



Operation and Maintenance (O&M) Manual

for:

Springville City Water Department

Revised July, 2016

**Water Department
Operation and Maintenance (O&M) Manual**

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Water Division Operation and Maintenance (O&M) Manual

I. Introduction

This manual is designed to assist Springville City personnel on how to properly implement Best Management Practices (BMP's) on City owned facilities and field activities as part of the municipal stormwater management program.

This manual will identify the potential pollutants and activities that can contribute to the pollution of storm waters as well as the BMP's used to ensure that the potential for these pollutants affecting storm water is diminished to the maximum extent practicable.

II. Potential Pollutant Sources

A variety of pollutants are associated with stormwater pollution due to municipal activities including: sediment, nutrients, bacteria and viruses, oxygen demanding substances, oil and grease, metals, toxic pollutants and floatables (Table 1). The impacts of these pollutants on water quality along with a discussion on municipal activities which can potentially contribute to their introduction into stormwater runoff are presented in the following subsections.

- A) Sediment. Sediment is a common component of stormwater, and is considered to be one of the most damaging pollutants in Utah. Sediment fills in streams, lakes, rivers, wetlands and road drainage ditches, and can affect aquatic life by smothering fish larvae and eggs. Suspended soil particles can cause water to look cloudy or turbid. Excessive turbidity reduces light penetration in the water, impairing the sight of feeding fish; clogs fish fills, and increases drinking water treatment costs. Fine sediment also acts as a vehicle to transport other pollutants including nutrients, trace metals and hydrocarbons to nearby surface waters. Significant sediment-borne pollutants are associated with highway runoff; originating from pavement wear, vehicles and other road maintenance. Other sources of sediment include erosion from new development and construction sites.
- B) Nutrients- nutrients, especially nitrogen and phosphorus, can cause algae blooms and excessive aquatic plant growth in water bodies. These conditions can impair many important uses of these waters, including recreation, fish habitat, and water supply. Nitrogen and phosphorus associated with stormwater runoff come mostly from fertilizer application. Phosphorus has also been associated with application of sand and salt of roads. Nutrients are a result of yard debris, garbage, as well as fertilizer and pesticide use.
- C) Metals- Trace metals are a water quality concern because the toxic effects they can have on aquatic life. Metals can also be a health hazard to humans through direct ingestion of contaminated water or through eating contaminated fish. The most common trace metals found in

stormwater runoff in urban areas are lead, zinc, copper, cadmium, nickel and other metal sources originating from body rust, brake lining wear steel highway structures, tire wear, steel fabrication and vehicle maintenance.

- D) Oxygen-demanding substances- oxygen-demanding substances tend to deplete the dissolved oxygen levels in streams and lakes. The depleted oxygen supply can result in the reduction of aquatic life. Oxygen-demanding substances are found in yard waste (such as leaves and lawn clippings), animal wastes, street litter and organic matter.
- E) Bacteria and Viruses- bacteria and viruses are the most common microorganisms found in surface water runoff. Bacteria and viruses often carry diseases which can be transferred to animal life and to humans. The main sources of these contaminants are animal excrement and sanitary sewer overflows.
- F) Oil, Grease and Hydrocarbons- oil grease and hydrocarbons contain a wide array of compounds, some of which are toxic to aquatic organisms at low concentrations. The main sources of oil and grease are leakage from engines and waste oil disposal. Hydrocarbons typically come from spills, leaks, lubricants and asphalt surface leachate. Hydrocarbon levels are highest from parking lots, roads and service stations.
- G) Floatables- floatables (garbage) are pollutants that may be contaminated with heavy metals, pesticides and bacteria. Typically resulting from street refuse or industrial yard waste, floatables also create an eye sore in water ways and detention basins.

Pollutant	Source	Impacts
Sediment	Construction sites, vehicle/boat washing, agricultural sites	Destruction of aquatic habitat for fish and plants, transportation of attached oils, nutrients and other chemical contamination, increased flooding. Sediment can transport other pollutants that are attached to it including nutrients, trace metals, and hydrocarbons. Sediment is the primary component of total suspended solids (TSS), a common water quality analytical parameter.
Nutrients (Phosphorus, Nitrogen Potassium, Ammonia)	Fertilizers from agricultural operations, lawns and gardens; livestock and pet waste, decaying grass and leaves, sewer overflows and leaks.	Harmful algal blooms, reduced oxygen in the water, changes in water chemistry and pH. Nutrients can result in excessive or accelerated growth of vegetation, resulting in impaired use of water in lakes and other receiving waters.
Hydrocarbons (Petroleum Products, Benzene, Toluene, Ethyl benzene, Xylene)	Vehicle and equipment fluid leaks, engine emissions, pesticides, equipment cleaning, leaking fuel storage containers, fuel spills, parking lot runoff	These pollutants are toxic to humans and wildlife at very low levels. Carcinogenic. Teratogenic.
Heavy Metals	Vehicle brake and equipment wear, engine emissions, parking lot runoff, batteries, paint and wood preservatives, fuels and fuel additives, pesticides, cleaning agents	Metals including lead, zinc, cadmium, copper, chromium and nickel are commonly found in stormwater. Metals are of concern because they are toxic to all life at very low levels. Carcinogenic. Teratogenic.
Toxic Chemicals (Chlorides)	Pesticides, herbicides, dioxins, PCBs, industrial chemical spills and leaks, deicers, solvents,	Chemicals are of concern because they are toxic to all life at very low levels. Carcinogenic. Teratogenic.
Debris/Litter/Trash	Improper solid waste storage and disposal, abandoned equipment, litter	Aesthetically unpleasant. Risk of decay product toxicity. Risk of aquatic animal entrapment or ingestion and death.
Pathogens (Bacteria)	Livestock, human, and pet waste, sewer overflows and leaks, septic systems	Human health risks due to disease and toxic contamination of aquatic life.

Table 1 Potential pollutants of concern associated with municipal activities.

Sources of Pollution	Check with an X the activities that apply	Sediment	Nutrients	Heavy Metals	pH (acids and bases)	Pesticides & Herbicides	Oil & Grease	Bacteria & Viruses	Trash, Debris, Solids	Other toxic Chemicals
Clearing, grading, excavating, and un-stabilized areas	X	✓							✓	
Paving operations	X	✓					✓		✓	
Concrete washout, stucco and cement waste	X			✓	✓				✓	
Structure construction, painting, cleaning	X			✓	✓				✓	✓
Demolition and debris disposal	X	✓							✓	
Material Delivery and storage	X	✓	✓	✓	✓		✓		✓	✓
Solid waste disposal	X								✓	✓
Hazardous Waste, contaminated spills	X			✓	✓	✓	✓			✓
Sanitary waste			✓		✓			✓		
Vehicle/equipment fueling, maintenance, use and storage	X						✓		✓	✓
Landscaping operations	X	✓	✓			✓			✓	✓
Vehicle washing (Not allowed at this location)										

III. Facilities Locations, Activities and Control Measures

1. City Operations Compound (High Priority)

Location- Located at 909 East 400 South is shared with the Parks, Street, Sewer and Fleet Departments.

Activities- The water department yard area of the compound is used for employee and equipment parking, pipe, grade rings and lids, water meter cans, road base, gravel and spoils storage.

The water department buildings are used for service truck parking and supplies storage. The most common supplies stored in the buildings are:

Spray paint	household cleaners	herbicides
Motor oil	mineral oil	penetrating oil
Window de-icer	bug spray	
Chlorine (Gas cylinder)		

Outdoor Storage area includes the following materials:

Excavated materials	Road Base	Gravel
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Control Measures SOPs

General Cleanliness

- Trash and litter are to be picked up from indoor and outdoor work areas daily.
- The yard will be walked to pick up and dispose of litter weekly
- The paved surfaces around the building will be swept every two weeks.

Vehicle and Equipment Parking Areas

- Vehicles and equipment will be parked on the approved designated areas
- If any leaks are discovered, a drip pan will be used to collect the fluids and vehicle will be scheduled for repairs.
- Any leaks or spills that do wind up on the pavement will be cleaned using dry methods (absorbent material, sweep when dry and dispose in the garbage can)

Material Storage Areas

- Road base and drain rock piles are located on a pervious area on the East side of the compound and are contained on 3 sides with concrete block structures away from storm drain inlets. Any material spilled on hard surfaces will be cleaned daily.
- Spoils pile is located on the North East side of the compound; water will be collected and detained on this area.
- Hazardous chemicals (listed above) are stored indoors, neatly organized and properly labeled.
- All of the buildings floor drains are connected to the sanitary sewer.

Vehicle and Equipment Cleaning Areas

- No washing is allowed outdoors.
- There are no wash facilities at this location. All major washing is done at the local commercial carwashes.

Vehicle and Equipment Maintenance Areas

- All major repairs and maintenance activities are conducted at the City Shop located at 1550 North State Street.
- Activities such as adding oil to engines.
- Oils and other automotive fluids are labeled and cleanly stored.
- Equipment that is stored outside will be inspected prior to use to make sure that all drips are contained and/or repaired.

2. Water Tanks

Locations

Spring Creek

2000 East 400 South 1) 2 mil 1) 1 mil

2400 East Spring Creek Canyon. 400 South 1) mil 1) 100 K

Hobble Creek

2000 East Canyon Road 2) 2 Mil

Rotary

Rotary Park. Hobble Creek Canyon 1) 2 mil

Jurgs

Kelly's Grove Park. Hobble Creek Canyon 1) 225 K

Jolly's

Jolly's Park, Hobble Creek Canyon. 1) 100 K

Bartholomew

Bartholomew Canyon. Hobble Creek Canyon 1) 2 mil

Activities

Change Chlorine Bottles- Bottles are changed twice a week and doesn't have any effects on stormwater quality.

Fence Inspections and Upkeep- Visual inspections of these fences are conducted 3 times a week, repairs are done as necessary.

Tank Cleaning- SCUBA divers go in with an under water vacuum to suck the sediment from the bottom of the tanks, if needed, water is pumped into a sediment collection bag and the water flows to a water way that connects to the creek system, minimum amounts of sediment are taken out of the bags

and are dispersed with in the vegetation around the area. Cleaning of the tanks occur every 3 years.

Access Road Maintenance- Visual inspections of road are done weekly, eroded areas are resurfaced with 2" fractured rock as needed.

Control Measures SOPs

- Rip-rap check dams will be built on the shoulder of the steep roads.
- Road areas that show erosion signs are covered with 2" fractured rock.
- Pick up trash from sites as needed.

3. Springs

Locations

Bartholomew Canyon
Spring Creek Canyon
Jolly's at Jolly's Park in Hobble Creek Canyon
Power House at 700 South 2300 East
Burt Springs at 1900 East Canyon Road

Activities

Upkeep of Fences- Put up barbed wire fence on the spring and take them down in the fall.

Vegetation Removal- Deep rooted vegetation is taken out as needed. As mandated by the State division of drinking water.

- Manual methods will be used before mechanical method
- Mechanical method- a backhoe in good working condition is driven to the area
- Trees and any vegetation with deep root systems are pulled out
- Green waste is loaded on to a truck and it is taken to the green waste facility
- Activity is done as needed

The State division of drinking water conducts a sanitary survey every three years for wells, springs and water tanks.

Control Measures SOPs

- Pick up garbage.
- Dispose of vegetation at the green waste plant.
- Limit land area disturbance and preserve grass areas.
- There are no floor drains.

4. Wells

Locations

909 East 400 South
900 South Well at 1000 East 900 South
1000 South Well at 600 East 1000 South
Evergreen Well at 1850 South 400 East
200 North Well at 750 East 200 North
Canyon Road Well at 1700 East Canyon Road
Burt Springs Pump at 1900 East Canyon Road
Industrial Park Well at 325 West 850 North

Activities

Pump Maintenance- change gear oil every 2 years. Pumps take about 1 gallon of oil. Add food grade mineral oil to shaft bearing every 2 weeks.

- Protect floor drain
- Spill kit at hand
- Clean up area when service is finished

Grounds Maintenance- Sweep inside the pump building; weed control around the building using herbicides according to manufacturer's specifications.

- Remove and dispose of garbage
- Avoid over spray
- Follow manufacturer's recommendations when using and disposing of herbicide

Pump replacement- is done by a subcontractor as needed.

- Protect floor drain
- Spill kit at hand
- Clean up area when service is finished

Control Measures SOPs

- Oil disposal- Used oils are taken to the mechanics shop for disposal.
- Good house keeping. Pick up garbage around the site
- Preventive maintenance- Visual inspections every 2 weeks; Gear oil is replaced in the pump gear box every 2 years.
- All of the floor drains go into the storm drain system on a sump drain, no oil or other pollutants stored at any of these facilities.

5. PRVs

Locations

650 West 1600 South	650 West 400 South
650 West Center	380 West 400 North
20 West 900 North	700 East 1400 north
1850 East 450 South	650 South 2080 East
1700 East Center	450 South 2080 East
600 East 1000 South	800 East 900 South
1150 East 50 North	810 East 1125 North
405 North 880 East	2600 East Canyon Road
Strong Regulator NE fire break road	

Activities

Pressure checks and Visual inspections are conducted 3 times a week.

Repairs as needed: springs, pilot valves, etc.

Control Measures SOPs

- Good house keeping- keep equipment and vault clean.
- Every PRV contains a floor drain that flow into a sump drain, no materials are stored in these facilities.

