



# **Sample Standard Operating Procedures and Emergency Response Plans for Biosolids Management Programs**

Effective Biosolids Management for Smaller Communities Using the EMS Framework

Developed May 2006

Last Updated October 2006

[View the Document Control Log for a Summary of Revisions](#)

Prepared by



For The National Biosolids Partnership

With assistance from:

Ross & Associates Environmental Consulting, Ltd.

# ***Example Standard Operating Procedures***

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The following example standard operating procedures (SOPs) are representative of the types of SOPs commonly associated with biosolids EMSs. They have been provided to give you an idea of how SOPs can be formatted and their level of detail.

The example SOPs were generously provided by the City of Albany, Oregon and have been modified to coordinate with the *Example Anytown Biosolids Management Program*.

# **SAMPLE SOP #1**

## **Town of Anytown Public Works Department Standard Operating Procedure**

### **Grit Removal**

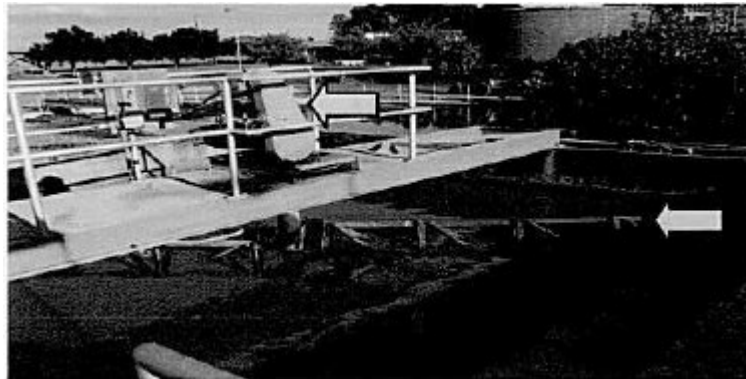
<b>SOP Number:</b>	OPS-005	<b>Version Number 2</b>
<b>Scope:</b>	Cover the grit collection and disposal system	
<b>Purpose:</b>	To remove grit prior to the primary system and reduce the amount of grit that is pumped from the primary clarifiers to the primary digesters	
<b>Responsibility:</b>	Operations group responsible for maintaining operation Mechanics group responsible for all major repairs and preventive maintenance	
<b>Frequency:</b>	Daily	
<b>Effective Date:</b>	Last Revision Date—Supersedes all previous versions	
<b>Revision date/By:</b>	May 1, 2006/BP	
<b>Review date/By:</b>	May 1, 2006/BP	
<b>Emergency Contact:</b>	Operations Group, Maintenance Group, WWTP Supervisor O&M Manuals – Control Room Biosolids Library Manual of Good Practice- Chapter 11.1.1 – Control Room Biosolids Library	
<b>Reference:</b>	MOP 11, Volume 2, Chapter 18 – Control Room Biosolids Library	
<b>Equipment Needed:</b>	Gloves, Hoe, Rake	

Preliminary treatment removes coarse solids and other large materials often found in raw wastewater. These materials are removed to enhance the operation and maintenance of subsequent treatment units. The WWTP's preliminary treatment operations include coarse screening and grit removal. The coarse screening removes large objects such as rags, wood, plastics, and other large garbage items, which are then hauled to a local landfill.

- If problems are found with the equipment that requires further inspection or repair then use the “Maintenance Notification SOP” for further instructions. If a problem is found that requires immediate inspection of repairs then us the “Emergency Notification SOP”.

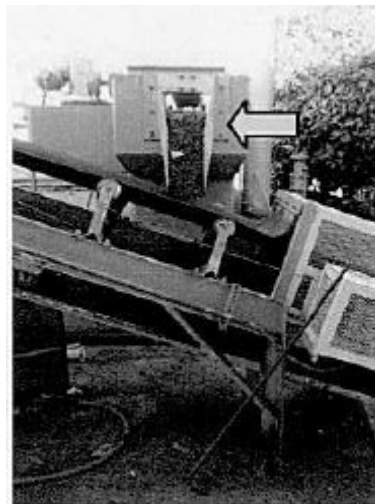
### Procedure: Grit Chamber

1. Visually inspect the grit collector arms to make sure they are turning smoothly. Inspect the grit conveyor for operation and any obvious structural problems. Check for excessive heat or cold noises. (See Figure 1)



