

(This SWPPP Template is for the **Common Plan** Permit Only, and
does **NOT** address SWPPP requirements found in the CGP.)

Common Plan SWPPP for
Harper Residence
Fairway Oaks at Wolf Creek Lot #20

3947 N 4800 E
Eden, UT 84310

Visionary Homes

50 East 2500 North, Suite #101
North Logan, Utah 84341

Visionary Homes

50 East 2500 North, Suite #101
North Logan, Utah 84341

Date

3/26/2019



1. Project Information

Project Name: Harper Residence

Address: 3947 N 4800 E

City: Eden

State: UT

Zip: 84339

Latitude: 41.330589

Longitude: -111.832942

UPDES Permit Tracking Number: UTRH91947

Owner: Visionary Homes

Contact Person: Shane Strong

Address: 50 East 2500 North

City: North Logan

State: Utah

Zip: 84341

Telephone Number: 435-265-8871

Email Address: shane@visionaryhomes.com

General Contractor: Visionary Homes

Contact Person: Shane Strong

Address: 50 East 2500 North

City: North Logan

State: Utah

Zip: 84341

Telephone Number: 435-265-8871

Email Address: shane@visionaryhomes.com

2. Pollution Sources/Best Management Practices

Answer yes or no whether the following features are located at your site. If yes, select the BMP(s) that will be used to protect each feature. If no, continue to the next question. Attach necessary illustrated details for proper installation in Appendix L, and show locations of all controls on Site Map in Appendix B.

- 2.1 Is there a SWPPP sign on site?** (see permit part 1.10) **Yes** **No**
The sign must include the UPDES tracking number, the owner or general contractor name, phone number and email, and if the SWPPP is on-line, instructions on how to view it.
- 2.2 Will there be non-stormwater discharges on the site?** (see permit part 1.3) **Yes** **No**
Construction Dewatering (if discharged offsite) must be covered by UPDES Permit UTG070000 (see permit part 2.7). Further, cleaning of tools and equipment must be contained in a plastic lined pit (see permit part 2.4.5 & 2.9).
- 2.3 Are wetlands, sensitive areas, or UIC wells located on or adjacent to the site?** (see permit part 2.2) **Yes** **No**
BMP(s): Vegetative Buffers Berms Wattles
 Boundary Fence Silt Fence
 Other: Click here to enter text.
- 2.4 Will there be stockpiles on the site?** **Yes** **No**
Note: Select "Contained by other BMP" if another BMP on your site will contain runoff from the stockpiles CANNOT be placed in the street. (see permit part 2.1.1)
BMP(s): Silt Fence Staked Straw Wattle Covering
 Other: Click here to enter text.
 Contained by other BMP. Explain: Click here to enter text.

- 2.5 Are surface waters located within 30 feet of your project's earth disturbances?** Yes No
Is there a SWPPP sign on site? (see permit part 1.10)
Note: A 30' natural vegetative buffer **MUST** be used if possible. If a buffer less than 30' is used, you must demonstrate that the additional controls offer the same protection as a 30' natural vegetative buffer, and select the reason for exemption below. (see permit part 2.3.5)
BMP(s): 30' Natural Vegetative Buffer Less than 1 acre Disturbance
 2 Silt Fence Barrier 2 Straw Wattle Barriers (Fiber Roll)
 Less than 30' Natural Vegetative Buffer. Additional Controls: [Click here to enter text.](#)
- 2.6 Does your site have steep slopes (greater than 70%)?** (see permit part 2.3.2) Yes No
BMP(s): Erosion Control Blanket Minimum Disturbance Seeding
 Hydroseed Mulch Takifiers
 Other: [Click here to enter text.](#)
- 2.7 What perimeter and sediment controls will be used on the site?** (see permit part 2.1.2 & 2.3)
BMP(s): Silt Fence Straw Wattles (Fiber Rolls) Sediment Trap
 Sediment Basin Swales Berms
 Vegetative Buffer Cut-Back-Curb
 Other: [Click here to enter text.](#)
- 2.8 What storm drain inlet protection will be used on this site?** (see permit part 2.1.3)
Where is/are the nearest downstream inlet(s): [Click here to enter text.](#)
BMP(s): Rock/Sand-filled Bags Drop Inlet Bags Inlet Wattles
 Filter Fabric
 Other: [Click here to enter text.](#)
- 2.9 Will curb ramps be used at the site?** Yes No
Note: If curb ramps are used it must be done with material that will not wash away in stormwater. (see permit part 2.4.2)
BMP(s): Crushed Rock Wood Dunnage
 Other: [Click here to enter text.](#)
- 2.10 What dust control BMP(s) will be used?**
BMP(s): Wetting with Water
 Other: [Click here to enter text.](#)
- 2.11 What track out control will be used on the site?** (see permit part 2.4.1)
BMP(s): Track Out Pad Cobble Gravel
 Rumble Strips Wash Down Pad Delivery Pad
 Limited Site Access Selective Access During Dry Weather
 Other: [Click here to enter text.](#)
- 2.12 How will solid waste be dealt with on the site?** (see permit part 2.4.3)
BMP(s): Bag Lightweight Trash Leak Proof Dumpsters Receptacles with Lids
 Other: [Click here to enter text.](#)
- 2.13 How will non-aqueous liquid waste (oil, solvent, fuel) be dealt with on the site?**
BMP(s): Contained and Removed from the site. Collected for Reuse
 Other: [Click here to enter text.](#)
- 2.14 How will spoils (extra or left over dirt) be contained/managed?**
BMP(s): Cover Erodible Material Runoff Containment Haul Off Policy
 Other: [Click here to enter text.](#)

2.15 How will sanitary waste be handled on the site? (see permit part 2.4.4)

- BMP(s):** Portable Toilet(s) *(must be staked down & 10' from curb)*
 Onsite or Adjacent Indoor Bathrooms
 Portable Toilet Secondary Containment
 Other: [Click here to enter text.](#)

2.16 How will concrete wash water be contained on the site? (see permit part 2.4.5 & 2.9.1)

- BMP(s):** Lined Depression Steel Dumpster
 Regional Washout (per development)
 Other: [Click here to enter text.](#)

2.17 What controls will be used for construction materials stored on site?

- BMP(s):** Covering Erodible or Liquid Materials Secondary Containment
 Strategic Storage and Staging
 Other: [Click here to enter text.](#)

2.18 What controls will be in place for equipment fueling, maintenance, and washing?

- BMP(s):** Fueling w/Mobile Track w/Spill Kit Offsite O+M
 Other: [Click here to enter text.](#)

2.19 How will sediment be contained on site until home owner completes landscaping?

- BMP(s):** Landscaping Swales Rock Filters
 Perimeter Controls Vegetated Buffer Native Vegetative Barriers
 Cut-Back-Curb Leave Front-Yard Lower than Sidewalk
 Other: [Click here to enter text.](#)

Note that any maintenance required to ensure proper BMP functioning must be done within 72 hours of becoming aware of compromised BMP.

3. Site Map

On a blank page (or include a page from the architectural drawings that show site layout and dimensions), please draw a chart (and place this chart in Appendix B) showing the layout of the site including locations of:

1. boundaries of project/property
2. boundaries of disturbance (including areas outside of property boundaries)
3. show slopes on site
4. location of structures/facilities
5. locations of :
 - a. stockpiles for soils and materials
 - b. construction supplies
 - c. portable toilets
 - d. garbage/trash containers
 - e. egress points/track out pads
 - f. concrete washout pits or containers
6. water bodies, wetlands, natural vegetative buffers
7. placement of all BMPs, perimeter, erosion control, sediment control, inlet, etc.
8. storm water inlets and storm water discharge points (where storm water drains off the site)
9. areas that will be temporarily or permanently stabilized on the site

4. Spill Prevention and Response Plan

Describe the spill prevention and control plan to include ways to reduce the chance of spills, stop the source of spills, contain and cleanup spills, dispose of materials contaminated by spills, and train personnel responsible for spill prevention and control. Additionally, fill in all **BLUE** fields below.

Spill Plan:

- Perform preventative maintenance to reduce the potential for leaks and spills from equipment.
- Periodical inspect hazardous materials and equipment for leaks and spills.
- Immediately clean up and properly manage any small spills and leaks
- Periodically train on: Emergency response procedures, spill response procedures, and preventative measures.

Any discharges in 24 hours equal to or in excess of the reportable quantities listed in 40 CFR 117, 40 CFR 110, and 40 CFR 302 will be reported to the National Response Center and the Division of Water Quality (DWQ) as soon as practical after knowledge of the spill is known to the permittee. The permittee shall submit within 14 calendar days of knowledge of the release a written description of: the release (including the type and estimate of the amount of material released), the date that such release occurred, the circumstances leading to the release, and measures taken and/or planned to be taken to the Division of Water Quality (DWQ), 288 North 1460 West, P.O. Box 144870, Salt Lake City, Utah 84114-4870. The Storm Water Pollution Prevention Plan must be modified within 14 calendar days of knowledge of the release to provide a description of the release, the circumstances leading to the release, and the date of the release. In addition, the plan must be reviewed to identify measures to prevent the reoccurrence of such releases and to respond to such releases, and the plan must be modified where appropriate.

Agency	Phone Number
National Response Center	(800) 424-8802
Division of Water Quality (DWQ) 24-Hr Reporting	(801) 538-6146; (801) 536-4123
Utah Department of Health Emergency Response	(801) 580-6681
Weber Fire Department	801-782-3580
Weber Health Department	801-399-7160

Minimum spill quantities requiring reporting:

Material	Media Released To	Reportable Quantity
Engine oil, fuel, hydraulic & brake fluid	Land	25 gallons
Paints, solvents, thinners	Land	100 lbs (13 gallons)
Engine oil, fuel, hydraulic & brake fluid	Water	Visible Sheen
Refrigerant	Air	1 lb
Antifreeze, battery acid, gasoline, engine degreasers	Air, Land, Water	100 lbs (13 gallons)

Emphasis to:

- 1st Priority: Protect all people (including onsite staff)
- 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. 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.
3. Stop the spill source and contain flowing spills immediately with spill kits, dirt or other material that will achieve containment.
4. Call co-workers and supervisor for assistance and to make them aware of the spill and potential dangers
5. If spilled material has entered a storm sewer, regardless of containment; contact the City Stormwater Division.
6. Cleanup all spills (flowing or non-flowing) immediately following containment. Clean up spilled material according to manufacturer specifications, for liquid spills use absorbent materials AND DO NOT FLUSH AREA WITH WATER.
7. Properly dispose of cleaning materials and used absorbent material according to manufacturer specifications.
8. Report the reportable quantity to the Weber County Stormwater Division.

Emergency Numbers

Utah Hazmat Response Officer 24 hrs	(801)-538-3745
County Police Department	801-778-6600
County Engineering Division	801-399-8374

5. SWPPP, Inspections and Corrective Action Reports

Inspection Schedule and Procedures: The permit requires inspections once a week (see permit Part 3). You must list and provide details of your BMPs in Appendix L. Inspection reports require reporting on BMPs and how effective they are. You may be required to maintain, modify, remove, or apply/install more or different BMPs to control pollutants on the site. Please number your BMPs in Appendix L and refer to those numbers on your inspection reports and corrective action reports when you inspect or report on them.

Describe the general procedures for correcting problems when they are identified. Include responsible staff and time frames for making corrections:

Any corrective action needed when a problem is identified will be managed by the project's Superintendent. The corrective action required will be performed in a timely manner (within 48 hours) of the identified problem. The necessary corrective action required to resolve said problem will be performed according to predetermined corrective standards and response plans.

Corrective Actions: All corrective actions must be logged using the "Correction Action Log" attached in Appendix F. The log should be filled out completely for each corrective action.

6. Changes to the SWPPP

All changes to this SWPPP must be logged in the "Amendment Log" in Appendix G. The log should be filled out completely for each amendment to the SWPPP.

7. Record Keeping

The following items should be kept at the project site available for inspectors to review:

1. Dates of grading, construction activity, and stabilization
2. A copy of the construction general permit (Appendix C)
3. The signed and certified NOI form (Appendix D)
4. Inspection reports (Appendix E)

8. Delegation of Authority (if any)

Duly Authorized Representatives or Positions:

Company/Organization: Visionary Homes

Name: Shane Strong

Position: Superintendent

Address: 50 East 2500 North Suite 101

City: North Logan

State: Utah

Zip: 84341

Telephone: 435-265-8871

Fax/Email: shane@visionaryhomes.com

Note: Any additional information (i.e. memoranda, agreements, etc.) should be attached in Appendix H.

9. Discharge Information

Does your project/site discharge storm water into a Municipal Separate Storm Sewer System (MS4)?

Yes No

MS4 receiving the discharge from the construction project: Logan City

Receiving Waters (look up <http://wq.deq.utah.gov> to identify your receiving water body)

Enter the name(s) of the first surface water(s) that receives stormwater directly from your site and/or from the MS4 listed above. **Note:** *multiple rows provided in the case that your site has more than one point of discharge in which each flows to different surface waters.*

1. **Pineview Reservoir**
2. Click here to enter name of receiving waters.
3. Click here to enter name of receiving waters.
4. Click here to enter name of receiving waters.

Impaired Waters (refer to <http://wq.deq.utah.gov> in the left hand column to determine status of receiving water body).

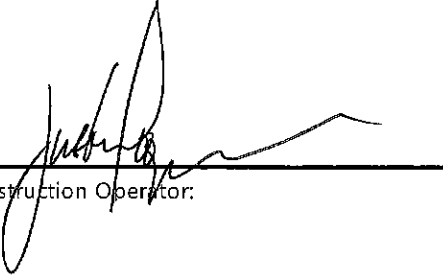
Select any impaired surface water(s) that your site will discharge to, either directly or through the MS4 selected above.

Impaired Surface Water	Is this surface water impaired?	Pollutant(s) causing the impairment	Has a TMDL been completed?	Pollutant(s) for which there is a TMDL
Pineview Reservoir	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Dissolved Oxygen/ Phosphorus	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Dissolved Oxygen/ Phosphorus
Click here to enter text.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Click here to enter text.	<input type="checkbox"/> Yes <input type="checkbox"/> No	Click here to enter text.

10. Certification and Notification

I, Justin Cooper, certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

X



Construction Operator:

This SWPPP should be signed and certified by the construction operator(s). Attach certifications in Appendix H.

SWPPP Appendices

Ensure the following documentation is attached to the SWPPP:

Appendix A: General Location Map

Appendix B: SWPPP Site Maps

Appendix C: Construction General Permit Regulation

Appendix D: Acknowledgement Letter from Logan

Appendix E: Inspection Reports

Appendix F: Corrective Action Log

Appendix G: SWPPP Amendment Log

Appendix H: Certifications, Agreements, and Delegation of Authority

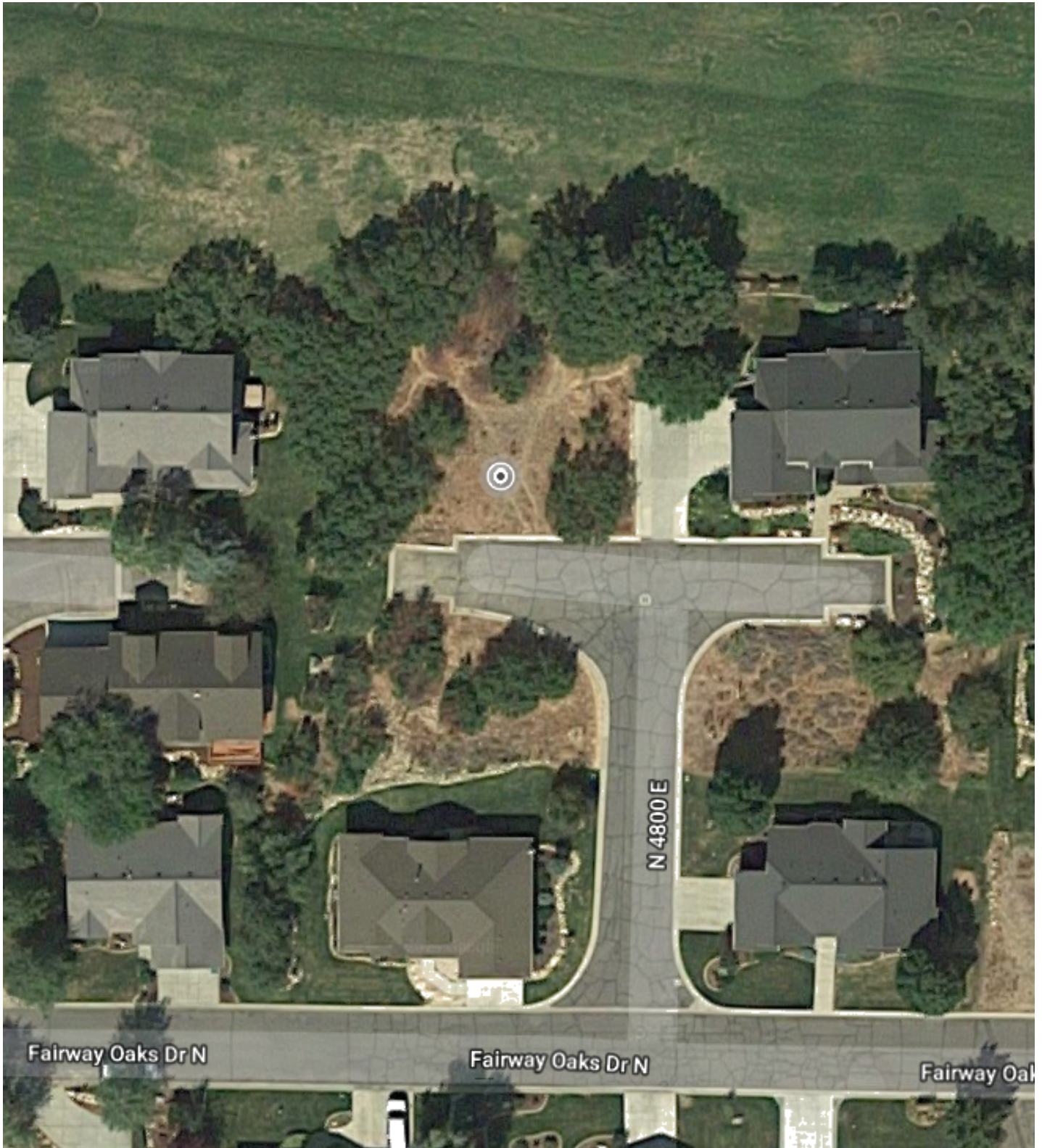
Appendix I: Grading and Stabilization Activities Log

Appendix J: Construction Plans

Appendix K: Additional Information (i.e. permits such as local permits, dewatering, stream alteration, wetland, and out of date SWPPP documents, etc.)

Appendix L: BMP Specifications and Details (label BMPs to match the sections identified in this document.)

APPENDIX A: Site Map



APPENDIX C: Construction General Permit Regulation

General Permit for Storm Water Discharges from Construction Activities
STATE OF UTAH, DEPARTMENT OF ENVIRONMENTAL QUALITY,
DIVISION OF WATER QUALITY

General Storm Water Permit for Construction Activity
Connected with Single Lot Housing Projects
Utah Pollution Discharge Elimination System Permit No. UTRH00000
(Common Plan Permit)

This Permit is issued in compliance with the provisions of the Utah Water Quality Act (Utah Code Annotated 19-5, as amended) the federal Water Pollution Control Act (33 United States 1251 et. seq., as amended by the Water Quality Act of 1987, Public Law 100-4), and the rules and Regulations made pursuant to those statutes.

This permit applies to "construction activity" for a single lot disturbing a total of one acre or less and for construction activities related to residential dwellings. A single lot covered by this permit is part of a common plan of development or sale (see definitions in Part 6).

Issuance of this permit does not authorize any permittee to violate water quality standards. The permittee shall develop best management practices (BMPs) and engage in activities that will protect water quality during the construction project.

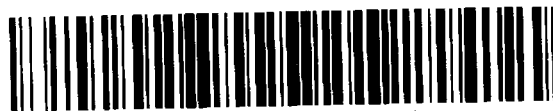
This permit shall become effective on February 1, 2016.

This permit and the authorization to discharge expire at midnight on January 31, 2021.

Signed this 20 day of January, 2016



Walter L. Baker, P.E.
Director



DWQ-2016-002081

JS

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General Storm Water Permit for Construction Activity Connected with Single Lot Housing Projects
UPDES Permit No. UTRH00000

1. COVERAGE UNDER THIS PERMIT. Conditions for coverage under this permit.

1.1. Coverage Limitations. A project site (see definition of a project site in Part 6) is eligible for this permit if it meets the following requirements:

1.1.1. It is found within the State of Utah but is not in Indian Country,

1.1.2. The construction activity is related to residential building on an individual lot or parcel.

1.1.3. It disturbs a total of one acre or less over the duration of the construction project,

1.1.4. *Multiple site coverage*:

1.1.4.a. This permit may apply to multiple lots with the contingency that each lot be covered under a different permit tracking number (separate permit coverage for each lot). Lots do not necessarily need to be located within the same sub-division.

1.1.4.b. If multiple lot coverage is desired under one permit, it may be obtained under the General Permit for Discharges from UPDES Permit No. UTRC00000. Multiple lots may be covered under one tracking number (one permit coverage) provided that UTRC00000 is the controlling permit, and all lots covered under that tracking number are within the same sub-division.

1.2. Discharges Allowed. This permit allows discharges of storm water from construction activity at a project site, provided the storm water discharge meets the requirements within this permit.

1.3. Non-Storm Water Discharges. Other non-storm water discharges that are allowed are:

1.3.1. Flushings from potable or irrigation water sources where they have not been used for a washing or cleaning activity;

1.3.2. Water used for dust control;

1.3.3. Spring water and groundwater that have not been soiled with sediment or other pollutants from construction activity;

1.3.4. Emergency fire-fighting activities, and;

1.3.5. Footing drains that have not been soiled from construction activity.

1.4. How to Obtain Permit Coverage. The permit may be obtained online at the Utah Department of Environmental Quality (DEQ) UPDES Permits website at <http://www.waterquality.utah.gov/UPDES/stormwatercon.htm>. Click on "Application for a Storm Water Permit". Create an account, or if an account has already been created, proceed with providing the information requested. **The notice of intent (NOI) for this permit is the same NOI that is used for the UTRC00000 permit.** To complete the application process the permittee must pay a permit fee. The NOI may be filled out electronically using the online permit application system. The NOI can also be submitted using a paper form obtained from the same website cited above along with the permit fee. The paper form and fee can either be hand delivered to Utah Division of Water Quality [DWQ], 195 North 1950 West, Salt Lake City, Utah, 3rd floor in the MASOB building, or mailed to DWQ, P.O. Box 144870, Salt Lake City, Utah 84114-4870. When a party receives coverage under the permit, they will receive a permit

General Storm Water Permit for Construction Activity Connected with Single Lot Housing Projects
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tracking number and the opportunity to copy the NOI for “proof of coverage.” A copy of this permit may be downloaded from the DEQ website at <http://www.deq.utah.gov/Permits/water/updes/stormwatercon.htm>.