IV. Field Activities and Control Measures

Activities

Repair water main leaks, as needed.

Repair or replace service lines, as needed.

Install new service lines, as needed.

Flush water lines. As needed when citizens complaint of dirty looking water.

Transportation of material- Road base and drain rock are transported to and from the excavation sites.

Excavation and backfill activities are conducted while repairing or replacing water lines

Control Measures SOPs

Good house keeping. Pick up garbage from the work sites, sweep work areas after work is completed.

Sweep gutters and install inlet protection before flushing water in the gutter.

Material management; keep material from entering the storm drain system, remove excess material when job is completed.

Dispose of excavated material properly; recycle excavated asphalt and concrete materials.

Excavation SOP

- Asses situation- locate storm drain inlets, flow patterns
- Protect inlets if needed
- Use dewatering control methods if needed
- Designate material storage area
- Excavate area and complete the task at hand
- Back fill
- Clean up
 - Remove extra material
 - Compact road base surface
 - Sweep work area
 - Remove sediment controls
- Disposal of excavated material is hauled to the compound storage pile for drying and sorting, after a full load of each material is gathered
 - Concrete and asphalt are hauled to a recycling facility
 - Clean fill dirt is hauled to projects that are taking this type of material.

V. Spill Prevention and Response Procedures

Hazardous Material	Location of Spill	Reportable Quantity
Gasoline, Diesel Fuel and Oils	Land/Water	25 gallons or visible sheen

Each work area has a spill response kit. Most of the spills can be cleaned up following the manufacturer recommendation. Absorbent/oil dry, sealable containers, plastic bags, and shovels/brooms are suggested minimum spill response items that should be on this location

- 1st Priority: Protect all people
- 2nd Priority: Protect equipment and property
- 3rd Priority: Protect the environment

1. Make sure the spill area is safe to enter and that it does not pose an immediate threat to health or safety of any person.
2. Stop the spill source
3. Check for hazards (flammable material, noxious fumes, cause of spill) – if flammable liquid, turn off engines and nearby electrical equipment. If serious hazards are present leave area and call 911. **LARGE SPILLS ARE LIKELY TO PRESENT A HAZARD.**
4. Call co-workers and supervisor for assistance and to make them aware of the spill and potential dangers
5. If possible, stop spill from entering drains (use absorbent or other material as necessary)
6. Stop spill from spreading (use absorbent or other material)
7. If spilled material has entered a storm sewer; contact the City Storm Water Department.
8. Clean up spilled material according to manufacturer specifications, for liquid spills use absorbent materials and do not flush area with water.
9. Properly dispose of cleaning materials and used absorbent material according to manufacturer specifications.

Emergency Numbers

Springville City Fire Department	801-491-5600
Springville City Police Department	801-489-9421
Springville City Storm Water Collections	801-489-2745

VI. Inspections

Qualified personnel from the Water Division will conduct inspections of the assigned areas and document with the appropriate report. Inspection reports and logs are located on the appendices section of this manual.

- Weekly visual inspections for:
 - City Operations Compound;
 - Wells locations; and
 - Pump houses.

- Quarterly Comprehensive Inspections for:
 - City Operations Compound.

Weekly visual inspections will be tracked in the log attached on appendix F spills will be cleaned up immediately and documented on a spill report located on appendix D.

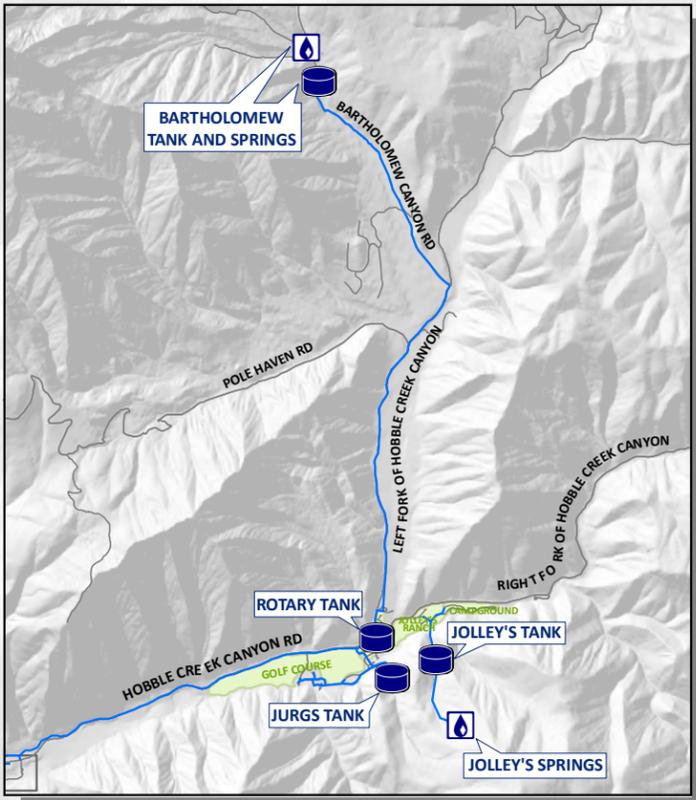
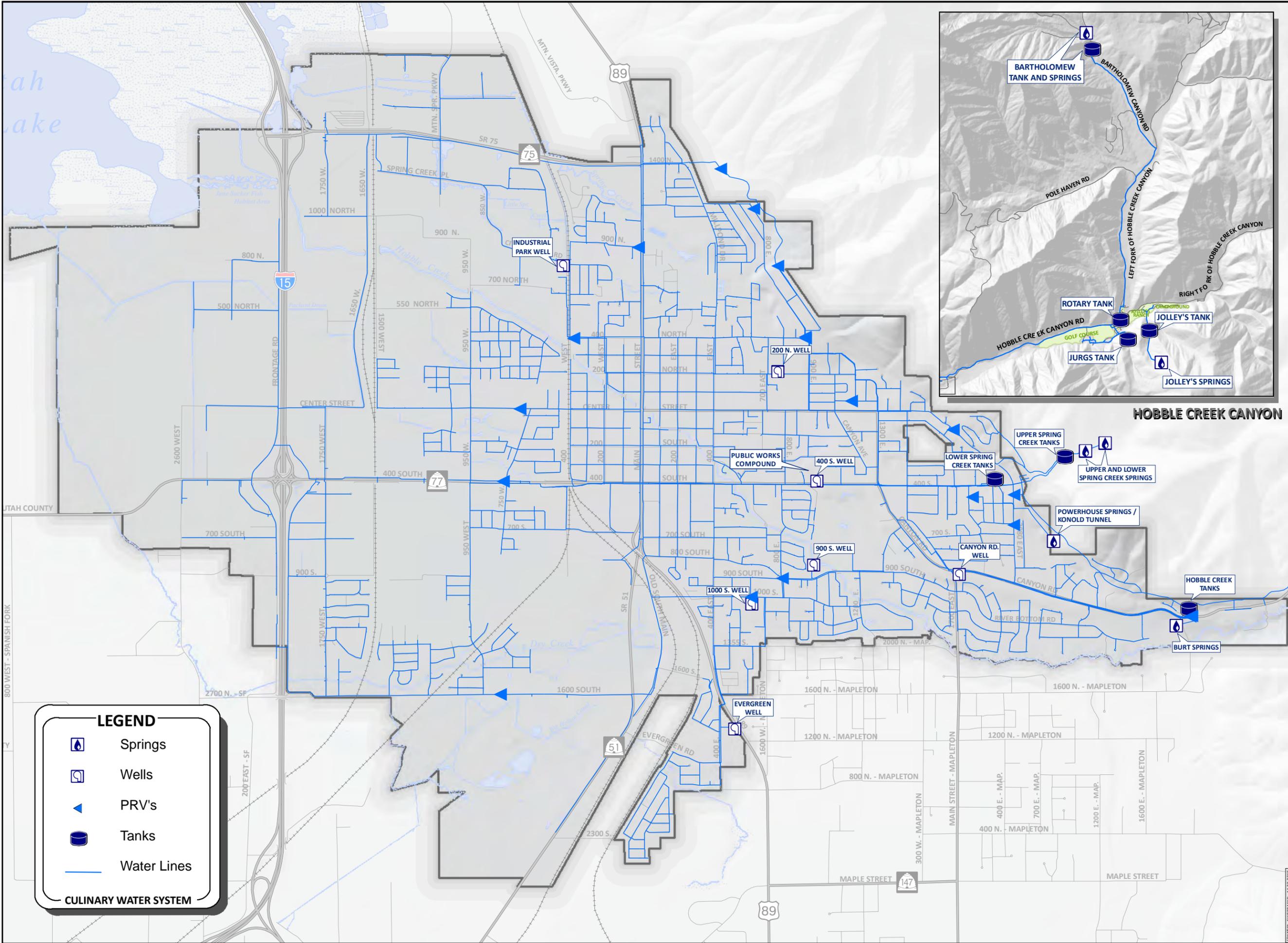
Deficiencies will have to be corrected with in one week of being reported. All inspections and follow up actions will be documented and kept within this O&M Manual. Corrective Action Log Appendix E

VII. Employee Training

All of the Water Division employees will receive training regarding this O&M Manual at least annually. The training will cover the following subjects:

- Impacts associated with illicit discharges;
- Proper storage of raw materials;
- Proper disposal and management of wastes;
- Proper management and use of salt and other de-icing materials;
- Proper maintenance of indoor and outdoor working areas including parking lot surfaces; and
- Spill response.

Appendix A
Site Maps



HOBBIE CREEK CANYON

LEGEND

-  Springs
-  Wells
-  PRV's
-  Tanks
-  Water Lines

CULINARY WATER SYSTEM

This document is neither a legally recorded map nor a survey and is not intended to be used as one. This document is a compilation of records, information and data provided by various City, County, and State resources and other sources, and is to be used for reference purposes only. Springville City makes no warranty, expressed or implied, as to the accuracy of this data and expressly disclaims liability for the accuracy of the data and document.

CULINARY WATER SYSTEM

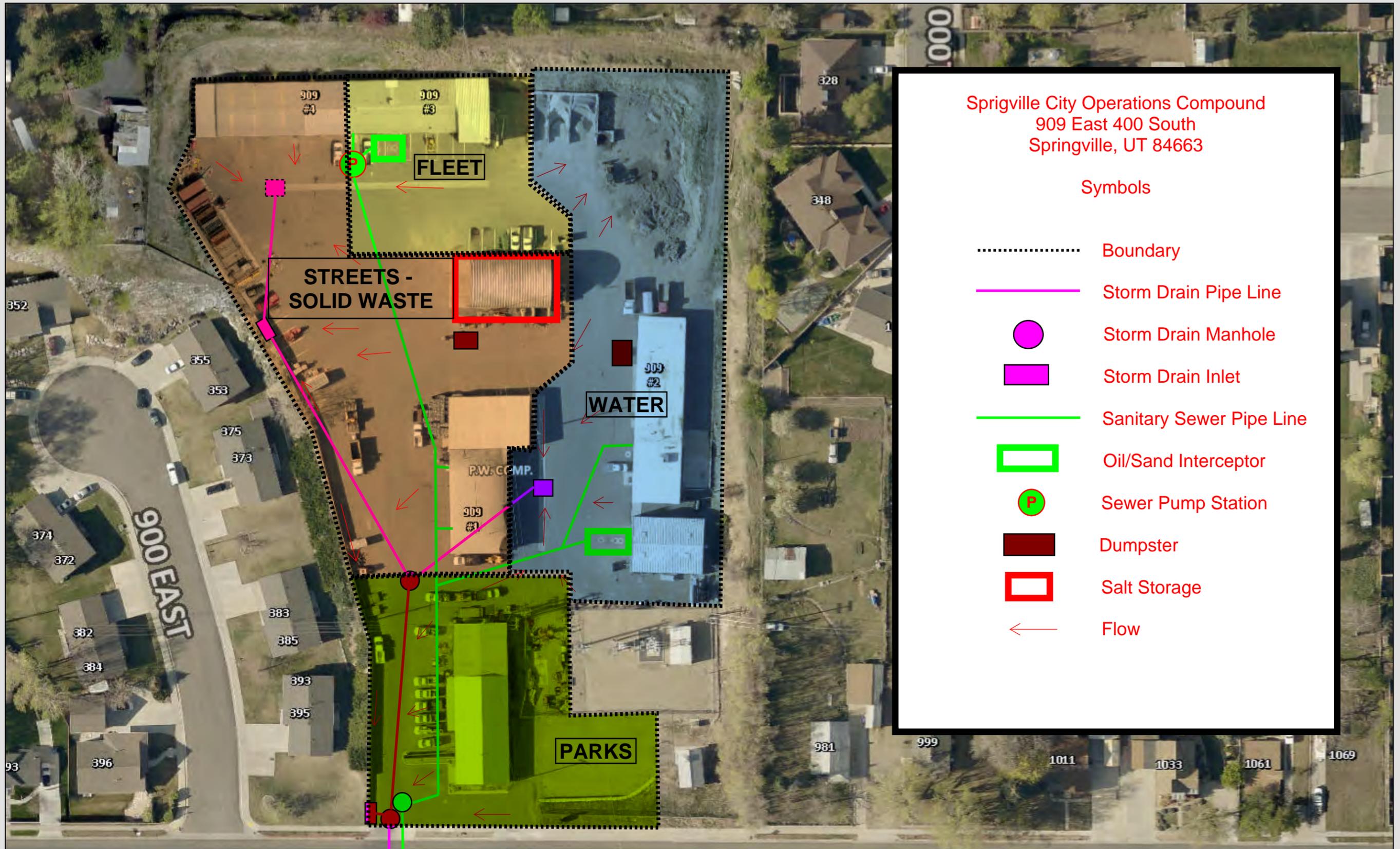

 1 IN = 0.47 MILES
 1:30,000

SPRINGVILLE CITY
 ENGINEERING DIVISION
 GEOGRAPHIC INFORMATION SYSTEMS
 110 S. MAIN ST. - SPRINGVILLE, UTAH



7/20/16, SUPPLEMENTED - 11/29/2020

SPRINGVILLE CITY



Springville City Operations Compound
 909 East 400 South
 Springville, UT 84663

Symbols

- Boundary
- Storm Drain Pipe Line
- Storm Drain Manhole
- Storm Drain Inlet
- Sanitary Sewer Pipe Line
- ▭ Oil/Sand Interceptor
- Ⓟ Sewer Pump Station
- Dumpster
- ▭ Salt Storage
- ← Flow