(Figure 1)

2. Using the pink handled hoe located at the bottom of the grit belt conveyor, clean the drop chute leading from the grit screw conveyor to the belt conveyor.
  - Make sure the conveyor belt is between the guides. (See Figure 2)



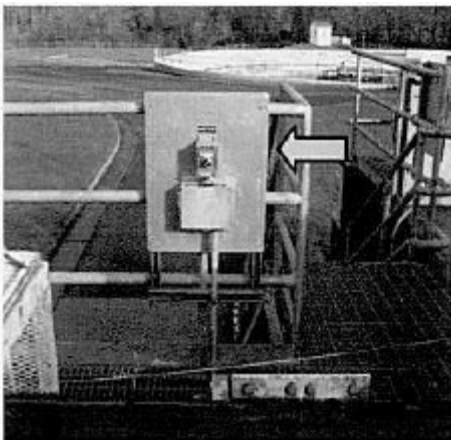
(Figure 2)

3. Use the pink handled rake located on or around the grit box to level out pile of debris and garbage deposited in the grit box. (See Figure 3)



(Figure 3)

4. When the grit box is full on one side then the conveyor belt should be turned off and the switch located above the grit box by the yellow grate box at the end of the conveyor. (See Figure 4 & 5)
  - The lid on the grit box should be moved to cover the full side.
  - The grit box should then be moved forward or backwards with a truck or front loader to the empty side.
  - The empty side of the grit box should be positioned under the drop chute and lid should be covering the full side allowing debris to fill the grit box.
  - The conveyor belt switch needs to be turned back into auto.



(Figure 4)



(Figure 5)

<b>Operational Parameters &amp; Control:</b>	(See MOP 11, Volume 2, Chapter 18)
<b>Troubleshooting:</b>	(See MOP 11, Volume 2, Chapter 18)
<b>Testing:</b>	N/A

<b>Data Entry:</b>	The daily logs have a check off sheet that includes: <u>Grit Chamber Visual Check</u>  Frequency: This task must be checked off each day after it is performed
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## **SAMPLE SOP #2**

# **Town of Anytown Public Works Department Standard Operating Procedure**

### **Maintenance Notification**

<b>SOP Number:</b>	OPS-003	<b>Version Number 2</b>
<b>Scope:</b>	Communication between Operations group and Mechanics group dealing with equipment preventive maintenance, inspections, or repairs	
<b>Purpose:</b>	The communication chain between the Mechanics group and the Operations group dealing with preventive maintenance, inspections, or repairs on equipment	
<b>Responsibility:</b>	Operations group responsible for creating work orders and checking the status of work order in the Hansen program  Mechanics group responsible for reading work orders in the Hansen program, completing repairs or inspection on equipment, and closing work orders	
<b>Frequency:</b>	As Needed	
<b>Effective Date:</b>	Last Revision Date—Supersedes all previous versions	
<b>Revision date/By:</b>	May 1, 2006/BP	
<b>Review date/By:</b>	May 1, 2006/BP	
<b>Emergency Contact:</b>	Mechanics Group, WWTP Supervisor	
<b>Reference:</b>	Manual of Good Practice – Control Room Biosolids Library  Hansen Manual – Control Room Biosolids Library	
<b>Equipment Needed:</b>	Computer, Hansen program, Hansen manual	

**Procedure:**

1. Problem with equipment that requires inspection or repair.
2. Use computer to access Hansen
3. Follow directions in Hansen Work Order procedure manual to enter and track work orders.
4. Work orders in Hansen program are completed and are documented in the Hansen program by Mechanics
5. Completed work order can be accessed through the Hansen program with report manager.
6. Work orders that could not be completed due to order parts, time restraints to other issues will have the status logged on the work order in Hansen with report manager.
7. Work order must be pulled up by the operation group to view status.

# ***Sample Emergency Response Plan***

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The following example Emergency Response Plans (ERPs) are representative of the types of Emergency Response Plans that agencies implanting an EMS have in place. The Emergency Response Plan does not need to be included as part of the EMS Manual, but should be referenced in the Emergency Preparedness and Response Element (Element 11).

The example ERP was graciously provided by Albany, Oregon and has been modified to coordinate with the *Example Anytown Biosolids Management Program*.

