



Petroleum, Oils, Grease and Sand Sector Control Policy

Persigo Wastewater Treatment Plant
Industrial Pretreatment Division
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I. INTRODUCTION

The United States Environmental Protection Agency (EPA) requires the City of Grand Junction (City) / Mesa County Persigo Wastewater Treatment Facility (Persigo) to have an Industrial Pretreatment Program (Pretreatment) to prevent certain pollutants from entering the wastewater system. The pollutants of concern are those that can interfere with the operation of the wastewater treatment process, pass through the wastewater treatment system without adequate treatment or contaminate treatment plant biosolids.

The Petroleum, Oil, Grease and Sand Sector Control Policy (Policy) establishes City requirements for any facility that has the potential to discharge Petroleum, Oil, Grease and Sand (POGS) into the sanitary sewer system. POGS pollutants can contribute to sewer blockages causing sanitary sewer overflows and backups into homes and businesses and can interfere with equipment and processes in the sewer collection system and at the wastewater treatment plant.

The purpose of this Policy is to minimize the loading of POGS from entering the sewer system at the source. The Policy encompasses the entire service area of the Persigo 201 sewer boundary, which includes the City of Grand Junction and portions of Mesa County.

Definitions of the terms used in this Policy are found in Grand Junction Municipal Code (GJMC) Sections 13.04.010 and 13.04.360.

II. AUTHORITY

The BMPs in this Policy are authorized by Sections 13.04.370 and 13.04.460 of the Grand Junction Municipal Code (GJMC).

GJMC Section 13.04.370, in addition to other materials, specifically prohibits the discharge of the following materials to the Publicly Owned Treatment Works (POTW), which includes the sewer collection system and the Persigo facility:

- Pollutants which create a fire or explosion hazard;
- Pollutants which will cause corrosive structural damage;
- Any solid or viscous pollutant in amounts which will cause obstructions;
- Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in large amounts;
- Pollutants that will result in the presence of toxic gases, vapors or fumes.

GJMC Section 13.04.370 also establishes a discharge limitation of 50 mg/L for Total Recoverable Petroleum Hydrocarbons (TRPH); 50 ug/L for Benzene; and 750 ug/L for BTEX (aggregate of benzene, ethyl benzene, toluene and xylene). These materials may be commonly found in the discharge from a facility that services vehicles and/or equipment or has an elevator. The sand/oil interceptor (interceptor) BMP described in this Policy is required for treatment of an applicable facility's discharge in lieu of requiring a facility to routinely sample and monitor the facility discharge in order to determine compliance with the City's TRPH, Benzene and BTEX limits.

All facilities to which this Policy applies shall comply with all the requirements in this Policy. Facilities shall permit inspections by the City with or without notice for the purpose of determining applicability and/or compliance with this Policy and requirements. Applicable facilities shall inform the City prior to sale or transfer of ownership of the business; or change in the trade name under which the business is operated; or change in the nature of the services provided that affect the potential to discharge pollutants; or remodeling of the facilities that may result in an increase in the pollutant loading.

The City's Industrial Pretreatment Division staff is responsible for implementing this Policy. Duties include but are not limited to reviewing building plans, inspecting applicable facilities for compliance and enforcing Policy requirements.

III. BACKGROUND

The purpose of this policy is to minimize the loading of excess POGS entering the sewer collection system and the wastewater treatment plant from the facility source. POGS includes any hydrocarbon or petroleum product, oils and grease and/or sand, grit, gravel or any other aggregate. POGS can contribute to pass-through of pollutants into the Colorado River and municipal sewage sludge and create a volatile atmosphere within the sewer collection system. Sand can restrict sewer flow and cause blockages and damage in sewer collection lines, wet wells and pumping stations, potentially resulting in a sanitary sewer overflow (SSO) that can be a health risk to the public and the environment.