- 1.5. Signature on the NOI. The owner and the general contractor, which in some cases could be the same party, must sign the paper copy of the NOI (see 5.16.1.a) and place it in the storm water pollution prevention plan (SWPPP) (see 4.2.8).
- 1.6. Permit Renewal. This permit must be renewed yearly on the anniversary date of the original permit application. This is done by logging onto the account created at the time of NOI application, refreshing the information on the NOI, and paying the yearly permit fee.
- 1.7. Start and end of Permit Coverage. Permit coverage begins immediately upon completion and submission of an NOI and the permit fee. If the NOI is submitted electronically on-line permit coverage begins on that day. If the NOI is submitted by mail permit coverage begins when the NOI is received and entered into the on-line data base by DWQ staff. For projects within the jurisdiction of a regulated MS4 (see definitions in Part 6; the list of regulated MS4’s is found on <http://www.deq.utah.gov/Permits/water/updes/stormwatermun.htm>), the permittee must also notify and receive approval for the project from the regulated MS4 having jurisdiction before the project may commence (see 4.2.10.). The permit fee is an annual fee that must be paid yearly on the anniversary date of permit issuance. The permit will remain effective until or unless any of the following occurs:
 - 1.7.1. The permittee completes the notice of termination (NOT) process, as outlined in section 1.8,
 - 1.7.2. The permittee fails to submit the yearly permit fee,
 - 1.7.3. Aside from permit coverage, which may be renewed annually by the permittee, as needed, this general permit expires every 5 years and normally is renewed through a public notice process by DWQ. In the event that the permit nears the end of its 5 year cycle, and the year of permit coverage for a construction site extends beyond the expiration date for the permit, the permittee must request continuing coverage through the permit renewal process. Otherwise permit coverage for a construction site will terminate when the general permit expires. Renewal of permit coverage can be done in the online electronic storm water data base up to 12 months prior to the expiration of the permit, or by letter received by DWQ before the expiration date of the specific permit coverage in question where concurrently all entries in the NOI can be updated as needed.
 - 1.7.3.a. If a renewal permit has been issued and is in place at the expiration date of this permit, this permit will terminate and coverage under the renewed permit will begin on the expiration date unless 1.7.1 has been invoked by the permittee.
 - 1.7.3.b. If a renewal permit has not been issued, this permit will be administratively extended until a renewal permit is issued or it is determined that this permit will not be continued. If a renewal permit is issued, and the permittee indicated a desire for continuing coverage under the new permit, coverage

General Storm Water Permit for Construction Activity Connected with Single Lot Housing Projects
UPDES Permit No. UTRH00000

will continue for the permittee under the new permit coverage unless 1.7.1 is invoked. If the permit is discontinued, the permittee must continue coverage under another general permit or an individual permit.

- 1.7.4. Coverage under this permit is rescinded or revoked for administrative reasons. In this case, the permittee will be notified in writing from the Director and will be required to apply for coverage under a different general or individual UPDES permit. This permit is terminated on the day coverage under another permit begins.
- 1.8. Notice of Termination. The permittee must terminate the permit by submitting an NOT when the project is completed. The NOT must be filed and retained for 3 years after the permit has been terminated (see 3.7). To terminate the permit, the permittee must comply with either 1.8.1 or 1.8.2, outlined below, and must comply with 1.8.3 if the project is within the jurisdiction of a regulated MS4 (see <http://www.deq.utah.gov/Permits/water/updes/stormwatermun.htm> for regulated MS4s):
- 1.8.1. The landscaping is completed and the site meets “final stabilization” requirements (see part 6, definitions, for final stabilization).
- 1.8.2. When a project (residential building) is completed but ‘final stabilization’ is not established, the building must be in process of being sold and ready for homeowners to take possession. If built by the homeowners, they must be in the process of moving in or already have moved in the house. The lot must have perimeter controls on downslope boundaries and surface stabilization controls on all surfaces that are 20 % (1 to 5 slope, or 11.3 degrees) or greater to prevent erosion and soil migration offsite;
- 1.8.3. The permittee must submit a paper copy of a NOT form to the MS4 of jurisdiction and schedule a final inspection (with the MS4). Termination is complete upon approval of the final inspection from the local MS4, or from DWQ if outside the jurisdiction of a regulated MS4.
- 1.9. Water Quality: Through the design of appropriate BMPs, it is expected that the permittee will achieve compliance with water-quality standards. If additional information becomes available indicating a project site is causing or is contributing to a violation of water quality standards or an existing total maximum daily load (TMDL), coverage under this permit may be revoked or rescinded, and the permittee may be required to get coverage under an individual UPDES permit or another UPDES general permit. If this occurs, the owner and the general contractor will be notified in writing by the Director and given instructions on how they must proceed.
- 1.10. Requirement to Post a Notice of Permit Coverage. The permittee must post a sign at the project site that includes the UPDES Permit tracking number, owner or general contractor contact name, a phone number for the owner or general contractor, an email address for the owner or general contractor, and in the case of an electronic SWPPP, a web address or information on how to access the electronic SWPPP. The notice must be posted with lettering large enough to be readable from a public right-of-way.

2. POLLUTION PREVENTION REQUIREMENTS

2.1. Structural Controls. Minimize sediment transport off the site as follows:

- 2.1.1. *Stockpiled Material*. Stockpiled material must not be stored on an impervious surface, except a material that will not be transported with precipitation, such as two-inch graded and washed gravel, unless it will be permanently placed and the holding area will be swept clean the same day it is dropped. If stored temporarily for more than a day, it must be placed as far as feasibly possible from roads or other impervious surfaces, storm water inlets, or water bodies, and with stockpile perimeter runoff controls utilized.
- 2.1.2. *Perimeter Controls*. Perimeter controls such as silt fences, straw wattles, other filter berms, cut back curbs, vegetative buffers, etc., must be properly placed on the downslope sides of the project to prevent sediment from leaving the site during a storm event. As perimeter controls become loaded to 1/3 of capacity, they must be cleaned.
- 2.1.3. *Inlet Protection*. Storm-drain inlets on the project site and on adjacent roads immediately down gradient from the site must be protected if they receive drainage from the active construction site. Protection may be, but is not limited to, rock wattles, sand bags, proprietary devices, or other. Rock wattles and sand bags are not advised for use in winter because they can be destroyed or removed by snow plows.

2.2. Protection of Critical or Sensitive Areas: Critical or sensitive areas such as preservation of the drip line around trees, wetlands, buffer zones by water bodies, etc., must be separated and isolated by clearly marking the areas with environmental fencing.

2.3. Managing the Site to Minimize Sediment Transport Offsite.

- 2.3.1. The total area of soil disturbance at any one time must be minimized by disturbing only the area necessary to complete that stage of construction in the construction process.
- 2.3.2. Soil disturbances on steep slopes must be minimized. For purposes of this permit a steep slope is 70% (or 1 to 1.66, or 35 degrees), or greater. This means avoiding a disturbance of soils on steep slopes or if disturbing the soil surface is necessary providing a robust surface stabilizing cover (such as geomats, environmental blankets, or other robust slope stabilizing control) to prevent erosion.
- 2.3.3. Storm water volume and velocity must be controlled to minimize soil erosion and sediment transport by methods such as allowing or not obstructing infiltration and using velocity-control devices to reduce energy in runoff flowing on slopes.
- 2.3.4. Storm water discharges leaving the site, including both peak flow rates and total storm water volume, must be controlled to minimize channel and stream-bank erosion and scour in the immediate vicinity of discharge points. This may be accomplished using experience, estimates, and good judgement; unless unusual or extraordinary site conditions present a potential for excessive erosion, hillside/impoundment collapse, environmental/safety hazards, or other site problems; for which a professional engineer must be consulted.

- 2.3.5. *Thirty-Foot Vegetative Buffer.* If a waterbody is adjacent to, within 30 feet from, or passing through the project boundaries, a 30-foot natural buffer between the waterbody and construction activity must be provided. If a 30-foot natural buffer cannot be provided, a substitute control measure equivalent to the 30-foot buffer must be provided, or the SWPPP must contain an explanation why neither is feasible. If it is not feasible to maintain a 30-foot natural buffer, as much natural buffer as is possible must be preserved and coupled with placement of additional erosion and sediment controls designed, implemented, and maintained to substitute and be equivalent to the 30-foot natural buffer.

The requirement for a natural buffer or substitute controls does not apply to any area outside of the project boundaries, but if a waterbody is within, for example, 20 feet from the project boundary, there must be 10 feet of natural vegetative buffer or substitute controls, or if within 25 feet from the project boundary, there must be 5 feet of natural vegetative buffer or substitute controls, and so forth.

- 2.3.5.a. Substitution for a natural buffer should be calculated with models such as USDA's RUSLE2 or WEPP, or by using SEDCAD, SEDIMOT, or other similar models. In lieu of using a model for calculation of a substitution buffer, the permittee shall deploy the following:

2.3.5.a.i. For every full 9 feet of natural buffer that is not provided on slopes up to 10 percent, one row of an effective perimeter control, such as a silt fence, staked straw wattle, proprietary or other filter berm, or other perimeter control, must be properly placed. For example, if only 15 feet of natural buffer can be provided, the permittee will substitute one row of a perimeter control in addition to the 15 feet of natural buffer to make up for the 15 feet of buffer that could not be preserved.

2.3.5.a.ii. In addition to the requirements above for substitutions in place of the 30-foot natural buffer, on slopes between 10 percent and 30 percent, five feet of surface stabilization must be placed down gradient of and between each perimeter control substituted. For slopes steeper than 30 percent, 6 feet of surface stabilization must be placed downgradient of and between each perimeter control substituted, such as mulch, hydromulch, wood chips, bark, compost, erosion mat, etc., but excluding tackifiers.

- 2.4. Good Housekeeping Measures. The permittee must address the following:

2.4.1. *Track Out.* Track-out pads (see definitions) and or rumble strips (see definitions) must be used to prevent dirt/mud tracked on streets as vehicles leave the site. If traffic onto and off the site is not frequent, a site operator may impose a blanket prohibition of vehicle traffic onto the site, allowing for the occasions to deliver and unload, but afterwards providing sweeping and/or cleaning of tracked out dirt (keep in mind that vehicles leaving a muddy site with no track out protection can track mud for several

blocks – the operator is liable for all track out from the site except for a dirt stain after sweeping -- see note after 3.2.2.). Dirt or mud tracked out on the street must not be washed or hosed into a storm drain. Tracked out mud or dirt on the street must be swept and/or scraped up as needed every day (see 3.2.2).

- 2.4.2. *Curb Ramps*: This permit prohibits the intentional placement of dirt and/or mud on paved streets or sidewalks. Curb ramps may be crushed rock, wood or steel ramps, or another material that does not wash away with storm water.
- 2.4.3. *Waste and Debris*. The site must be cleaned of waste and debris daily (see daily self-inspection 3.2.2). Waste and debris must be contained and secured adequately to prevent scattering from wind until it is removed from the site and disposed of properly.
- 2.4.4. *Portable Toilet*. Portable toilets must be tied down, staked down, or secured using other measures to prevent turn over, and they must be placed away from a road gutter, storm water inlet, or waterbody.
- 2.4.5. *Washing of Concrete, Stucco, and Paint Equipment*. A plastic film-lined pit or sealed container must be provided for washout of equipment used for concrete, stucco, and water-based paint. After completion of concrete, stucco, and paint tasks, the permittee must dispose of the waste by drying and sending solids to a landfill. Oil-based paint cleanout must be done in containers, taken off-site, and disposed of separately.
- 2.5. Soil Compaction/Top Soil. Topsoil must be preserved and placed on areas to be landscaped or areas planned for receiving vegetative cover, unless infeasible. Soil compaction must be minimized on areas that will not be used for support of structural elements such as roads, parking areas, structures, etc., unless infeasible.
- 2.6. Stabilization Requirement. Stabilization requirements are as follows:
 - 2.6.1. *Stabilization requirements for areas that receive 20 inches of rainfall annually or greater*: Stabilization of disturbed areas must, at a minimum, be initiated immediately whenever any clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of the site or have temporarily ceased on any portion of the site for greater than 14 calendar days. Stabilization can be sodding, planting, application of mulch (wood chips, rock, gravel, bark, compost, cat tracking on straw, hydromulch, etc.), application of geotextiles or erosion blankets, application of a tackifier, seeding (including preparation for germination and growth), a combination of these methods, or other method.
 - 2.6.2. *Stabilization or equivalent requirements for arid and semi-arid areas (areas receiving less than 20 inches of rainfall annually)*: Stabilization for visually flat areas is not required (roughly up to 5 percent, 1 to 20 slope, or 2.3 degrees slope). Areas with slopes up to roughly 20 percent (1 to 5 slope or 11.3 degrees) must have, at minimum, velocity-control devices in every area where storm water collects and flows, spaced close enough across the flow to stop erosion (see also 2.3.3). Soil surface stabilization such as sodding, planting, hydromulch, compost, bark, cat tracking on straw, gravel,

geotextiles, erosion blankets, or other stabilization methods is required on all other sloped areas, increasing the robust nature of stabilizing cover commensurately with increasingly steeper slopes.

2.6.3. *Permanent Stabilization for Arid areas.*

2.6.3.a. In addition to requirements above (see 2.6.2), permanent stabilization requires seeding on all areas that are not covered with permanent stabilization elements or structural elements such as building structure or pavement, or that are engineered or intended for structural purposes like graveled parking or dirt roads.

2.6.3.b. Disturbed areas on projects located outside of populated and developed areas and where no irrigation water is available and where future periodic landscaping maintenance is not planned must be reclaimed with a seed mix of plants indigenous to the area or tolerant to the local climatic conditions that does not include invasive species. Velocity-control devices may be permanent or temporary. If velocity-control devices are intended for temporary use, they must be biodegradable and designed durable enough to withstand extreme weather.

2.7. Construction Dewatering. Construction dewatering can occur onsite without an additional UPDES permit if it is infiltrated or contained onsite and is not discharged offsite. Otherwise, construction dewatering discharges must be permitted under the General Permit for Construction Dewatering and Hydrostatic Testing UPDES Permit UTG070000, which can be obtained online through submittal of an NOI at <https://secure.utah.gov/waterquality>.

2.8. Pollution Prevention Measures. The permittee must design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures must address the following:

2.8.1. *Vehicle, Wheel, and Other Washing*. Minimize the discharge of pollutants from equipment and vehicle washing, wheel-wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge

2.8.2. *Exposure to Pollutants*. Minimize the exposure of building materials, building products, construction wastes, trash (see 2.4.3), landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste (see 2.4.4), and other materials present on the site to precipitation and to storm water. Minimization of exposure is not required in cases where the exposure to precipitation and to storm water will not result in a discharge of pollutants, or where exposure of a specific material or product poses little risk of storm water contamination (e.g., final products and materials intended for outdoor use).

2.8.3. *Leaks and Spills*. Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.

2.9. Prohibited Discharges. The following discharges are prohibited:

2.9.1. Wastewater from washout or cutting of concrete (see 2.4.5),

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- 2.9.2. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials (see 2.4.5),
- 2.9.3. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance,
- 2.9.4. Soaps or solvents used in vehicle and equipment washing.

3. SELF-INSPECTION REQUIREMENTS.

3.1. Inspector Qualifications. Weekly inspections (see 3.2.1 below) must be done by a qualified person. A qualified person means a person knowledgeable in the principles and practices of erosion and sediment control that possesses the skills to:

- 3.1.1. Assess conditions at the construction site that could impact storm water quality,
- 3.1.2. Assess the effectiveness of a storm water control measure selected to control the quality of storm water discharges from the construction activity.

3.2. Self-Inspections.

- 3.2.1. *Weekly Self Inspections:* Self-inspections must occur every 7 days. A written report is required (see 3.4).
- 3.2.2. *Daily Site Check:* Each day of construction activity, the site must be inspected for dirt in the street and trash on the site. Streets must be swept clean (see note below), if soiled. Dirt must be removed off the street (not swept or washed into the storm drain system). Trash on the site must be picked up and disposed of into trash containers (see 2.4.3.) or disposed of off-site (e.g., municipal/private garbage collection service or construction waste landfill). Sub-contractors must be held responsible by the permit holder to perform these duties in accordance with this paragraph for the activities they are contracted to perform. A written report is not required, however the operator will keep a daily log (for the active construction days) listing the initials of the person doing the site check.

Note: Swept clean means sweeping and scraping. Scraping if there is dirt left behind that is crusted and that sweeping will not pick up. This does not mean removing the microscopic layer of dust or the minute amounts of dirt in the cracks and crevices of the surface left behind staining the pavement.

3.3. Weekly Self-Inspection Requirements.

- 3.3.1. *Areas to check include the following:*
 - 3.3.1.a. Areas that have been cleared, graded, or excavated that are not stabilized,
 - 3.3.1.b. All storm water control measures, including perimeter controls,
 - 3.3.1.c. Material piles, waste-disposal containers, sanitary facilities, loose trash, litter, washout areas, portable toilets, track out pad, egress points (if any), etc.,
 - 3.3.1.d. Storm water conveyances through the site, treatment areas, and drainages,
 - 3.3.1.e. All storm water discharge points, street gutters, storm water inlets,
 - 3.3.1.f. Areas that have been temporarily stabilized,
 - 3.3.1.g. Areas that have been permanently stabilized and are completed do not need further inspections.
- 3.3.2. *Items to check include the following:*
 - 3.3.2.a. All erosion and sediment controls and other pollution prevention controls

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have been installed, are operational, and are working as intended to minimize pollutant discharges. Determine if any controls need to be replaced, repaired, or maintained.

3.3.2.b. Identify any locations where new or modified storm water controls are necessary.

3.3.2.c. Signs of visible erosion and sedimentation (i.e., sediment deposits) that have occurred and are attributable to discharges from your site,

3.4. Weekly Inspection Reports. The weekly self-inspection report must be written within 24 hours of inspection and must include:

3.4.1. The initials of the person doing the inspection,

3.4.2. The date of the inspection,

3.4.3. The weather during the inspection,

3.4.4. The problems that were found needing correction (as they pertain to 3.3.1 and 3.3.2 above),

3.4.5. The date when corrective action is completed,

3.4.6. All self-inspection reports must be filed with other permit records regarding the permit. Inspection reports must be available during an oversight inspection.

3.5. Corrective Action: Corrective action must be completed before the next weekly inspection.

3.6. Inspections by an Oversight Authority. A copy of an oversight inspection report must be filed and be available for review during other oversight inspections.

3.7. Record Keeping. Records regarding this permit, the NOI, the NOT, the SWPPP, inspection reports, other related information and documents must be preserved for 3 years after the submission of the NOT (see 5.10).

4. STORM WATER POLLUTION PREVENTION PLAN (SWPPP).

4.1. SWPPP Requirement. The permittee must prepare a SWPPP before the NOI for the project is submitted. The SWPPP must address all the applicable requirements in Part 2.

4.1.1. *SWPPP Site Design*. The design, installation, and maintenance of erosion and sediment controls must address factors such as the amount, frequency, intensity and duration of precipitation; the nature of resulting storm water runoff; and soil characteristics, including the range of soil particle sizes expected to be present onsite. These may be accomplished using experience, estimates, and good judgement, unless unusual or extraordinary site conditions create hazards for which a professional engineer must be consulted.

4.1.2. *Surface Outlets*: When discharging from basins and impoundments, utilize outlet structures that withdraw water from the surface, unless infeasible.

4.2. Contents of a SWPPP. A SWPPP must contain the following:

4.2.1. *Contacts*. The contacts for the site with contact information (name, address, telephone, email) including owner, general contractor, and any other party that significantly affects the implementation of the SWPPP or has responsibilities over the SWPPP.

4.2.2. *Sequence and Estimated Dates of Construction Activities*. Listed in the sequence with estimated dates including the following:

4.2.2.a. Start and end of excavation activities, initial excavation, backfill excavation and final grading,

4.2.2.b. Any temporary or permanent cessation of earth-disturbing activities,

4.2.2.c. Start and end of landscaping if this is done as part of the construction activity before the home is sold.

4.2.3. *Site Map or Chart*. A site map may be hand drawn (as close to scale as possible) or may be a copy of an architect drawing including the following information:

4.2.3.a. Boundaries of the property,

4.2.3.b. Boundaries of soil surface disturbances, including any outside the boundaries of the property,

4.2.3.c. Slopes, including areas of steep slopes,

4.2.3.d. Locations of stockpiles of soils, storage of construction materials, portable toilets, trash containers, concrete washout pits or containers, egress points, and track out pads,

4.2.3.e. Waterbodies, wetlands, and natural buffer areas,

4.2.3.f. Locations and types of BMPs or storm water control measures for the control and/or treatment of storm water flowing onto, through, and/or offsite,

4.2.3.g. Locations of storm water inlets, storm water discharge points going off site,

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- 4.2.3.h. Areas that will be temporarily or permanently stabilized during the construction period.
- 4.2.4. *Thirty-Foot Natural Buffer.* The SWPPP must show the dimensions and placement of the 30-foot natural buffer, the substitute control measures, or a detailed explanation of why a natural buffer or substitute control measure could not be applied.
- 4.2.5. *Pollutants.* A list of construction site pollutants including the pollutant-generating activity, and an inventory of pollutants for each pollutant generating activity (e.g., paints, solvents, form oil, fuels, and other chemicals; applications, materials, and liquids that if released could pollute storm water).
- 4.2.6. *Waste Management.* Waste management procedures including soil removal, clearing debris removal, demolition removal, trash disposal, construction-waste disposal, and sanitary-waste disposal.
- 4.2.7. *Training.* The permittee will ensure that each subcontractor or utility provider is aware of their responsibilities for keeping soil on the site and preventing pollution. The permittee must keep in mind that they are responsible for and may be issued fines for poor performances by their subcontractors and utility providers. Consideration will be given if the permittee can document when and what instructions were given to the subordinate party.
- 4.2.8. *NOI and Permit.* The SWPPP must contain a copy of this permit and a copy of the NOI for the project.
- 4.2.9. *SWPPP Signature and Certification.* The SWPPP must be signed and certified by both the Owner and the General Contractor in accordance with 5.16.1.a.
- 4.2.10. *MS4 Approval of Project.* For areas where projects are within a regulated MS4's jurisdiction (see definitions in Part 6; the list of regulated MS4's is found on <http://www.deq.utah.gov/Permits/water/updes/stormwatermun.htm>), the SWPPP must contain the signature and date of the MS4 reviewer who has approved the proposed project for construction (see 1.7.).
- 4.2.11. *Availability of the SWPPP.* The SWPPP must be available at the construction site covered under this permit during onsite construction activity, unless the SWPPP is available online. If the SWPPP is available online there must be a sign (see 1.10) that describes where the SWPPP can be accessed online. The SWPPP is a plan for the site, and workers must be able to refer to the SWPPP and update it as needed to manage the site (including SWPPPs found on the internet). The SWPPP is not required to be on the site when construction workers leave for the day or when there is no activity occurring on the site, but at all times there must be posted contact information where the SWPPP can be obtained (see Part 1.10). The SWPPP must be made available within 24 hours to DWQ representatives or other oversight inspectors, e.g., U.S. Environmental Protection Agency [EPA] or a local MS4, on request, or immediately during an inspection on the site when there are workers and activity at the site.

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4.2.12. *Required Modifications of the SWPPP.* The SWPPP must be modified as follows:

4.2.12.a. During inspections when it is determined from observations of site conditions that storm water control measures are:

4.2.12.a.i. Not adequate or not shown in the SWPPP, or

4.2.12.a.ii. Changes in the SWPPP are necessary for compliance with this permit.

4.2.12.b. When an oversight authority determines that the SWPPP is not adequate based on missing a required SWPPP or permit item, not addressing pollutants properly, not being up to date and reflecting current site conditions, or not being clear, thorough, and understandable.

4.2.13. *SWPPP Modifications Deadline.* Modifications to the SWPPP from inspections or oversight authority direction must occur before or during the next weekly inspection.