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# Town of Anytown

**Joe Links .....Operations Manager**  
**Nancy Snow .....Treatment Facilities Supervisor**  
**Caroline Penche .....Environmental Services Supervisor**  
**Ed Bachus .....Environmental Services Technician I**

## Public Works — Operations

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## **TOWN OF ANYTOWN - BIOSOLIDS CONTINGENCY PLAN**

### **A. PURPOSE**

#### **1. GENERAL**

The purpose of this document is to establish the proper planning and implementation for back-up biosolids hauling that may be necessary for a variety of reasons, from a small emergency to a plant upset at the Town of Anytown Wastewater Treatment Plant. This document includes the proper steps to be taken and the proper contacts to be made should an emergency arise.

### **B. BIOSOLIDS STORAGE**

#### **1. GENERAL**

In 2001, two belt filter press units and two dewatered biosolids storage bins were completed at the Town of Anytown Wastewater Treatment Plant (WWTP). Secondary digested sludge is pumped from the secondary digester at approximately 1.5 percent solids to one or both of the two belt filter presses. The filter presses dewater the secondary sludge to 13-19 percent solids. This has enabled the Town to maintain limited storage for liquid biosolids, and maintain wet weather storage for the dewatered biosolids cake.

#### **2.2 DIGESTER STORAGE**

Prior to construction of the biosolids storage bins, the Anytown WWTP had very limited storage capacity. The primary digesters are always full and when new sludge is added the displaced sludge flows to the secondary digesters. Typically the operating range in the secondary digester is approximately 100,000 cubic feet. The operating range in the process tanks is approximately 74,400 cubic feet of storage.

The operating volume in the secondary digester and the two sludge processing tanks can be utilized for storage on a short term basis. The amount of storage that can be utilized on an emergency basis has been estimated at approximately 8 to 12 days if the centrifuge is used, or 5 to 7 days without.

##### **2.2.1 Primary Digesters**

The primary digesters are 70 feet in diameter and 28.5 feet in height. The primary digesters have fixed covers and are gas mixed. Sludge is mixed in the digesters by recirculation pumps and heated by a hot water heat exchange system with gas-fired boilers. The operating temperature range of 96° Fahrenheit is in the mesophilic range. The digesters receive solids from the two primary clarifiers and the flotation thickeners. The sludge digesting process occurs when organic matter is gasified, liquefied, mineralized, and converted into a

more stable organic matter through the activities of the anaerobic digestion process.

### **2.2.2 Secondary Digesters**

There are two sludge process holding tanks for anaerobically digested sludge. They each measure 35 feet in diameter and are 20 feet high. There is one secondary digester measuring 45 feet in diameter and 26 feet in height which has 8,000 cubic feet of gas storage. The secondary digester has a floating cover and does not mix or heat, and is used for storage of biosolids and gas.

### **2.3 STORAGE BINS**

Dewatered biosolids cake is stored in two covered storage bins located to the west of the biosolids thickening building, each with a capacity of 1,754 cubic yards. Thickened biosolids cake is stored in these bins until weather and field conditions allow land application of the biosolids as a beneficial use product.

## **2. CONTINGENCY HAULING OPTIONS**

### **3. GENERAL**

There are three areas in the biosolids value chain that if equipment or process failure were to occur, a contractor for back-up hauling may need to be contacted: digester failure, belt filter press failure and the biosolids application truck failure.

### **4. DIGESTER PROCESS FAILURE**

#### **5. Causes of Digester Failure**

The following are the basic causes of digester instability or failure. For more information on digester process failure, reference the *Operation of Municipal Wastewater Treatment Plant's Manual of Practice* located in the Town of Anytown WWTP laboratory.

#### **6. Hydraulic Overload**

If retention time is reduced to a point that organisms can not reproduce fast enough to avoid washout, hydraulic overload of a digester occurs. This can result from overpumping a dilute feed sludge; sludge production exceeding digester capacity; or from the reduction of effective digester volume by grit deposition, scum formation, or poor mixing.

#### **7. Organic Overload**

When the organic feed rate exceeds the rate at which the process microorganisms can consume the organics under balanced conditions, organic overload occurs. This results from a sudden

increase in solids feed rate, a sudden increase in feed solids concentration, rapid digester start-up, excessive loading on an infrequent basis, or a feed sludge that is too high in carbohydrates.