POGS blockages in the sanitary sewer system are very costly to the City and to its sewer customers. POGS blockages can result in emergency sewer call-outs to clean sewer lines, incurring additional costs to sewer customers.

IV. APPLICABILITY

All facilities that service vehicles and/or equipment or have an elevator are required to complete a City POGS Service Facility Application to determine applicability of interceptor and/or elevator requirements and to determine proper interceptor sizing.

Any facility that has the potential to discharge wastes containing sand, grit, and/or petroleum by-products into the wastewater system is required to install and maintain a City-approved sand/oil interceptor (interceptor) and to use the BMPs described in this Policy. This requirement applies to any non-domestic (i.e. commercial or industrial) facility and includes, but is not limited to, vehicle service stations, fleet maintenance stations, mechanical repair shops, car or truck washes, machine shops, garden nurseries, warehouses and parking garages.

This includes:

- New facilities, including the new ownership or lessee of existing facilities;
- Existing facilities closed for a period of one year or longer;
- Existing facilities undergoing remodeling with a change to plumbing and drainage fixtures; and
- Existing facilities changing from a conditionally exempt facility to one where POGS are used or discharged in amounts that could hinder sewage disposal.

This Policy does not apply to domestic residential users; however, the BMPs in Section VI of this Policy are recommended for domestic use to assist in keeping the sewer collection system and private sewer lines flowing freely.

V. SAND/OIL INTERCEPTOR REQUIREMENTS

An interceptor is a plumbing treatment device that is installed between the facility shop drainage and the sanitary sewer system. It is designed to remove POGS from the facility wastewater discharge prior to sanitary sewer discharge. An interceptor is located in the ground outside of the facility, is typically located in the parking lot and can be recognized by the two manhole lids that cover the accesses to the interceptor.

A properly sized and maintained interceptor provides the necessary retention, or holding time, for wastewater to separate into three basic layers. POG floats to the top, sand and solids sink to the bottom, and the clearer mid-water flows out to the sanitary sewer.

The interceptor shall be installed, maintained and operated so as to accomplish their intended purpose of intercepting pollutants from the facility's wastewater and preventing the discharge of such pollutants to the City's wastewater collection system.