5. STANDARD PERMIT CONDITIONS.

5.1. Duty to Comply.

5.1.1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Utah Water Quality Act (the Act) and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

5.1.2. *Penalties for Violations of Permit Conditions*

5.1.2.a. *Violations.* The Act provides that any person who violates the Act, Utah wastewater or storm water rules, or conditions of a permit issued under the Act, is subject to a fine of \$10,000 per day.

5.1.2.b. *Willful or Gross Negligence.* The Act provides that any person who discharges a pollutant to waters of the State as a result of criminal negligence or who intentionally discharges is criminally liable and is subject to imprisonment and a fine of up to \$50,000 per day (Utah Code Annotated 19-5-115).

5.1.2.c. *False Statements.* The Act provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act, the rules, or this permit, or who knowingly falsifies, tampers with, or renders inaccurate, any monitoring device or method required to be maintained under the Act shall upon conviction, be punished by a fine of not more than \$10,000 or by imprisonment for 6 months, or by both (Utah Code Annotated 19-5-115(4)).

5.2. Duty to Reapply. If a permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit except as provided in 1.6 and 1.7 of this permit.

5.3. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

5.4. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

5.5. Duty to Provide Information. The permittee shall furnish to the Director or an authorized representative, within a reasonable time, any information that is requested to determine compliance with this permit. The permittee must also furnish to the Director or an authorized representative copies of records to be kept by this permit.

5.6. Other Information. When the permittee becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the NOI or in any other report to the Director, he or she shall promptly submit such facts or information.

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- 5.7. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under the Act.
- 5.8. Property Rights. The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.
- 5.9. Severability. The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.
- 5.10. Record Retention. The permittee shall retain copies of SWPPPs and all reports required by this permit, and records of all data used to complete the NOI to be covered by this permit, for a period of at least three years from the date that the permit for the site is terminated (see 3.7). This period may be extended by request of the Director at any time.
- 5.11. Addresses. All written correspondence under this permit shall be directed to the DWQ at the following address:
- Department of Environmental Quality
Division of Water Quality
195 North 1950 West
P.O. Box 144870
Salt Lake City, Utah 84114-4870
- 5.12. State Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Utah Code Annotated 19-5-117.
- 5.12.1. No condition of this permit shall release the permittee from any responsibility or requirements under other environmental statutes or regulations.
- 5.13. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control and related appurtenances which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of SWPPPs. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by a permittee only when necessary to achieve compliance with the condition of the permit.
- 5.14. Inspection and Entry. The permittee shall allow, upon presentation of credentials, the Director or an authorized representative to:
- 5.14.1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;

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- 5.14.2. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit.
- 5.14.3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and
- 5.14.4. Sample or monitor at reasonable times for the purposes of assuring permit compliance or as otherwise authorized by law, any substances or parameters at any location.

5.15. Reopener Clause.

- 5.15.1. *Reopener Due to Water Quality Impacts.* If there is evidence indicating that the storm water discharges authorized by this permit cause, have the reasonable potential to cause, or contribute to a violation of a water-quality standard, the discharger may be required to obtain an individual permit or an alternative general permit in accordance with 1.7.4 of this permit or the permit may be modified to include different limitations and/or requirements.
- 5.15.2. *Reopener Guidelines.* Permit modification or revocation will be conducted according to Utah Administrative Code R317-8-5.6 and UAC R317-8-6.2.
- 5.15.3. *Permit Actions.* This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification revocation and reissuance, termination, a modification of planned changes or anticipated noncompliance does not stay any permit condition.

5.16. Signatory Requirements.

- 5.16.1. All NOIs, SWPPPs, reports, certifications or information submitted to the Director, or that this permit requires be maintained by the permittee, shall be signed as follows:
 - 5.16.1.a. All NOIs and SWPPPs shall be signed by both the owner or lessee of the project/property and the general contractor.
 - 5.16.1.b. All reports required by the permit and other information requested by the Director or by an authorized representative of the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - 5.16.1.b.i. The authorization is made in writing by a person described above and submitted to the Director; and
 - 5.16.1.b.ii. The authorization specifies either an individual or a position having such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may therefore be either a named individual or any individual occupying a named position.
 - 5.16.1.c. *Certification.* Any person signing documents under 5.16 shall make the following certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

- 5.16.2. If a document is to be signed electronically, the Division's rules regarding electronic transactions govern, if applicable.

6. DEFINITIONS

Arid Areas: Areas with an average annual rainfall of 10 inches or less.

Common Plan of Development (or sale): A plan to subdivide a parcel of land into separate parts for separate sale. This can be for a residential, commercial, or industrial development. The plan originates as a single parcel that is separated into parts. This usually goes through an approval process by a local governmental unit, but in some cases, it may not require that process. The original plan is considered the “common plan of development or sale” whether phased or completed in steps.

Additional information related to Common Plan of Development for Permit Purposes:

For UPDES storm water permit purposes, a common plan must have been initiated after October, 1992. A common plan of development or sale remains so until each lot or section of the development has fulfilled its planned purposes (e.g. in a residential development as homes are completed, stabilized, and sold or occupied). As lots or separated sections of the development are completed, the lot or section is stabilized, and the plan purposes are fulfilled for that area, lot, or section, it is no longer part of the common plan of development or sale (e.g. if a home is sold in a development and the owner decides to add a garage somewhere on the lot, that garage project is not part of the common plan of development or sale.

In this process a common plan of development or sale may become reduced in size and/or separated by completed areas which are no longer part of the common plan of development or sale, but all unfinished lots remain part of the same common plan development or sale until they are completed, stabilized, and fulfilled according to the purposes of the plan.

Construction Activity: Earth-disturbing activities, such as the clearing, grading, and excavation of land.

Construction Waste: Discarded material such as packaging materials, scrap construction materials, masonry products, timber, steel, pipe, and electrical cuttings, plastics, and Styrofoam.

Corrective Action: For the purposes of the permit, any action taken to 1) repair, modify, or replace any storm water control used at the site; 2) clean up and dispose of spills, releases, or other deposits found on the site; and 3) remedy a permit violation.

Dewatering: The act of draining rainwater and/or groundwater from building foundations, vaults, and trenches (Note: if dewatering is occurring on a construction site and it causes a discharge to waters of the State, it must be permitted separately under the General Permit for Construction Dewatering and Hydrostatic Testing , UPDES Permit UTG070000).

Director: The director of the Division of Water Quality.

Discharge Point: For the purposes of this permit, the location where collected and concentrated storm water flows are discharged from the construction site.

Final Stabilization: All disturbed areas must be covered by permanent structures such as pavement, concrete slab, building, etc., or for areas not covered by permanent structures but that are receiving 20 inches or more of average annual precipitation, vegetation has been established with a uniform (e.g.,

General Storm Water Permit for Construction Activity Connected with Single Lot Housing Projects
UPDES Permit No. UTRH00000

evenly distributed, without large bare areas) perennial vegetative cover equivalent to 70 percent of the natural background vegetative cover. In the case of areas that are not covered by permanent structures, but that are receiving less than 20 inches of average annual precipitation (arid areas, 0-10 inches; semi-arid areas, 10-20 inches), final stabilization is equivalent to the requirements of 2.6.3 of this permit, including the provisions for permanent stabilization.

Impervious Surface: For the purpose of this permit, any land surface with a low or no capacity for water infiltration including, but not limited to, pavement, sidewalks, parking areas, driveways, or rooftops.

Indian Country: Defined at 40 CFR §122.2 as follows:

1. All land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation;
2. All dependent Indian communities within the borders of the United States whether within the originally or subsequently acquired territory thereof; and
3. All Indian allotments, the Indian titles to which have not been extinguished, including rights-of-ways running through the same.

Infeasible: Infeasible means not technologically possible or not economically practicable and achievable in light of best industry practices. DWQ notes that it is not intentional for permit storm water control efforts required in the permit to conflict with State water rights law. In the case of conflict, State water rights law supersedes.

Install or Installation: When used in connection with storm water controls, to connect or set in position storm water controls to make them operational.

Municipal Separate Storm Sewer System or MS4: A storm-sewer system owned and operated by a state, city, town, county, district, association, or other public body created by or pursuant to State law having jurisdiction over disposal of storm water that discharges to waters of the State (e.g., Sandy City owns and operates the MS4 within the jurisdiction of Sandy City, or essentially Sandy City is the MS4).

Natural Buffer: For the purposes of this permit, an area of undisturbed natural cover surrounding surface waters within which construction activities are restricted. Natural cover includes the vegetation, exposed rock, or barren ground that exists before earth-disturbing activities begin.

Oversight Authority: Oversight authorities for storm water permits are agents from the EPA, DWQ or the Municipality of jurisdiction, when they are addressing compliance of storm water permits.

Owner: For the purpose of this permit an owner has ownership of a property on which construction activity is taking place, but it also includes ownership of a project for which construction activity is occurring on property that is leased. An owner is the party that has ultimate control over construction plans and specifications, including the ability at the highest level to make modifications to those plans and specifications. "Owner" in this context is the party that has ultimate control over the destiny of a project.

Permittee: The owner and/or the general contractor (those that signed on the NOI), for the project.

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Pollutant-Generating Activities: At construction sites, for the purposes of this permit, those activities that lead to or could lead to the generation of pollutants, either as a result of earth-disturbance or a related support activity. Some of the types of pollutants that are typically found at construction sites are as follows:

- Sediment
- Nutrients
- Heavy metals
- Pesticides and herbicides
- Oil and grease
- Bacteria and viruses
- Trash, debris, and solids
- Treatment polymers
- Any other toxic chemicals

Pollution Prevention Measures: Storm water controls designed to reduce or eliminate the addition of pollutants to construction site discharges through analysis of pollutant sources, implementation of proper handling/disposal practices, employee education, and other actions.

Project Site: A project site is not necessarily contained within the property boundaries designated for the final construction objective, or property owned by the owner of the project. The project site includes all areas affected by the construction process where disturbances, storage, or other construction activity occurs. If an area outside of property boundaries is used for the construction process, DWQ assumes the permittee has the right to access and use that area and the permittee must also meet permit requirements in that area.

Receiving Water: A “Water(s) of the State” is as defined in UAC R317-1-1, into which the regulated storm water discharges (see waters of the State listed below).

Rumble Strip: A rigid ramp/track (often made of steel) that vehicles drive over that causes tires to flex and shake for the removal of dirt.

Semi-Arid Areas: Areas with an average annual rainfall of between 10 and 20 inches.

Stabilization: The use of vegetative and/or non-vegetative cover to prevent erosion and sediment loss in areas of disturbed soil exposed from the construction process.

Storm water: Means storm water runoff, snowmelt runoff, and surface runoff and drainage.

Storm Water Control Measures: Refers to any storm water control, BMP, or other method used to prevent or reduce the discharge of pollutants to waters of the state.

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Storm Water Inlet: An entrance or opening to a storm water conveyance system, generally placed below grade so as to receive storm water drainage from the surrounding area.

Storm Event: A precipitation event that results in a measurable amount of precipitation.

Track Out Pad: A track out pad is a pad normally made up of 4 to 6 inches of up to 6 inch cobble rocks or gravel of various size (the size is sometimes specified by a local MS4). Sometimes it is underlain with a fabric to keep dirt and mud separated from rock or gravel. It is wide enough to underlay the tires of any/all traffic leaving a construction site as vehicles exit the site. Its function is to flex and shake the tires to dislodge mud and dirt from the tires of vehicles leaving the construction site. Track out pads must be stirred or worked periodically so that mud or dirt collected is moved to the bottom and the rock/gravel on the pad is clean and effective dislodging more mud/dirt.

Waters of the State: All streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, that are contained within, flow through, or border upon this state or any portion thereof, except that bodies of water confined to and retained within the limits of private property, and that do not develop into or constitute a nuisance, or a public health hazard, or a menace to fish and wildlife, shall not be considered to be "Waters of the State" under this definition (see Utah Code Annotated, 19-5-102(23)(a) &(b), and UAC R317-1-1).

APPENDIX D: Acknowledgement Letter from Logan City

STATE OF UTAH, DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER QUALITY
195 North 1950 West, P.O. Box 144870, Salt Lake City, Utah 84114-4870 (801) 536-4300

NOI

Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity Under the UPDES General Permit UTRH91947
SEE REVERSE FOR INSTRUCTIONS

Submission of this Notice of Intent constitutes notice that the party(s) identified in Section I of this form intends to be authorized by UPDES General Permit No. UTRH91947 issued for storm water discharges associated with construction activity in the State of Utah. Becoming a permittee obligates such discharger to comply with the terms and conditions of the permit. ALL NECESSARY INFORMATION MUST BE PROVIDED ON THIS FORM.

PERMIT PERIOD	Permit Start Date: 03/15/2019 Permit Expiration Date: 06/30/2019
PERMIT TYPE	Construction General Permit (CGP, this permit covers any construction project): <input type="checkbox"/> Common Plan Permit (this only covers single lot residential construction disturbing less than an acre): <input checked="" type="checkbox"/>

Is this NOI seeking continuation for previously expired permit coverage at the same site? Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	If yes, what is the number of the previous permit coverage? Permit No. UTR
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I. OWNER INFORMATION

Owner Name: VHD LLC Phone: 435-752-1480
Address: 50 E 2500 N, STE 101 Status of Owner: PRIVATE
City: NORTH LOGAN CITY State: UT Zip: 84341
Contact Person: Shane Strong Phone: 435-265-8871

GENERAL CONTRACTOR: VHD LLC Phone: 435-752-1480
Address: 50 E 2500 N, STE 101 Status of General Contractor: PRIVATE
City: NORTH LOGAN CITY State: UT Zip: 84341
Contact Person: Shane Strong Phone: 435-265-8871

II. FACILITY SITE / LOCATION INFORMATION

Name: Harper Residence Is the facility located in Indian Country?
Project No. (if any): Y N

Address: 3947 N 4800 E County: WEBER
City: EDEN State: UT Zip: 84339
Latitude: 41.330589 Longitude: -111.832942
Method (check one): USGS Topo Map, Scale EPA Web site GPS Other

III. SITE INFORMATION

Municipal Separate Storm Sewer System (MS4) Operator Name: Weber County
Receiving Water Body: Pineview Reservoir guess this is known this is a guess (see <http://wq.deq.utah.gov/>)
Estimate of distance to the nearest water body? 3 miles ft. miles.
Is the receiving water an impaired or high quality water body (see <http://wq.deq.utah.gov/>)? Yes No
List the Number of any other UPDES permits at the site:

IV. THIS SECTION IS ONLY FOR PROJECTS INVOLVED IN DEVELOPMENT OF A SUBDIVISION.
List the lots proposed for the development (please add another sheet of paper if there is not enough room to list all lots).

INSTRUCTIONS

Notice Of Intent (NOI) For Permit Coverage Under the UPDES General Permit For Storm Water Discharges From Construction Activities

Who Must File A Notice Of Intent (NOI) Form State law at UAC R317-8-3.9 prohibits point source discharges of storm water from construction activities to a water body(ies) of the State without a Utah Pollutant Discharge Elimination System (UPDES) permit. The owner and the general contractor of a construction activity that has such a storm water discharge must submit a NOI to obtain coverage under the UPDES Storm Water General Permit. If you have questions about whether you need a permit under the UPDES Storm Water program, or if you need information as to whether a particular program is administered by EPA or a state agency, contact the storm water coordinator at (801) 536-4300.

Where To File NOI Form The preferred method of submitting an NOI to apply for the construction general storm water permit (CGP) is electronically on-line at <http://www.waterquality.utah.gov/UPDES/stormwatercon.htm>. The fee can be submitted on line also. If on-line is not an option for you send a paper form of the NOI to the following address:

Department of Environmental Quality
Division of Water Quality
P.O. Box 144870
Salt Lake City, UT 84114-4870

Beginning of Coverage CGP coverages are issued immediately after submitting an NOI with the permit fee. The permittee should be aware that though you may not have a permit in hand, if you have submitted a completed NOI with the permit fee you are covered by the conditions in the permit and will be expected to comply with permit conditions. You can print a copy of the CGP from the DWQ web site.

Permit Fees. The permit fee is \$150.00 per year. The fee is paid by Visa/Master Card on-line when an NOI is filed (by check if submitted with a paper NOI). If the project continues for more than one year the fee must be submitted again in a renewal process on-line. CGP coverage will not be issued until the fee is paid.

Length of Coverage: CGP coverage starts the day that the NOI and fee is received at DWQ and expires a year from issuance. All CGP coverages must be renewed within 60-days after the yearly expiration date, or be terminated with a notice of termination (NOT) before the expiration date. To terminate the permit the site must meet the permit conditions for final stabilization (see permit definitions), or must continue under a different permit holder. In most cases the DWQ or municipality of jurisdiction will perform a final inspection when a CGP coverage submits an NOT. If the site passes the final inspection the permit is terminated.

The Storm Water General Permit for Construction Activities UTRC00000 will expire on June 30, 2019 – UTRH00000 expires on September 30, 2020. The Clean Water Act requires that all UPDES permits be renewed every 5 years. If a project extends beyond the expiration date of the Permit it must renew the permit and continue coverage under the renewed permit that will subsequently be developed to continue the same or similar permit coverage for construction activity.

SECTION I - FACILITY OPERATOR INFORMATION Supply the legal name(s) of the person(s), firm(s), public organization(s), or any other entity(ies) that qualifies as the owner of the project (see permit definitions). Do the same for the general contractor that conducts the construction operation at the facility or site to be permitted. The owner and the general contractor of the project may be the same.

Enter the complete address and telephone number of the owner and general contractor and a contact person and number for each. Enter the appropriate letter to indicate the legal status of the operator of the facility.
F = Federal M = Public (other than Fed or State) S = State P = Private

SECTION II - FACILITY/SITE LOCATION INFORMATION Enter the facility name or legal name and project number (if any) of the site and complete street address, including city, state and ZIP code. The latitude and longitude of the facility must be included to the approximate centroid of the site, and the method of how the Lat/Long was obtained (USGS maps, GPS, Internet Map sites [such as Google Earth], or other).

Indicate whether the facility is located in Indian Country. If the facility is located in Indian Country, do not complete this NOI, instead submit an application for coverage under a storm water permit to EPA Region VIII except for facilities on the Navajo Reservation or on the Goshute Reservation which should submit an application to EPA Region IX.

SECTION III - SITE ACTIVITY INFORMATION If the storm water discharges to a municipal separate storm sewer system (MS4), enter the name of

the operator of the MS4 (e.g., the name of the City or County of jurisdiction) and the receiving water of the discharge from the MS4 if it is known (if it is not known look it up at <http://wq.deq.utah.gov>). (An MS4 is defined as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that is owned or operated by a state, city, town, county, district, association or other public body which is designed or used for collecting or conveying storm water).

For Impaired Waters: Go to <http://wq.deq.utah.gov> and identify the water body that will receive the storm water discharge from the permitted site, on the map provided at the web site (zoom in for easier resolution). On the left hand side of the page you will see “2010 Assessment” or “2013 Assessment” depending on the year you refer to the web site (the assessment is done every 3 years). The **20XX Assessment** the will indicate if the water is impaired. If there is nothing after **20XX Assessment** or the narrative after does not include the word “impaired”, your receiving water is not impaired.

For High Quality Waters: On the web page referred to in the paragraph above on the left hand side of the page you will see “Anti-Degradation Category”. Under **Anti-Degradation Category** you will see the category of the water body. Only categories 1 and 2 are high quality water bodies. Some waters may be both categories 1 and 3. If your water body is both category 1 and 3 it means the headwaters of your water body is within Forest Service boundaries, and because it is within Forest Service boundaries it is category 1. If your **project** is within Forest Service boundaries then your water body is category 1 and it is “high quality”. If your **project** is **not** within Forest Service boundaries then your water body is category 3 and is not “high quality”. Again, category 1 waters are high quality waters, category 3 waters are not high quality waters.

SECTION IV – LISTING LOTS FOR SUBDIVISIONS For the sake of tracking lots that are sold (if a developer chooses to sell lots to another party before the building construction for the lot is completed), and permitted under a different owner (which requires a different permit), developers must list lot numbers.

SECTION V - TYPE OF CONSTRUCTION Check each type of construction that applies to this application.

SECTION VI - BEST MANAGEMENT PRACTICES Check each type of best management practice that will be used to control storm water runoff at the job site.

SECTION VII – GOOD HOUSEKEEPING PRACTICES Check each type of good housekeeping practice that you will use on the site any time during construction activities.

SECTION VIII – ADDITIONAL Provide an estimate of the total number of acres of the site on which soil will be disturbed (to the nearest hundredth of an acre). An email address is required of the best contact associated with the project for the communication needs.

SECTION IX – CERTIFICATION State statutes provide for severe penalties for submitting false information on this application form. State regulations require this application to be signed as follows:

For a corporation: by a responsible corporate officer, which means: (i) president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions, or (ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

For a partnership or sole proprietorship: by a general partner or the proprietor; or

For a municipality, state, Federal, or other public facility: by either a principal executive officer or ranking elected official.

POLLUTION PREVENTION PLAN A storm water pollution prevention plan (SWPP3) is required to be in hand before the NOI can be submitted. It is important to know SWPPP requirements (contained in the permit) even during the design portion of the project. A copy of the permit can be obtained from the Division of Water Quality’s storm water construction web site. Guidance material for developing a SWPPP can be obtained from the Division of Water Quality’s storm water construction web site.

APPENDIX E: Inspection Reports

INSPECTION REPORT				SITE NAME: John Doe Project
INSPECTION PERIOD: 2012.03.01-2012.03.07				LAST RAIN EVENT: 2012.03.01
INSPECTOR: jd				CURRENT WEATHER: clear
BMP	DATE	OK/NOT OK?	BMP CONDITION	CORRECTIVE ACTION REQUIREMENTS
Are all pollution sources controlled? Do any other problems exist?	3/7/2012	OK	na	All pollution sources are controlled. No new BMPs are necessary.
4.7.2 LOT Cutdown	3/7/2012	OK	In place	
4.7.1 Silt Fencing	3/7/2012	not OK	Silt fence at south boundary was buried by excavator.	Informed xyz excating by phone this must be repaired including the sediment washed onto the adjacent lot, no later than two days or before the next storm event which ever comes first. Sediment had washed onto the south property
4.9.1 Drop Inlet Bags	3/7/2012	OK	Only about 4" of sediment	
4.9.2 Gutter Dam	3/7/2012	OK	Gutter dams are tight to the curb and free of sediment.	Gutter dams were clean March 3rd in anticipation of the forecast storm on March 4th. The dams were also cleaned on the 5th following the storm.
4.10.1 Dust Controls	3/7/2012	OK	Water and hose are ready. No wind today.	Wind did blow the morning of March 3rd before the storm. City warned my excavator. The excavator began watering as he was loading.
5.1.2 Gravel Parking	3/7/2012	na	not scheduled per SWPPP	The gravel pad area is covered with excavation from the footing and foundation.
5.1.3 Tpost and Tape	3/7/2012	OK	fence post and tape in place.	Excavation ceased during the March 4th storm. Excavator needed to access at a point not shown on SWPPP. Ground was dry and barrier tape was but back.
5.1.4 Sq Nose Shovel and Broom	3/7/2012	OK	Minor tracking today	Minor tracking occurred on March 6th. The excavator's laborer cleaned the road with a hand broom and shovel in the middle of the day and at the end.
5.2.1 Dumpster	3/7/2012	na	not scheduled per SWPPP	Subs have been told to carry out any lunch trash.
5.2.3 Portable Toilet	3/7/2012	OK	In place.	
5.2.5 Concrete Washout	3/7/2012	OK	In place. About 25% full.	
5.3.1 Material Storage	3/7/2012	OK	No materials being stored	
5.3.3 Construction Staging	3/7/2012		not scheduled per SWPPP	
5.3.4 Spoil Waste Limits	3/7/2012	not OK	see 2.5	see 2.5
5.5 Spill Kit	3/7/2012	OK	In place	
5.8.1 Frontage Swale	3/7/2012		not scheduled per SWPPP	

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: John Doe
Signature: jd

Title: owner
Date: 2012-03-07

Inspector: _____ Date of Inspection: _____

Weather conditions during the inspection

Sky Conditions (Check all that apply)

Sunny & Clear Cloudy Raining Rain/Snow Snowing Windy

Temperature

Very Hot Hot/Warm Moderate Cool Very Cold

Soil Conditions (Check all that apply)

Very dry Damp Wet Soaking Wet (puddles & mud)

Frozen Snow Covered

Evaluation of Pollution Sources/Best Management Practices

Answer yes or no regarding whether the following features have been evaluated and are placed, maintained, and functioning properly. If yes, no further action is warranted. If no, list the question number in the next section (Corrective Action) and identify when and how the problem was corrected. References to "soft surface" below means bare soil or soil with vegetative cover.