## 8. Temperature Stress

When the digester temperature changes rapidly ( $\pm >1^{\circ}\text{F}$  within 24 hours) temperature-related stress occurs, typically caused by feeding too much sludge at one time and exceeding the instantaneous capacity of the heating system. Temperature drop can also occur when heating surfaces become caked, preventing heat transfer.

The temperature sensitive methane-forming microorganisms will then be shocked. If proper temperature is restored quickly, reviving the microorganisms is a possibility. If the methane formers are not quickly revived, the acid formers will continue to produce volatile acids because they are not affected by the temperature change. The volatile acids will eventually consume the available alkalinity, resulting in a fatal drop in pH.

Operating outside the 6-8 pH operating range is toxic to the methane-forming microorganisms.

## 9. Failure Indicators

Instability in the digestion process occurs when the series of microbiological reactions become unbalanced. Acid-forming organisms out-produce acid-consuming organisms (methane-formers) and a sharp rise in volatile acid results. Gas production rate and composition are excellent indicators of digester health; therefore, it is important to monitor both to predict an upset. During process upset, methane production declines and the carbon dioxide proportion of the gas may increase. The total gas production rate may remain unchanged despite falling methane production rates because of increased carbon dioxide production.

## 10. Contingency for Digester Failure

If an upset, digester failure, or other conditions result in the inability to meet permitted volatile solids reduction criteria, the following steps will be taken:

1. If one digester is failing, then steps will be taken to route the sludge feed in a higher proportion to the digester in better condition.
2. If both digesters fail to meet permitted volatile solids reduction criteria and the WWTP Supervisor determines that further steps are needed, then every effort will be made to remedy the system internally, including recycling solids pumping within the plant.
3. If the above steps fail to bring volatile solids reduction levels within permitted parameters, then arrangements will be made with a contract hauler in order to move undigested sludge off site to a disposal location approved by the WWTP Supervisor and the Environmental Services Supervisor (See **Table 4.2** for the list of contractors).

4. Notification will be made to DEQ regarding any significant change in biosolids use.

## **11. BELT FILTER PRESS FAILURE**

There are two types of failure relating to the belt filter presses (BFP): failure to produce a greater than 13% dewatered biosolids cake, and equipment failure. Virtually the only failure that would trigger this contingency plan relative to belt filter press failure would be equipment failure.

## **12. Equipment Failure**

Typically, equipment failures on the belt filter presses do not last an extended period of time. However, there may be circumstances which require shutting down the presses for maintenance for a few weeks or longer. To help prevent equipment failure and extend the life of the BFPs and reduce operating costs, the following preventative maintenance procedures should be followed.

1. Wash down the BFPs after finishing the dewatering shift. This prevents cake from drying and accumulating in different sections of the BFPs.
2. Follow the manufacturer's O & M manual lubrication schedule. This extends the life of the roller bearings and the belt drive motor.
3. Clean the washwater nozzles with the handwheel brush as frequently as necessary. This ensures proper cleaning of the belts.

## **13. Contingency for Belt Filter Press Failure**

If an upset, belt filter press failure, or other condition results in the inability to produce dewatered biosolids cake, the following steps will be taken:

1. If one belt filter press is/has failed, the other belt filter press will increase run times to keep up with the liquid biosolids demand to produce dewatered biosolids cake.
2. If both belt filter presses have failed, the WWTP Supervisor in consulting with the Environmental Services Supervisor, will determine what further steps are needed. Arrangements may be made with a contract hauler in order to move digested sludge off site to a location approved by the WWTP Supervisor and the Environmental Services Supervisor (See **Section 4**).

If biosolids liquid must be land applied, it is the Environmental Services Technician's responsibility to work with the contract hauler in terms of site location and agronomic rate application. It will be the EMS coordinator's responsibility to train the contract hauler in accordance with the Town of Anytown's EMS program before hauling and application.

## **14. BIOSOLIDS APPLICATION TRUCK FAILURE**

During the application season, the Town of Anytown's biosolids application truck is the only source for getting dewatered biosolids cake from the biosolids storage bins onto DEQ permitted agricultural sites. The biosolids application truck requires routine

maintenance and detailed inspection to decrease the chance of failure. However, vehicle parts wear and accidents can happen.