Date: 6/23/2016



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 ----- Springville City GIS - mphilp@springville.org -----

1:1,128

Evergreen Well

Storm Drain Line

US89 HWY



HOBBLE CREEK RD

Kelly's Pump

French Drain

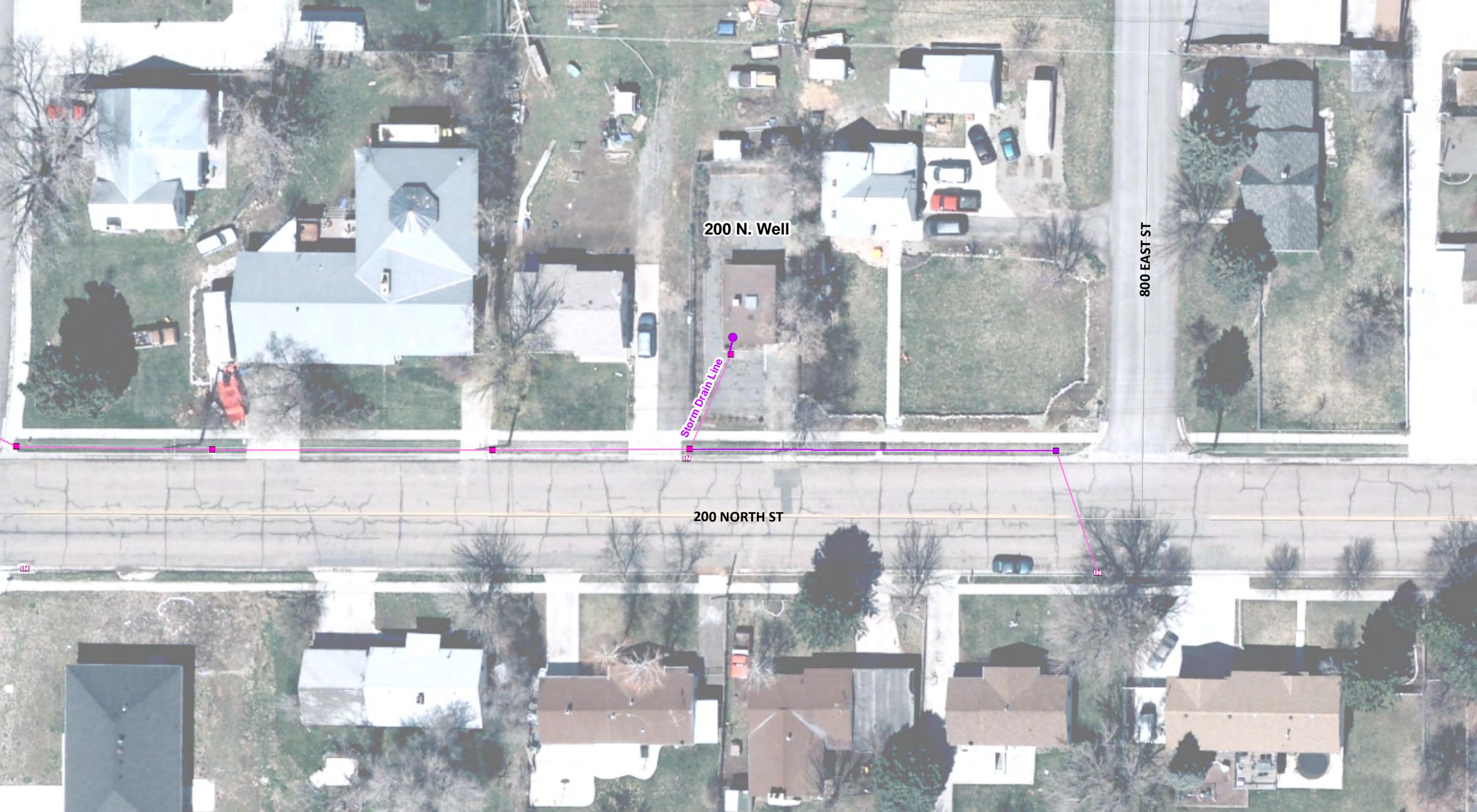


CONOVER
PARK

10th South Well

Storm Drain Line





200 N. Well

800 EAST ST

Storm Drain Line

200 NORTH ST

IN

IN

IN

400 S. WELL

Storm Drain Line

IN

400 SOUTH ST





Outfall

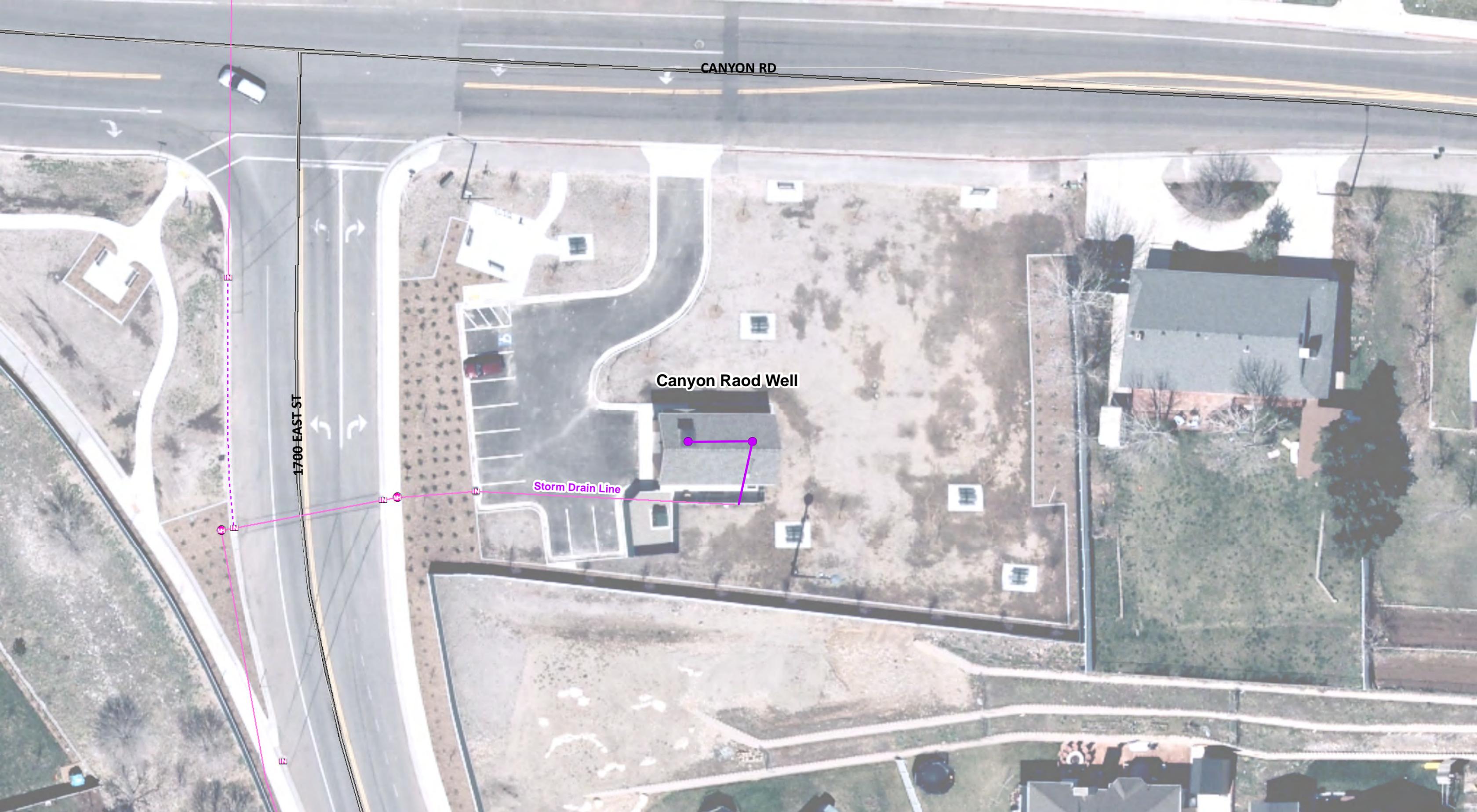
Storm Drain Line

900 S. Well



Burt Springs

Sump Pump



CANYON RD

1700 EAST ST

Canyon Raod Well

Storm Drain Line

IN

IN

IN

IN

IN

IN

IN



850 NORTH ST

Industrial Park Well

Storm Drain Line

400 WEST ST

400 WEST ST

850 NORTH ST

Appendix B

BMPs Specifications and Detail Sheets



DESCRIPTION:

Area control procedures involve practicing good housekeeping measures such as maintaining indoor or covered material storage and industrial processing areas. If the area is kept clean, the risk of accumulating materials on footwear and clothing is reduced. In turn, the chance of left over pollutants making contact with stormwater polluting surface water is minimized.

APPROACH:

Area control procedures can be used at any facility where materials may be tracked into areas where they can come in contact with stormwater runoff. Areas can include material handling areas, storage areas, or process areas.

Effective practices include the following:

- Cover garments, foot mats, and other devices used to collect residual material near the area should be cleaned regularly.
- Brush off clothing before leaving the area.
- Stomp feet to remove material before leaving the area.
- Use floor mats at area exits.
- Use coveralls, smocks, and other overgarments in areas where exposure to material is of greatest concern (employees should remove the overgarments before leaving the area).
- Post signs to remind employees about these practices.

LIMITATIONS:

May be seen as tedious by employees and therefore may not be followed.

MAINTENANCE:

Materials storage areas and industrial processing areas should be checked regularly to ensure that good housekeeping measures are implemented.

APPLICATIONS

- Manufacturing
- Material Handling
- Vehicle Maintenance
- Construction
- Commercial Activities
- Roadways
- Waste Containment
- Housekeeping Practices



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*Springville City Corporation
Public Works Department
Engineering Division
110 South Main Street
Springville, Utah 84663
801-491-2780*

TARGETED POLLUTANTS

- High Impact
- Medium Impact
- Low or Unknown Impact

- Sediment
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

Prevent or reduce the discharge of pollutants to stormwater from buildings and grounds maintenance by washing and cleaning up with as little water as possible, preventing and maintaining the stormwater collection system.

Buildings and grounds maintenance includes taking care of landscaped areas around the facility, cleaning of parking lots and pavement other than in the area of industrial activity, and the cleaning of the storm drainage system.

APPROACH:

- Preserve existing native vegetation to reduce water, fertilizer, and pesticide needs.
- Carefully use pesticides and fertilizers in landscaping.
- Integrate pest management where appropriate.
- Sweep paved surfaces.
- Clean the storm drainage system at appropriated intervals.
- Properly dispose of wash water, sweepings, and sediments.

LIMITATIONS:

Alternative pest/weed controls may not be available, suitable or effective in every case.

MAINTENANCE:

The BMPs themselves relate to maintenance and do not require maintenance as they do not involve structures.

APPLICATIONS

- Manufacturing
- Material Handling
- Vehicle Maintenance
- Construction
- Commercial Activities
- Roadways
- Waste Containment
- Housekeeping Practices



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TARGETED POLLUTANTS

- High Impact
- Low or Unknown Impact
- Medium Impact

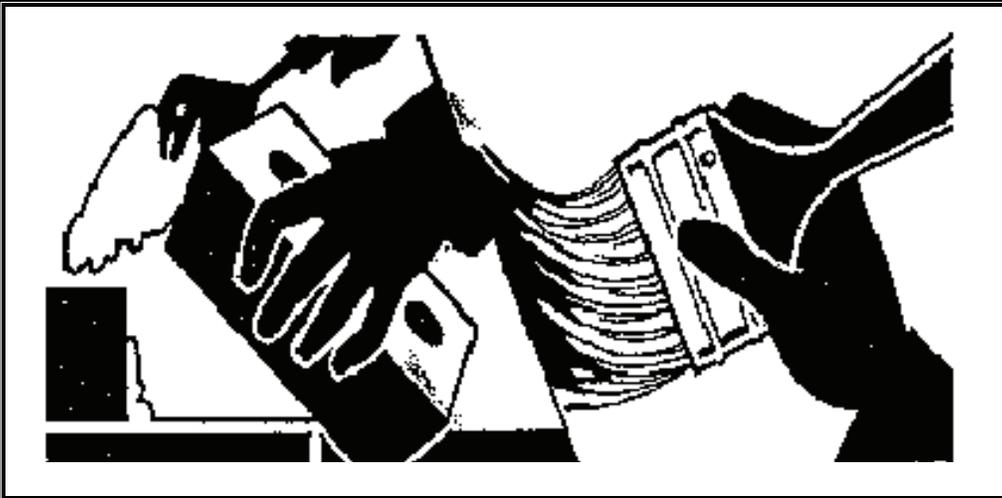
- Sediment
- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

Prevent or reduce the discharge of pollutants to storm water from building repair, remodeling and construction by using soil erosion controls, enclosing or covering building material storage areas, using good housekeeping practices, using safer alternative products, and training employees.