- 1** Is the SWPPP sign on site still intact and visible from a public area? (see permit part 1.10) Yes No
The sign must include the UPDES tracking number, the owner or general contractor name, phone number and email, and if the SWPPP is on-line, instructions on how to view it.
- 2** Is all non-storm water on the site either discharging under permit UTG070000 (or other appropriate permit) or not discharging off site? (see permit part 1.3) Yes No
Construction Dewatering (if discharged offsite) must be covered by UPDES Permit UTG070000 (see permit part 2.7). Further, cleaning of tools and equipment must be contained in a plastic lined pit (see permit part 2.4.5 & 2.9).
- 3** Are all wetlands, sensitive areas, or UIC wells located on or adjacent to the site sectioned off or protected? (see permit part 2.2) N/A Yes No
BMP(s): Vegetative Buffers Berms Wattles
 Boundary Fence Silt Fence
 Other: [Click here to enter text.](#)
- 4** If there are stockpiles on the site are they placed on a soft surface away from storm water inlets and hard surfaces and protected with perimeter controls? N/A Yes No
Note: Select "Contained by other BMP" if another BMP on your site will contain runoff from the stockpiles CANNOT be placed in the street except temporarily during the day. (see permit part 2.1.1)
BMP(s): Silt Fence Staked Straw Wattle Covering
 Other: [Click here to enter text.](#)
 Contained by other BMP. Explain: [Click here to enter text.](#)

- 5 **If there are surface waters located within 30 feet of your project's earth disturbances do you have 30 feet of vegetated undisturbed surface or properly placed, maintained, and effective storm water controls that act as an equivalent storm water control?** (see permit part 1.10) **N/A** **Yes** **No**
- Note:** A 30' natural vegetative buffer **MUST** be used if possible. If a buffer less than 30' is used, you must demonstrate that the additional controls offer the same protection as a 30' natural vegetative buffer, and select the reason for exemption below. (see permit part 2.3.5)
- BMP(s):** 30' Natural Vegetative Buffer 2 Straw Wattle Barriers (Fiber Roll)
 2 Silt Fence Barrier
 Less than 30' Natural Vegetative Buffer. Additional Controls: [Click here to enter text.](#)
- 6 **If your site has steep slopes (greater than 70% or 35°) are they stabilized?**(see permit part 2.3.2) **N/A** **Yes** **No**
- BMP(s):** Erosion Control Blanket Minimum Disturbance Seeding
 Hydroseed Mulch Takifiers
 Other: [Click here to enter text.](#)
- 7 **Are perimeter and sediment controls placed, maintained, and functioning properly?** **Yes** **No**
- (see permit part 2.1.2 & 2.3)
- BMP(s):** Silt Fence Straw Wattles (Fiber Rolls) Sediment Trap
 Sediment Basin Swales Berms
 Vegetative Buffer Cut-Back-Curb
 Other: [Click here to enter text.](#)
- 8 **Is storm drain inlet protection placed, maintained, and effective on inlets immediately downstream?** (see permit part 2.1.3) **Yes** **No**
- BMP(s):** Rock/Sand-filled Bags Drop Inlet Bags Inlet Wattles
 Filter Fabric
 Other: [Click here to enter text.](#)
- 9 **If curb ramps are used at the site are they constructed with material that will not be washed away in storm water?** **N/A** **Yes** **No**
- Note:** If curb ramps are used it must be done with material that will not wash away in storm water. (see permit part 2.4.2)
- BMP(s):** Crushed Rock Wood Dunnage
 Other: [Click here to enter text.](#)
- 10 **Is there a plan to address dust control and is it being used as necessary?** **Yes** **No**
- BMP(s):** Wetting with Water
 Other: [Click here to enter text.](#)
- 11 **Is track out control in place, maintained, and effective on the site; or is there a policy with controls (sweeping) to prevent track out?** (see permit part 2.4.1) **Yes** **No**
- BMP(s):** Track Out Pad Cobble Gravel
 Rumble Strips Wash Down Pad Delivery Pad
 Limited Site Access Selective Access During Dry Weather
 Other: [Click here to enter text.](#)
- 12 **Is solid waste collected and secured in a container or properly disposed off-site?** **Yes** **No**
- (see permit part 2.4.3)
- BMP(s):** Bag Lightweight Trash Leak Proof Dumpsters Receptacles with Lids

Other: Click here to enter text.

- 13 Is there non-aqueous liquid waste (oil, solvent, fuel) on site, and if so is it managed and disposed of properly?** N/A Yes No
BMP(s): Contained and Removed from the site. Collected for Reuse
 Other: Click here to enter text.
- 14 Have spoils (extra or left over dirt from excavating) been removed from the site or if stored are they on a soft surface away from roads or inlets and with perimeter controls?** N/A Yes No
BMP(s): Cover Erodible Material Runoff Containment Haul Off Policy
 Other: Click here to enter text.
- 15 Are sanitary wastes appropriately managed at the site?** (see permit part 2.4.4) Yes No
BMP(s): Portable Toilet(s) (*must be staked down & 10' from curb*)
 Onsite or Adjacent Indoor Bathrooms
 Portable Toilet Secondary Containment
 Other: Click here to enter text.
- 16 Is there a BMP to contain concrete wash water on the site?** (see permit part 2.4.5 & 2.9.1) Yes No
BMP(s): Lined Depression Steel Dumpster
 Regional Washout (per development)
 Other: Click here to enter text.
- 17 Are construction materials stored on site in a way that will not affect storm water?** Yes No
BMP(s): Covering Erodible or Liquid Materials Secondary Containment
 Strategic Storage and Staging
 Other: Click here to enter text.
- 18 Is equipment fueling, maintenance, and washing contained on site?** N/A Yes No
BMP(s): Fueling w/Mobile Track w/Spill Kit Offsite O+M
 Other: Click here to enter text.
- 19 After the house is sold, how will sediment be contained on site until home owner completes landscaping?** N/A Yes No
BMP(s): Landscaping Swales Rock Filters
 Perimeter Controls Vegetated Buffer Native Vegetative Barriers
 Cut-Back-Curb Leave Front-Yard Lower than Sidewalk
 Other: Click here to enter text.

Note that any maintenance required to ensure proper BMP functioning must be done within 72 hours of becoming aware of compromised BMP.

APPENDIX H: Certifications, Agreements, and Delegation of Authority

Delegation of Authority

I, Justin Cooper (name), hereby designate the person or specifically described position below to be a duly authorized representative for the purpose of overseeing compliance with environmental requirements, including the Construction General Permit, at the Harper Residence construction site. The designee is authorized to sign any reports, stormwater pollution prevention plans and all other documents required by the permit.

<u>Shane Strong</u>	(name of person or position)
<u>Visionary Homes</u>	(company)
<u>50 East 2500 North Suite 101</u>	(address)
<u>North Logan, Utah 84341</u>	(city, state, zip)
<u>435-265-8871</u>	(phone)

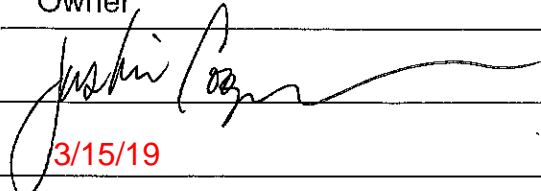
By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in UTRH91947 (Reference State Permit), and that the designee above meets the definition of a "duly authorized representative" as set forth in UTRH91947 (Reference State Permit).

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: Justin Cooper

Company: Visionary Homes

Title: Owner

Signature: 

Date: 3/15/19

APPENDIX J: Construction Plans

APPENDIX K: Additional Information (i.e. permits such as local permits, dewatering, stream alteration, wetland, and out of date SWPPP documents, etc.)

APPENDIX L: BMP Specifications and Details (label BMPs to match the sections identified in this document.)

BEST MANAGEMENT PRACTICES FOR CONSTRUCTION ACTIVITIES



This manual is intended as guidance for implementing stormwater Best Management Practices at construction sites. It does not represent all BMPs, but rather a presentation of the more common ones. Please refer to Salt Lake County's Guidance *Document for Stormwater Management* at www.pweng.slco.org/strm/html/guide.html for a complete list and more information.

Salt Lake County cannot be held liable for special, collateral, incidental or consequential damages in connection with or arising from using techniques presented in this manual.

First Printing – July 6, 1994

Second Printing – February 2007



STORMWATER AND CONSTRUCTION ACTIVITIES

A landowner or primary contractor who plans a construction activity which will disturb one or more acres of land, is required to obtain a permit from the Utah Division of Water Quality. The permit may be obtained on-line at www.waterquality.utah.gov/updes/stormwater. Please note that the permit is required **BEFORE** construction starts. The permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) that identifies potential sources of stormwater pollutants and Best Management Practices (BMPs) to reduce or eliminate their impacts.

BMPs are practices that control stormwater sediment and erosion to the maximum extent practicable. These controls include a wide range of structural and non-structural options. This booklet presents BMPs that are recommended by the Utah Division of Water Quality and the Environmental Protection Agency. A Guidance Document for Stormwater Management provides information on additional BMPs and is available on-line at www.pweng.slco.org/strm/html/guide.html.

Contractors may use this booklet as general guidance related to BMPs; it is up to the contractor to select appropriate BMPs and implement and maintain these BMPs. Selection of BMPs will be site specific and deviation from those presented here may be appropriate given the conditions, contractor experience and new technology. Variations are acceptable provided implemented controls meet the intent of the BMP.

ADDITIONAL INFORMATION

Salt Lake County Stormwater Coalition

<http://www.stormwatercoalition.org/>

Salt Lake County Department Flood Control Engineering

<http://www.pweng.slco.org/flood/index.html>

Salt Lake County Public Works Stormwater Management

www.pweng.slco.org/strm/html/guide.html

State Division of Water Quality

<http://www.waterquality.utah.gov/UPDES/stormwater.htm>

US Environmental Protection Agency

http://cfpub1.epa.gov/npdes/home.cfm?program_id=6

Center for Watershed Protection

<http://www.cwp.org/>

Low Impact Development

<http://www.lid-stormwater.net/>

StormCon

<http://www.forester.net/sc.html>

Water Environment Federation

<http://www.wef.org/Home>

Stormwater Authority

<http://www.stormwaterauthority.org/>

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SELECTION OF BEST MANAGEMENT PRACTICES

Good Housekeeping & Waste Containment

Building Repair, Remodeling, and Construction
Chemical Mulch
Concrete Waste Management
Construction Road Stabilization
Contaminated or Erodible Surface Areas
Diversion Dike
Dust Controls
Earth Berm Barrier
Employee Training
Equipment & Vehicle Wash Down Area
Floatation Silt Curtain
Hazardous Waste Management
Inspection & Maintenance
Material Storage
Material Use
Mulching
Portable Toilets
Spill Cleanup
Stabilized Construction Entrance
Street Sweeping
Temporary Stream Crossing
Vehicle and Equipment Cleaning
Vehicle and Equipment Fueling
Waste Disposal

Minimize & Stabilize Disturbed Areas

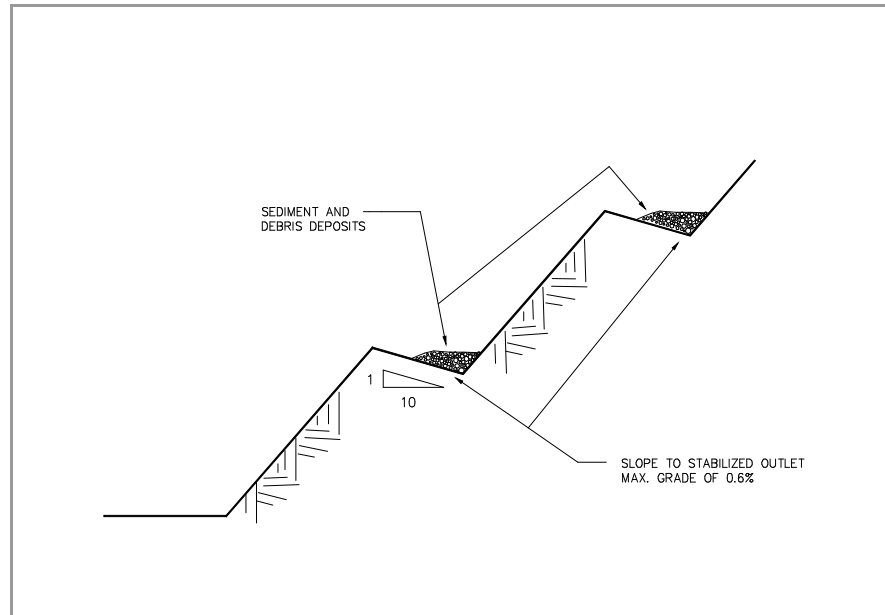
Benching
Bioengineering
Check Dams
Chemical Mulch
Compaction
Construction Road Stabilization
Construction Sequencing
Dust Controls
Employee Training
Erosion Control Blankets
Filter Strips
Geotextiles and Mats
Hydromulching
Inspection & Maintenance
Land Grading
Mulching
Preservation of Natural Vegetation
Silt Fence
Straw Bale Barrier
Surface Roughening
Temporary & Permanent Seeding & Planting
Temporary Stream Crossing
Vegetated Buffers

Protect Slope & Channels

Benching
Bioengineering
Check Dams
Chemical Mulch
Construction Road Stabilization
Diversion Dike
Employee Training
Erosion Control Blankets
Filter Strips
Geotextile Mats
Hydromulching
Inspection & Maintenance
Land Grading
Mulching
Outlet Protection
Preservation of Natural Vegetation
Sand Bag Barrier
Silt Fence
Slope Drain
Straw Bale Barrier
Surface Roughening
Temporary & Permanent Seeding & Planting
Temporary Stream Crossing
Vegetated Buffers

Control Internal Erosion & Site Perimeter

Bioengineering
Chemical Mulch
Diversion Dike
Earth Berm Barrier
Employee Training
Equipment & Vehicle Wash Down
Filter Strips
Floatation Silt Curtain
Geotextiles and Mats
Inlet Protection - Concrete Block
Inlet Protection - Excavated
Inlet Protection - Gravel
Inlet Protection - Silt Fence/Straw Bale
Inlet Protection - Wattle
Inspection & Maintenance
Land Grading
Outlet Protection
Preservation of Natural Vegetation
Sandbag Barrier
Sediment Basin
Sediment Trap
Silt Fence
Slope Drain
Stabilized Construction Entrance
Straw Bale Barrier
Surface Roughening
Vegetated Buffers
Vehicle and Equipment Cleaning

**DESCRIPTION:**

Slope construction with benches spaced at regular intervals perpendicular to the slope which intercept and collect sheet flow and direct it to a stable outfall point.

APPLICATIONS:

- ◆ Unstabilized cut and fill slopes
- ◆ Large stockpiles
- ◆ Existing unstable slopes

INSTALLATION/APPLICATION CRITERIA:

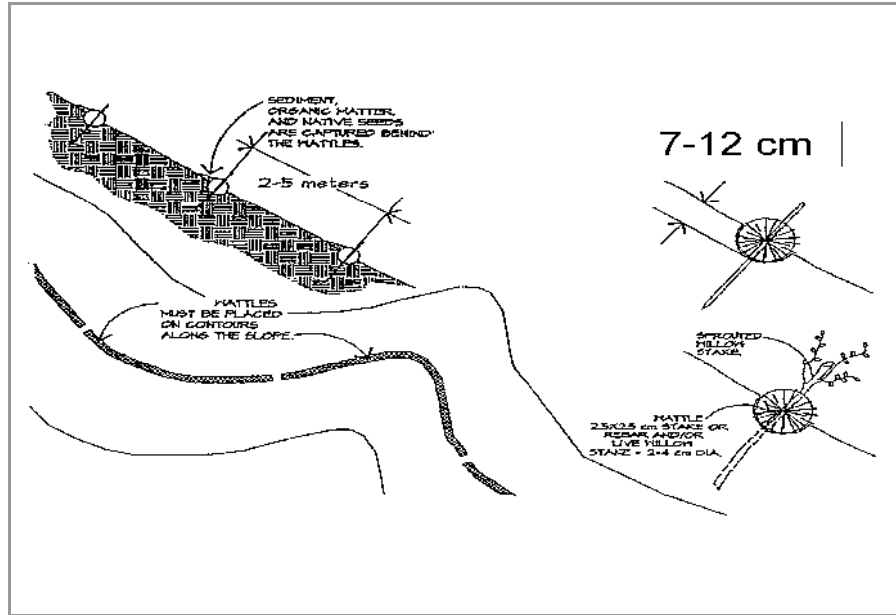
- ◆ Benches should be formed as slope is constructed and graded to the outlet point.
- ◆ Stabilized outlet with sediment controls should be in place prior to slope construction.

LIMITATIONS:

- ◆ Construction slope design must accommodate benching
- ◆ Not appropriate for sandy or rocky soil
- ◆ Only effective if suitable outlet provided

MAINTENANCE:

- ◆ Inspect after major storm events and at least biannually, repair any damaged areas.
- ◆ Remove debris blocking water flow.
- ◆ Inspect outlet, repair/replace sediment controls and remove sediment build up.



DESCRIPTION:

Bioengineering methods combine vegetative and mechanical techniques to stabilize eroding slopes. Bioengineering methods include sprigging, tubelings and wattling. Sprigging involves planting rhizomes, stolons, shoots or sprouts of a desirable species. Tubelings are forbs, shrubs, or trees commercially available in reusable plastic tubes or sleeves. Wattles are bundles of cuttings from live willows, alders, or similar plants placed and secured in trenches across a slope to aid in slope stabilization.

APPLICATIONS:

- ◆ Sprigging may be performed on cut and fill slopes or other areas needing permanent soil stability.
- ◆ Tubelings may be placed on any area needing revegetation, but are most useful on slopes or flat areas where poor topsoil conditions inhibit successful seed germination and early plant growth.
- ◆ Wattles act to reduce slope length and aid in stabilizing slopes due to surface runoff, frost heaving, needle ice, or other soil movement.

INSTALLATION/APPLICATION CRITERIA:

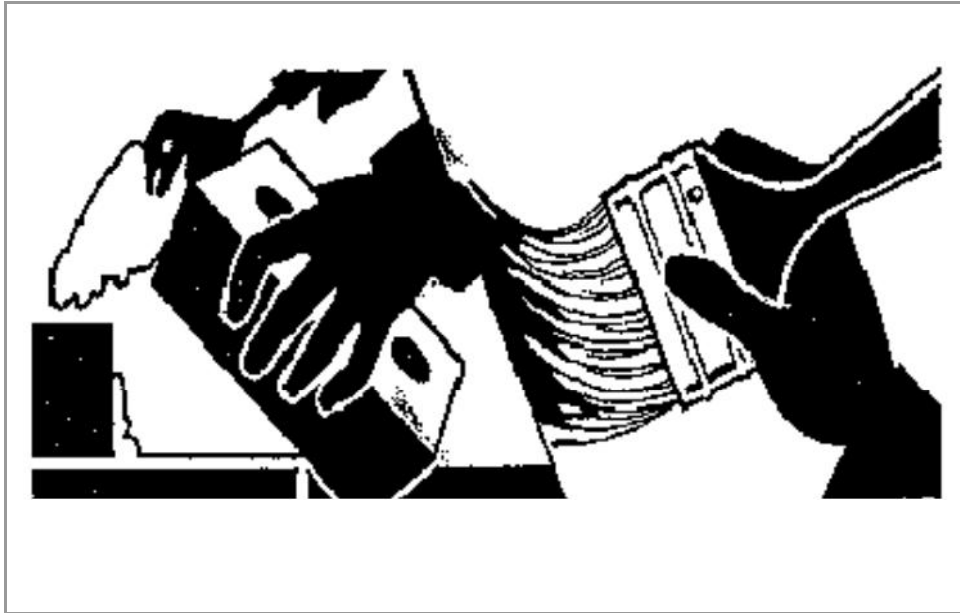
- ◆ Sprigging involves tearing sod apart; planting rhizomes or stolons, or transplanting shoots or sprouts. Sprigs are placed by broadcast, punching-in or with a special sprig planter.
- ◆ Tubelings involve drilling holes to the depth necessary to accommodate roots.
- ◆ Wattles are best applied to slopes no steeper than 2:1.

LIMITATIONS:

- ◆ Availability of plant materials may affect what species can be used.
- ◆ May be necessary to arrange for commercially grown tubelings.
- ◆ Cannot be used as a substitute for retaining walls or similar devices to stabilize over steepened slopes.

MAINTENANCE:

- ◆ Sprigging and tubeling plantings should be checked periodically until they are permanently established.
- ◆ Assess the need for replacement plantings or supplemental fertilizer.

**DESCRIPTION:**

Prevent or reduce the discharge of pollutants to stormwater 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.

APPLICATIONS:

- ◆ 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:

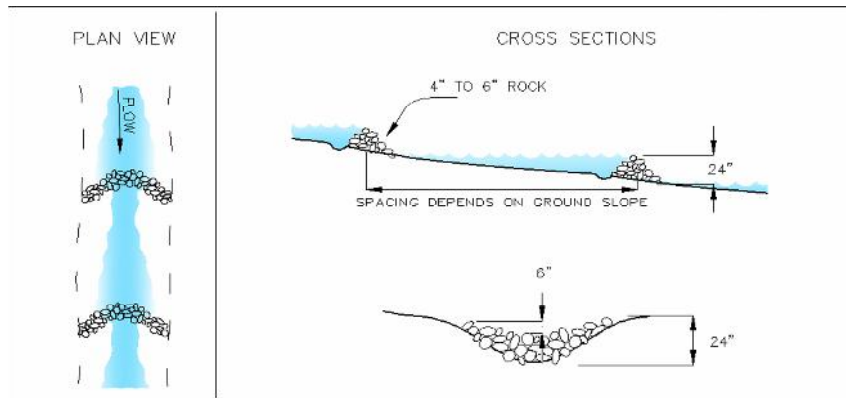
- ◆ Enclose painting operations consistent with local air quality regulations and OSHA.
- ◆ Properly store materials that are normally used in repair and remodeling such as paints and solvents.
- ◆ Properly store and dispose waste materials generated from the activity.
- ◆ Maintain good housekeeping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

LIMITATIONS:

- ◆ This BMP is for minor construction only.
- ◆ A licensed hazardous waste hauler must dispose of hazardous waste that cannot be re-used or recycled.
- ◆ 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

**DESCRIPTION:**

A small, temporary dam constructed across a drainage ditch to reduce velocity of concentrated storm water flows, thereby reducing the erosion of the ditch.