## 15. Failure Indicators

- A. The daily pre-trip inspection of the vehicle should determine if there are any indicators of failure. The Environmental Services Technician I has the pre-trip inspection information which should be referenced if there is any question as to what should be checked prior to daily operation.
- B. Following the pre-trip inspection, the operator must record that the vehicle is suitable for travel on the log located in the vehicle's cab, assuming that there are no serious indicators of failure.
- C. If a possible indicator of failure is found, the operator must contact the Environmental Services Supervisor. The Environmental Services Supervisor will determine the correct actions to take before the vehicle is operated.
- D. To ensure long life and limited maintenance, a wash down of the vehicle must be performed after each application and documented on the daily hauling record. Periodic greasing should be followed per the operators manual located in the vehicle's cab which must be documented on the hauling record as well.

## 16. Contingency for Biosolids Application Truck Failure

In the event the biosolids application truck is unavailable for an extended period of time (two weeks +), the Environmental Services Supervisor will be consulted to determine whether a contract hauler should be contacted.

Depending on the severity of the biosolids application truck's problems, a contractor may need to provide application equipment to apply the biosolids on the Town of Anytown's permitted sites. The Environmental Services Supervisor will decide whether this is necessary or not. However, in most cases, the biosolids application truck should only be out of service for a few weeks at most. Given the latter circumstance:

- A. The first option would be to determine if renting or leasing a similar operating vehicle to the Town's biosolids truck is possible.
- B. The second option would be that a contractor may haul the biosolids to the permitted site and stockpile the biosolids on the field. Once the biosolids application truck is back in service, the Town will haul the Town's Kramer Loader to the site and load the stockpiled biosolids into the application truck to apply the biosolids with the Town's application truck. It is the Environmental Services Technician I's responsibility to work with the contract hauler to establish site location and determine how much biosolids cake will be dumped on the site before moving onto the next site.
- C. If the biosolids application truck were to be out of service for an extended period of time (determined by the Environmental Services Supervisor), the contract hauler must have the equipment to land apply biosolids cake. **Table 4.2** should be referenced when deciding a contractor to haul and apply the biosolids. It is the Environmental Services

Technician I's responsibility to work with contractor to establish site location and the agronomic rate for application.

Please consult **Table 4.2** for a complete list of contract haulers and applicators with their contact information.

## **17. FAILURE DURING NON-APPLICATION SEASON**

In the event of serious failure for either the digesters or the belt filter press, digested liquid biosolids may need to be hauled from the Town of Anytown's WWTP. Serious failure may not always choose a convenient time to happen. In the event that there is failure during the non-application season (fall, winter, spring), the Town of Anytown has the option to contract with Behrman Transport (see Table 4.2) to haul from WWTP to Behrman Transport's permitted site locations depending on availability. If Behrman Transport is not capable of hauling, the Town of Anytown has a verbal agreement with the City of Corvallis that will allow the Town of Anytown to transfer liquid sludge into the City of Corvallis' lagoons.

## **18. Contract Hauling using Behrman Transport, Inc.**

Behrman Transport, Inc. of Woodland, Washington has permitted land sites in their name to land apply biosolids. Should liquid biosolids need to be hauled from the Anytown WWTP, Behrman Transport, Inc. should be contacted first to establish availability. If available, Behrman Transport, Inc. will then haul Anytown biosolids from the WWTP to their permitted sites for application. If Behrman Transport, Inc. is not available, other options must be discussed between the Environmental Services Supervisor and the Wastewater Treatment Plant Supervisor with contracting hauling to the City of Corvallis Lagoons as a final option.

## **19. Hauling to City of Corvallis Lagoons**

The Town of Anytown does not own a liquid tanker to haul the liquid biosolids from the WWTP, therefore the Town must contract a hauler to haul the liquid biosolids from the Town WWTP to the Corvallis lagoons if there are no permitted land sites available for application.

Contact must be made to the City of Corvallis before contact with the contract hauler to assure Corvallis will accept the biosolids. Payment options, or returned service should be negotiated before hauling begins. The Utilities Division Manager with the City of Corvallis should be originally contacted before hauling begins.

Corvallis Utilities Division Manager: Tom Penpraze – (541) 766-6916

Liquid biosolids will then be hauled from the Town of Anytown's WWTP to the City of Corvallis' Wastewater Treatment Plant to be discharged into the lagoons located on site.