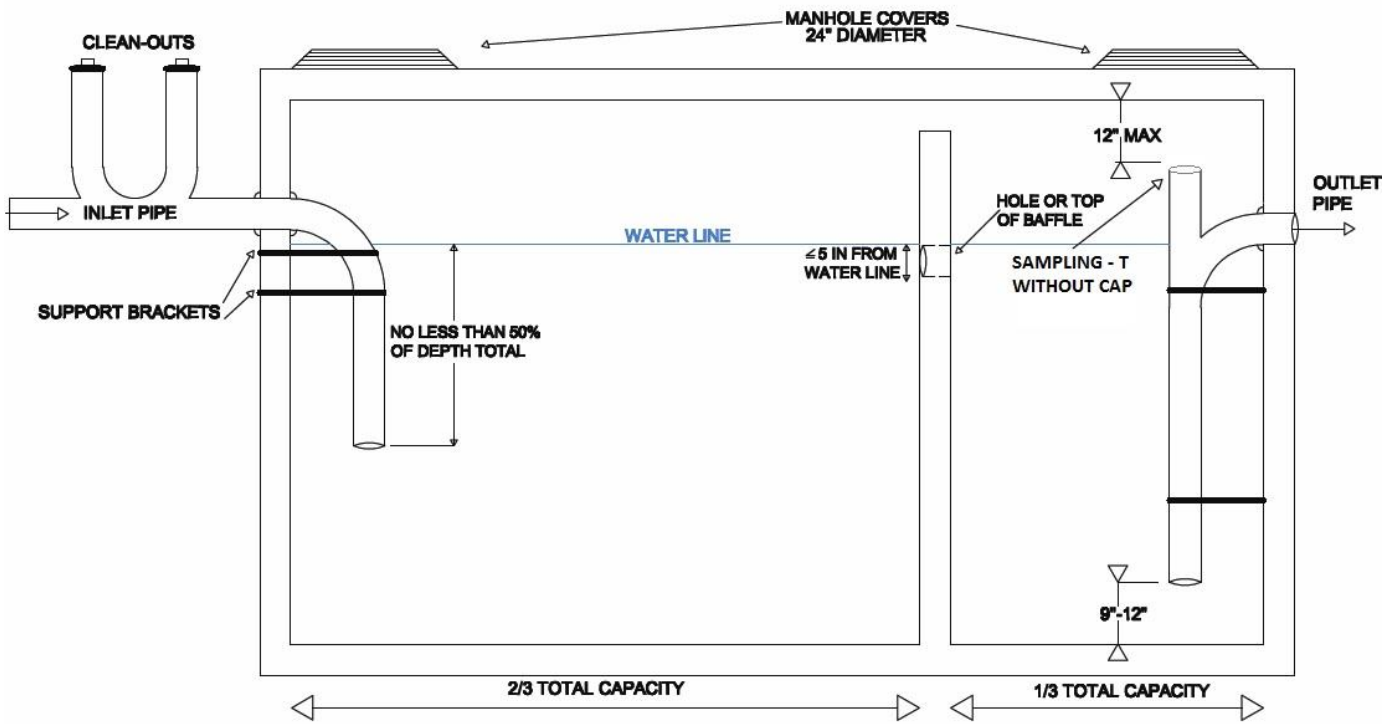


Figure 1. Sand/Oil Interceptor Diagram

A. City Requirements

1. Plan Review. All facilities are required to complete a City POGS Application to determine applicability of interceptor requirements and to determine proper interceptor sizing. The City requires an interceptor be installed at applicable facilities. If an interceptor is required it shall be installed at the expense of the facility owner or lessee prior to opening for business.
 - a. The facility property owner or lessee or authorized representative is responsible for contacting the City for the purpose of obtaining a site plan review. The site plan review shall determine the need, size, location, and other interceptor requirements necessary to control facility discharges into the sanitary sewer system. The review of such plans shall in no way relieve the facility from the responsibility of modifying such facilities as necessary to produce a discharge acceptable to the City in accordance with GJMC. The type and capacity of a required interceptor shall be approved by the City prior to installation. Written approval from the City must be obtained prior to installation of an interceptor.
 - b. Plans shall be submitted for approval prior to any of the following:
 - Construction of a new building;
 - Change in the building use or nature of the services provided that affects the potential to discharge POGS;
 - Remodeling of the facility that may result in an increase in flow or POGS loading; and
 - Any other reason that otherwise requires the facility to submit plans or specifications for approval through the City or Mesa County Building Department (Building Department).
 - c. All plans submitted to the City must clearly show:
 - Location of the interceptor;
 - Proposed interceptor size in accordance with the sizing criteria in Section V.A.3;
 - Interceptor detail showing internal plumbing, dimensions, cleanouts and vent piping;
 - All building water and sewer plumbing;