APPLICATION:

- Use soil erosion control techniques if bare ground is temporarily exposed.
- Use permanent soil erosion control techniques if the remodeling clears buildings from an area that are not to be replaced.

INSTALLATION/APPLICATION CRITERIA:

- Enclose painting operations consistent with local air quality regulations and OSHA.
- Properly store materials that are normally used in repair and remodeling such as paints and solvents.
- Properly store and dispose waste materials generated from the activity.
- Maintain good housekeeping practices while work is underway.

LIMITATIONS:

- This BMP is for minor construction only.
- Hazardous waste that cannot be re-used or recycled must be disposed of by a licensed hazardous waste hauler.
- Safer alternative products may not be available, suitable, or effective in every case.
- Be certain that actions to help storm water quality are consistent with OSHA and air quality regulations.

MAINTENANCE:

None.

OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion



Springville

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Public Works Department
Engineering Division
110 South Main Street
Springville, Utah 84663
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TARGETED POLLUTANTS

- High Impact
- Medium Impact
- Low or Unknown Impact

Sediment

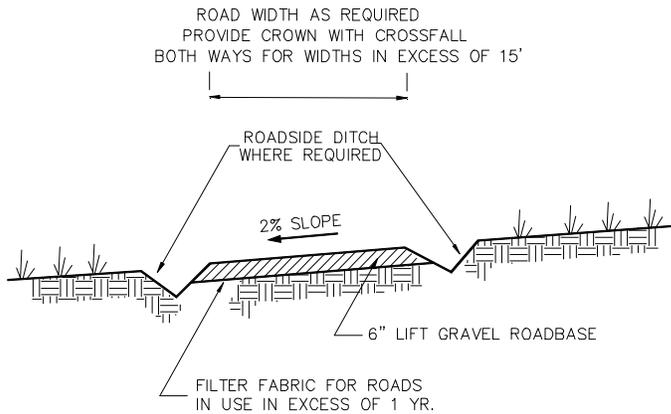
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Waste

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adapted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

Temporary stabilization of on-site roadway by placement of gravel roadbase.

APPLICATION:

- On-site roadways used daily by construction traffic (may not apply to gravelly type soils)
- Parking or staging areas susceptible to erosion due to traffic use

INSTALLATION/APPLICATION CRITERIA:

- Grade temporary access road with 2% cross fall, for two-way width provide crown.
- Provide roadside ditch and outlet controls where required.
- Place 6 inches of 2-inch to 4-inch crushed rock on driving area

LIMITATIONS:

- May require removal of gravel roadbase at completion of activities if final cover is not impervious
- May require controls for surface storm water runoff

MAINTENANCE:

- Inspect after major rainfall events and at least monthly.
- Place additional gravel as needed and repair any damaged areas.
- Maintain any roadside drainage controls.

OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion



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TARGETED POLLUTANTS

- High Impact
- Medium Impact

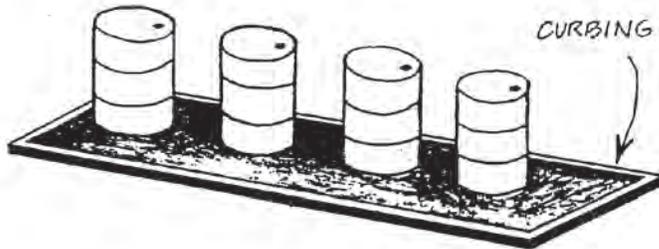
- Sediment
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Waste

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

Curbing is a barrier that surrounds an area of concern, much like containment diking (See Containment Diking BMP). Curbing prevents spills, leaks, etc. from being released to the environment by routing runoff to treatment or control areas. The terms curbing and diking are sometimes used interchangeably.

APPROACH:

- Curbing can be used at all industrial facilities. It is particularly useful in areas where liquid materials are transferred and as a stormwater runoff control.
- As with diking, common materials for curbing include earth, concrete, synthetic materials, metal, or other impenetrable materials. Asphalt is also a common material used in curbing.
- For maximum efficiency, spilled materials should be removed immediately, to allow space for future spills.
- Curbs should have pumping systems, instead of drainage systems, for collecting spilled materials.
- Curb systems should be maintained through curb repair (patching and replacement).
- To minimize the amount of spilled material tracked outside of the area by personnel, grade within the curbing to direct the spilled materials to a down-slope side of the curbing, thus keeping the spilled materials away from personnel and equipment. Grading will also facilitate clean-up.

LIMITATIONS:

- Curbing is not effective for holding large spills.
- May require more maintenance than diking.

MAINTENANCE:

- Inspection should be conducted before and after storm events.
- When certain spills occur, cleanup should start immediately, thus preventing overflows and contamination of stormwater runoff.
- Inspection should also be made to clear clogging debris, prevent dilution by rainwater, and to again prevent overflow of any materials.

APPLICATIONS

- Manufacturing
- Material Handling
- Vehicle Maintenance
- Construction
- Commercial Activities
- Roadways
- Waste Containment
- Housekeeping Practices



Springville

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TARGETED POLLUTANTS

- High Impact
- Medium Impact
- Low or Unknown Impact

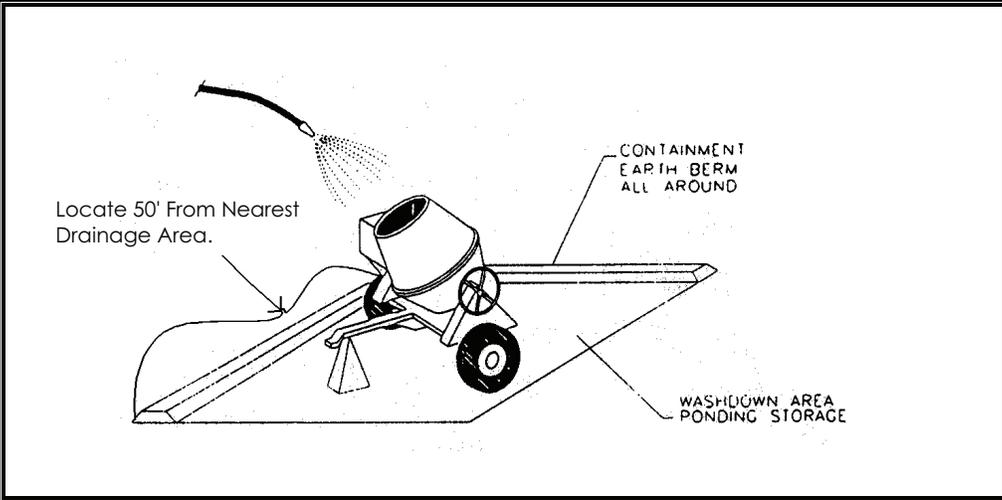
- Sediment
- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

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DESCRIPTION:

Prevent or reduce the discharge of pollutants to storm water from concrete waste by conducting washout off-site, performing on-site washout in a designated area, and training employees and subcontractors.

APPLICATIONS:

This technique is applicable to all types of sites.

INSTALLATION/APPLICATION CRITERIA:

- Store dry and wet materials under cover, away from drainage areas.
- Avoid mixing excess amounts of fresh concrete or cement on-site.
- Perform washout of concrete trucks off-site or in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped on-site, except in designated areas.
- When washing concrete to remove fine particles and expose the aggregate, avoid creating runoff by draining the water within a bermed or level area. (See Earth Berm Barrier information sheet.)
- Train employees and subcontractors in proper concrete waste management.

LIMITATIONS:

- Off-site washout of concrete wastes may not always be possible.

MAINTENANCE:

- Inspect subcontractors to ensure that concrete wastes are being properly managed.
- If using a temporary pit, dispose hardened concrete on a regular basis.

OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion



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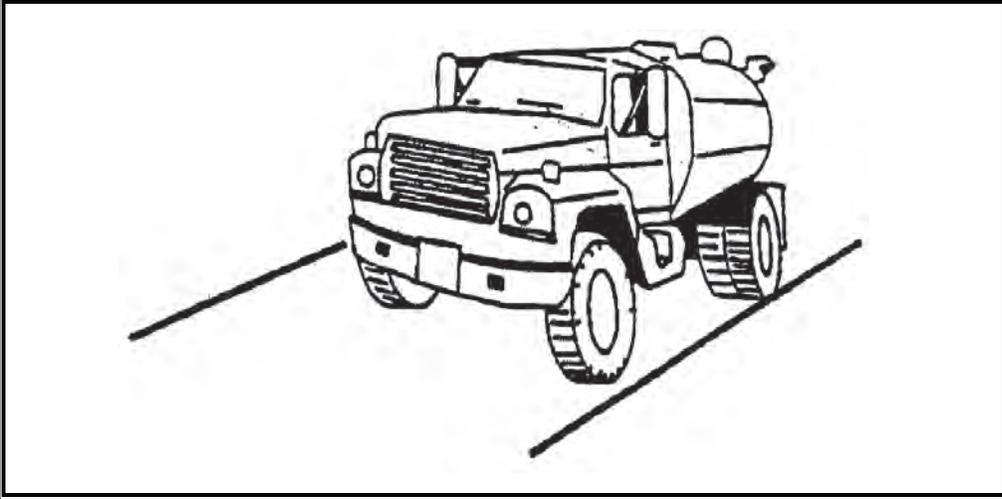
- Sediment
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Waste

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

■ High • Medium • Low

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DESCRIPTION:

Dust control measures are used to stabilize soil from wind erosion, and reduce dust by construction activities.

APPLICATION:

Dust control is useful in any process area, loading and unloading area, material handling areas, and transfer areas where dust is generated. Street sweeping is limited to areas that are paved.

INSTALLATION/APPLICATION CRITERIA:

- Mechanical dust collection systems are designed according to the size of dust particles and the amount of air to be processed. Manufacturers' recommendations should be followed for installation (as well as the design of the equipment).
- Two kinds of street sweepers are common: brush and vacuum. Vacuum sweepers are more efficient and work best when the area is dry.
- Mechanical equipment should be operated according to the manufacturers' recommendations and should be inspected regularly.

LIMITATIONS:

- Is generally more expensive than manual systems.
- May be impossible to maintain by plant personnel (the more elaborate equipment).
- Is labor and equipment intensive and may not be effective for all pollutants (street sweepers).

MAINTENANCE:

If water sprayers are used, dust-contaminated waters should be collected and taken for treatment. Areas will probably need to be resprayed to keep dust from spreading.

OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
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- Control Site Perimeter
- Control Internal Erosion



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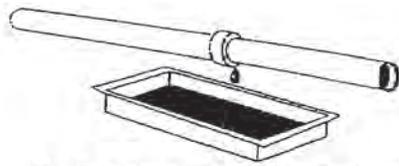
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- Oil & Grease
- Floatable Materials
- Other Waste

IMPLEMENTATION REQUIREMENTS

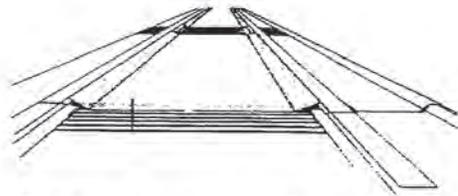
- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



Use Drip Pans for Leaking Equipment



Use Drip Pans in Loading and Unloading Areas

DESCRIPTION:

Drip pans are small depressions or pans used to contain very small volumes of leaks, drips, and spills that occur at a facility. Drip pans can be depressions in concrete, asphalt, or other impenetrable material. They can be made of metal, plastic, or any material that does not react with the dripped chemicals. Drip pans can be temporary or permanent.

Drip pans are used to catch drips from valves, pipes, etc. so that the materials or chemicals can be cleaned up easily or recycled before they contaminate stormwater. Although leaks and drips should be repaired and eliminated as part of a preventative maintenance program, drip pans can provide a temporary solution where repair or replacement must be delayed. In addition, drip pans can be an added safeguard when they are positioned beneath areas where leaks and drips may occur.

APPROACH:

- When using drip pans, consider the location of the drip pan, weather conditions, the type of material used for the drip pan, and how it will be cleaned.
- The location of the drip pan is important. Because drip pans must be inspected and cleaned frequently, they must be easy to reach and remove. However, take special care to avoid placing drip pans where they can be easily overturned or be a safety hazard.
- Secure pans by installing or anchoring them. Drip pans may be placed on platforms, behind wind blocks or tied down.
- Employees must pay attention to the pans and empty them when they are nearly full.
- Frequent inspection of the drip pans is necessary due to the possibility of leaks in the pan itself or in piping or valves that may occur randomly or irregular slow drips that may increase in volume.

LIMITATIONS:

- Contain small volumes only.
- Must be inspected and cleaned frequently.
- Must be secured during poor weather conditions.
- Contents may be disposed of improperly unless facility personnel are trained in proper disposal methods.