APPLICATIONS:

- ◆ Temporary drainage paths
- ◆ Permanent drainage ways not yet stabilized
- ◆ Existing drainage paths receiving increased flows due to construction

INSTALLATION/APPLICATION CRITERIA:

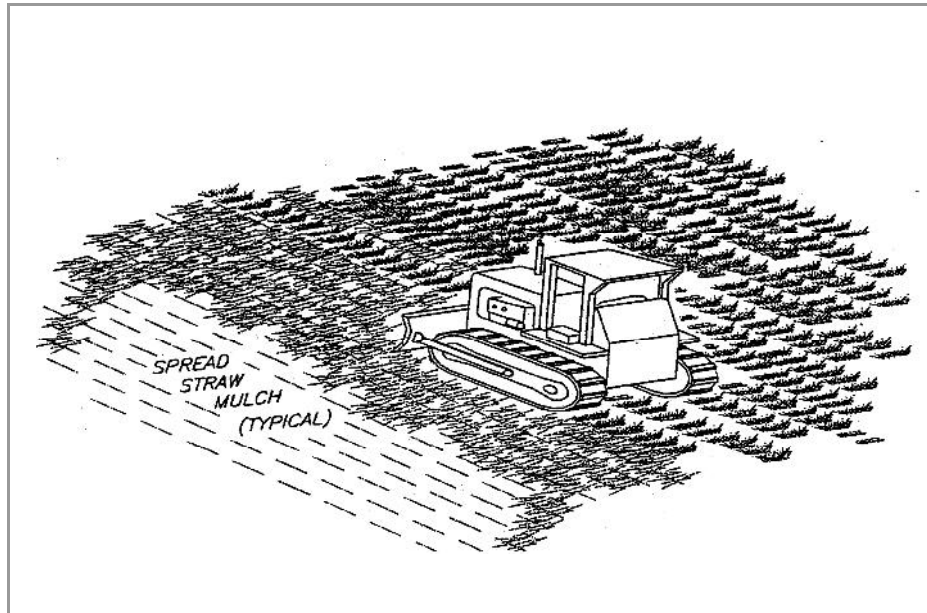
- ◆ Prepare location of dam by removing any debris and rough grading any irregularities in channel bottom
- ◆ Place rocks by hand or with appropriate machinery; do not dump
- ◆ Space dams to make the base of the upstream dam the same elevation as the top of the next lower dam
- ◆ Construct dam to pass design flows with center lower to create a weir effect
- ◆ Construct 50% side slopes on dam

LIMITATIONS:

- ◆ Maximum recommended drainage area is 10 acres
- ◆ Maximum recommended height is 24"
- ◆ Do not use in running stream

MAINTENANCE:

- ◆ Inspect dams at a minimum of twice monthly, after each major rain event, and daily during prolonged rainfall.
- ◆ Remove any large debris and repair any damage to dam, channel or sideslopes.
- ◆ Remove accumulated sediment when it reaches one half the height of the dam.

**DESCRIPTION:**

Applying materials such as vinyl, asphalt, plastics, or rubber on an unprotected slope to temporarily stabilize the slope.

APPLICATIONS:

- ◆ As a tacking agent to aid the stabilization of mulches (where matting is not used).
- ◆ As a short-term alternative in areas where temporary seeding practices cannot be used because of seasonal condition or climate.
- ◆ On steep and rocky slopes where neither mechanical methods or mulches and protective netting can be effectively applied.

INSTALLATION/APPLICATION CRITERIA:

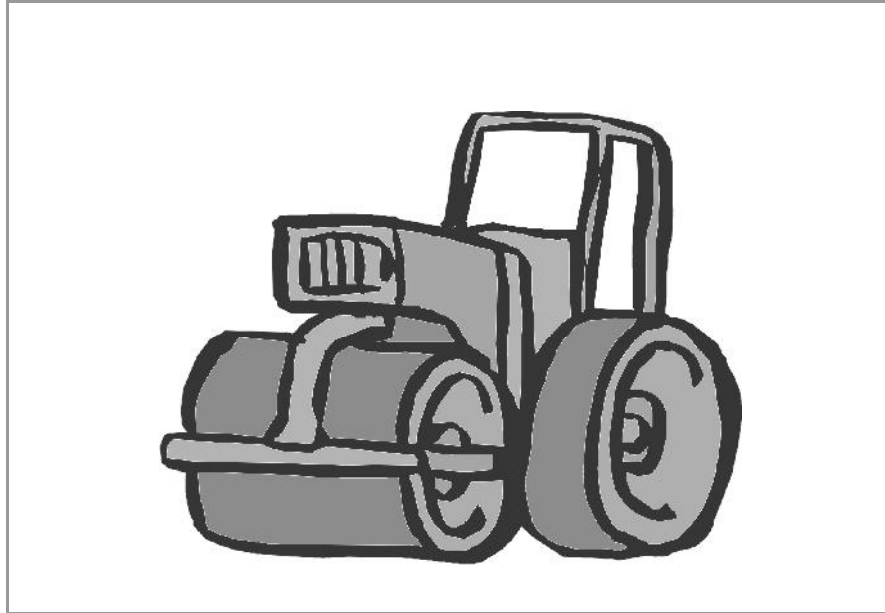
- ◆ The application rates and procedures recommended by the manufacturer of a chemical stabilization product should be followed to prevent the products from forming ponds and from creating large areas where moisture cannot get through.
- ◆ For permanent application, chemical mulches (when used with seed and mulch) should be applied over wood fiber or straw mulch.

LIMITATIONS:

- ◆ Chemical mulches can create impervious surfaces and impact water quality if not properly applied.
- ◆ Some products may not be suitable for use near live streams.

MAINTENANCE:

- ◆ Inspect at regular intervals and after each runoff-producing storm event.
- ◆ Replace chemical mulch as needed to ensure adequate level of coverage.

**DESCRIPTION:**

Use of rolling, tamping, or vibration to stabilize fill materials and control erosion by increasing the soil density. Increasing the density of soil improves soil strength, reduces long-term soil settlement, and provides resistance to erosion.

APPLICATIONS:

- ◆ Stabilize fill material placed around various structures.
- ◆ Improve soil in place as foundation support for roads, parking lots, and buildings.

INSTALLATION/APPLICATION CRITERIA:

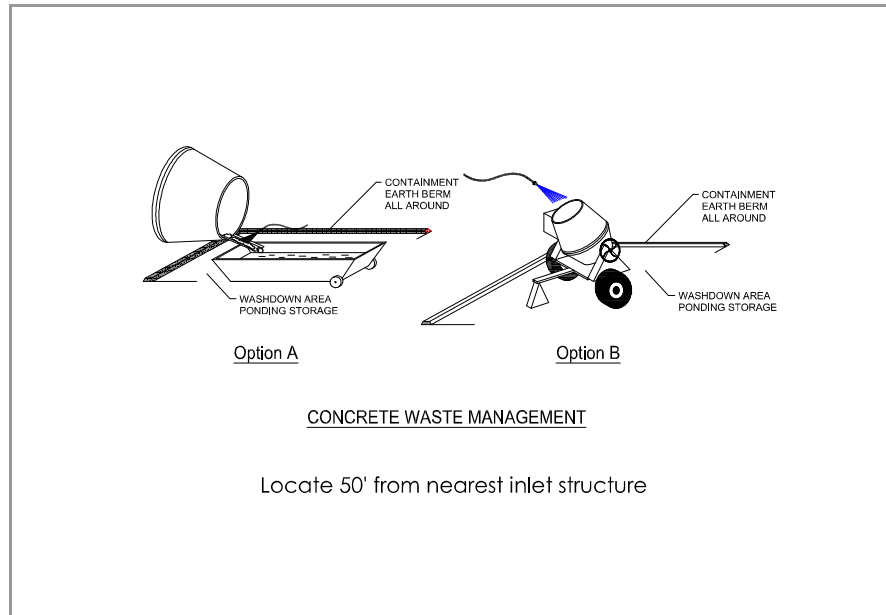
- ◆ Make sure soil moisture content is at optimum levels.
- ◆ Use proper compaction equipment.
- ◆ Install sediment control and storm water management devices below compacted areas and runoff interceptor devices above these areas. Drainage from compacted areas must be carefully planned to protect adjacent uncompacted soils.
- ◆ The surface of compacted areas should be scarified and seeded or mulched and seeded to increase the effectiveness of compaction.

LIMITATIONS:

- ◆ Compaction tends to increase runoff.
- ◆ Over-compaction will hamper revegetation efforts.

MAINTENANCE:

- ◆ No maintenance required.



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.

APPLICATION:

This technique is applicable to all types of sites.

INSTALLATION/APPLICATION CRITERIA:

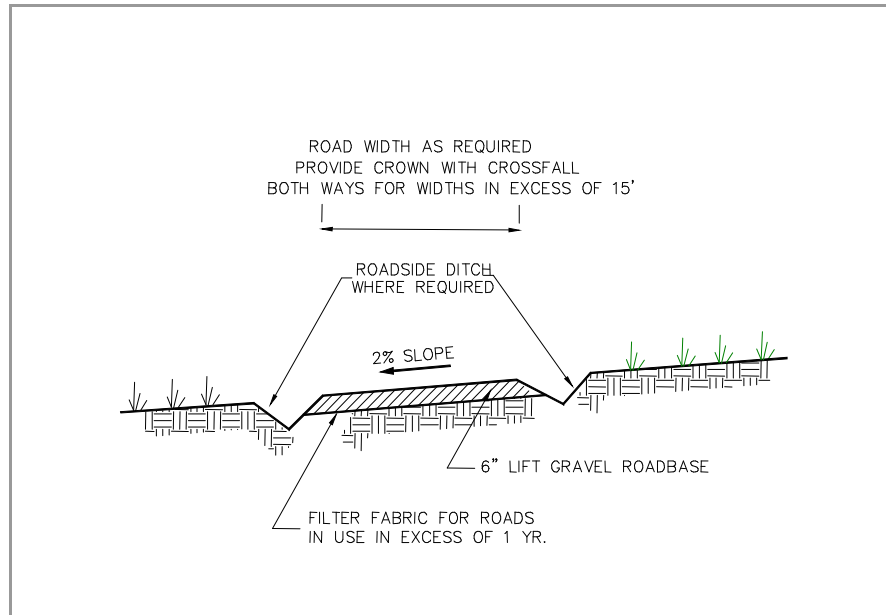
- ◆ Store dry materials under cover, away from drainage areas.
- ◆ Minimize excess mixing of fresh concrete, mortar or cement on-site.
- ◆ Perform washout of concrete trucks off-site or in designated areas only.
- ◆ Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- ◆ 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. (6" tall by 6" wide).
- ◆ 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.

**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.



DESCRIPTION:

Construction sequencing is a specified work schedule that coordinates the timing of land-disturbing activities and the installation of erosion and sediment control measures. Construction site phasing involves disturbing only part of a site at a time to prevent erosion from dormant parts. Grading activities and construction are completed and soils are effectively stabilized on one part of the site before grading and construction commence at another part.

APPLICATIONS:

Sequencing can be used to plan earthwork and erosion and sediment control activities at sites where land disturbances might affect water quality in a receiving waterbody.

INSTALLATION/APPLICATION CRITERIA:

Sequencing schedules should include the following Design and Installation Criteria:

- ◆ The erosion & sediment control practices that are to be installed
- ◆ Principal development activities
 - ▶ Which measures should be installed before other activities are started
 - ▶ Compatibility with the general contract construction schedule

LIMITATIONS:

Weather and other unpredictable variables might affect sequence schedules. However, the erosion and sediment control plan should plainly state the proposed schedule and a protocol of making changes due to unforeseen problems.

MAINTENANCE:

Follow the construction sequence throughout the project and modify the written plan before any changes in construction activities are executed. Update the plan if a site inspection indicates the need for additional erosion and sediment control.

**DESCRIPTION:**

Prevent or reduce the discharge of pollutants to stormwater from contaminated or erodible surface areas by leaving as much vegetation on-site as possible, minimizing soil exposure time, stabilizing exposed soils, and preventing stormwater runoff and runoff.

APPLICATIONS:

This BMP addresses soils which are not so contaminated as to exceed criteria but the soil is eroding and carrying pollutants off in the stormwater.

INSTALLATION/APPLICATION CRITERIA:

Contaminated or erodible surface areas can be controlled by:

- ◆ Preservation of natural vegetation, re-vegetation, chemical stabilization, removal of contaminated soils or geosynthetics.

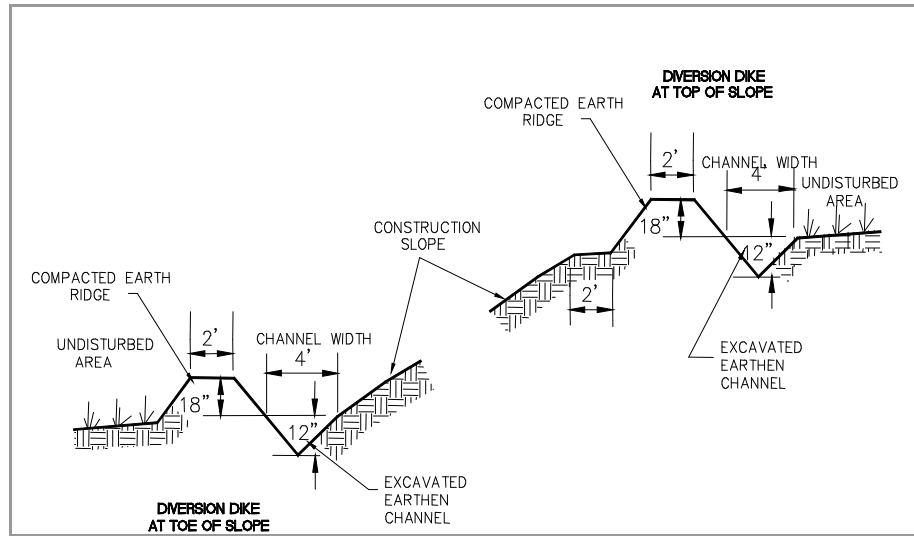
LIMITATIONS:

Disadvantages of preserving natural vegetation or re-vegetating include:

- ◆ Requires substantial planning to preserve and maintain the existing vegetation.
- ◆ May not be cost-effective with high land costs.
- ◆ Lack of rainfall and/or poor soils may limit the success of re-vegetated areas.
- ◆ Disadvantages of chemical stabilization include:
 - Creation of impervious surfaces.
 - May cause harmful effects on water quality.
 - Is usually more expensive than vegetative cover.

MAINTENANCE:

Maintenance should be minimal, except possibly if irrigation of vegetation is necessary.



DESCRIPTION:

A temporary sediment barrier and storm runoff conveyance consisting of an excavation channel and compacted earth ridge.

APPLICATION:

- ◆ Construct along top of construction slope to intercept upgradient runoff and convey around construction site.
- ◆ Construct along toe of construction to divert sediment laden runoff.
- ◆ Construct along midpoint of construction slope to intercept runoff and channel to controlled discharge point.
- ◆ Construct around base of soil stockpiles to capture sediment.
- ◆ Construct around perimeter of disturbed areas to capture sediment.

INSTALLATION/APPLICATION CRITERIA:

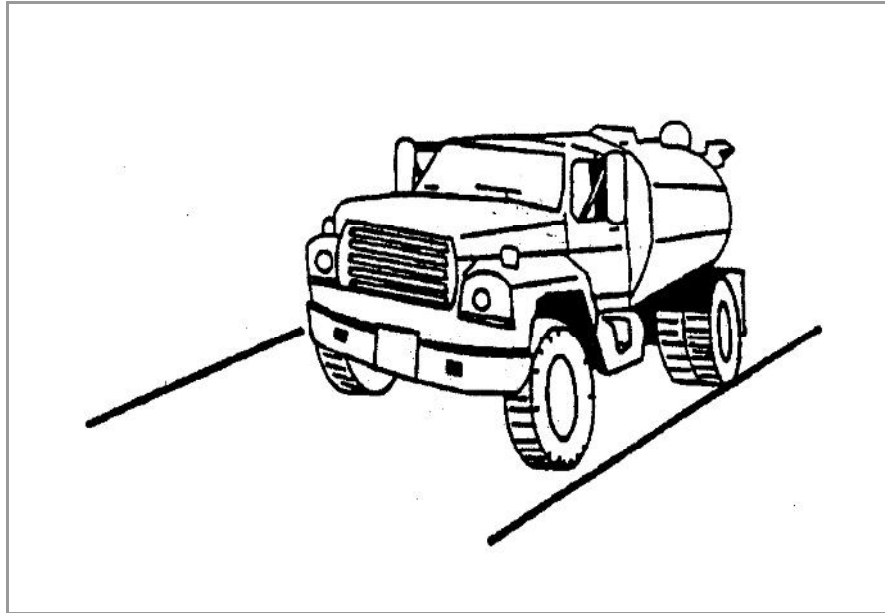
- ◆ Clear and grub area for dike construction.
- ◆ Excavate channel and place soil on downgradient side.
- ◆ Shape and machine compact excavated soil to form ridge.
- ◆ Place erosion protection (riprap, mulch) at outlet.
- ◆ Stabilize channel and ridge as required with mulch, gravel, or vegetative cover.

LIMITATIONS:

- ◆ Recommended maximum drainage area of 5 acres.
- ◆ Recommended maximum sideslopes of 2h:1v (50%).
- ◆ Recommended maximum slope on channel of 1%.

MAINTENANCE:

- ◆ Inspect immediately after any rainfall and at least daily during prolonged rainfall.
- ◆ Look for runoff breaching dike or eroding channel or sideslopes.
- ◆ Check discharge point for erosion or bypassing of flows.
- ◆ Repair and stabilize as necessary.
- ◆ Inspect daily during vehicular activity on slope, check for and repair any traffic damage.

**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:

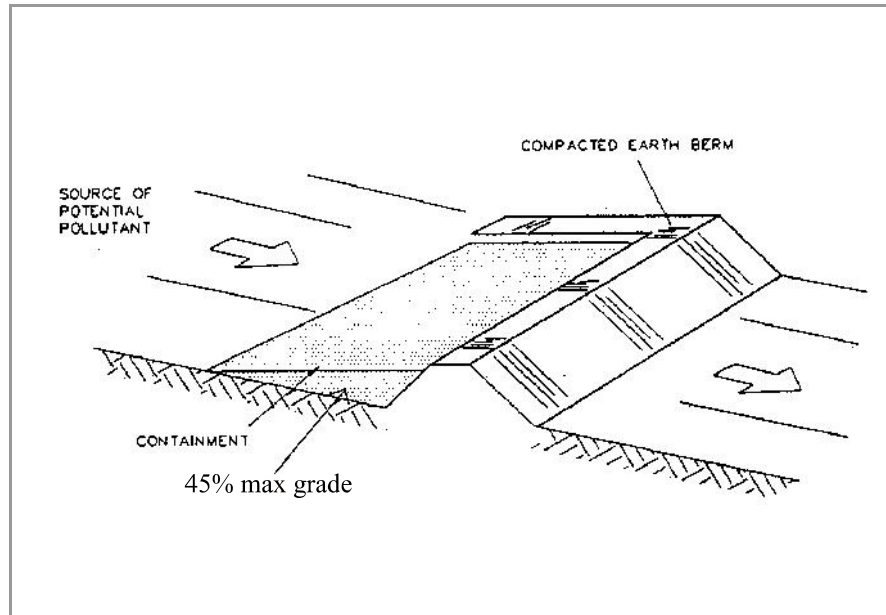
- ◆ Mechanical dust collection systems are designed according to the size of dust particles and the amount of air to be processed. Manufacturers' recommendations should be followed for installation (as well as the design of the equipment).
- ◆ Two kinds of street sweepers are common: brush and vacuum. 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:

- ◆ Generally more expensive than manual systems.
- ◆ May be impossible to maintain by plant personnel (the more elaborate equipment).
- ◆ 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.

**DESCRIPTION:**

A temporary containment control constructed of compacted soil.

APPLICATION:

- ◆ Construct around waste and materials storage area.
- ◆ Construct around staging and maintenance areas.
- ◆ Construct around vehicle parking and servicing areas.

INSTALLATION/APPLICATION CRITERIA:

- ◆ Construct an earthen berm down hill of the area to be controlled. The berm should surround fueling facilities and maintenance areas on three sides to provide containment.
- ◆ Berm needs to be a minimum of 1 foot tall by 1 foot wide and be compacted by earth moving equipment.

LIMITATIONS:

- ◆ Not effective on steep slopes.
- ◆ Limits access to controlled area.
- ◆ Personnel need to quickly respond to spills with remedial actions.

MAINTENANCE:

- ◆ Observe daily for any non-stormwater discharge.
- ◆ Look for runoff bypassing ends of berms or undercutting berms.
- ◆ Repair or replace damaged areas of the berm and remove accumulated sediment.
- ◆ Recompact soil around berm as necessary to prevent piping.

**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.

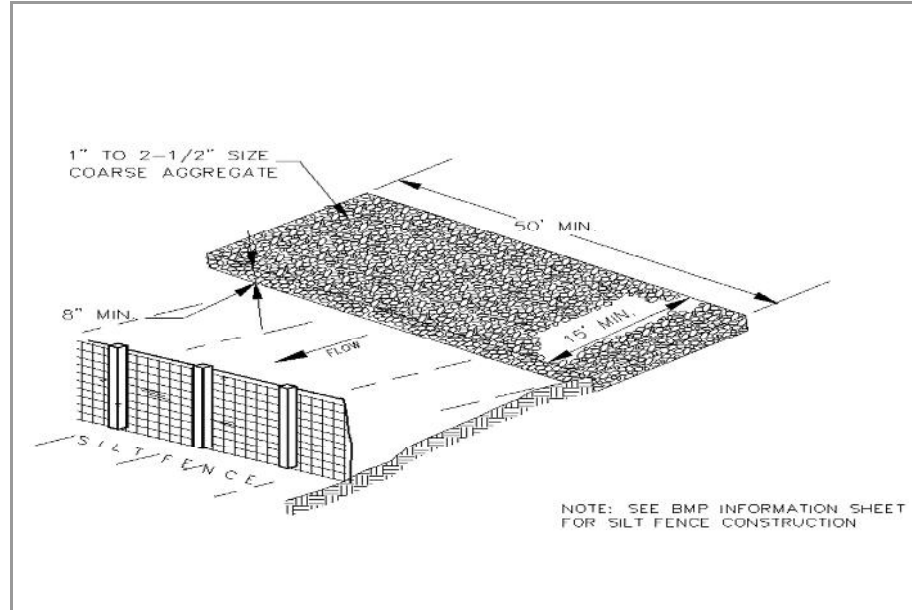
OBJECTIVES:

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 your business by other regulations.
- ◆ Businesses that are not regulated in Federal, State, or local regulations, may use the information in this handbook to develop a training program to reduce their potential to pollute stormwater.
- ◆ Employee training is a vital component of many of the individual source control BMPs included in this manual.

**DESCRIPTION:**

A stabilized pad of crushed stone for general washing of equipment and construction vehicles.

APPLICATION:

At any site where regular washing of vehicles and equipment will occur. May also be used as a filling point for water trucks limiting erosion caused by overflow or spillage of water.