## **20. CONTRACT HAULERS**

## **21. GENERAL**

It is highly important for the Town of Anytown to be able to contact a contract hauler in case of an emergency. Contractors should be given preference depending on their response time to the initial emergency followed by location to the Town of Anytown WWTP. The following table gives a list of contract haulers, their ability to haul liquid versus biosolids cake, their capability to apply the biosolids to the site, and their contact information. The Environmental Services Supervisor and the Wastewater Treatment Plant Supervisor must be consulted before corresponding with any contractors.

## 22. CONTRACT HAULERS AND CALL LIST

**Table 4.2**

<b>BIOSOLIDS CONTRACT HAULERS</b>							
Company	Contact Name	Address	Number	Haul		Application Equipment	
				Cake	Liquid	Cake	Liquid
*Behrman Transport Inc.	Steve Jones	PO Box 630 Sometown, WA 98674	(360) 225-xxxx	X	X	X	X
Agri-Tech, Inc.	Jim Kilgore	1214 Montgomery St. SE Anytown, OR 97321	(541) 926-xxxx	X	X	X	X
Gresham Transfer	Rick Ulmer	PO Box 699 Niceview, OR 97024	(800) 727-xxxx x 204	X			
Groat Brothers	Dennis Groat	PO Box 1630 Sometown, WA 97674	(360) 887-xxxx	X	X		X
Cowlitz Clean Sweep	Ken Partridge	55 International Way Sometown, WA 98632	(360) 423-xxxx (360) 957-xxxx	X	X		X

\* Additional information and contacts are available for 24 hour call out in **Attachment A**

**Attachment A**

**Behrman Transport**

**Emergency**

**Contact List**

<b>Steve Jones</b>	<b>Office</b>	<b>360 225 xxxx</b>	<b>Priority</b>	<b>#1</b>
	<b>Cell</b>	<b>360 518 xxxx</b>		
	<b>Home</b>	<b>360 253 xxxx</b>		
<b>Mike Behrman</b>	<b>Cell</b>	<b>360 518 xxxx</b>	<b>Priority</b>	<b>#2</b>
<b>Shelley Behrman</b>	<b>Cell</b>	<b>360 609 xxxx</b>	<b>Priority</b>	<b>#3</b>
	<b>Home</b>	<b>360 694 xxxx</b>		

**Town of Anytown  
Public Works Department  
Standard Operating Procedure  
Spills of Digested Biosolids**

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**SOP Number:**

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BS-007

**Version Number 2**

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**Scope:**

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Applies to spill events during transportation of biosolids to field application sites and spills during biosolids loading

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**Purpose:** Establishes a plan to prepare for and respond effectively to biosolids spills including clean up and reporting.

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**Responsibility:** Environmental Services Technician I, Environmental Services Supervisor

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**Reference:** 40 CFR Part 503.12, OAR 340-50-005 – OAR 340-50-080

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**Effective Date:** Latest Revision Date - Supersedes *Spills or Slug Discharges to the Anytown Wastewater Treatment Plant* and all previous versions

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**Revision date / By:** April 27, 2006 / SCW

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**Review date / By:** April 27, 2006 / SCW

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**Location of Spill Plan:**

Copies of this spill-handling procedure will be placed in the following locations:

1. Biosolids application truck
2. Biosolids thickening building
3. EMS file storage area.

All changes and updates will be made uniformly to all copies.

## **Procedure:**

### **Spills of Digested Biosolids on Roadways and/or to the Environment**

#### Spill Handling Procedures

1. The biosolids driver will ensure his own safety and take immediate measures to prevent traffic accidents and public contact with spilled material if possible. This should include hazard cones and/or flagging, notifications to Environmental Services, Anytown Fire Department, and/or Anytown Police Department as noted in this procedure
2. Environmental Services will be the primary contact for any biosolids spill event. Primary considerations will be mobilizing the Town's wastewater collections vactor truck and or other loading equipment to recover any spilled material, and/or contacting an environmental clean up contractor to provide clean-up and mitigation support.
3. Anytown Fire Department will be notified (see Contact List below) of a spill if the spill affects a Town roadway or the storm drain system.
4. Environmental Services will ensure DEQ is notified (see Contact List below) in compliance with the NPDES permit, and that all follow up reports are submitted as required for any spill event.
5. The Anytown Police Department (see Contact List below) will provide traffic control on local roads as needed.
6. Should the biosolids be contaminated with gas, oil, or both, the biosolids will be kept in the vactor truck pending determination of treatment and/or disposal options.
7. Environmental Services personnel will ensure lime is applied to the spill area to neutralize odors and kill pathogenic organisms.
8. Environmental Services personnel will apply sand over lime, sweep, and dispose of material in an appropriate manner.