APPLICATIONS

- Manufacturing
- Material Handling
- Vehicle Maintenance
- Construction
- Commercial Activities
- Roadways
- Waste Containment
- Housekeeping Practices



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TARGETED POLLUTANTS

- High Impact
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- Low or Unknown Impact

- Sediment
- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

Employee training, like equipment maintenance, is a method by which to implement BMPs. Employee training should be used in conjunction with all other BMPs as part of the facility's SWPPP.

The specific employee training aspects of each of the source controls are highlighted in the individual information sheets. The focus of this information sheet is more general, and includes the overall objectives and approach for assuring employee training in stormwater pollution prevention. Accordingly, the organization of this information sheet differs somewhat from the other information sheets in this chapter.

OBJECTIVES:

Employee training should be based on four objectives:

- Promote a clear identification and understanding of the problem, including activities with the potential to pollute stormwater;
- Identify solutions (BMPs);
- Promote employee ownership of the problems and the solutions; and
- Integrate employee feedback into training and BMP implementation.

APPROACH:

- Integrate training regarding stormwater quality management with existing training programs that may be required for other regulations.
- Employee training is a vital component of many of the individual source control BMPs included in this manual.

PROGRAM ELEMENTS

- New Development
- Residential
- Commercial Activities
- Industrial Activities
- Municipal Facilities
- Illegal Discharges



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- Bacteria & Viruses

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Regulatory
- Training
- Staffing
- Administrative

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

Promote efficient and safe housekeeping practices (storage, use, and cleanup) when handling potentially harmful materials such as fertilizers, pesticides, cleaning solutions, paint products, automotive products, and swimming pool chemicals.

APPROACH:

- Pattern a new program after the many established programs from municipalities around the country. Integrate this best management practice as much as possible with existing programs at your municipality.
- This BMP has two key audiences: municipal employees and the general public.
- For the general public, municipalities should establish a public education program that provides information on such items as storm water pollution and beneficial effects of proper disposal on water quality; reading product labels; safer alternative products; safe storage, handling, and disposal of hazardous products; list of local agencies; and emergency phone numbers. The programs listed below have provided this information through brochures or booklets that are available at a variety of locations including municipal offices, household hazardous waste collection events or facilities, and public information fairs.

Municipal facilities should develop controls on the application of pesticides, herbicides, and fertilizers in public right-of-ways and at municipal facilities.

Controls may include:

- List of approved pesticides and selected uses.
- Product and application information for users.
- Equipment use and maintenance procedures.
- Record keeping and public notice procedures.

LIMITATIONS:

There are no major limitations to this best management practice.

PROGRAM ELEMENTS

- New Development
- Residential
- Commercial Activities
- Industrial Activities
- Municipal Facilities
- Illegal Discharges



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- Floatable Materials
- Bacteria & Viruses

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Regulatory
- Training
- Staffing
- Administrative

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

Prevent or reduce the discharge of pollutants to stormwater from hazardous waste through proper material use, waste disposal, and training of employees and subcontractors.

APPLICATION:

Many of the chemicals used on-site can be hazardous materials which become hazardous waste upon disposal. These wastes may include:

- Paints and Solvents; petroleum products such as oils, fuels, and grease; herbicides and pesticides; Acids for cleaning masonry; and concrete curing compounds.

In addition, sites with existing structures may contain wastes which must be disposed of in accordance with Federal, State, and local regulations, including:

- Sandblasting grit mixed with lead, cadmium, or chromium-based paints; Asbestos; and PCB's.

INSTALLATION/APPLICATION CRITERIA:

The following steps will help reduce storm water pollution from hazardous wastes:

- Use all of the product before disposing of the container.
- Do not remove the original product label, it contains important safety and disposal information.
- Do not over-apply herbicides and pesticides. Prepare only the amount needed. Follow the recommended usage instructions. Over-application is expensive and environmentally harmful. Apply surface dressings in several smaller applications, as opposed to one large application, to allow time for infiltration and to avoid excess material being carried off-site by runoff. Do not apply these chemicals just before it rains. People applying pesticides must be certified in accordance with Federal and State regulations.

LIMITATIONS:

Hazardous waste that cannot be reused or recycled must be disposed of by a licensed hazardous waste hauler.

MAINTENANCE:

- Inspect hazardous waste receptacles and area regularly.
- Arrange for regular hazardous waste collection.

OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion



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- Sediment
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- Oil & Grease
- Floatable Materials
- Other Waste

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

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DESCRIPTION:

Implement measures to detect, correct, and enforce against illegal dumping of pollutants on streets, into the storm drain system, and into creeks. Substances illegally dumped on streets, into the storm drain system, and into creeks includes paints, used oil and other automotive fluids, construction debris, chemicals, fresh concrete, leaves, grass clippings, and pet wastes. All of these wastes can cause storm water and receiving water quality problems as well as clog the storm drain system.

APPROACH:

One of the keys to success is increasing the general public's awareness of the problem and to at least identify the incident, if not correct it. There are a number of ways of accomplishing this:

- Train municipal staff from all departments to recognize and report incidents.
- Deputize municipal staff who may come into contact with illegal dumping with the authority to write illegal dumping tickets for offenders caught in the act.
- Educate the public.
- Provide the public with a mechanism for reporting such as a hot line.

Establish system for tracking incidents which will identify:

- Illegal dumping "hot spots",
- Types and quantities (in some cases) of wastes,
- Patterns in time of occurrence (time of day/night, month, or year),
- Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accident/spills), and
- Responsible parties.

A tracking system also helps manage the program by indicating trends, and identifying who, what, when, and where efforts should be concentrated.

LIMITATIONS

The elimination of illegal dumping is dependent on the availability, convenience, and cost of alternative means of disposal.

PROGRAM ELEMENTS

- New Development
- Residential
- Commercial Activities
- Industrial Activities
- Municipal Facilities
- Illegal Discharges



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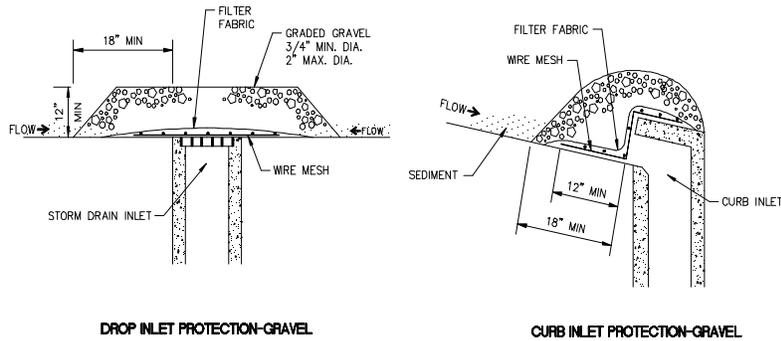
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- Floatable Materials
- Bacteria & Viruses

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Regulatory
- Training
- Staffing
- Administrative

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

Placement of gravel filter over inlet to storm drain to filter storm water runoff.

APPLICATION:

Construct at inlets in paved or unpaved areas where upgradient area is to be disturbed by construction activities.

INSTALLATION/APPLICATION CRITERIA:

- Place wire mesh (with 1/2 inch openings) over the inlet grate extending one foot past the grate in all directions.
- Place filter fabric over the mesh. Filter fabric should be selected based on soil type.
- Place graded gravel, to a minimum depth of 12-inches, over the filter fabric and extending 18-inches past the grate in all directions.

LIMITATIONS:

- Recommended for maximum drainage area of one acre.
- Excess flows may bypass the inlet requiring down gradient controls.
- Ponding will occur at inlet.

MAINTENANCE:

- Inspect inlet protection after every large storm event and at a minimum of once monthly.
- Remove sediment accumulated when it reaches 4-inches in depth.
- Replace filter fabric and clean or replace gravel if clogging is apparent.

OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion



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- Other Waste

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

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DESCRIPTION:

Litter control involves the removal of litter from streets and other surfaces before runoff or wind moves these materials to surface waters. This practice will prevent litter from becoming pollution as well as improving the aesthetics of the area.

APPROACH:

There are two categories of litter control programs: source reduction and removal programs.

Source reduction:

- Litter containers should be conveniently placed and emptied frequently to prevent overflow.
- Recycling programs should be promoted.
- Public education programs should be developed since litter control programs depend upon public support.

Litter removal programs:

- Litter control program include refuse and leaf collection, street cleaning, and catch basin cleaning.
- Educational programs that explain the environmental benefit of leaf collection to water quality are helpful.
- Municipal leaf collection is usually accomplished with street sweepers (see Street Cleaning BMP) or mechanical lawn sweepers.

LIMITATIONS:

No limitations.

PROGRAM ELEMENTS

- New Development
- Residential
- Commercial Activities
- Industrial Activities
- Municipal Facilities
- Illegal Discharges



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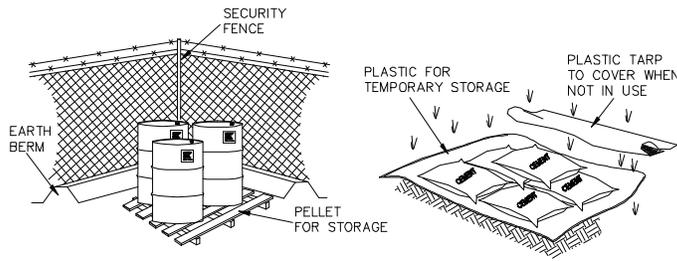
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IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Regulatory
- Training
- Staffing
- Administrative

- High
- Medium
- Low

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- ▶ CONTROLLED STORAGE LOCATION
- ▶ BERMED PERIMETER IMPOUNDMENT
- ▶ STORAGE OFF GROUND
- ▶ COVER WHEN NOT IN USE

DESCRIPTION:

Controlled storage of on-site materials.

APPLICATION:

- Storage of hazardous, toxic, and all chemical substances.
- Any construction site with outside storage of materials.

INSTALLATION/APPLICATION CRITERIA:

- Designate a secured area with limited access as the storage location. Ensure no waterways or drainage paths are nearby.
- Construct compacted earthen berm (See Earth Berm Barrier Information Sheet), or similar perimeter containment around storage location for impoundment in the case of spills.
- Ensure all on-site personnel utilize designated storage area. Do not store excessive amounts of material that will not be utilized on site.
- For active use of materials away from the storage area ensure materials are not set directly on the ground and are covered when not in use. Protect storm drainage during use.

LIMITATIONS:

- Does not prevent contamination due to mishandling of products.
- Spill Prevention and Response Plan still required.
- Only effective if materials are actively stored in controlled location.

MAINTENANCE:

- Inspect daily and repair any damage to perimeter impoundment or security fencing.
- Check materials are being correctly stored (i.e. standing upright, in labeled containers, tightly capped) and that no materials are being stored away from the designated location.

OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion



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IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

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APPLICATIONS

- Manufacturing
- Material Handling
- Vehicle Maintenance
- Construction
- Commercial Activities
- Roadways
- Waste Containment
- Housekeeping Practices



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DESCRIPTION:

Eliminate non-stormwater discharges to the stormwater collection system. Non-stormwater discharges may include: process wastewaters, cooling waters, wash waters, and sanitary wastewater.

APPROACH:

- The following approaches may be used to identify non-stormwater discharges:
- Visual inspection: the easiest method is to inspect each discharge point during dry weather. Keep in mind that drainage from a storm event can continue for three days or more and groundwater may infiltrate the underground stormwater collection system.
 - Piping Schematic Review: The piping schematic is a map of pipes and drainage systems used to carry wastewater, cooling water, sanitary wastes, etc... A review of the "as-built" piping schematic is a way to determine if there are any connections to the stormwater collection system. Inspect the path of floor drains in older buildings.
 - Smoke Testing: Smoke testing of wastewater and stormwater collection systems is used to detect connections between the two systems. During dry weather the stormwater collection system is filled with smoke and then traced to sources. The appearance of smoke at the base of a toilet indicates that there may be a connection between the sanitary and the stormwater system.
 - Dye Testing: A dye test can be performed by simply releasing a dye into either the sanitary or process wastewater system and examining the discharge points from the stormwater collection system for discoloration.

LIMITATIONS:

- Many facilities do not have accurate, up-to-date schematic drawings.
- Video and visual inspections can identify illicit connections to the storm sewer, but further testing is sometimes required (e.g. dye, smoke) to identify sources.

TARGETED POLLUTANTS

- High Impact
- Medium Impact
- Low or Unknown Impact

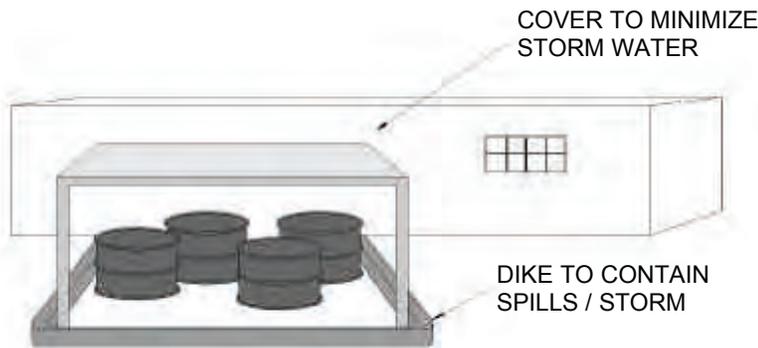
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- Floatable Materials
- Bacteria & Viruses

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
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APPLICATIONS

- Manufacturing
- Material Handling
- Vehicle Maintenance
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DESCRIPTION:

Prevent or reduce the discharge of pollutants to stormwater from outdoor container storage areas by installing safeguards against accidental releases, installing secondary containment, conducting regular inspections, and training employees in standard operating procedures and spill cleanup techniques.

