of physical cleaning is not considered acceptable grease trap maintenance practice.
9. Grease-consuming bacteria may be considered for interim approval for grease trap maintenance, provided approval is obtained from NCSD and providing that this control method is considered effective and satisfactory to NCSD's inspector. Exclusive use of bacteria (in lieu of physical cleaning) may not be sufficient for long-term grease trap maintenance, especially for non-biodegradable waste fractions.

C. New Food Service Establishments in Existing Buildings

1. Where practical, new food service establishments locating in existing buildings will be required to comply with the Grease Trap Standards applicable to new food service establishments, i.e., outdoor-type grease trap units (minimum size 1,000 gallons) shall be installed. [Section IV (A)]
2. Where physically impossible to install "outdoor" units, "under-the-counter" units may be allowed as with existing food service establishments provided prior approval of unit type, size, location, etc. is obtained from the NCSD. Flow control fittings and/or automatically-cleaned units will be required in all cases. Maintenance contracts and/or clean-out records will also be required. [Section IV (B), Numbers 3 thru 8]

V. ENFORCEMENT

Enforcement of this Standard shall be in accordance with the provisions of the most current NCSD Sewer Use Resolution. Failure to comply with this Standard may be grounds for penalty imposition and/or discontinuance of wastewater service. Additionally, failure to comply may result in notification to the Charleston County Health Department for request of enforcement action that may lead to revocation of food service permits.

For new food service establishments, NCSD may elect to request from the appropriate building official that certificates of occupancy be withheld until compliance with NCSD's requirements, including grease trap compliance, is fully met.

VI. RECOMMENDED RATINGS FOR COMMERCIAL "UNDER-THE-COUNTER" PACKAGE UNIT GREASE TRAPS/GREASE INTERCEPTORS

Retention	Recommended		Grease
	Maximum Capacity	Per Fixture Connected	Rating
Capacity Type of Fixture <u>To Trap</u>	GAL	<u>Flow Rate</u> GPM	LB.
Restaurant kitchen sink 50.0		15	30
Single-compartment scullery sink 50.0		20	40
Double-compartment scullery sink or triple-compartment sink 62.5		25	50
(2) single-compartment sinks 62.5		25	50
(2) double-compartment sinks 87.5		35	70
Wok ovens 50		15	30
Other fixtures *		*	*

Note: For multiple fixtures served by one tap, the required grease trap capacity will be additive.

* As determined by NCSD

**NORTH CHARLESTON SEWER DISTRICT
NORTH CHARLESTON, SOUTH CAROLINA**

APPLICATION TO INSTALL GREASE INTERCEPTOR

Establishment Name:

Address: _____ Phone: _____

Name of applicant / restaurant owner:

Address: _____ Phone: _____

Type of food prepared at this establishment:

Size of establishment (#of seats / square footage):

Former use:

SIZE / NUMBER OF KITCHEN UNITS TO BE SERVED BY INTERCEPTOR:

<u>Size / Number</u>	<u>Type of Unit</u>	<u>Size / Number</u>	<u>Type of Unit</u>
____ / ____	Single compartment scullery sink	____ / ____	Hand sink
____ / ____	Double compartment scullery sink	____ / ____	Oven (ex: wok oven)
____ / ____	Triple compartment scullery sink	____ / ____	Other (list below)
			_____ Any sink, etc.

discharging into the sanitary sewer that is used for cleaning and/or food preparation must be connected to a grease interceptor.

***NOTE* Dishwashers and Garbage Disposals shall not be tied into Grease Interceptor.**

Please state any reasons why an under ground unit would not be feasible to install:

I certify that the above information is correct to the best of my knowledge.

Date: _____ Signature: _____

Submit application with plans and specifications or a riser / plumbing diagram to the following address:

North Charleston Sewer District
Attn: Industrial Pretreatment Department
P.O. Box 63009
N. Charleston, SC 29419

*Contact Industrial Pretreatment Supervisor at (843) 764-3072 or fax (843) 764-2655 with questions.
ADOPTED by the North Charleston Sewer District Commission of the State of South Carolina on the 8th day of December 1997.

NORTH CHARLESTON SEWER DISTRICT

Mary R. Miller, Chairman

Allen W. Brown, 1st Vice Chairman

WITNESS:

State of South Carolina
County of Charleston

PERSONALLY appeared before me the undersigned witness and made oath that (s)he saw the within named North Charleston Sewer District by Mary R. Miller, its Chairman and Allen W. Brown, its 1st Vice Chairman, sign, seal, and as its act and deed, deliver the within

written Standard, and that (s)he with the other witness witnessed the execution thereof.

SWORN to before me this 8th day of December 1997

Notary Public for South Carolina (SEAL)

My commission expires: