

Oil/Sand (O/S) Policy



***SOUTH FORT COLLINS SANITATION
DISTRICT***

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1.0 Purpose

The purpose of this policy is to minimize the loading of petroleum oil, grit, and sand (O/S) entering the collection system and the wastewater treatment plant at the source. O/S can contribute to pass-through of pollutants into the municipal sewage sludge and create a volatile atmosphere within the collection system. Additionally, sand and minerals can cause sewer blockages in low flow lines resulting in a sanitary sewer overflow (SSO) and may cause damage to pumping equipment.

2.0 Scope and Applicability

2.1 Scope

This policy encompasses the entire service area of South Fort Collins Sanitation District (SFCSD).

2.2 Applicability

2.2.1 Non-domestic Users

This policy applies to any non-domestic user in the SFCSD service area that has the potential to discharge wastes containing sand, grit, gravel, aggregate, and/or petroleum by-products into the wastewater system. Examples of such businesses or facilities include but are not limited to: automobile or recreational vehicle service stations, fleet maintenance stations, mechanical repair shops, auto body repair and paint shops, car or truck washes, machine shops, garden nurseries, stone cutters, warehouses, and parking garages. These users shall install and maintain a sand/oil interceptor (SOI) and/or implement best management practices (BMP) as directed by the SFCSD Industrial Pretreatment Coordinator.

2.2.2 Domestic Users

This policy does not apply to domestic users. However, the best management practices (BMPs) set forth in this policy are recommended for domestic users to assist in keeping the collection system and private sewer lines flowing freely.

3.0 Definitions and Acronyms

3.1 Definitions

Best Management Practices (BMP) – Schedules of activities, prohibitions or practices, maintenance procedures, and other management practices; it also includes treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw materials storage.

District – The SFCSD is herein referred to as the District.

Domestic User – Any private residential user that discharges wastes derived from ordinary living processes excluding any commercial or industrial wastes.

Inactive SOI – An existing SOI that is no longer being used for its intended purpose.

Non-domestic User – Any user that does not meet the criteria for categorization as a domestic user shall be considered a non-domestic user.

Notice of Violation (NOV) – A formal written notice served upon a user who has violated or continues to violate any provision of this policy and/or City Municipal Code.

Publicly Owned Treatment Works (POTW) – Includes any devices or systems used in the collection, storage, treatment, recycling, and reclamation of sewage and any conveyances, which convey wastewater to the treatment plant.

Petroleum Oil and Sand (O/S) – Any hydrocarbon or petroleum product including oils and grease, and/or sand, grit, gravel or any other aggregate.

Sand/Oil Interceptor (SOI) – A plumbing appurtenance or appliance that is installed in a sanitary drainage system to intercept O/S from a wastewater discharge and is identified by capacity volume and number of compartments.

Sanitary Sewer Overflow (SSO) – A condition whereby untreated sewage is discharged from a sanitary sewer system and into the environment prior to reaching the POTW. SSOs are typically a result of broken or obstructed pipes, equipment failure, or system overload.

User – Any person who contributes, causes, or permits the contribution of wastewater into the POTW.

3.2 Acronyms

BMP – Best management practices
SFCSD – South Fort Collins Sanitation District
POTW – Publicly owned treatment works
NOV – Notice of violation
O/S – Petroleum oil, grease, and sand
SOI – Sand/oil interceptor
SSO – Sanitary sewer overflow

4.0 Roles and Responsibilities

4.1 Authority

This policy was developed under the authority of the South Fort Collins Sanitation District Rules and Regulations.

4.2 District

The District is responsible for implementing this policy. Duties include, but are not limited to, reviewing building plans, inspecting applicable users for compliance, and enforcing policy requirements. The District may delegate these responsibilities to referral agencies or outside contractors who represent the District.

4.3 Users

Users, to whom this policy applies, as identified in Section 2.2, shall comply with all requirements listed in Section 5.0. The user shall permit inspections by the District with or without notice for the purpose of determining applicability and/or compliance with this policy or applicable sanitation district policy or requirements.

5.0 Requirements

This section describes the requirements for all applicable users. Prior to purchasing a business or signing a lease for an existing retail or other type of space, it is recommended the user contact the District with questions about the O/S Policy and SOI requirements. This can help users avoid costly mistakes or oversights.

5.1 Plan Reviews

The user and/or owner of the property, business, or industry or an authorized representative of the user shall contact the District for the purpose of obtaining a plan review. The plan review shall determine the need, size, location, and other requirements of the SOI necessary to control discharges. Written approval from the District must be obtained prior to installation of the SOI. The review of such plans and operating procedures shall in no way relieve the user from the responsibility of modifying such facilities as necessary to produce a discharge acceptable to the District in accordance with SFCSD Rules and Regulations.

Plans shall be submitted for approval prior to any of the following:

- Sale or transfer of ownership of the business,
- Construction of a new building,
- Change in the nature of the services provided or building use that affects the potential to discharge O/S, and/or
- Remodeling of the facility that may result in an increase in flow or O/S loading or that otherwise requires the facility to submit plans or specifications for approval through a building or zoning department, or any other formal approval process of a city, county, or other jurisdiction.

All plans submitted to the District must show the location of the SOI, clearly identify plumbing and plumbing fixtures that connect to the SOI, identify plumbing and plumbing fixture sizes, and a table or schedule identifying plumbing fixtures. Plans shall include proposed SOI size in accordance with the SOI sizing criteria provided in Section 5.2.2. Plans shall include a SOI detail showing internal plumbing, dimensions, cleanouts, and vent piping. If plan approval has been obtained, said plans shall not be deviated from. If a situation warrants the change of an approved plan, an amended copy must be resubmitted to the District for approval.

SOI installation and associated plumbing shall be inspected and approved by the District prior to backfilling. During the inspection process, if an interceptor is observed with any gaps around the baffle wall large enough to see light through, it will need to be sealed to prevent the passthrough of unwanted and / oil.

The District will not approve the installation of any metallic interceptors.

Any Hydromechanical interceptors will be reviewed on a case-by-case basis and will be approved or denied at the District's discretion.

5.2 Sand/Oil Interceptor (SOI) Criteria

All users to whom this policy applies, as identified in Section 2.2 must comply with the requirements of the O/S policy which may include the requirement for installation and operation of a SOI.

5.2.1 SOI Plumbing and Structural Requirements

Drains from shop areas, storage areas, mop sinks, wash bays, vehicle storage areas, and/or other areas with the potential to discharge O/S shall be connected to a SOI. If an oil or chemical storage room is too small for all oil and chemicals to be kept in containment or away from any floor drain, a floor drain shall not be placed in that room. Drains from areas which may produce wastewater laden with animal or vegetable fats, oils, and grease (FOG) shall not be routed to the SOI. SOI's shall not be connected to roof drains, downspouts, or otherwise exposed to stormwater runoff. Outdoor drains or wash bays connected to SOI's must be roofed and bermed in such a manner as to keep storm water out of the sanitary sewer collection system.

Each business establishment for which a SOI is required shall have a SOI serving only that business. Common or shared SOIs are not permitted. The District may grant a variance for a common or shared SOI if it is pre-existing. Common SOIs may be re-evaluated for proper sizing and capacity as facilities change business operations, practices, owners, or tenants.

All SOIs and associated plumbing shall be installed by a licensed plumber or contractor. All new SOIs must have two compartments separated by a baffle wall. The primary compartment shall have a volume equal to two-thirds of the total capacity, and the secondary compartment shall have a volume equal to one-third of the total capacity. Each compartment shall be accessible by traffic rated manholes above both the inlet and outlet piping with a minimum diameter of 24 inches. Manhole covers may not be locked, or otherwise fastened in place, such that access is restricted.

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All plumbing shall be compatible with wastewater containing O/S, such as PVC. A sampling-T with a removable cap shall be placed at the outlet end of the SOI to allow sampling of effluent. The top of the sampling-T shall be no more than one foot below finished grade. In order to maximize retention time in the primary chamber, the bottom of the inlet piping shall extend down no less than 50% of the total water depth. The bottom of the outlet piping must extend down within 9 to 12 inches from the floor of the SOI. Flow from the primary to secondary compartment shall be through a baffle wall pass-through port or over the top of the baffle. The baffle wall pass-through port or top of the baffle wall shall be no more than 5 inches below water line. If a pass-through port is used, the cross sectional area shall be at least equivalent to the cross sectional area of the inlet piping into the SOI. Support brackets are required for inlet and outlet piping. Clean outs and venting shall be made of PVC. SOIs shall have two (2) vent pipes, one shall vent the body of the SOI and one vent shall connect to the external effluent piping. Vent pipes shall remain independent to a location above finished grade. Each vent pipe must have an accessible clean out prior to joining into a common vent. Vents shall be independent of any other building venting system and shall be in accordance with local building codes. Refer to Figure 1 for a diagram of a SOI.

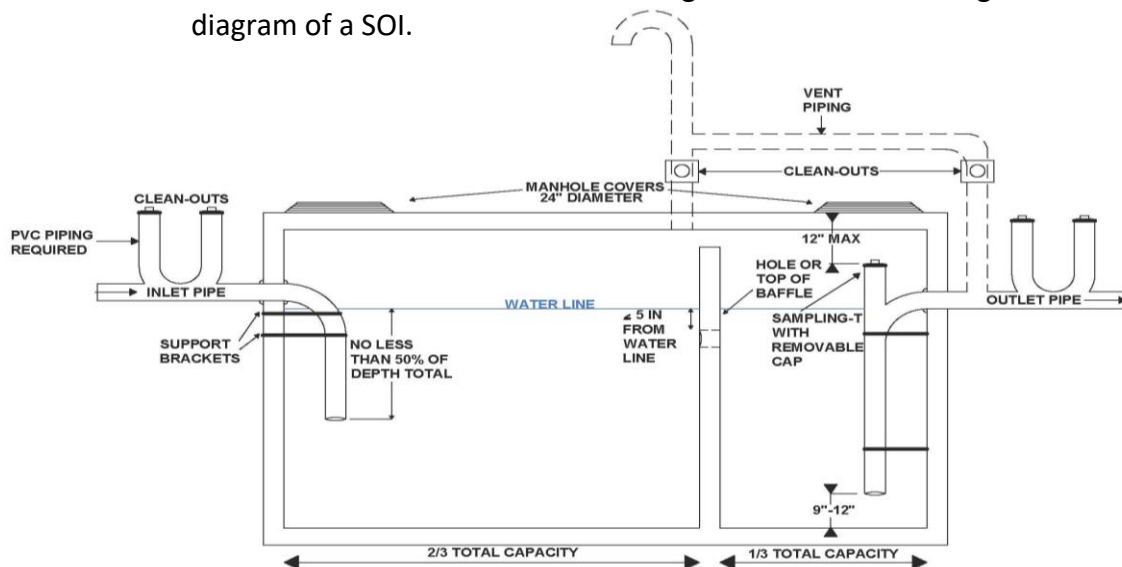


Figure 1: Sand/Oil Interceptor

Car washes with individual wash bays or heavy equipment wash bays shall have a catch basin located directly below the drain of each bay. The catch basin(s) shall be connected to the SOI.

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If the District has determined that no SOI is to be installed, the user shall connect all plumbing fixtures listed in Section 5.3.1 to a sanitary sewer line separate from the domestic sanitary sewer line. This separate sanitary sewer line shall have a cleanout located outside of the building to allow the District access for sampling. The separate sanitary sewer line is designed to allow representative compliance sampling and future installation of a SOI should one be required. This line may be combined with the domestic sanitary sewer at a point after this cleanout.

5.2.2 SOI Sizing

The minimum capacity of a SOI is 500 gallons. SOI's shall be adequately sized to protect the POTW and the collection system. When completed, the sizing calculation will provide a minimum holding capacity of the SOI in gallons. SOI sizing is based on surface area and intended use of areas that have the potential to produce O/S. Some facilities may have multiple distinct areas with like or unlike uses, for example, an auto service shop may have repair, storage, and vehicle or equipment washing areas, a car washing facility may have automatic and handheld spray washing bays along with a product storage area.

Sand/Oil Interceptor (SOI) Sizing Table

<i>PART A: Service Areas, Warehouse/Storage Areas, and Parking Garages:</i>				
Area Description ⁽¹⁾	Square Footage ⁽²⁾	Required SOI Cubic Foot Holding Capacity ⁽³⁾	Conversion Factor 7.48 gallon per Cubic Foot ⁽⁴⁾	Required Gallons of SOI Holding Capacity Per Area ⁽⁵⁾
			7.48	
			7.48	
			7.48	
			7.48	
			7.48	
			7.48	
Total (Gallons) From Part A				
<i>PART B: Commercial Truck, Equipment, and Car Washes:</i>				
Wash Bay Description ⁽⁶⁾	# of Bays ⁽⁷⁾	Required SOI Capacity Per Bay ⁽⁸⁾		Required Gallons of SOI Holding Capacity ⁽⁹⁾
Total (Gallons) From Part B				
Total Required SOI Capacity (Minimum in Gallons) ⁽¹⁰⁾				

Completing the Table:

Part A:

1. Area Description, e.g. parking garage level 1, west service area, inside vehicle storage area, detailing area. Areas listed shall only include areas with drains that will flow to the SOI.
2. Square footage for each area that will or has the potential to drain into the SOI through normal operating processes or cleaning operations. (Length in feet x width in feet). The entire area shall be used in this calculation unless there is a physical barrier such as a wall that provides complete isolation of a non-draining area.
3. Required SOI Cubic Foot Holding Capacity involves the conversion of each area square footage to cubic feet of SOI holding capacity and shall be calculated as follows:
 - a.) 6 cubic feet of SOI holding capacity for the first 100 square feet of area plus 1 cubic foot of SOI holding capacity for each additional 100 square feet of area.
 - b.) Areas deemed storage or warehouse that has floor drains shall use a calculation conversion of 1 cubic foot of SOI holding capacity per 500 square feet. Areas used for the storage of chemical products are not considered storage/warehouse and shall use part 3 (a) above
 - c.) Commercial parking garages shall use a calculation conversion of 1 cubic foot of SOI holding capacity per 1000 square feet of surface area. Do not include the top level of the parking garage if it is exposed to storm events. Runoff from this level shall be drained to the storm water system.
4. Conversion Factor, SOIs are typically sized by gallons of holding capacity (1 cubic foot of SOI holding capacity = 7.48 gallons)
5. Required Gallons of SOI Holding Capacity per Area = required SOI cubic foot holding capacity of the area x 7.48 gallons per cubic foot

Part B:

6. Wash Bay Description, either Self Service (hand held spray) or In-Bay Automatic.
7. Number of bays employed for each wash bay description
8. Required SOI Holding Capacity Per Bay: 180 gallon SOI holding capacity for each Self Service wash bay, 387 gallon SOI holding capacity for each In-Bay Automatic

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9. Required Gallons of SOI Holding Capacity per wash bay type = number of bays multiplied by required capacity per bay,

Total:

10. Total required SOI holding capacity (total gallons from Part A plus total gallons from Part B)

In the event a building is to be constructed or remodeled but tenant use information is not known, use the sizing criteria stated in note 3 part (a) above.

Part A shall be used for calculating SOI sizing requirements for industrial uses such as auto service, parking structures, storage/warehouse or miscellaneous processes subject to the O/S Sector Control Program requirements for installing and operating a SOI. Areas used for hand washing and detailing shall use Part A (3)(a).

Part B shall be used for facilities deemed commercial truck, equipment, or car washes.

Parts A and B shall be completed for facilities that are deemed mixed use (washing or detailing bays along with areas identified in Part A).

If multiple SOIs are required, a separate Plan Review Form shall be used for each SOI.

An SOI sizing job aid has been prepared to assist in calculating SOI sizing requirements.

5.2.3 SOI Location

Each SOI shall be installed and connected to be easily accessible at all times for inspection, cleaning, pumping, and maintenance. Each SOI manhole cover shall be readily accessible and safely removable for servicing and maintaining the SOI in good working condition. The use of ladders, the removal of bulky equipment, or any other circumstances that impedes safe access to service or inspect SOIs shall constitute a violation of accessibility. SOIs are not permitted to be in parking spaces or driveways with heavy traffic. The location of all SOIs shall be shown on the approved site plan and building plans.

5.2.4 SOI Closure

The District may determine that a SOI is no longer required for its intended purpose. This may occur when the wastewater flow through the interceptor is significantly lower or non-existent due to changes in operations or physical changes. A lack of flow through the SOI may result in potential health and safety hazards.

Inactive SOIs shall be closed by:

- Complete removal of SOI contents (petroleum oil, solids, water, etc.), performed by a professional service company,
- Submittal of plans or a narrative to the District detailing the proposed scope of work,
- Sealing of all floor drains and fixtures plumbed to the SOI (if capping of SOI inlet and outlet pipes is required), or the installation of a direct pipe connection from the inlet to the outlet,
- Filling of the empty SOI with an appropriate fill material such as sand or fine aggregate, and
- Securing the opening(s) to the interceptor (e.g. cement, weld, etc.), or removing manhole ring and cover and providing adequate surfacing material.

The District may request plans detailing the closure activity and written approval from the District may be required prior to beginning work. Inspections of closure activities may be required by the District prior to securing the opening of the SOI. The user may be required to notify the District prior to closure of the SOI to allow for inspection.

5.3 Sand/Oil Interceptor Maintenance

SOIs shall be maintained, at the expense of the user, by regularly scheduled pumping to ensure the proper operation necessary to efficiently intercept O/S from the user's wastewater, prevent a sanitary sewer overflow (SSO) and prevent the discharge of said materials into the POTW.

A SOI shall be serviced at a minimum of every 90 days for truck washes, heavy equipment washes, and commercial car washes. A SOI shall be serviced at a minimum once per year for all other users. The SOI may be required to be serviced more frequently as needed to ensure that the

total accumulation of solids, debris, and oil does not exceed twenty-five percent (25%) of the SOIs total capacity. The District may allow a less frequent pumping schedule if the user can demonstrate the SOI does not need to be pumped per policy requirements. Users seeking a modified pumping schedule shall complete an application including information that demonstrates that less frequent pumping schedule is adequate and pay the \$100.00 application review fee. Applications will be reviewed by the District. Written approval must be obtained by the District before any modified pumping schedule can be implemented. All users are required to structurally maintain all components of their SOI as per the design requirements in Section 5.3.1 of this document.

SOI maintenance shall be done in a workman-like manner only by a business or professional normally engaged in the servicing of such plumbing fixtures. Partial removal of contents is not allowed. Contents removed from SOIs shall be hauled off-site and disposed of properly. Under no circumstances shall the SOI's contents be reintroduced to the sanitary sewer system. The user must take reasonable steps to assure that all waste is properly disposed of at a facility in accordance with federal, state and local regulations (i.e. through a certification by the hauler included on the waste manifest or trip ticket for each load). Users are responsible for the maintenance, servicing, and proper waste disposal and cannot abrogate this responsibility to a contractor, pumping service, or any other agent.

All records, receipts, and manifests of SOI maintenance, removal of SOI contents, and off-site hauling of O/S waste shall remain on the premises and accessible for review by the District at any time for a minimum of three (3) years. The District may require a user that falls under the provisions of this policy to submit copies of all records, receipts, and manifests of SOI maintenance, removal of SOI contents, and off-site hauling of O/S waste.

In the event a SOI is not properly maintained by the user, the District may authorize such maintenance work to be performed on behalf of the user. The costs of such maintenance shall be billed directly to the user and shall become part of the charges due and owing to the District and shall constitute a lien against the property until paid in full.

5.4 Best Management Practices (BMPs)

The purpose of BMPs is to minimize the discharge of O/S into the sanitary sewer system. The following BMPs shall be implemented by non-domestic users to whom this policy applies:

- **Installation of mesh screens.** Facilities with the potential to discharge debris greater than 1/2" in any dimension shall install a mesh screen or similar device to prevent such debris from entering the SOI.
- **Storage and disposal of wastes and raw materials.** SOIs shall not be used as a means for disposal of unused, spent or spilled chemicals, automotive waste fluids, hazardous wastes or sludges. Such wastes shall be stored in appropriate containers in volumes consistent with local and state environmental regulations until collected for recycling and/or disposal by professional waste haulers. Such containers shall be maintained to ensure that they do not leak.
- **Employee training.** Employee training shall be provided as part of the normal orientation process and annually thereafter and shall include, at a minimum, the following subjects:
 - How to sweep floors prior to floor wash down to ensure there is no excessive oil, debris, sand or metal shavings entering the sanitary sewer,
 - The location, use, and disposal of absorption products to clean any spills (washing spills into drains is prohibited),
 - How to properly collect and dispose or transfer oils and other wastes into designated containers without spilling, and
 - Proper indoor storage of batteries off of floors and away from drains
- **Signage.** Signs shall be posted above sinks and similar devices located in process areas prohibiting the discharge of oil and other chemical waste down the drains.