#### Safety Precautions

1. Disposable gloves, rubber boots, and safety glasses should be worn.
2. Washing up thoroughly using anti-bacterial hand soap and showering should follow good hygiene practices.
3. After a spill is cleaned, the roadway should be checked to see if it is slippery. If it is, it will be washed down with a high-pressure jet. Wash down water shall be collected and disposed of at the WWTP.

#### Decontamination

1. Gloves, boots, rain gear, etc., may be cleaned with soap and water.
2. Launder clothing separately.

### Contact List

1. Environmental Services Staff
  - Scott White, Environmental Services Technician I – 541-917-xxxx x4642 or 233-xxxx (cell)
  - Herb Hoffer, Environmental Services Supervisor – 541-917-xxxx
2. Operations – 917-xxxx
  - Ben Phelps, Wastewater Treatment Plant Supervisor – 917-xxxx, extension 4614
  - Mike Wolski, Operations Manager – 917-xxxx
3. Fire Department –
  - 911 (only if emergency response is needed)
  - 917-xxxx (non-emergency number)
4. DEQ Notification – one of the following contacts will satisfy notification requirement.
  - OERS – (800) 452-xxxx
  - DEQ – Eugene office (800) 844-xxxx
  - DEQ – Salem office (503) 378-xxxx
5. Police Department –
  - 911 (only if emergency response is needed)
  - 917-xxxx (non-emergency number)

### Follow up

Following any biosolids spill, documentation will be performed on the cause and circumstances of the event. This documentation may be performed using the Corrective Action Work Order detailed in EMS Element #14. Any follow up requirements with DEQ will be met, including any requirement for a written spill report.

### Training

Testing and training with respect to spill response related to biosolids is conducted at least every other year in accordance with EMS Element 8 and Element 11.

### **Spills of Digested Biosolids at the Wastewater Treatment Plant Loading Area**

#### Spill Handling Procedures

1. The biosolids loading area is within the wastewater treatment plant fenced area, and runoff from the loading area drains back to the wastewater treatment plant influent.

2. Minor spills (less than one-quarter yard) during truck loading must be scooped up immediately with a flat shovel, and placed in the biosolids truck.
3. Larger spills may be scooped up with the biosolids loader, and placed in the truck or back in the storage bin.
4. Wash down residual biosolids thoroughly to the loading area drain. This drains back to the wastewater treatment plant influent.
5. For any spills other than minor spills (see #2 above), notification must be made immediately to Environmental Services staff or the Environmental Services Supervisor.

**Responsible staff:** Spill response steps will be initiated by the Environmental Services Technician I. Assistance will be provided as needed by Environmental Services staff, and review of the process including review of follow up documentation will be performed by the Environmental Services Supervisor.

Biosolids Spill Emergency Simulation  
December 19, 2005

- Exercise began at 1243 with simulated spill of biosolids at the corner of Davidson St. and Willamette Ave.
- Biosolids driver set out cones to keep traffic out of spill area and around truck
- Referenced spill plan in glove compartment of truck
- At 1245, simulated call to Anytown Police Department for traffic control. APD simulated traffic control at corner of Davidson St. and Front St.
- Immediately called Environmental Service to respond to spill
- ES arrived at 1248
- ES technician consulted maps to determine the location of the nearest storm catch basin and simulated booming off flow
- ES successfully isolated the spill and spoke with the wastewater collections crew to come vector up the spilled biosolids
- ES did not take samples because the spill did not reach the receiving stream
- Biosolids driver began cleaning up the spill by shoveling at 1305
- Exercise complete at 1310

Results:

- Need updated version of spill plan in the biosolids truck
- A cone-holder on the front bumper of the truck would be convenient as there is currently no way to carry cones on the truck
- Should also carry buckets or some way to remove biosolids from the road manually in addition to shoveling
- Next spill drill could benefit from a more realistic scenario, i.e. on a busier street, in more appropriate weather, etc.
- One of the ES Technicians mentioned that the truck should also be equipped with a bag of lime