- All plumbing and plumbing fixtures that connect to the interceptor;
 - Size of plumbing and plumbing fixtures that connect to the interceptor;
 - A table or schedule identifying all plumbing fixtures; and
 - All chemical storage areas.
- d. The installed interceptor and associated plumbing shall be inspected and approved by the Building Department prior to backfilling. Plans shall not be deviated from once a Planning Clearance has been issued. If a situation warrants the change of an approved plan, an amended copy must be resubmitted to the City and Building Department for approval.
- e. Upon change of ownership of any existing facility which would be required to have an interceptor, the applicant for sanitary sewer service shall have the burden to demonstrate that a properly sized and properly functioning interceptor is installed to the satisfaction of the City. The interceptor shall be cleaned by an approved waste hauler prior to use.
2. Plumbing Criteria. The City requires a properly sized gravity interceptor with two compartments separated by a baffle wall be installed.
- a. The interceptor and associated plumbing should only be installed by a licensed plumber or experienced contractor. Drains from shop areas, storage areas, wash bays, auto storage areas, and/or potential spill areas shall be connected to an interceptor. 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. Fixtures to be connected include, but are not limited to, floor drains, hand sinks and wash bays located in areas where sand and petroleum-based liquid waste materials may enter the collection system. Toilets, water closets, urinals, hand washing sinks and other plumbing fixtures conveying only human waste shall not drain into or through the interceptor.
- b. The interceptor's 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 a traffic-rated manhole above the inlet and outlet piping with a minimum diameter of 24 inches. Manhole covers shall not be locked, or otherwise fastened in place such that access is restricted.
- c. All plumbing shall be compatible with wastewater containing POGS, such as PVC. The bottom of the inlet piping shall extend down no less than 50% of the total water depth in order to maximize retention time in the primary compartment. Flow from the primary to secondary compartment shall be through a baffle pass-through (hole) or over the top of the baffle. The baffle pass-through or top of the baffle shall be no more than 5 inches below water line. If a pass-through is used, the cross sectional area shall be at least equivalent to the cross sectional area of the inlet piping into the interceptor. A sampling-T shall be placed at the outlet end of the interceptor to allow sampling of effluent. The top of the sampling-T shall be no more than one foot below grade. An outlet tee-fitting, or downturn with a sight tube, and extension is required in order for City staff to visually inspect the interceptor. The bottom of the outlet piping in the second compartment must extend down between 9 and 12 inches above the floor of the interceptor. Support brackets are required for the inlet and outlet piping. Cleanouts and venting shall be PVC pipes. Interceptors shall be vented in accordance with local building codes.
- d. Car washes with individual wash bays shall have a catch basin located directly below the drain of each bay. The catch basin(s) shall be connected to the interceptor.
- e. Each facility for which an interceptor is required shall install an interceptor serving only that facility. Common interceptors are not permitted for newly constructed facilities. The City may grant a variance for a common interceptor only if it is pre-existing and if the resulting discharge does not exceed the 50 mg/L concentration for TRPH as required by GJMC. A common interceptor may be reevaluated for proper sizing and capacity when a facility changes business operations, practices, owners or tenants.

3. Sizing. A City POGS Application is required to be completed to determine proper interceptor sizing. The design of an interceptor shall be in accordance with City sizing requirements and the Mesa County Building Code. The capacity of an interceptor is calculated based on the maximum process water discharge flow rate for each facility with a minimum detention/treatment time of 120 minutes. The minimum required interceptor size capacity is 500 gallons.
4. Location. An interceptor shall be located outside the facility between the shop drainage plumbing and the sanitary sewer system. The facility must ensure interceptors are installed and connected to be easily accessible for inspection, cleaning, pumping and maintenance at all times. Each manhole cover shall be readily accessible and safely removable for servicing and maintenance. Vehicles or equipment are not allowed to be parked or stored on top of the interceptor.
5. Closure. The City may determine that an interceptor is no longer necessary. This may occur when the wastewater flow through the interceptor is significantly lower due to changes in facility practices or if an interceptor is over-sized. A lack of flow through the interceptor can cause it to become septic, producing sulfide gases, odor problems and other potential health and safety hazards.
 - a. Inactive interceptors shall be closed by:
 - Complete removal of all interceptor contents (oil, grease, solids, water, etc.) by a professional service company;
 - Submittal of plans or a narrative to the City detailing the proposed scope of work;
 - Sealing of all floor drains and fixtures plumbed to the interceptor;
 - Capping of inlet and outlet pipes, or installing a direct pipe connection from the inlet to the outlet;
 - Filling the empty interceptor with an appropriate fill material such as sand or concrete; and
 - Securing the opening(s) to the interceptor by cementing or welding.
 - b. The City must receive plans detailing the closure activity and written approval must be received by the facility prior to beginning work. Inspections of closure activities may be required by the City prior to securing the interceptor opening.
6. Facilities with an Existing Interceptor. An existing interceptor may be undersized for a new facility according to the sizing requirements of Section V.A.3. The City may approve the new facility, which is required to submit plans for review under Section V.A.1., to use the existing interceptor only if the City determines the existing interceptor can adequately protect the sanitary sewer from POGS. The existing interceptor must have two chambers and be retrofitted to meet the requirements of Section V.A.2.
7. Variances. A variance from the requirements of this policy may be granted by the City for good cause. The facility has the burden of proof of demonstrating through data and other information why a variance should be granted. In no case shall a variance result in a violation of any City requirement or effluent limit specified in GJMC. The granting of any variance shall be at the sole discretion of the City. If a variance is granted for a specific Pretreatment requirement, the facility is still required to institute BMPs and other mitigation measures as determined by the City. If a variance is granted, and if the City determines there have been changes to the facility or to the facility's operation that occurred after the time of granting the variance that would have required a specific Pretreatment requirement, the facility will be required to install such Pretreatment.