5.5 Spill Prevention

All users are required to have measures in place to control unwanted discharge to the sanitary sewer. Chemicals, waste oils, and other liquid products must be stored away from drains, away from traffic areas or within containment to reduce the potential for spills reaching the sanitary sewer and/or the environment.

5.6 Elevator Pits

This section is applicable to new building construction or remodeling projects in which an elevator is to be installed.

If the elevator shaft is required to have a floor drain or sump pit with sump pump the associated plumbing shall not be directly connected to the sanitary sewer.

- If a SOI is present or is required to be installed per Section 5.2, wastewater from the floor drain or elevator pit shall be plumbed through the SOI. A SOI shall not be installed for the sole purpose of draining the elevator pit, because not enough wastewater will pass through the SOI to allow it to function as designed. Elevator pits shall not be plumbed to a gravity grease interceptor.
- If a SOI is not present or required based on other infrastructure, the designer has the choice to drain the elevator pit through an oil separator or an oil sensing device with alarm shall be connected to a control device that will energize a valve to halt the wastewater flow. The designer may also drain the elevator pit to a holding reservoir or tank for off-site disposal

6.0 Enforcement

The District may enforce this policy in any matter authorized by the Rules and Regulations or state or federal law.

Upon inspection of a user's facility, SOI and/or BMPs, the user will be provided a hard copy or electronic version of the inspection form. The inspection form will contain the inspection results and will indicate the deadline for any corrective actions, if necessary.

Typical corrective action deadlines are as follows:

- Chemical storage/ secondary containment issues must be resolved within fifteen (15) calendar days;
- SOI repairs must be completed within fifteen (15) calendar days;
 - Failure to meet the deadline will result in an initial non-compliance fee of \$250.00. Continued non-compliance with result in escalating fees up to \$1000.00 per day, in accordance with SFCSD Rules and Regulations 6.10.6
- SOI pumping must be completed within five (5) calendar days;
 - Failure to meet the deadline will result in a non-compliance fee of \$250.00. Continued non-compliance with result in escalating fees up to \$1000.00 per day, in accordance with SFCSD Rules and Regulations 6.10.6
- Spills or leaks shall be cleaned-up within 24 hours;

- Missing or damaged floor drain covers or grates screens must be repaired or replaced within fifteen (15) calendar days;
- Missing District required signage must be immediately replaced; and
- Violations involving improper employee BMP adherence shall require retraining of the employee and documentation of such training shall be made available for District review during a follow-up inspection.
- Records, receipts, and/or manifests of SOI maintenance not available for review upon inspection must be provided to the District within 5 days.
 - Failure to provide manifests upon request by the deadline will result in a \$100.00 non-compliance fee per month until manifests are received.

If a user continues to fail to make the corrections within required time frames, the user may be referred to the enforcement authority. Fines and/or re-inspection fees may be levied as an enforcement action. If non-compliance continues the enforcement authority may escalate enforcement actions that could include both civil and criminal actions. The District has the authority to perform work or hire a contractor to perform work necessary to bring a user into compliance. Costs associated with work including labor, equipment, and materials incurred in rectifying the non-compliance shall be billed directly to the user and the total charges due shall constitute a lien on the user until paid in full.

The District is obligated under federal regulation to enforce against violations pursuant to its Enforcement Response Plan. Noncompliance will result in enforcement actions based on a number of factors including harm to the environment or personal property, harm to the WWTP system or plant operations, pass through, interference, and worker or public safety.

7.0 References

SFCSD Rules and Regulations

ASME A112.14.3-2022 / CSA B481.1:22 Hydromechanical Interceptors

8.0 Review Revision Schedule

This procedure shall be reviewed, and revised if necessary, every two years or more frequently.

9.0 Approval and Issuance

This policy has been approved and issued by the SFCSD Pretreatment Coordinator.