APPROACH:

Protect materials from rainfall, runoff, and wind dispersal:

- Store materials indoors.
- Cover the storage area with roof.
- Minimize stormwater runoff by enclosing the area or building a berm around it.
- Use a "doghouse" for storage of liquid containers.
- Use covered dumpsters for waste product containers.

Storage of oil and hazardous materials must meet specific federal and state standards including:

- secondary containment,
- integrity and leak detection monitoring, and
- emergency preparedness plans.

Train operator on proper storage.

Safeguards against accidental releases:

- Overflow protection devices to warn operator or automatic shut down transfer pumps, protection guards (bollards) around tanks and piping to prevent vehicle or forklift damage, clear tagging or labeling, and restricting access to valves to reduce human error.

Berm or surround tank or container with secondary containment system:

- Dikes, liners, vaults, or double walled tanks.

Some municipalities require that secondary containment areas be connected to the sanitary sewer, prohibiting any hard connections to the storm drain.

LIMITATIONS:

Storage sheds often must meet building and fire code requirements.

MAINTENANCE:

Conduct routine weekly inspections.

TARGETED POLLUTANTS

- High Impact
- Medium Impact
- Low or Unknown Impact

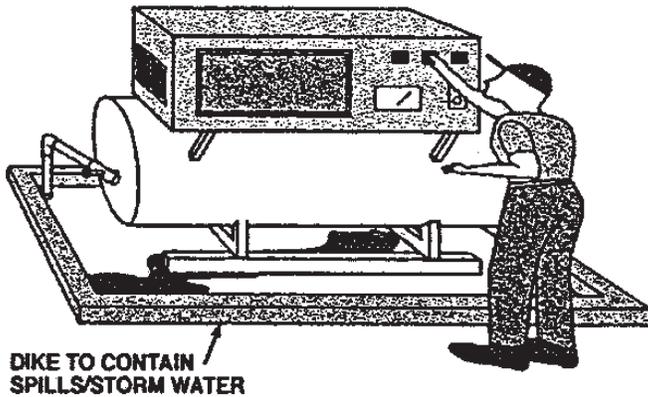
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IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

Prevent or reduce the discharge of pollutants to stormwater from outdoor process equipment operations and maintenance by reducing the amount of waste created, enclosing or covering all or some of the equipment, installing secondary containment, and training employees.

APPROACH:

- Alter the activity to prevent exposure of pollutants to stormwater.
- Move activity indoors.
- Cover the area with a permanent roof.
- Minimize contact of stormwater with outside manufacturing operations through berming and drainage routing (runon prevention).
- Connect process equipment area to public sewer or facility wastewater treatment system.
- Clean the storm drainage system regularly.
- Use catch basin filtration inserts as a means to capture particulate pollutants.
- Some municipalities require that secondary containment areas (regardless of size) be connected to the sanitary sewer, prohibiting any hard connections to the storm drain.

LIMITATIONS:

- Providing cover may be expensive.
- Space limitations may preclude enclosing some equipment.
- Storage sheds often must meet building and fire code requirements.

MAINTENANCE:

Routine preventive maintenance, including checking process equipment for leaks.

APPLICATIONS

- Manufacturing
- Material Handling
- Vehicle Maintenance
- Construction
- Commercial Activities
- Roadways
- Waste Containment
- Housekeeping Practices



Springville

*Springville City Corporation
Public Works Department
Engineering Division
110 South Main Street
Springville, Utah 84663
801-491-2780*

TARGETED POLLUTANTS

- High Impact
- Medium Impact
- Low or Unknown Impact

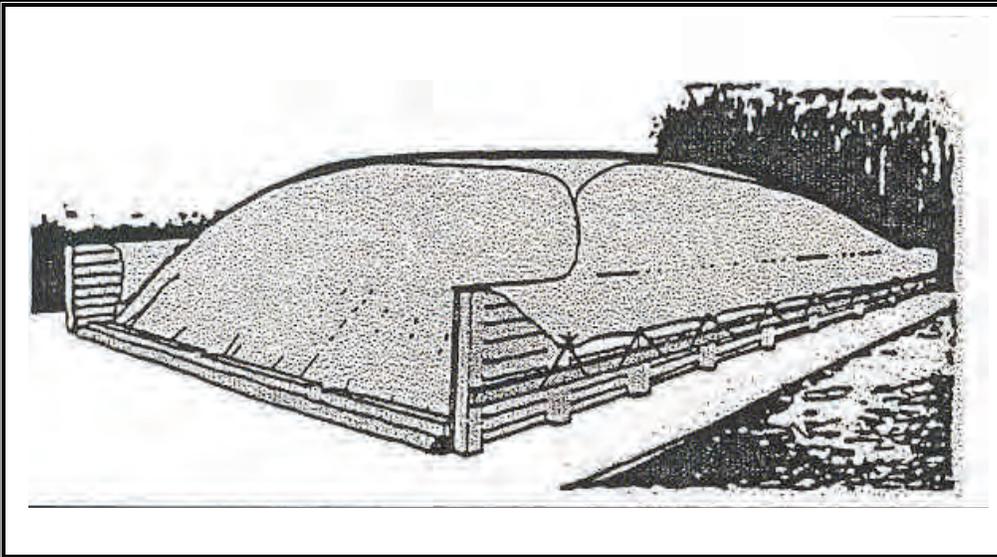
- Sediment
- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

Prevent or reduce the discharge of pollutants to stormwater from outdoor materials and product storage areas by enclosing or covering materials, installing secondary containment, and preventing stormwater runoff.

APPROACH:

Protect materials from rainfall, runoff, runoff and wind dispersal:

- Store material indoors.
 - Cover the storage area with a roof.
 - Cover the material with a temporary covering made of polyethylene, polypropylene, or hypalon.
 - Minimize stormwater runoff by enclosing the area or building a berm around the area.
 - Use a "doghouse" for storage of liquid containers.
- Parking lots or other surfaces near bulk materials should be swept periodically to remove debris blown or washed from storage area.
 - Install pellet traps at stormwater discharge points where plastic pellets are loaded and unloaded.
 - Keep liquids in a designated area on a paved impervious surface within a secondary containment.
 - Keep outdoor storage containers in good condition.
 - Use berms and curbing.
 - Use catch basin filtration inserts.

LIMITATIONS:

- Space limitations may preclude storing some materials indoors.
- Some municipalities require that secondary containment areas (regardless of size) be connected to the sanitary sewer, prohibiting any hard connections to the storm drain.
- Storage sheds often must meet building and fire code requirements.

MAINTENANCE:

Berm and curbing repair and patching.

APPLICATIONS

- Manufacturing
- Material Handling
- Vehicle Maintenance
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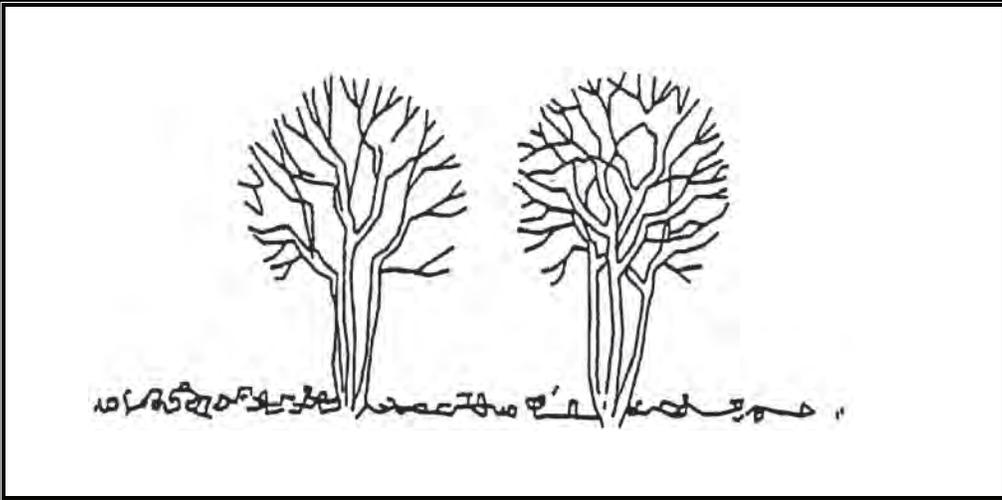
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IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



GENERAL DESCRIPTION:

Carefully planned preservation of existing vegetation minimizes the potential of removing or injuring existing trees, vines, shrubs and/or grasses that serve as erosion controls.

APPLICATIONS:

This technique is applicable to all types of sites. Areas where preserving vegetation can be particularly beneficial are floodplains, wetlands, stream banks, steep slopes, and other areas where erosion controls would be difficult to establish, install, or maintain.

INSTALLATION/APPLICATION CRITERIA:

- Clearly mark, flag or fence vegetation or areas where vegetation should be preserved.
- Prepare landscaping plans which include as much existing vegetation as possible and state proper care during and after construction.
- Define and protect with berms, fencing, signs, etc. a setback area from vegetation to be preserved.
- Propose landscaping plans which do not include plant species that compete with the existing vegetation.
- Do not locate construction traffic routes, spoil piles, etc. where significant adverse impact on existing vegetation may occur.

LIMITATIONS:

- Requires forward planning by the owner/developer, contractor and design staff.
- For sites with diverse topography, it is often difficult and expensive to save existing trees while grading the site satisfactorily for the planned development.
- May not be cost effective with high land costs.

MAINTENANCE:

- Inspection and maintenance requirements for protection of vegetation are low.
- Maintenance of native trees or vegetation should conform to landscape plan specifications.

OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion



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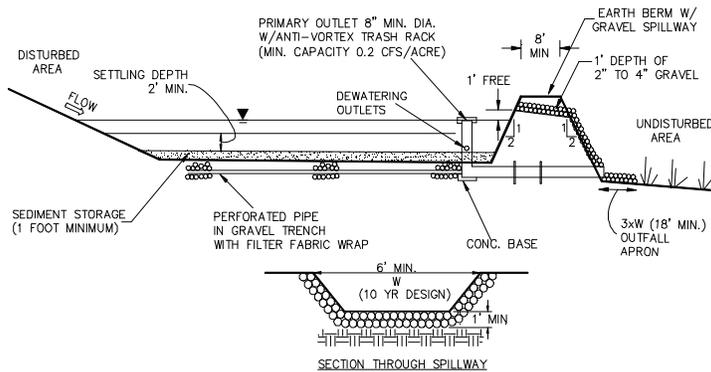
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- Nutrients
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- Floatable Materials
- Other Waste

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

A pond created by excavation or construction of an embankment, and designed to retain or detain runoff sufficiently to allow excessive sediment to settle.

APPLICATION:

- At the outlet of all disturbed watersheds 10 acres or larger.
- At the outlet of smaller disturbed watersheds, as necessary.
- Where post construction detention basins will be located.

INSTALLATION/APPLICATION CRITERIA:

- Design basin for site specific location, maintain effective flow length 2 times width.
- Excavate basin or construct compacted berm containment, ensure no downgradient hazard if failure should occur. (Provide minimum of 67 cy. per acre of drainage area).
- Construct dewatering and outfall structure and emergency spillway with apron.

LIMITATIONS:

- Should be sized based on anticipated runoff, sediment loading and drainage area size.
- May require silt fence at outlet for entrapment of very fine silts and clays.
- May require safety fencing to prevent public access.
- Height restrictions for embankment regulated by Utah Division of Dam Safety.

MAINTENANCE:

- Inspect after each rainfall event and at a minimum of monthly.
- Repair any damage to berm, spillway or sidewalls.
- Remove accumulated sediment as it reaches 2/3 height of available storage.
- Check outlet for sedimentation/erosion of downgradient area and remediate as necessary. Install silt fence if sedimentation apparent.

OBJECTIVES

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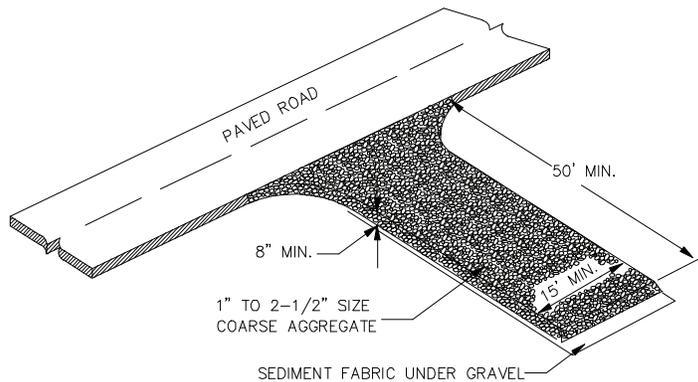
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IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

A stabilized pad of crushed stone located where construction traffic enters or leaves the site from or to paved surface.

APPLICATIONS:

At any point of ingress or egress at a construction site where adjacent traveled way is paved. Generally applies to sites over 2 acres unless special conditions exist.

INSTALLATION/APPLICATION CRITERIA:

- Clear and grub area and grade to provide maximum slope of 2%.
- Compact subgrade and place filter fabric if desired (recommended for entrances to remain for more than 3 months).
- Place coarse aggregate, 1 to 2-1/2 inches in size, to a minimum depth of 8 inches.

LIMITATIONS:

- Requires periodic top dressing with additional stones.
- Should be used in conjunction with street sweeping on adjacent public right-of-way.

MAINTENANCE:

- Inspect daily for loss of gravel or sediment buildup.
- Inspect adjacent roadway for sediment deposit and clean by sweeping or shoveling.
- Repair entrance and replace gravel as required to maintain control in good working condition.
- Expand stabilized area as required to accommodate traffic and prevent erosion at driveways.

OBJECTIVES

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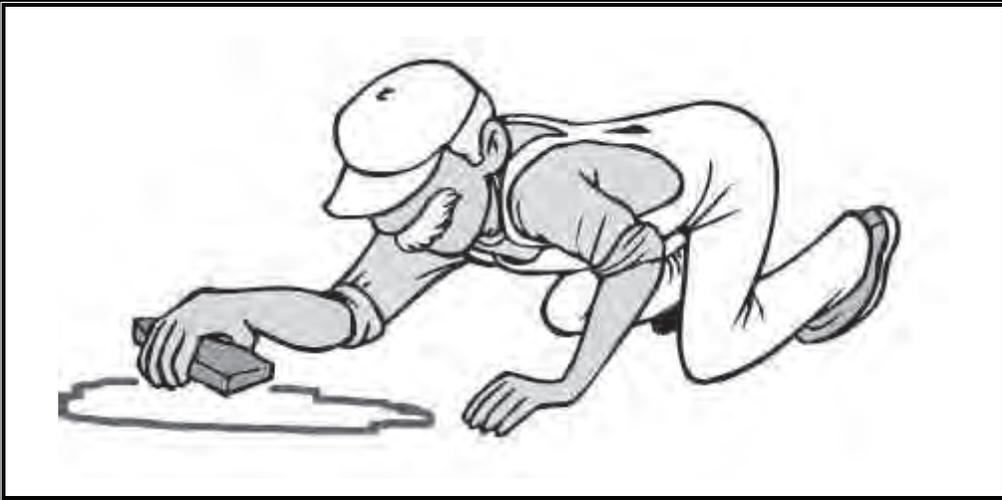
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- Floatable Materials
- Other Waste

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
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- Low

MATERIALS ADOPTED FROM SSALT LAKE COUNTY ENGINEERING DIVISION GUIDANCE DOCUMENT



DESCRIPTION:

Practices to clean-up leakage/spillage of on-site materials that may be harmful to receiving waters.

APPLICATION:

All sites

GENERAL:

- Store controlled materials within a storage area.
- Educate personnel on prevention and clean-up techniques.
- Designate an Emergency Coordinator responsible for employing preventative practices and for providing spill response.
- Maintain a supply of clean-up equipment on-site and post a list of local response agencies with phone numbers.

METHODS:

- Clean-up spills/leaks immediately and remediate cause.
- Use as little water as possible. NEVER HOSE DOWN OR BURY SPILL CONTAMINATED MATERIAL.
- Use rags or absorbent material for clean-up. Excavate contaminated soils. Dispose of clean-up material and soil as hazardous waste.
- Document all spills with date, location, substance, volume, actions taken and other pertinent data.
- Contact local Fire Department and State Division of Environmental Response and Remediation (Phone #536-4100) for any spill of reportable quantity.

OBJECTIVES

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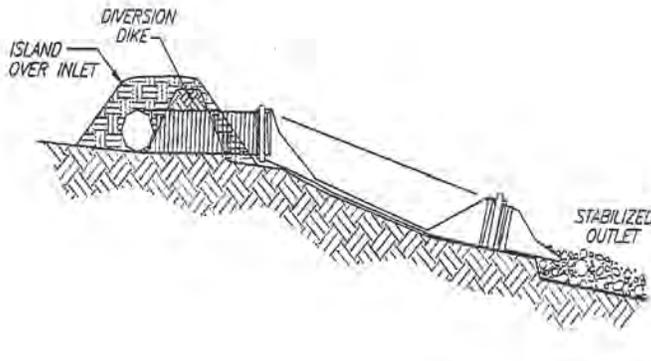
- Sediment
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Waste

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

A temporary pipe or lined channel that drains the top of a slope to a stable discharge point at the bottom of a slope without causing erosion.

APPLICATIONS:

- Where concentrated flow of surface runoff must be conveyed down a slope in order to prevent erosion.
- Drainage for top slope diversion dikes or swales.
- Emergency spillway for a sediment basin.
- Drainage for top of cut/fill slopes where water can accumulate.

INSTALLATION/APPLICATION CRITERIA:

- Secure inlet and surround with dikes to prevent gully erosion, and anchor pipe to slope.
- Size to convey at least the peak of a 10-year, storm event.
- Stabilize outlet. (See Outlet Protection BMP).

LIMITATIONS:

- Maximum drainage area per slope drain is 5 acres.
- Clogged slope drains will force water around the pipe and cause slope erosion.
- Dissipation of high flow velocities at the pipe outlet is required to avoid downstream erosion.
- Failure can result in flooding and severe erosion.

MAINTENANCE:

- Structure must be inspected weakly and after storms.
- Inlet must be free of undercutting and no water should circumvent the entry.
- Outlet should not produce erosion; velocity dissipators must be maintained.
- Pipe anchors must be checked to ensure that the pipe remains anchored to the slope.

OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
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TARGETED POLLUTANTS

- High Impact
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- Other Waste

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



APPLICATIONS

- Manufacturing
- Material Handling
- Vehicle Maintenance
- Construction
- Commercial Activities
- Roadways
- Waste Containment
- Housekeeping Practices



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DESCRIPTION:

Signs and labels identify problem areas or hazardous materials at a facility. Warning signs, often found at industrial facilities, are a good way to suggest caution in certain areas. Signs and labels can also provide instructions on the use of materials and equipment. Labeling is a good way to organize large amounts of materials, pipes, and equipment, particularly on large sites.

APPROACH:

Signs and labels can be used at all types of facilities. Areas where they are particularly useful are material transfer areas, equipment areas, loading and unloading areas, or anywhere information might prevent contaminants from being released to stormwater.

Signs and labels should be visible and easy to read. Useful signs and labels might provide the following information:

- Names of facility and regulatory personnel, including emergency phone numbers, to contact in case of an accidental discharge, spill, or other emergency.
- Proper uses of equipment that could cause release of stormwater contaminants.
- Types of chemicals used in high-risk areas.
- The direction of drainage lines/ditches and their destination (treatment or discharge).
- Information on a specific material.
- Refer to OSHA standards for sizes and numbers of signs required for hazardous material labeling.

LIMITATIONS:

No limitations.

MAINTENANCE:

- Periodic checks can ensure that signs are still in place and labels are properly attached.
- Signs and labels should be replaced and repaired as often as necessary.

TARGETED POLLUTANTS

- High Impact
- Medium Impact
- Low or Unknown Impact
- Sediment
- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

Sorbents are materials that are capable of cleaning up spills through the chemical processes of adsorption and absorption. Sorbents adsorb (an attraction to the outer surface of a material) or absorb (taken in by the material like a sponge) only when they come in contact with the sorbent materials.

Sorbents include, but are not limited to, the following:

- Common materials such as clays, sawdust, straw and fly ash
- Polymers - polyurethane and polyolefin
- Activated Carbon - powdered or granular
- "Universal Sorbent Material" - a silicate glass foam consisting of rounded particles that can absorb the material.

APPLICATION:

Sorbents are useful BMPs for facilities with liquid materials onsite.

INSTALLATION/APPLICATION CRITERIA:

- Personnel should know the properties of the spilled material(s) to know which sorbent is appropriate. To be effective, sorbents must adsorb the material spilled but must not react with the spilled material to form hazardous or toxic substances.
- Apply immediately to the release area.
- Application is generally simple: the sorbent is added to the area of release, mixed well, and allowed to adsorb or absorb.
- Many sorbents are not reusable once they have been used.
- Proper disposal is required.

LIMITATIONS:

- Requires a knowledge of the chemical makeup of a spill (to choose the best sorbent).
- May be an expensive practice for large spills.
- May create disposal problems and increase disposal costs by creating a solid waste and potentially a hazardous waste.

MAINTENANCE:

No information available.

CONSIDERATIONS

- Soils
- Area Required
- Slope
- Water Availability
- Aesthetics
- Hydraulic Head
- Environmental Side Effects



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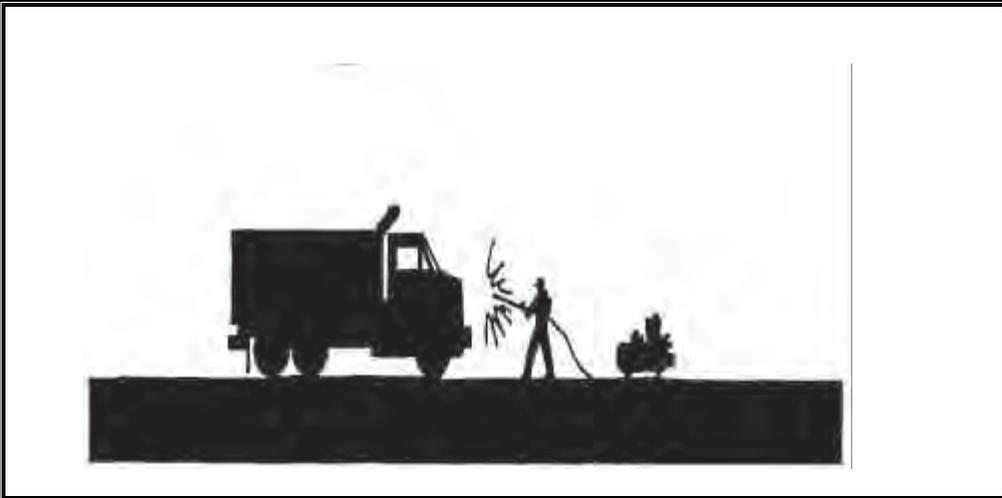
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- Floatable Materials
- Bacteria & Viruses

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

Prevent or reduce the discharge of pollutants to storm water from vehicle and equipment cleaning by using off-site facilities, washing in designated, contained areas only, eliminating discharges to the storm drain by infiltrating or recycling the wash water, and/or training employees and subcontractors.

INSTALLATION/APPLICATION:

- Use off-site commercial washing businesses as much as possible. Washing vehicles and equipment outdoors or in areas where wash water flows onto paved surfaces or into drainage pathways can pollute storm water. If you wash a large number of vehicles or pieces of equipment, consider conducting this work at an off-site commercial business. These businesses are better equipped to handle and dispose of the wash waters properly. Performing this work off-site can also be economical by eliminating the need for a separate washing operation at your site.
- If washing must occur on-site, use designated, bermed wash areas to prevent wash water contact with storm water, creeks, rivers, and other water bodies. The wash area can be sloped for wash water collection and subsequent infiltration into the ground.
- Use as little water as possible to avoid having to install erosion and sediment controls for the wash area. Use phosphate-free biodegradable soaps. Educate employees and subcontractors on pollution prevention measures. Do not permit steam cleaning on-site. Steam cleaning can generate significant pollutant concentrations.

LIMITATIONS:

- Even phosphate-free, biodegradable soaps have been shown to be toxic to fish before the soap degrades.
- Sending vehicles/equipment off-site should be done in conjunction with Stabilized Construction Entrance.

MAINTENANCE:

- Minimal, some berm repair may be necessary.

OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion



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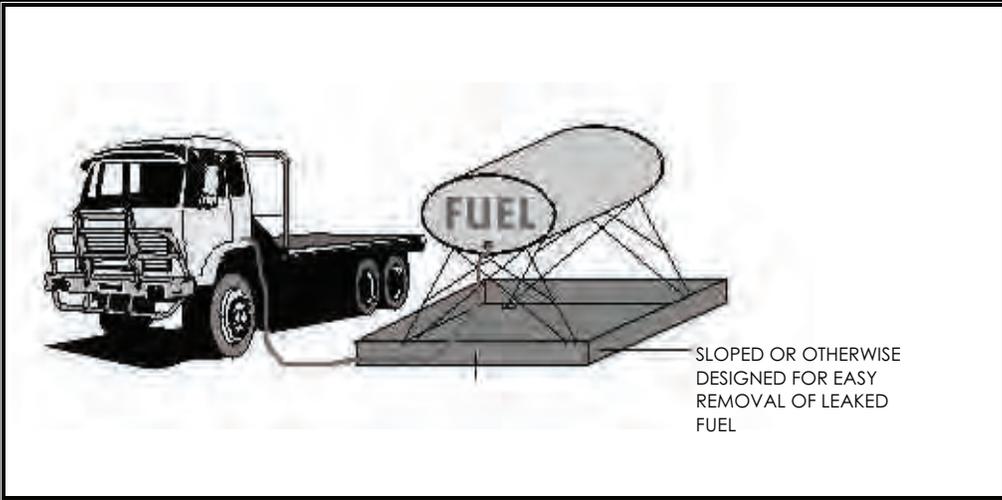
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- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Waste

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

Prevent fuel spills and leaks, and reduce their impacts to storm water by using off-site facilities, fueling in designated areas only, enclosing or covering stored fuel, implementing spill controls, and training employees and subcontractors.