B. Operation and Maintenance Requirements

1. A facility shall properly maintain and clean an interceptor at its own expense in order to keep it in efficient operating condition at all times. All facilities are required to structurally maintain all components of their interceptor per design requirements in Section V.A.2. Maintenance of interceptors shall be done only by a licensed plumber or business professional normally engaged in the servicing of such fixtures.

2. The addition of biological or bacterial treatments, enzyme treatments or the use of additives or emulsifiers are prohibited and shall not be a substitute for the pumping of interceptors at the frequency specified by the City.
3. The facility will be directed by the City to perform regularly scheduled required interceptor pumping by an approved waste hauler. The City will require an interceptor to be pumped out if POGS are observed being discharged from the interceptor outlet. The total accumulation of solids, debris, and oil shall not exceed 25% of either the total capacity of the interceptor or 25% of the capacity of any one chamber.

An interceptor shall be serviced at a minimum of every 90 days for truck washes, heavy equipment washes and commercial car washes. For all other facilities an interceptor shall be serviced at a minimum of once per year yet may be required to be serviced more frequently.

A variance from the required pumping schedule may be obtained if the facility can demonstrate that less frequent pumping is sufficient and receives City approval. Facilities seeking a reduced pumping schedule shall submit a written request demonstrating a less frequent pumping schedule is adequate. The request shall be reviewed by the City and written approval issued before a reduction in a pumping schedule will be allowed.

4. The City requires that approved waste haulers completely pump and remove the entire interceptor contents each time. Partial removal of contents (i.e., removal of POG layer, liquid, water or sludge layer only) is prohibited.
5. Facilities are responsible for the maintenance, servicing, and proper waste disposal and cannot abrogate this responsibility to a contractor, pumping service, or any other agent. After pumping, all interceptor contents must be properly disposed of in accordance with federal, state and local regulations. Under no circumstances shall interceptor contents be reintroduced to the sanitary sewer system.
6. The waste hauler must provide a certification of proper disposal on a waste manifest for each load pumped to the facility. All records, receipts, and manifests of interceptor maintenance, removal of interceptor contents, and off-site hauling of POGS waste shall remain on-site and accessible for review by the City for a minimum of three (3) years.

VI. ELEVATOR REQUIREMENTS

A. Discharge Prohibitions and Options

Elevators shall be properly designed so the elevator pit does not accumulate groundwater; GJMC prohibits the discharge of groundwater to the sanitary sewer system. New facilities with elevator pits shall not have drains or be connected directly to the sanitary sewer system. Sump pumps may be installed in elevator pits. The requirement for a sump pump to be installed is to be determined by the building engineer, architect, or equivalent and/or as required by the Building Department.