INSTALLATION:

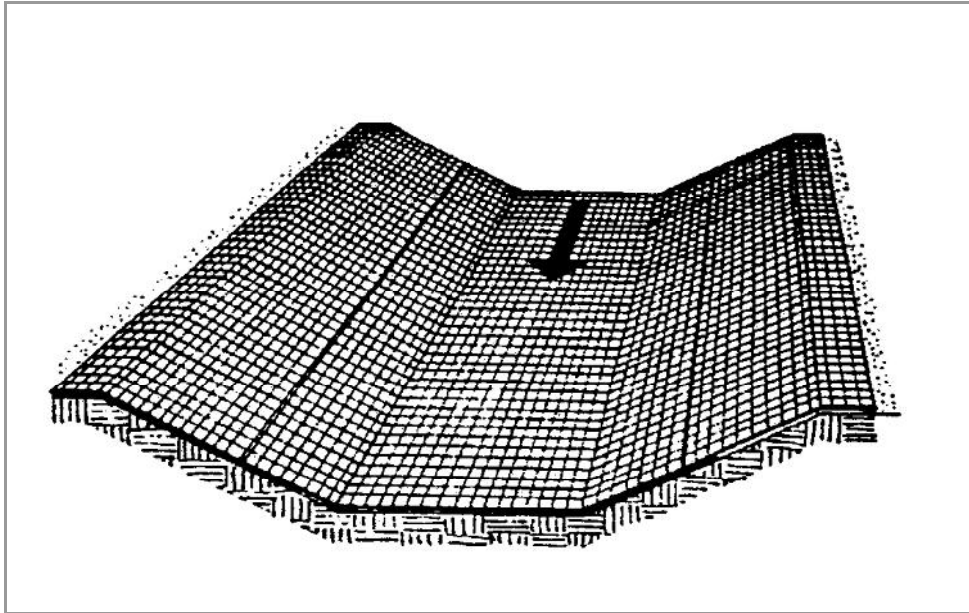
- ◆ Clear and grub area and grade to provide maximum slope of 1%.
- ◆ Compact subgrade and place filter fabric if desired (recommended for wash areas to remain in use for more than 3 months).
- ◆ Place coarse aggregate, 1 to 2-1/2 inches in size, to a minimum depth of 8-inches.
- ◆ Install silt fence downgradient (see silt fence BMP information sheet).

LIMITATIONS:

Cannot be utilized for washing equipment or vehicles that may cause contamination of runoff such as fertilizer equipment or concrete equipment. Solely used to control sediment in wash water.

MAINTENANCE:

- ◆ Inspect daily for loss of gravel or sediment buildup.
- ◆ Inspect adjacent area for sediment deposit and install additional controls as necessary.
- ◆ Repair area and replace gravel as required to maintain control in good working condition.
- ◆ Expand stabilized area as required to accommodate activities.
- ◆ Maintain silt fence as outlined in specific silt fence BMP information sheet.

**DESCRIPTION:**

Erosion control blankets are used in place of mulch on areas of high velocity runoff and/or steep grade, to aid in controlling erosion on critical areas by protecting young vegetation.

APPLICATIONS:

- ◆ Where vegetation is likely to grow too slowly to provide adequate cover.
- ◆ In areas subject to high winds where mulch would not be effective.

INSTALLATION/APPLICATION CRITERIA:

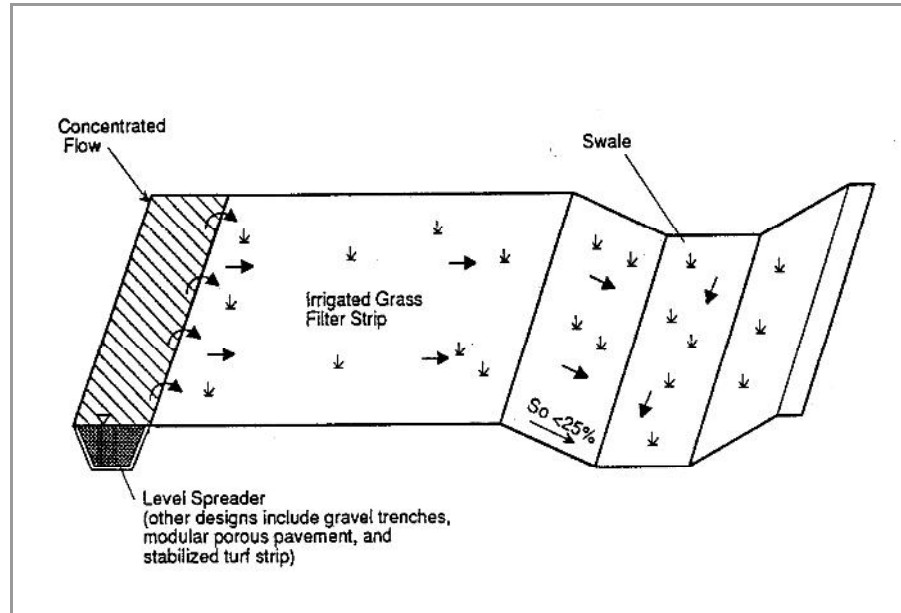
- ◆ Install erosion control blankets parallel to the direction of the slope.
- ◆ In ditches, apply in direction of the flow.
- ◆ Place erosion control blankets loosely on soil - do not stretch.
- ◆ Ends of blankets should be buried no less than six inches deep.
- ◆ Staple the edges of the blanket at least every three feet.

LIMITATIONS:

Not recommended in areas which are still under construction.

MAINTENANCE:

- ◆ Check for erosion and undermining periodically, particularly after rainstorms.
- ◆ Repair dislocations or failures immediately.
- ◆ If washouts occur, reinstall after repairing slope damage.
- ◆ Monitor until permanently stabilized.

**DESCRIPTION:**

Filter strips are 20-foot-wide strips of natural or planted vegetation around a construction site. They are designed to cause deposition of sediments within the vegetation layer.

APPLICATIONS:

- ◆ Suited for areas where the soils are well drained or moderately well drained.
- ◆ Areas where the bedrock and the water table are well below the surface.

INSTALLATION/APPLICATION CRITERIA:

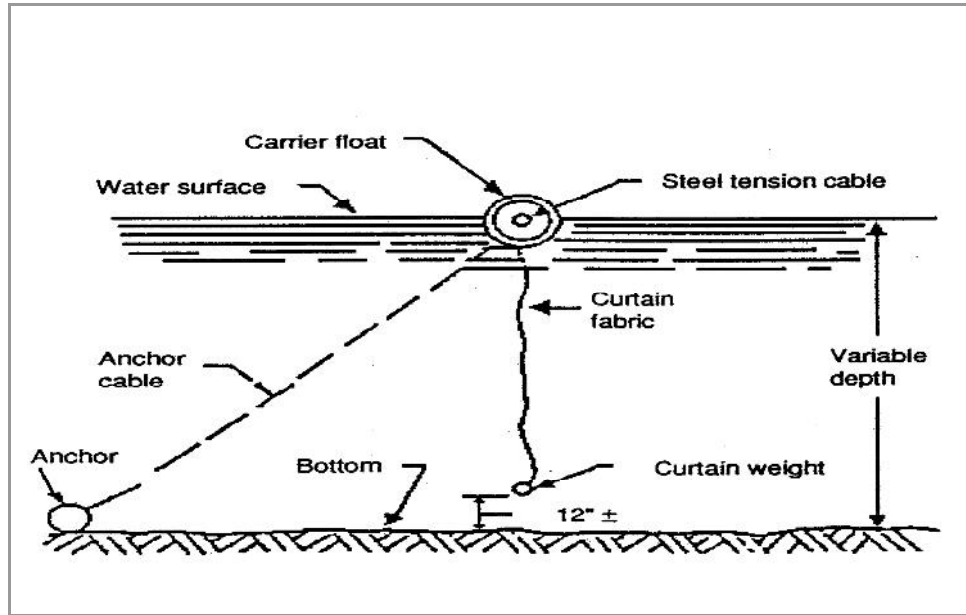
- ◆ Make sure the vegetative cover is dense enough to protect underlying soil while causing sediment to settle.
- ◆ Filter strip must be approximately 20 feet wide to function well.
- ◆ The length should be approximately 50 to 75 feet. Where slopes become steeper the length of the strip must be increased.

LIMITATIONS:

- ◆ Only applicable in areas where vegetation is previously established or where sod is added.
- ◆ Vegetated filter strips will not function well on steep slopes, in hilly areas, or in highly paved areas.
- ◆ Sites with slopes of 15 percent or more may not be suitable for filtering storm water flows.

MAINTENANCE:

- ◆ Check for channels and repair.
- ◆ Provide rock aprons to aid in slowing flow if necessary.
- ◆ Maintain vegetation at optimal height and thickness.



DESCRIPTION:

A flotation silt curtain is a silt barrier for use within a lake or pond. The flotation silt curtain consists of a filter fabric curtain weighted at the bottom and attached to a flotation device at the top. This structure is used to isolate an active construction area within a lake or pond to prevent silt-laden water from migrating out of the construction zone.

APPLICATIONS:

Where construction is conducted within a lake or pond area.

INSTALLATION/APPLICATION CRITERIA:

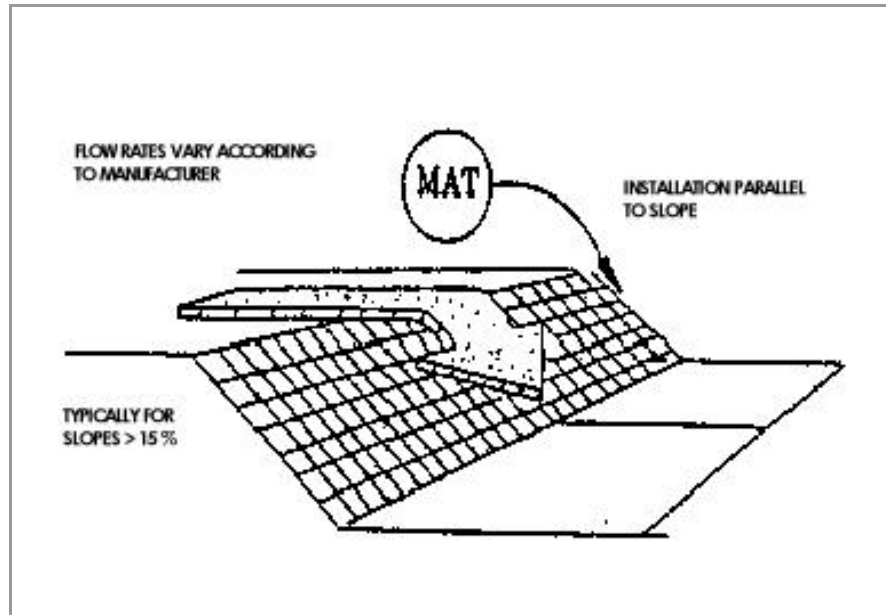
- ◆ The curtain should be constructed of a nylon fabric with a minimum tensile strength of 300 pounds per inch of fabric.
- ◆ The top of the curtain should have a flotation carrier consisting of a floating plastic tube (6-inch minimum diameter) filled with marine quality polyethylene foam. The flotation carrier should also have a 5/16" diameter coated steel cable in it to carry loads imposed upon the curtain.
- ◆ The bottom edge should be weighted by cable or chain with a minimum weight of 1.1 pounds per foot.
- ◆ One 24-pound anchor should be used per 100 feet of curtain.
- ◆ Where the curtain is made up of sections, the sections should be joined so that silt cannot permeate through the connection.

LIMITATIONS:

Not recommended in very shallow water bodies.

MAINTENANCE:

The silt curtain should be maintained until the construction area is stabilized and turbidity is reduced to acceptable levels.



DESCRIPTION:

Mattings made of natural or synthetic material which are used to temporarily or permanently stabilize soil.

APPLICATION:

- ◆ Typically suited for post-construction site stabilization, but may be used for temporary stabilization of highly erosive soils.
- ◆ Channels and streams.
- ◆ Steep slopes.

INSTALLATION/APPLICATION CRITERIA:

- ◆ Mattings may be applied to disturbed soils and where existing vegetation has been removed.
- ◆ The following organic matting materials provide temporary protection until permanent vegetation is established, or when seasonal circumstances dictate the need for temporary stabilization until weather or construction delays are resolved: Jute mattings and straw mattings.
- ◆ The following synthetic mattings may be used for either temporary or post-construction stabilization, both with and without vegetation: excelsior matting, glass fiber matting, mulch matting.
- ◆ Staples are needed to anchor the matting.

LIMITATIONS:

- ◆ Mattings are more costly than other BMP practices, limiting their use to areas where other BMPs are ineffective (e.g., channels, steep slopes).
- ◆ May delay seed germination, due to reduction in soil temperature.
- ◆ Installation requires experienced contractor to ensure soil stabilization and erosion protection.

MAINTENANCE:

- ◆ Inspect monthly and after significant rainfall.
- ◆ Re-anchor loosened matting and replace missing matting and staples as required.

**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
- ◆ PCBs.

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.

**DESCRIPTION:**

A combination of wood fiber mulch, processed grass, or hay or straw mulch and a tacking agent. It is made into a slurry, then applied to bare slopes or other bare areas to provide temporary stabilization.

APPLICATIONS:

- ◆ Small roadside slopes.
- ◆ Large, relatively flat areas.

Installation/Application Criteria:

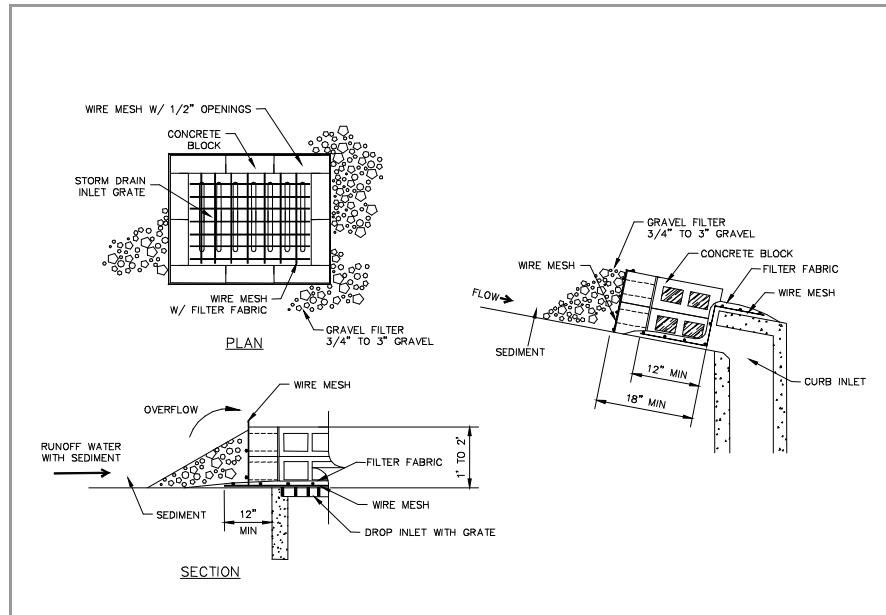
- ◆ Legume seeds should be pellet inoculated with the appropriate bacteria.
- ◆ The seed should not remain in the hydromulcher tank for more than 30 minutes.
- ◆ Wood fiber may be dyed to aid in uniform application.
- ◆ Slurry should be uniformly applied until an adequate coverage is achieved.
- ◆ The applicator should not be directed at one location for a long period of time; erosion will occur.

LIMITATIONS:

- ◆ Will lose effectiveness after 1 year.
- ◆ Can use only on physically stable slopes (at natural angle of repose, or less).

MAINTENANCE:

- ◆ Periodically inspect for damage caused by wind, water, or human disturbance.
- ◆ Promptly repair damaged areas.



DESCRIPTION:

Concrete block and gravel filter placed over inlet to storm drain system.

APPLICATION:

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

INSTALLATION/APPLICATION CRITERIA:

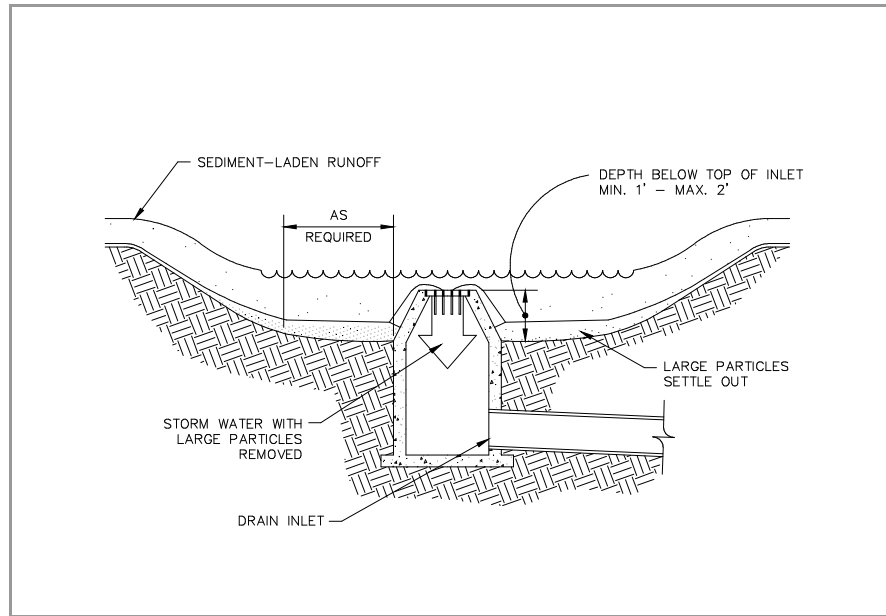
- ◆ Place wire mesh (with 1/2 inch openings) over the inlet grate extending one foot past the grate in all directions.
- ◆ Place concrete blocks around the inlet with openings facing outward. Stack blocks to minimum height of 12-inches and maximum height of 24-inches.
- ◆ Place wire mesh around outside of blocks.
- ◆ Place gravel (3/4" to 3") around blocks.

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.

**DESCRIPTION:**

An area excavated around a storm drain inlet to impound water below the inlet.

APPLICATION:

Construct at storm drainage inlets located downgradient of areas to be disturbed by construction (for inlets in paved areas see other information sheets for inlet protection).

INSTALLATION/APPLICATION CRITERIA:

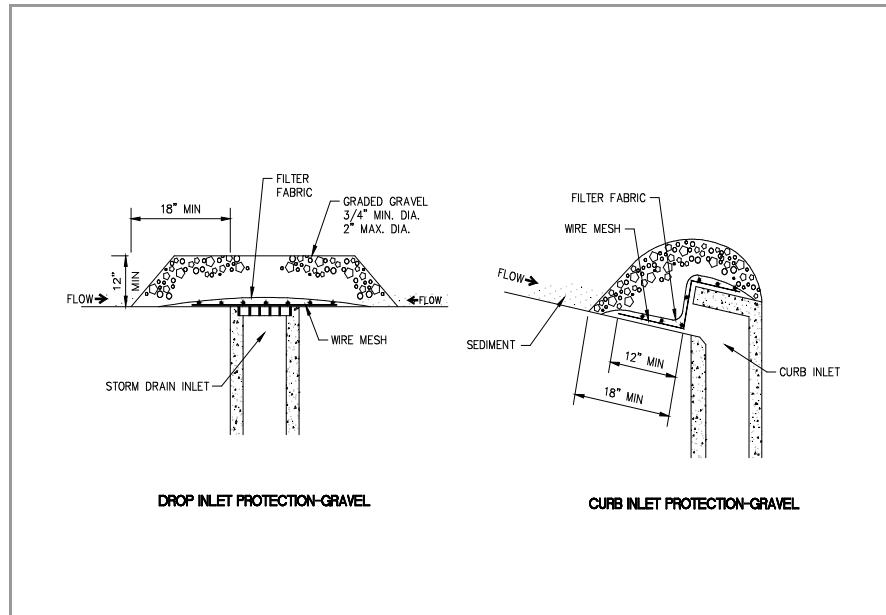
- ◆ Provide upgradient sediment controls, such as silt fence during construction of inlet.
- ◆ When construction of inlet is complete, excavate adjacent area 1 to 2 feet lower than the grate elevation. Size of excavated area should be based on soil type and contributing acreage.

LIMITATIONS:

- ◆ Recommended maximum contributing drainage area of one acre.
- ◆ Limited to inlets located in open unpaved areas.
- ◆ Requires flat area adjacent to inlet.

MAINTENANCE:

- ◆ Inspect inlet protection following storm event and at a minimum of once monthly.
- ◆ Remove accumulated sediment when it reaches one half of the excavated sump below the grate.
- ◆ Repair side slopes as required.



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:

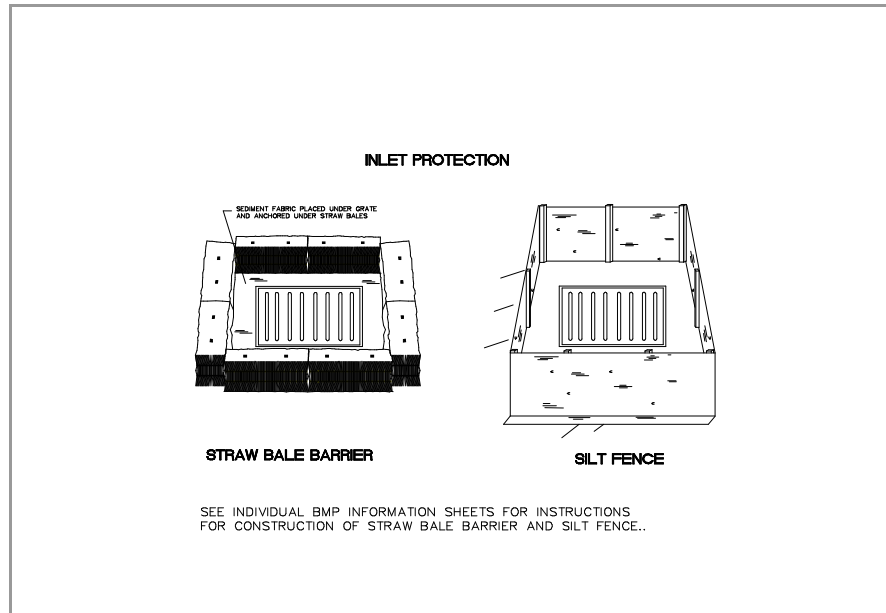
- ◆ Place wire mesh (with 1/2 inch openings) over the inlet grate extending one foot past the grate in all directions.
- ◆ Place filter fabric over the mesh. Filter fabric should be selected based on soil type.
- ◆ Place graded gravel, to a minimum depth of 12-inches, over the filter fabric and extending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

**DESCRIPTION:**

Sediment barrier erected around storm drain inlet.

APPLICATION:

Construct at storm drainage inlets located downgradient of areas to be disturbed by construction (for inlets in paved areas see other information sheets for inlet protection).

INSTALLATION/APPLICATION CRITERIA:

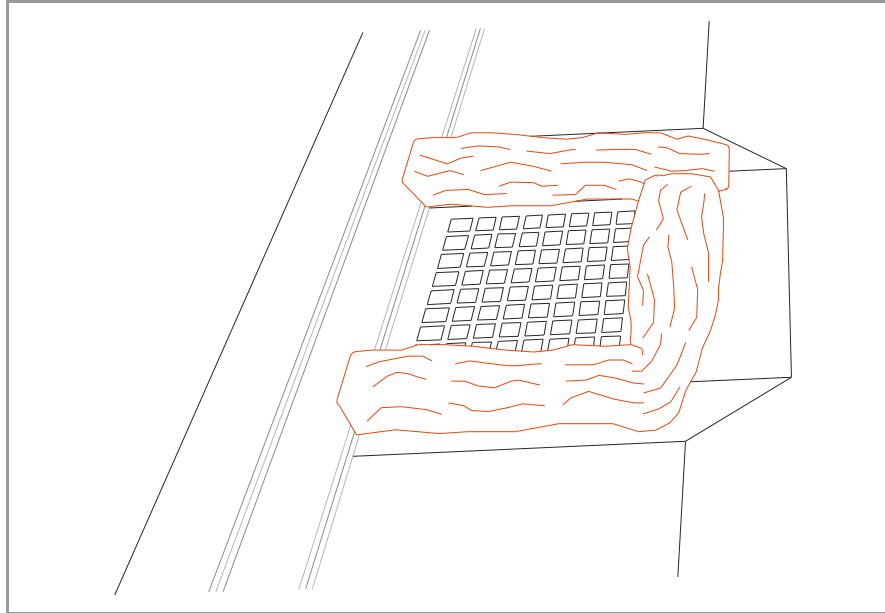
- ◆ Provide upgradient sediment controls, such as silt fence during construction of inlet.
- ◆ When construction of inlet is complete, erect straw bale barrier or silt fence surrounding perimeter of inlet. Follow instructions and guidelines on individual BMP information sheets for straw bale barrier and silt fence construction.