INSTALLATION/APPLICATION:

- Use off-site fueling stations as much as possible. Fueling vehicles and equipment outdoors or in areas where fuel may spill/leak onto paved surfaces or into drainage pathways can pollute storm water. If you fuel a large number of vehicles or pieces of equipment, consider using an off-site fueling station. These businesses are better equipped to handle fuel and spills properly. Performing this work off-site can also be economical by eliminating the need for a separate fueling area at your site.
- If fueling must occur on-site, use designated areas, located away from drainage courses, to prevent the runoff of storm water and the runoff of spills. Discourage "topping-off" of fuel tanks.
- Always use secondary containment, such as a drain pan or drop cloth, when fueling to catch spills/leaks. Place a stockpile of spill cleanup materials where it will be readily accessible. Use adsorbent materials on small spills rather than hosing down or burying the spill. Remove the adsorbent materials promptly and dispose of properly.
- Carry out all Federal and State requirements regarding stationary above ground storage tanks.(40 CF Sub. J) Avoid mobile fueling of mobile construction equipment around the site; rather, transport the equipment to designated fueling areas. With the exception of tracked equipment such as bulldozers and perhaps forklifts, most vehicles should be able to travel to a designated area with little lost time. Train employees and subcontractors in proper fueling and cleanup procedures.

LIMITATIONS:

Sending vehicles/equipment off-site should be done in conjunction with Stabilized Construction Entrance.

MAINTENANCE:

- Keep ample supplies of spill cleanup materials on-site.
- Inspect fueling areas and storage tanks on a regular schedule.

OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
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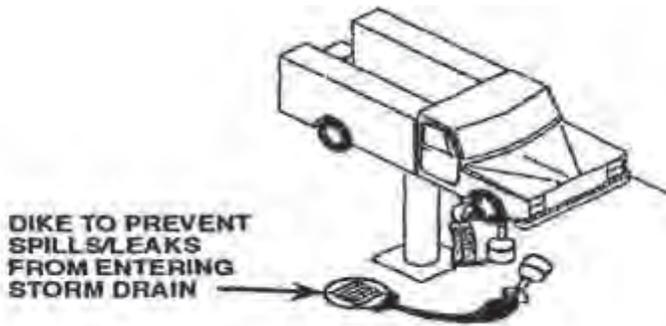
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- Other Waste

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



(INSIDE MAINTENANCE FACILITY)

DESCRIPTION:

Prevent or reduce the discharge of pollutants to stormwater from vehicles and equipment maintenance and repair by running a dry shop.

APPROACH:

- Keep equipment clean, don't allow excessive build-up of oil and grease.
- Keep drip pans or containers under the areas that might drip.
- Do not change motor oil or perform equipment maintenance in non-appropriate areas.
- Inspect equipment for leaks on a regular basis.
- Segregate wastes.
- Make sure oil filters are completely drained and crushed before recycling or disposal.
- Make sure incoming vehicles are checked for leaking oil and fluids.
- Clean yard storm drain inlets regularly and especially after large storms.
- Do not pour materials down drains or hose down work areas; use dry seeping.
- Store idle equipment under cover.
- Drain all fluids from wrecked vehicles.
- Recycle greases, used oil or oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic, and transmission fluids.
- Switch to non-toxic chemicals for maintenance when possible.
- Clean small spills with rags, general clean-up with damp mops and larger spills with absorbent material.
- Paint signs on storm drain inlets to indicate that they are not to receive liquid or solid wastes.
- Train employees, minimize use of solvents.

LIMITATIONS:

- Space and time limitations may preclude all work being conducted indoors.
- It may not be possible to contain and clean up spills from vehicles/equipment brought on-site after working hours.
- Dry pans are generally too small to contain antifreeze, which may gush from some vehicles, so drip pans may have to be purchased or fabricated.
- Dry floor cleaning methods may not be sufficient for some spills.

MAINTENANCE:

Should be low if procedures for the approach are followed.

APPLICATIONS

- Manufacturing
- Material Handling
- Vehicle Maintenance
- Construction
- Commercial Activities
- Roadways
- Waste Containment
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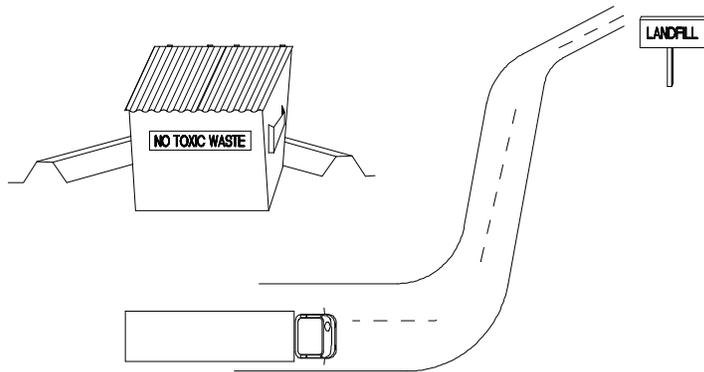
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IMPLEMENTATION REQUIREMENTS

- Capital Costs
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- Training

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- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document



DESCRIPTION:

Controlled storage and disposal of solid waste generated by construction activities.

APPLICATION:

All construction sites.

INSTALLATION:

- Designate one or several waste collection areas with easy access for construction vehicles and personnel. Ensure no waterways or storm drainage inlets are located near the waste collection areas.
- Construct compacted earthen berm (See Earth Berm Barrier Information Sheet), or similar perimeter containment around collection area for impoundment in the case of spills and to trap any windblown trash.
- Use water tight containers with covers to remain closed when not in use. Provide separate containers for different waste types where appropriate and label clearly.
- Ensure all on site personnel are aware of and utilize designated waste collection area properly and for intended use only (e.g. all toxic, hazardous, or recyclable materials shall be properly disposed of separately from general construction waste).
- Arrange for periodic pickup, transfer and disposal of collected waste at an authorized disposal location. Include regular Porto-potty service in waste management activities.

LIMITATIONS:

- On-site personnel are responsible for correct disposal of waste.

MAINTENANCE:

- Discuss waste management procedures at progress meetings.
- Collect site trash daily and deposit in covered containers at designated collection areas.
- Check containers for leakage or inadequate covers and replace as needed.
- Randomly check disposed materials for any unauthorized waste (e.g. toxic materials).
- During daily site inspections check that waste is not being incorrectly disposed of on-site (e.g. burial, burning, surface discharge, discharge to storm drain).

OBJECTIVES

- Housekeeping Practices
- Contain Waste
- Minimize Disturbed Areas
- Stabilize Disturbed Areas
- Protect Slopes/Channels
- Control Site Perimeter
- Control Internal Erosion



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- Sediment
- Nutrients
- Toxic Materials
- Oil & Grease
- Floatable Materials
- Other Waste

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
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APPLICATIONS

- Manufacturing
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DESCRIPTION:

Prevent or reduce the discharge of pollutants to stormwater from waste handling and disposal by tracking waste generation, storage, and disposal; reducing waste generation and disposal through source reduction, re-use, and recycling; and preventing runoff and runoff from waste management areas.

APPROACH:

- Maintain usage inventory to limit waste generation.
- Substitute or eliminate raw materials.
- Modify process or equipment.
- SARA Title III, Section 313 requires reporting for over 300 listed chemicals and chemical compounds. This requirement should be used to track these chemicals although this is not as accurate a means of tracking as other approaches.
- Track waste generated.
- Use design data and review: process flow diagram, materials and applications diagram, piping and instructions, equipment list, plot plan.
- Use economic data and review: Waste treatment and disposal cost. Product utility and economic cost. Operation and maintenance labor cost.
- Recycle materials whenever possible.
- Maintain list of and the amounts of materials disposed.
- Segregation and separate waste.
- Cover, enclose, or berm industrial wastewater management areas whenever possible to prevent contact with runoff or runoff.
- Equip waste transport vehicles with anti-spill equipment.
- Minimize spills and fugitive losses such as dust or mist from loading systems.
- Ensure that sediments or wastes are prevented from being tracked off-site.
- Training and supervision.
- Stencil storm drains on the facility's property with prohibitive message regarding waste disposal.

LIMITATIONS:

Hazardous waste that cannot be re-used or recycled must be disposed of by a licensed hazardous waste hauler.

TARGETED POLLUTANTS

- High Impact
- Medium Impact
- Low or Unknown Impact

- Sediment
- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

IMPLEMENTATION REQUIREMENTS

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low

Materials Adopted From Salt Lake County Engineering Division Guidance Document

Appendix C

Training Log

Appendix D

Spill Reports

NON-STORM WATER DISCHARGE INSPECTION REPORT



Springville

Date of Spill: _____ Time: _____

Location: _____

Date of Investigation: _____ Time: _____

Method of Discovery: _____

REGUALTORY AGENCIES NOTIFICATION (document: date, time, person, agency)

Springville City (801-491-2780):

Utah County Health Department: (801-851-7525)

DWQ (801-536-4300, after hours 801-536-4123):

Other:

Description and Quantity of Material Spilled:

Gasoline Diesel Oil Antifreeze Other: _____
 1 to 5 Gallons 5 to 10 Gallons 10 to 25 Gallons More than 25 Gallons

Source:

Cause:

Adverse environmental impact (if any):
Any Discharge to Storm Drain and or waters of the U.S.? Yes No Do not know

Immediate remedial actions taken at time of spill:

Spill Containment Sweeping Absorbent Material Removal from site
 Other: _____

Method of removal and verification:

Additional comments:

Analytical Monitoring:

Enforcement Action:

Report prepared by:

Signature

Date

Appendix E
Corrective Action Log

Appendix F
Weekly Visual Inspection Log



Water Division Weekly Visual Inspection Log Compound, Wells and Pump Houses.

		Check the box if a deficiency is observed, describe the corrective actions taken on the notes section or on the corrective action log.			
Name:	Date:	400 South Compound:			
		<input type="checkbox"/> Garbage can lid closed	<input type="checkbox"/> Parking areas clean	<input type="checkbox"/> Clean and organize shop	<input type="checkbox"/> Chemicals, solvents and oils labeled and stored
		<input type="checkbox"/> Trash picked up	<input type="checkbox"/> Spill clean up	<input type="checkbox"/> Material Storage Containment	
		Water Tanks:			
		<input type="checkbox"/> Access road maintenance	<input type="checkbox"/> Trash picked up		
		Springs:			
		<input type="checkbox"/> Overflow runoff erosion	<input type="checkbox"/> Trash picked up	<input type="checkbox"/> Vegetation control and proper disposal	
		Wells:			
		<input type="checkbox"/> Pump to waste connection	<input type="checkbox"/> Trash picked up		
		Notes:			
		Check the box if a deficiency is observed, describe the corrective actions taken on the notes section or on the corrective action log.			
Name:	Date:	400 South Compound:			
		<input type="checkbox"/> Garbage can lid closed	<input type="checkbox"/> Parking areas clean	<input type="checkbox"/> Clean and organize shop	<input type="checkbox"/> Chemicals, solvents and oils labeled and stored
		<input type="checkbox"/> Trash picked up	<input type="checkbox"/> Spill clean up	<input type="checkbox"/> Material Storage Containment	
		Water Tanks:			
		<input type="checkbox"/> Access road maintenance	<input type="checkbox"/> Trash picked up		
		Springs:			
		<input type="checkbox"/> Overflow runoff erosion	<input type="checkbox"/> Trash picked up	<input type="checkbox"/> Vegetation control and proper disposal	
		Wells:			
		<input type="checkbox"/> Pump to waste connection	<input type="checkbox"/> Trash picked up		
		Notes:			
		Check the box if a deficiency is observed, describe the corrective actions taken on the notes section or on the corrective action log.			
Name:	Date:	400 South Compound:			
		<input type="checkbox"/> Garbage can lid closed	<input type="checkbox"/> Parking areas clean	<input type="checkbox"/> Clean and organize shop	<input type="checkbox"/> Chemicals, solvents and oils labeled and stored
		<input type="checkbox"/> Trash picked up	<input type="checkbox"/> Spill clean up	<input type="checkbox"/> Material Storage Containment	
		Water Tanks:			
		<input type="checkbox"/> Access road maintenance	<input type="checkbox"/> Trash picked up		
		Springs:			
		<input type="checkbox"/> Overflow runoff erosion	<input type="checkbox"/> Trash picked up	<input type="checkbox"/> Vegetation control and proper disposal	
		Wells:			
		<input type="checkbox"/> Pump to waste connection	<input type="checkbox"/> Trash picked up		
		Notes:			

Appendix G
Quarterly Comprehensive Inspections



Springville

High Priority Facility SWPPP Compliance Report

Site Name: _____ Inspected By: _____

Date of Evaluation: _____ Start/End Time: _____ Existing Weather Conditions: _____

Date of last rain event > .1" of precipitation: _____ Approximate rainfall: _____

Areas of Industrial activities and materials exposed to stormwater

Area/Activity	Was area Inspected?		Are controls operating effectively		Describe Corrective Action Needed
	yes	no	yes	no	
1. Outdoors and indoor material storage areas					
2. Equipment and vehicle parking areas					
3. Dumpsters					
4. Paved areas					
5. Storm drain inlets and gutters					
6. Indoors working and storage areas					
7. Spill Kits					

Additional Notes:

I certify that this document and all attachments were prepared under my direction. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

Inspector Name

Inspector Signature

Date