If an elevator sump pump is installed the options to manage the discharge of accumulated wastewater from the sump are:

1. If a sand/oil interceptor (interceptor) is already required in the facility (e.g., a parking garage, maintenance garage, or warehouse with floor drains), then the sump pump outlet shall be plumbed to the interceptor. An interceptor shall not be installed for the sole purpose of draining the elevator pit because not enough wastewater will pass through the interceptor to allow it to function as designed; or
2. If a sump pump is to be plumbed directly to the sanitary sewer and an interceptor based on other infrastructure is not required, an oil detector shall be installed to shut-off the flow of wastewater and sound an alarm in the event that oil is detected in the wastewater. In the event the oil detector shuts off wastewater flow and the

alarm sounds, the oil and wastewater in the elevator pit shall be properly disposed of using an appropriate waste hauler. Discharge to the sanitary sewer is not allowed; or

3. If the sump pump is not plumbed directly to the sanitary sewer, it may be plumbed to a holding reservoir and properly disposed of using an appropriate waste hauler. Discharge to the sanitary sewer is not allowed.

B. Operation and Maintenance

1. A facility shall properly maintain and clean the oil detector or interceptor at its own expense in order to keep it in efficient operating condition at all times. Maintenance of oil detectors or interceptors shall be done only by a licensed plumber or business professional normally engaged in the servicing of such fixtures.
2. Oil detector operation and maintenance requirements shall follow the manufacturer's requirements. The City will require an elevator pit to be pumped out if oil, grease and petroleum by-products are observed being discharged.
3. For interceptor operation and maintenance requirements refer to Section V.B.
4. The City requires that approved waste haulers completely clean, pump and remove the entire elevator pit or interceptor contents each time. Partial removal of contents (i.e., removal of oil or grease layer, liquid, water or sludge layer only) is prohibited.
5. A facility with an oil detector or interceptor is responsible for the maintenance, servicing, and proper waste disposal and cannot abrogate this responsibility to a contractor, pumping service, or any other agent. After cleaning or pumping, all oil detector or interceptor contents must be properly disposed of in accordance with federal, state and local regulations. Under no circumstances shall oil detector or interceptor contents be reintroduced to the sanitary sewer system.
6. The waste hauler must provide a certification of proper disposal on a waste manifest for each load pumped to the facility. All records, receipts, and manifests of oil detector or interceptor maintenance, removal of oil detector or interceptor contents, and off-site hauling of oil, grease and petroleum by-product wastes shall remain on-site and accessible for review by the City for a minimum of three (3) years.

VII. BEST MANAGEMENT PRACTICES

- A. The purpose of Best Management Practices (BMPs) is to minimize the discharge of POGS and other prohibited materials into the interceptor and the sanitary sewer system. The following BMPs shall be implemented by applicable facilities:
 1. Chemical identification. Facilities are required to maintain an inventory of all chemicals used. The use of bulk or concentrated detergents or products containing nonylphenol is prohibited.
 2. 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 interceptor.
 3. Storage and disposal of wastes and raw materials. Interceptors shall not be used as a means for disposal of spent or spilled chemicals, automotive or other commercial/industrial fluids, sludge, or other substances. All chemical and waste storage areas must be properly maintained. All spent or spilled chemicals, automotive or other commercial/industrial fluids, sludge, oils, or other substances shall be collected and stored properly in appropriate containers for proper disposal. Such containers shall be maintained to ensure that they do not leak. Raw materials, chemicals and wastes shall be stored per Section VII.B of this policy.
 4. Signage. Signs shall be posted above sinks and similar devices located in process areas prohibiting the

discharge of oil and other chemical waste in violation of this Policy down the drains. Signs shall be posted on faucets reminding employees not to use water to clean up spills.

5. 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:
 - This Policy;
 - How to sweep floors prior to floor wash down to ensure no excessive wastes or POGS enters the sanitary sewer;
 - The location, use, and disposal of absorption products to clean spills;
 - Proper clean-up techniques of cleaning products or other chemical spills; and
 - How to properly dispose of oils and other wastes into designated containers without spilling.