LIMITATIONS:

- ◆ Recommended maximum contributing drainage area of one acre.
- ◆ Limited to inlets located in open unpaved areas.
- ◆ Requires shallow slopes adjacent to inlet.

MAINTENANCE:

- ◆ Inspect inlet protection following storm event and at a minimum of once monthly.
- ◆ Remove accumulated sediment when it reaches 4-inches in depth.
- ◆ Repair or realign barrier/fence as needed.
- ◆ Look for bypassing or undercutting and recompact soil around barrier/fence as required.

**DESCRIPTION:**

Sediment barrier erected around storm drain inlet.

APPLICATION:

Construct at storm drainage inlets located down-gradient of areas to be disturbed by construction.

INSTALLATION/APPLICATION CRITERIA:

- ◆ Provide up-gradient sediment controls, such as silt fence during construction of inlet
- ◆ When construction of curb and gutter and roadways is complete, install gravel filled wattles around perimeter of inlet

LIMITATIONS:

- ◆ Recommended maximum contributing drainage area of one acre
- ◆ Requires shallow slopes adjacent to inlet

MAINTENANCE:

- ◆ Inspect inlet protection following storm event and at a minimum of once every 14 days.
- ◆ Remove accumulated sediment when it reaches 4 inches in depth.
- ◆ Look for bypassing or undercutting and repair or realign as needed.



DESCRIPTION:

Stormwater control BMPs need regular inspections to ensure their effectiveness, and is required by the DWQ construction permit. Routine inspections are required on a bi-weekly basis; before and after anticipated storm events. Proper maintenance is crucial to compliance with the permit and to minimize erosion.

Routine inspections help to ensure the integrity and effectiveness of BMPs; inspections prior to a rain event ensure that BMPs are cleaned out and operating properly; inspections following a rain event serve to prepare the site for the next event. Maintenance should be conducted when problems are identified.

APPLICATIONS:

Inspections and maintenance is required by the DWQ permit at all sites. Maintenance needs are best determined by a self-inspection program.

INSTALLATION/APPLICATION CRITERIA:

The person responsible for the inspections should be trained in the design and operation of the BMPS.

LIMITATIONS:

Construction site operators should allocate adequate time and resources for BMP maintenance and repair.

**DESCRIPTION:**

Land grading involves reshaping the ground surface to planned grades as determined by an engineering survey, evaluation, and layout. Land grading provides more suitable topography for buildings, facilities, and other land uses and helps to control surface runoff, soil erosion, and sedimentation during and after construction.

APPLICATIONS:

Land grading is applicable to sites with uneven or steep topography or easily erodible soils, because it stabilizes slopes and decreases runoff velocity. Grading activities should maintain existing drainage patterns as much as possible.

INSTALLATION/APPLICATION CRITERIA:

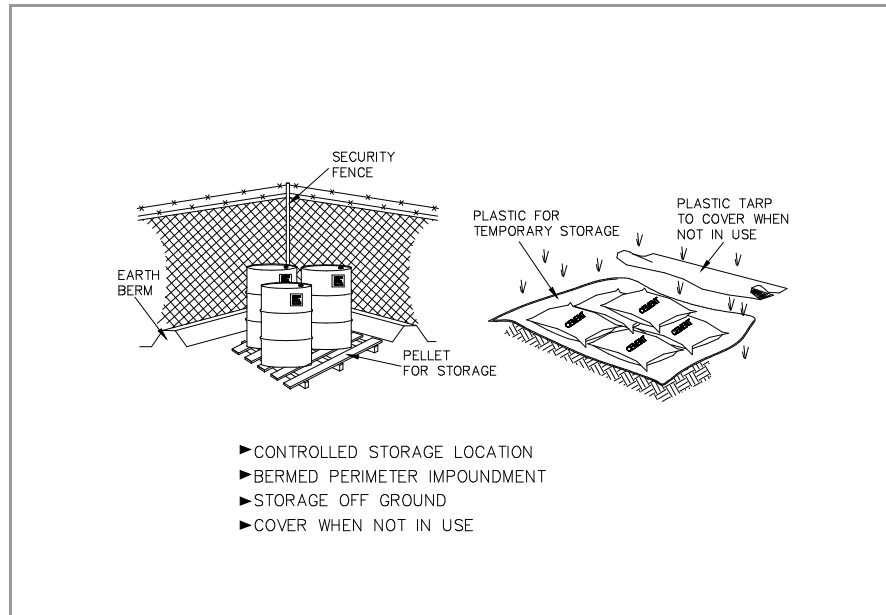
Before grading activities begin, a construction site operator must make decisions regarding the steepness of cut-and-fill slopes and how the slopes will be: Protected from runoff, stabilized and maintained.

LIMITATIONS:

Improper grading practices that disrupt natural stormwater patterns might lead to poor drainage, high-runoff velocities, and increased peak flows during storm events. Clearing and grading the entire site without vegetated buffers promotes offsite transport of sediments and other pollutants. Design the grading plan with erosion and sediment control and stormwater management goals in mind; to ensure that the plan is implemented as intended, carefully supervise grading crews.

MAINTENANCE:

- ◆ Check all graded areas and supporting erosion and sediment control practices periodically, especially after heavy rainfalls.
- ◆ Promptly remove all sediment from diversions or other stormwater conveyances, and if washouts or breaks occur, repair them immediately.
- ◆ To prevent small-scale eroded areas from becoming significant gullies, maintain them promptly.

**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:

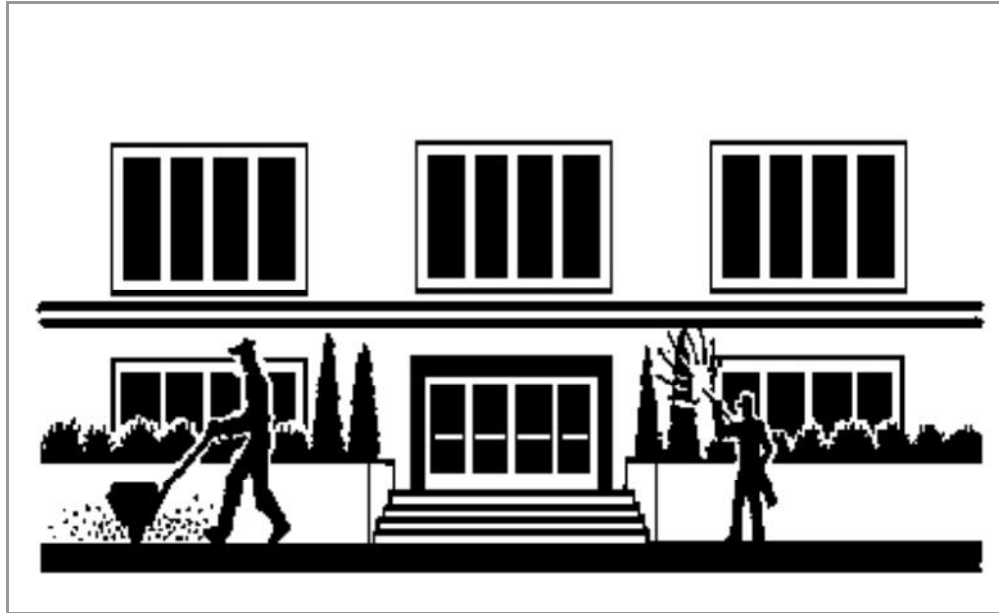
- ◆ Designate a secured area with limited access as the storage location. Ensure no waterways or drainage paths are nearby.
- ◆ Construct compacted earthen berm (See Earth Berm Barrier Information Sheet), or similar perimeter containment around storage location for impoundment in the case of spills.
- ◆ 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.

**DESCRIPTION:**

Prevent or reduce the discharge of pollutants to storm water from material use by using alternative products, minimizing hazardous material use on-site, and training employees and subcontractors.

APPLICATION:

The following materials are commonly used on construction sites:

- ◆ Pesticides and herbicides, fertilizers, detergents, plaster and other products, petroleum products such as fuel, oil, and grease.
- ◆ Other hazardous chemicals such as acids, lime, glues, paints, solvents, and curing compounds.

INSTALLATION/APPLICATION CRITERIA:

- ◆ Use less hazardous, alternative materials as much as possible.
- ◆ Minimize use of hazardous materials on-site.
- ◆ Use only materials where and when needed to complete the construction activity.
- ◆ Follow manufacturer's instructions regarding uses, protective equipment, ventilation, flammability, and mixing of chemicals.
- ◆ Personnel who use pesticides should be trained in their use.
- ◆ Do not over apply fertilizers, herbicides, and pesticides. Prepare only the amount needed.
- ◆ Unless on steep slopes, till fertilizers in to the soil rather than hydroseeding.
- ◆ Do not apply these chemicals just before it rains.

LIMITATIONS:

Alternative materials may not be available, suitable, or effective in every case.

MAINTENANCE:

Maintenance of this best management practice is minimal.

DESCRIPTION:

Placement of material such as straw, grass, woodchips, woodfibers or fabricated matting over open area.

APPLICATION:

- ◆ Any exposed area to remain untouched longer than 14 days and that will be exposed less than 60 days (seed areas to be exposed in excess of 60 days).
- ◆ Areas that have been seeded.
- ◆ Stockpiled soil material.

Material	Application	Depth	Comments
<u>Gravel:</u> Washed 1/4" to 1-1/2"	9 cy/1000 s f	3 inches	Good for traffic areas Good for short slopes
<u>Straw:</u> Air-dried, free of seeds and coarse material	2-3 bales /1000 s f	2 inches min.	Subject to wind blowing Flack down or keep moist
<u>Wood Fiber Cellulose:</u> Free from growth inhibitors ; dyed green	35 lb/1000 s f	1 inch	For critical areas , double application rate; Limit to slopes < 3% and < 150 feet

INSTALLATION/APPLICATION CRITERIA:

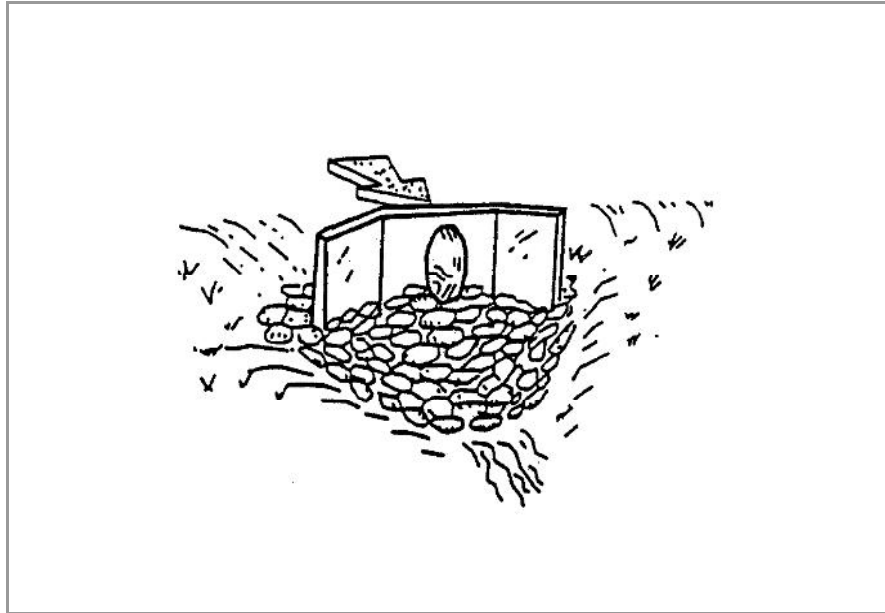
- ◆ Roughen area to receive mulch to create depressions that mulch material can settle into.
- ◆ Apply mulch to required thickness and anchor as necessary.
- ◆ Ensure material used is weed free and does not contain any constituents that will inhibit plant growth.

LIMITATIONS:

- ◆ Anchoring may be required to prevent migration of mulch material.
- ◆ Downgradient control may be required to prevent mulch material being transported to storm water system.

MAINTENANCE:

- ◆ Inspect mulched areas after every rainfall event and at a minimum of monthly.
- ◆ Replace mulch on any bare areas and re-anchor as necessary.
- ◆ Clean and replace downgradient controls as necessary.

**DESCRIPTION:**

A rock outlet protection is a physical device composed of rock, grouted riprap, or concrete rubble which is placed at the outlet of a pipe to prevent scour of the soil caused by high pipe flow velocities, and to absorb flow energy to produce non-erosive velocities.

APPLICATIONS:

- ◆ Wherever discharge velocities and energies at the outlets of culverts, conduits, or channels are sufficient to erode the next downstream reach.
- ◆ Rock outlet protection is best suited for temporary use during construction because it is usually less expensive and easier to install than concrete aprons or energy dissipators.
- ◆ A sediment trap below the pipe outlet is recommended if runoff is sediment laden.
- ◆ Permanent rock riprap protection should be designed and sized by the engineer as part of the culvert, conduit or channel design.
- ◆ Grouted riprap should be avoided in areas of freeze and thaw because the grout will break up.

INSTALLATION/APPLICATION CRITERIA:

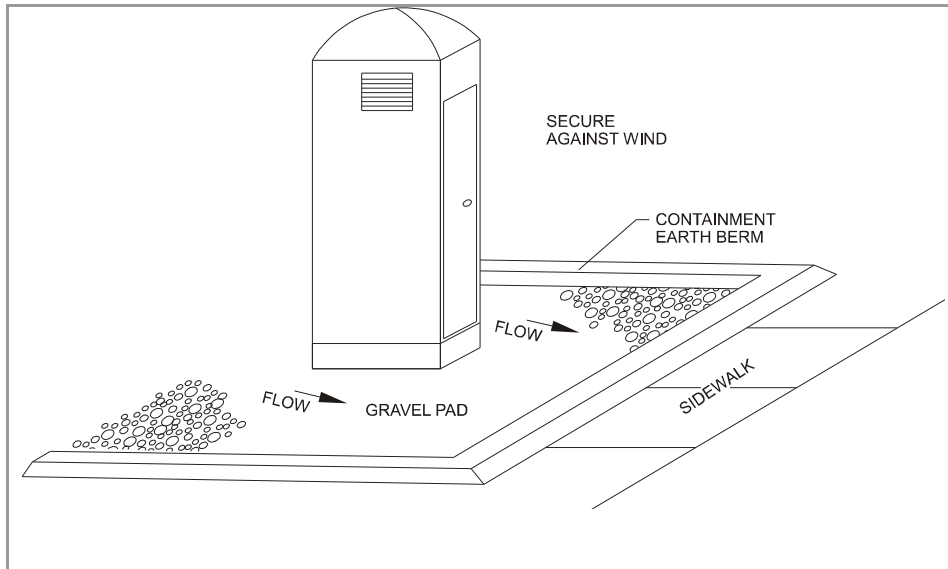
Rock outlet protection is effective when the rock is sized and placed properly. When this is accomplished, rock outlets do much to limit erosion at pipe outlets. Rock size should be increased for high velocity flows. Best results are obtained when sound, durable, angular rock is used.

LIMITATIONS:

- ◆ Large storms often wash away the rock outlet protection and leave the area susceptible to erosion.
- ◆ Sediment captured by the rock outlet protection may be difficult to remove without removing the rock.
- ◆ Outlet protection may negatively impact the channel habitat.

MAINTENANCE:

- ◆ Inspect after each significant rain for erosion and/or disruption of the rock, and repair immediately.
- ◆ Grouted or wire-tied rock riprap can minimize maintenance requirements.

**DESCRIPTION:**

Temporary on-site sanitary facilities for construction personnel.

APPLICATION:

All sites with no permanent sanitary facilities or where permanent facility is too far from activities.

INSTALLATION/APPLICATION CRITERIA:

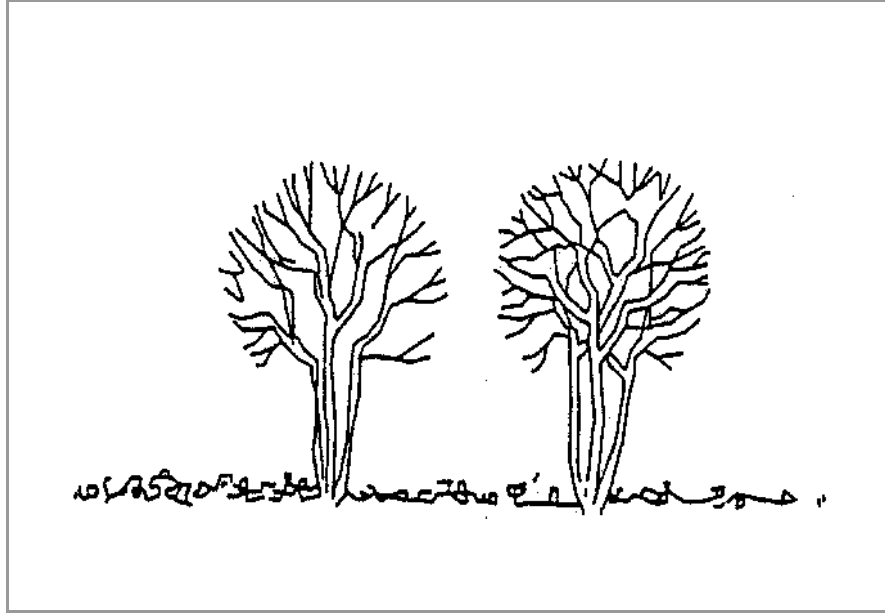
- ◆ Locate portable toilets in convenient locations throughout the site.
- ◆ Prepare level, gravel surface and provide clear access to the toilets for servicing and for on-site personnel.
- ◆ Construct earth berm perimeter (6" tall by 6" wide), control for spill/protection leak.

LIMITATIONS:

- ◆ No limitations.

MAINTENANCE:

- ◆ Portable toilets should be maintained in good working order by licensed service with daily observation for leak detection.
- ◆ Regular waste collection should be arranged with licensed service.
- ◆ All waste should be deposited in sanitary sewer system for treatment with appropriate agency approval.

**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:

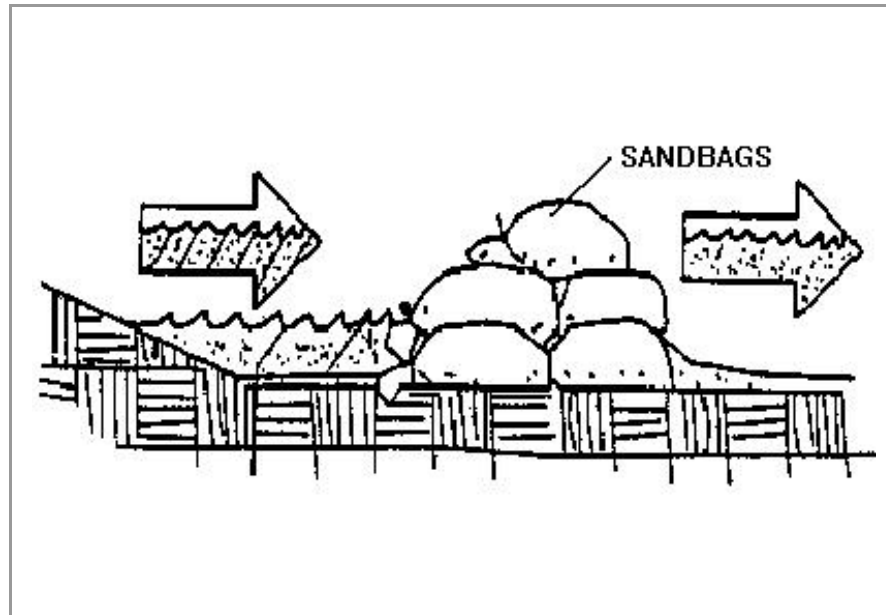
- ◆ Clearly mark, flag or fence vegetation or areas where vegetation should be preserved.
- ◆ Prepare landscaping plans which include as much existing vegetation as possible and state proper care during and after construction.
- ◆ Define and protect with berms, fencing, signs, etc. a setback area from 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.

**DESCRIPTION:**

Stacking sandbags along a level contour creates a barrier which detains sediment-laden water, ponding water upstream of the barrier and promoting sedimentation.

APPLICATION:

- ◆ Along the perimeter of the site.
- ◆ May be used in drainage areas up to 5 acres.
- ◆ Along streams and channels
- ◆ Across swales with small catchments.
- ◆ Around temporary spoil areas.
- ◆ Below the toe of a cleared slope.

INSTALLATION/APPLICATION CRITERIA:

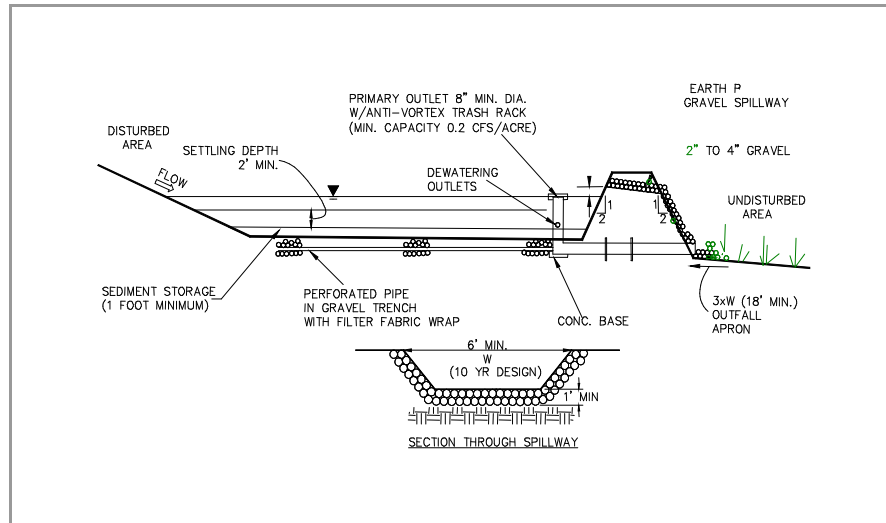
- ◆ Install along a level contour.
- ◆ Base of sandbag barrier should be at least 48 inches wide.
- ◆ Height of sandbag barrier should be at least 18 inches high.
- ◆ 4 inch PVC pipe may be installed between the top layer of sand bags to drain large flood flows.
- ◆ Provide area behind barrier for runoff to pond and sediment to settle.
- ◆ Place below the toe of a slope.

LIMITATIONS:

- ◆ Sandbags are more expensive than other barriers, but also more durable.
- ◆ Burlap should not be used.

MAINTENANCE:

- ◆ Inspect after each rain.
- ◆ Reshape or replace damaged sandbags immediately.
- ◆ Replace sediment when it reaches six inches in depth.