Training shall be documented and employee signatures retained indicating each employee's attendance and understanding of the practices reviewed. Training records shall be retained for a period of three (3) years and made available for review at any time by the City.

- B. Spill Prevention and Secondary Containment. All facilities are required to have measures in place and take proper precautions necessary to control unwanted discharges to the sanitary sewer. Chemicals, waste oils, liquid products and wastes must be stored away from drains or within adequate containment to reduce the potential for spills reaching the sanitary sewer and/or storm drainage system. All chemical and waste storage areas must be properly maintained.

A Spill Response Plan shall be developed, updated and available at all times. Spill cleanup materials, such as absorbents, shall be readily available at all times. The washing of oils or spills into drains is prohibited. Water shall not be used to clean up spills.

- C. Prohibitions. A facility may not introduce into the POTW any pollutant(s) which cause(s) pass-through or interference. A list of general and specific prohibitions is contained in GJMC Chapter 13.04.
- D. Hazardous Wastes. Hazardous waste as defined in 40 CFR Part 261 and/or as determined by the Colorado Department of Public Health and Environment shall not be discharged to the sanitary sewer system unless specifically authorized by the City. A facility may request approval from the City for the discharge of a hazardous waste. Such a request must be made in writing; no such discharge is allowed until written approval by the Division is obtained.
- E. Discharge Request. A completed Request to Discharge Industrial Process Wastewater (Discharge Request) form shall be submitted for approval by the City for any non-domestic wastewater discharge that is non-routine or unique. Any such discharge must include the Safety Data Sheet and/or lab analysis results for all parameters requested to be discharged. No discharge may occur without written City approval.

VIII. ENFORCEMENT

- A. The City is required under federal regulation to enforce against violations pursuant to its Enforcement Response Plan. The City has the authority to seek and assess civil and/or criminal penalties for each violation for noncompliance by all industrial users of the publicly owned sewer system and has the authority to enforce the requirements in this Policy.
- B. If an inspection of a facility shows non-compliance with any of the Policy requirements or any violation of the GJMC the facility will be issued a Notice of Violation to correct the violation. Inspection results will be provided in writing to the facility upon request.
- C. Corrective deadlines for violations are as follows:

- Spills or leaks shall be cleaned-up within 24 hours;
 - Records, receipts, and/or manifests of interceptor maintenance not available for review upon inspection must be provided to the City within five (5) calendar days;
 - Chemical storage/ secondary containment issues must be resolved within ten (10) calendar days;
 - Interceptor or elevator sump pumping must be completed within ten (10) calendar days;
 - Missing mesh screens must be replaced within ten (10) calendar days;
 - Missing signage must be replaced within ten (10) calendar days;
 - Violations involving improper employee BMP adherence shall require retraining of the employee with documentation of such training to be provided to the City within ten (10) calendar days; and
 - Interceptor repairs must be completed within fifteen (15) calendar days.
- D. If a facility fails to make the corrections within the allotted timeframe or as designated on the NOV, the facility will be subject to further enforcement including but not limited to increased fines and penalties and revocation of water and sewer service.
- E. The City has the authority to perform work or hire a contractor to perform work necessary to bring a facility into compliance with this Policy. Any extraordinary costs incurred by the City due to Interference, damage, Pass through, or maintenance necessary in the treatment and/or collection system shall be paid by the facility to the City. The direct costs of all labor, equipment and materials incurred in rectifying the Interference or damage, including reasonable attorney's fees, shall be billed directly to the owner or the facility by the City, and such costs shall become part of the total charges due and owing to the City and shall constitute a lien on the facility until paid in full.

IX. REFERENCES

- A. Grand Junction Municipal Code Chapter 13.04
- B. 40 CFR Part 261