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:

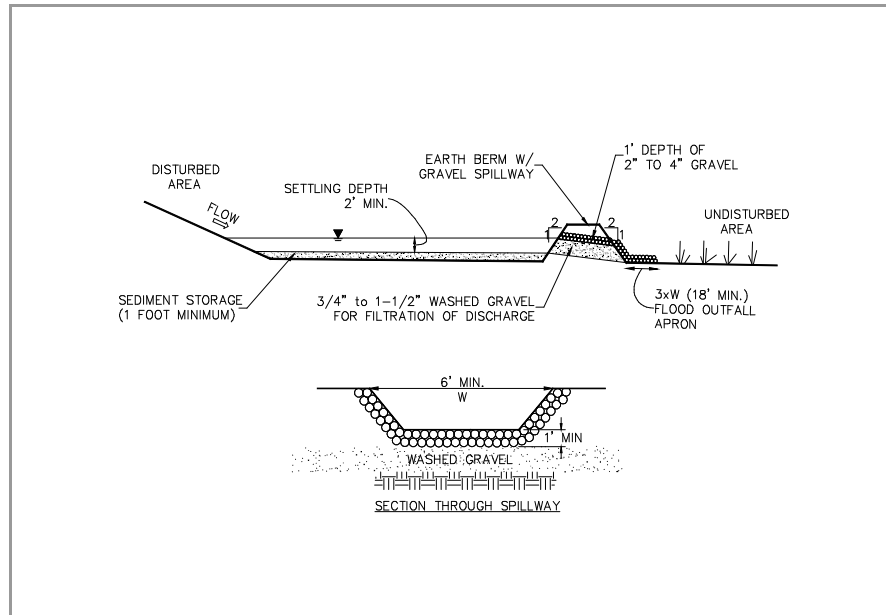
- ◆ Design basin for site specific location, maintain effective flow length 2 times width.
- ◆ Excavate basin or construct compacted berm containment, ensure no downgradient hazard if failure should occur. (Provide minimum of 67 cy. per acre of drainage area).
- ◆ Construct dewatering and outfall structure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

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.

**DESCRIPTION:**

A sediment trap is a small excavated or bermed area where runoff from small drainage areas is detained and sediment can settle.

APPLICATION:

- ◆ Temporary control for runoff from disturbed areas of less than 3 acres.
- ◆ Temporary control for discharge from diversion dike, surface benching, or other temporary drainage measures.

INSTALLATION/APPLICATION CRITERIA:

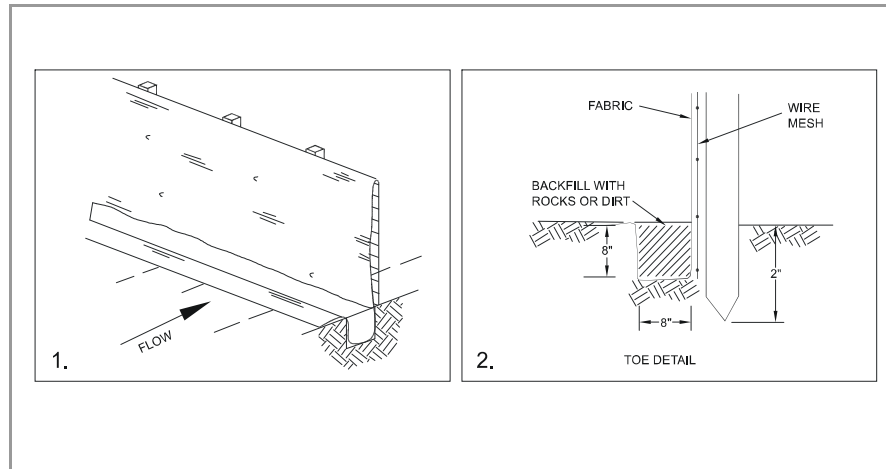
- ◆ Design basin for site specific location.
- ◆ Excavate basin or construct compacted berm containment.
- ◆ Construct outfall spillway with apron.
- ◆ Provide downstream silt fence if necessary.

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.

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.



DESCRIPTION:

A temporary sediment barrier consisting of entrenched filter fabric stretched across and secured to supporting posts.

Application:

- ◆ Perimeter control: place barrier at down-gradient limits of disturbance
- ◆ Sediment barrier: place barrier at toe of slope or soil stockpile
- ◆ Protection of existing waterways: place barrier at top of stream bank
- ◆ Inlet protection: place fence surrounding catchbasins

INSTALLATION/APPLICATION CRITERIA:

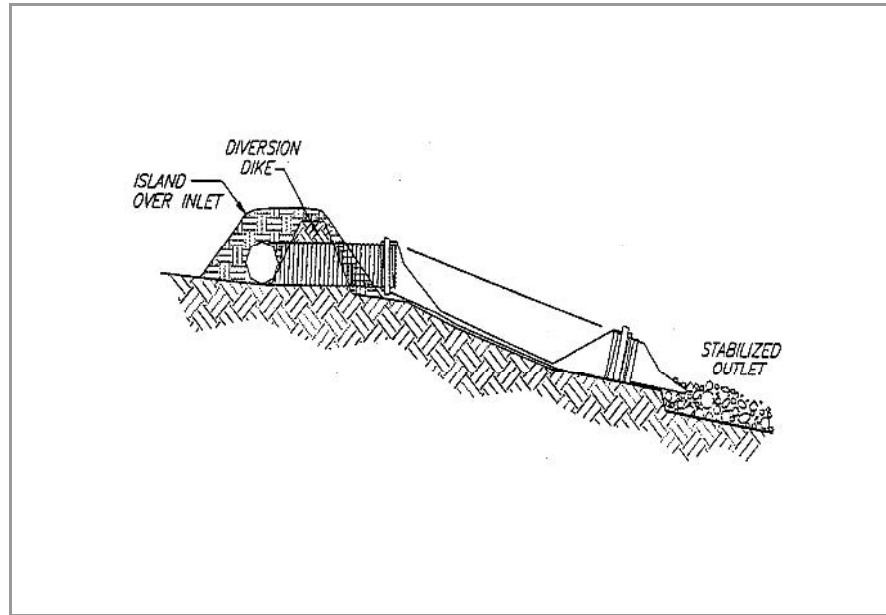
- ◆ Place posts 6 feet apart on center along contour (or use preassembled unit) and drive 2 feet minimum into ground. Excavate an anchor trench immediately up-gradient of posts.
- ◆ Secure wire mesh (14 gage min. with 6-inch openings) to upslope side of posts. Attach with heavy duty 1 inch long wire staples, tie wires or hog rings.
- ◆ Cut fabric to required width, unroll along length of barrier and drape over barrier. Secure fabric to mesh with twine, staples, or similar, with trailing edge extending into anchor trench.
- ◆ Backfill trench over filter fabric to anchor.

LIMITATIONS:

- ◆ Recommended maximum drainage area of 0.5 acre per 100 feet of fence
- ◆ Recommended maximum up-gradient slope length of 150 feet
- ◆ Recommended maximum uphill grade of 2:1 (50%)
- ◆ Recommended maximum flow rate of 0.5 cfs
- ◆ Ponding should not be allowed behind fence

MAINTENANCE:

- ◆ Inspect immediately after any rainfall and at least daily during prolonged rainfall.
- ◆ Look for runoff bypassing ends of barriers or undercutting barriers.
- ◆ Repair or replace damaged areas of the barrier and remove accumulated sediment.
- ◆ Reanchor fence as necessary to prevent shortcutting.
- ◆ Remove accumulated sediment when it reaches ½ the height of the fence.

**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:

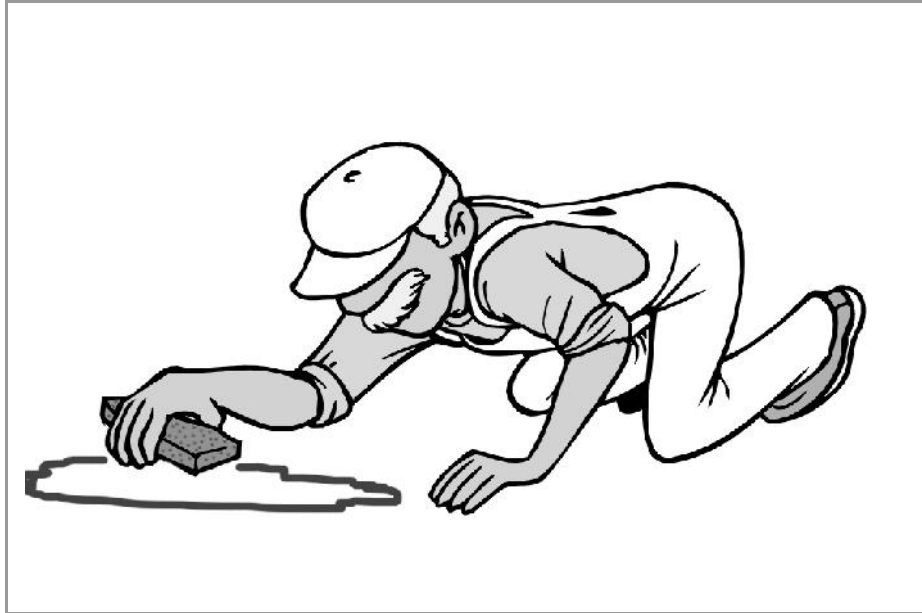
- ◆ Secure inlet and surround with dikes to prevent gully erosion, and anchor pipe to slope.
- ◆ Size to convey at least the peak of a 10-year, storm event.
- ◆ Stabilize outlet. (See Outlet Protection BMP).

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 weekly 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.

**DESCRIPTION:**

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

APPLICATION:

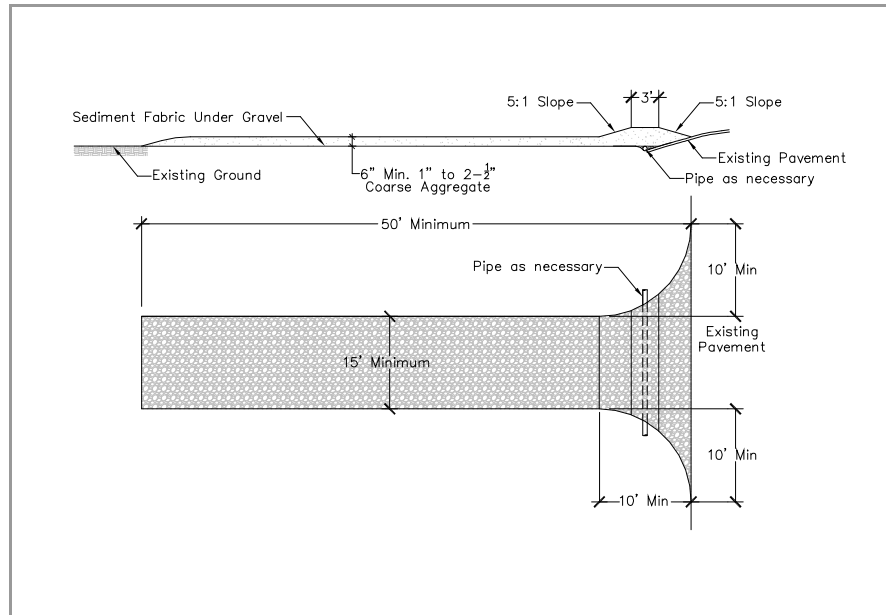
All sites

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 the Salt Lake County Health Department (313-6700) for any spill of reportable quantity.



DESCRIPTION:

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

APPLICATION:

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:

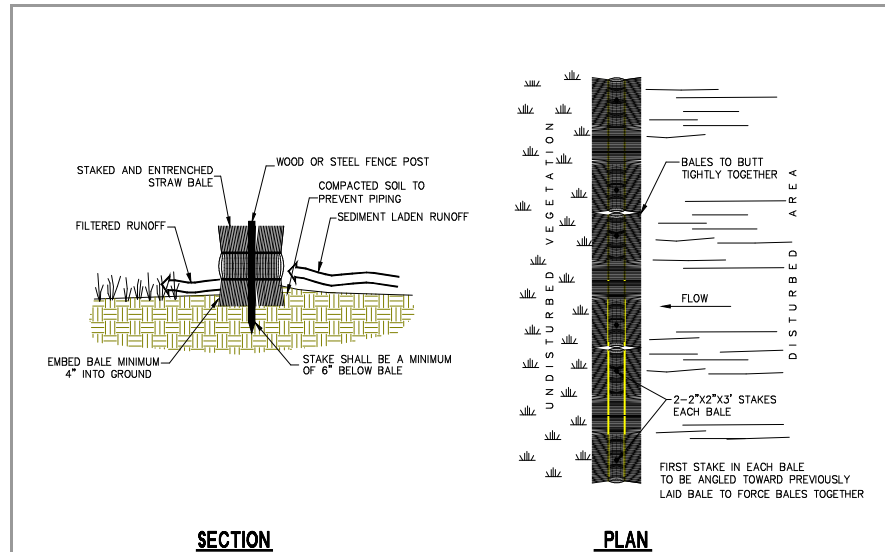
- ◆ Clear and grub area and grade to provide maximum slope of 2%.
- ◆ Compact subgrade and place filter fabric if desired (recommended for entrances to remain for more than 3 months).
- ◆ Place coarse aggregate, 1 to 2-1/2 inches in size, to a minimum depth of 8 inches.

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.



DESCRIPTION:

Temporary sediment barrier consisting of a row of entrenched and anchored straw bales.

APPLICATIONS:

- ◆ Perimeter control: place barrier at down-gradient limits of disturbance.
- ◆ Sediment barrier: place barrier at toe of slope or soil stockpile.
- ◆ Protection of existing waterways: place barrier at top of stream bank.
- ◆ Inlet protection.

INSTALLATION/APPLICATION CRITERIA:

- ◆ Excavate a 4-inch minimum deep trench along contour line, i.e. parallel to slope, removing all grass and other material that may allow underflow.
- ◆ Place bales in trench with ends tightly abutting, fill any gaps by wedging loose straw into openings.
- ◆ Anchor each bale with 2 stakes driven flush with the top of the bale.
- ◆ Backfill around bale and compact to prevent piping, backfill on uphill side to be built up 4-inches above ground at the barrier.

LIMITATIONS:

- ◆ Recommended maximum area of 0.5 acre per 100 feet of barrier
- ◆ Recommended maximum up-gradient slope length of 150 feet
- ◆ Recommended maximum uphill grade of 2:1 (50%)

MAINTENANCE:

- ◆ Inspect immediately after any rainfall and at least daily during prolonged rainfall.
- ◆ Look for runoff bypassing ends of barriers or undercutting barriers.
- ◆ Repair or replace damaged areas of the barrier and remove accumulated sediment.
- ◆ Realign bales as necessary to provide continuous barrier and fill gaps.
- ◆ Recompact soil around barrier as necessary to prevent piping.

**DESCRIPTION:**

Reduce the discharges of pollutants to stormwater from street surfaces by conducting street cleaning on a regular basis.

APPROACH:

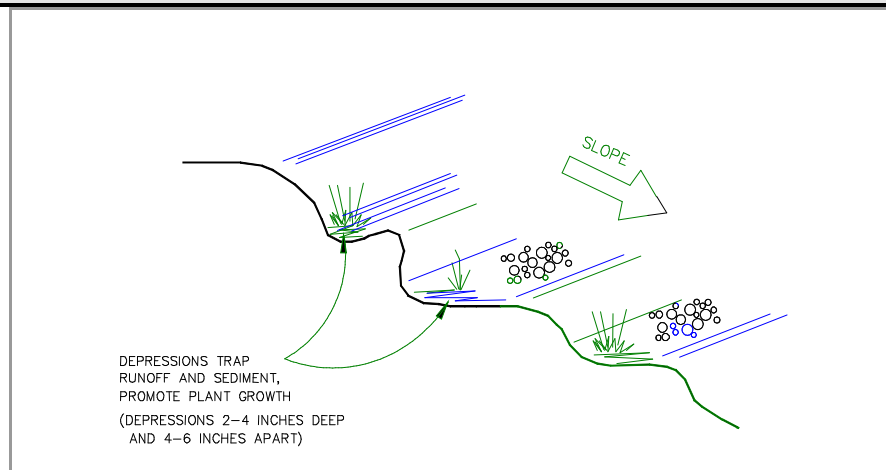
- ◆ Prioritize cleaning to use the most sophisticated sweepers, at the highest frequency, and in areas with the highest pollutant loading.
- ◆ Restrict street parking prior to and during sweeping.
- ◆ Increase sweeping frequency just before the rainy season.
- ◆ Proper maintenance and operation of sweepers greatly increase their efficiency.
- ◆ Keep accurate operation logs to track programs.
- ◆ Sweepers effective at removing smaller particles (less than 10 microns) may generate dust that would lead to concerns over worker and public safety.
- ◆ Equipment selection can be key for this particular BMP. There are two types used, the mechanical broom sweepers (more effective at picking up large debris and cleaning wet streets), and the vacuum sweepers (more effective at removing fine particles and associated heavy metals). Many communities find it useful to have a compliment of both types in their fleet.

LIMITATIONS:

- ◆ Conventional sweepers are not able to remove oil and grease.
- ◆ Mechanical sweepers are not effective at removing finer sediments.
- ◆ Effectiveness may also be limited by street conditions, traffic congestion, presence of construction projects, climatic conditions and condition of curbs.

MAINTENANCE:

- ◆ Replace worn parts as necessary.
- ◆ Install main and gutter brooms of the appropriate weight.

**DESCRIPTION:**

Rough preparation of working areas leaving depressions and uneven surface. Depressions should be done parallel to contours.

APPLICATION:

Surface roughening is appropriate for all construction that will not be receiving impervious cover within 14 days and that will be exposed less than 60 days (seed areas to be open in excess of 60 days).

INSTALLATION/APPLICATION CRITERIA:

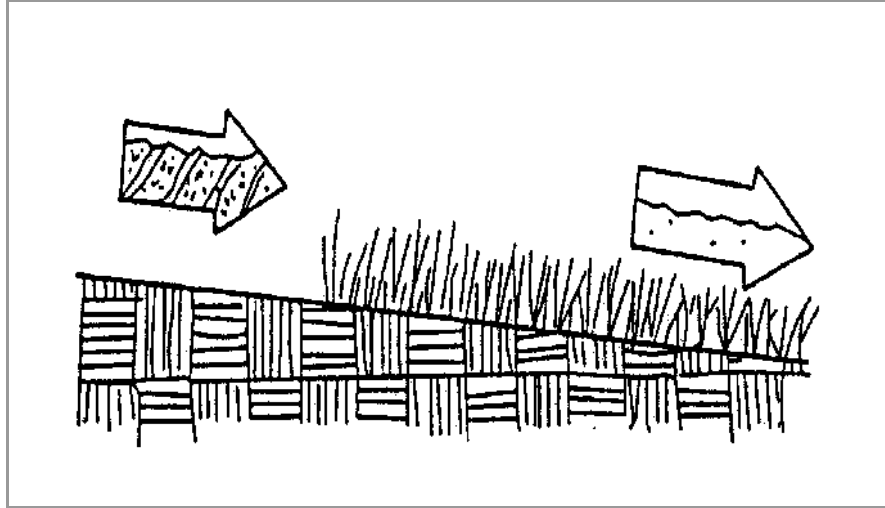
- ◆ Surface should be left in rough condition during initial earthwork activity.
- ◆ Surfaces that have become smoothed or compacted due to equipment traffic should be roughened by use of disks, spring harrows, teeth on front end loader, or similar, operating along the contours of the slope. Tracking (by crawler tractor driving up and down slope) may also be used to provide depressions parallel to contours.
- ◆ Avoid compaction of soils during roughening as this inhibits plant growth and promotes storm water runoff. Limit tracked machinery to sandy soil.
- ◆ Seed or mulch areas to be exposed in excess of 60 days.
- ◆ Employ dust controls.

LIMITATIONS:

- ◆ Will not withstand heavy rainfall.
- ◆ Slopes steeper than 2:1 (50%) should be benched.

MAINTENANCE:

- ◆ Inspect following any storm event and at a minimum of weekly.
- ◆ If erosion in the form of rills (small waterways formed by runoff) is evident, perform machine roughening of area.
- ◆ For vegetated slopes reseed areas that are bare or have been reworked.

**DESCRIPTION:**

Seeding of grass and plantings of trees, shrubs, vines and ground covers provide long-term stabilization of soil. In some areas, with suitable climates, grasses can be planted for stabilization.

Temporary seeding - establishment of short term cover by application of rapidly germinating seed mix (alternatively hydro-seeding may be utilized).

Permanent seeding - establishment of final term cover by application of perennial seed mix (alternatively sod may be utilized).

APPLICATION:

- ◆ Appropriate for site stabilization both during construction and post-construction.
- ◆ Any graded/cleared areas where construction activities have ceased.
- ◆ Open space cut and fill areas.
- ◆ Steep slopes, spoil piles, vegetated swales, landscape corridors, stream banks.

INSTALLATION/APPLICATION CRITERIA:

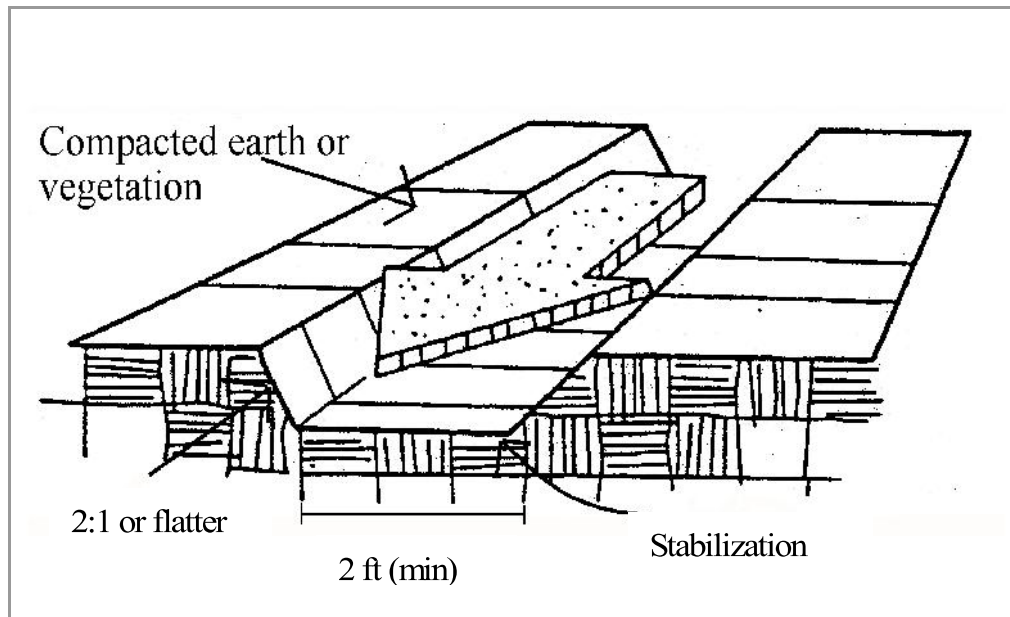
Type of vegetation, site and seedbed preparation, planting time, fertilization and water requirements should be considered for each application. The recommended seed mix will be dependent on site specific information such as elevation, exposure, soils, water availability and topography. Appropriate ground preparation and fertilizer must be considered.

LIMITATIONS:

- ◆ Permanent and temporary vegetation may not be appropriate in dry periods without irrigation.
- ◆ Fertilizer requirements may have potential to create stormwater pollution.

MAINTENANCE:

- ◆ Shrubs and trees must be adequately watered and fertilized and if needed pruned.
- ◆ Grasses may need to be watered and mowed.
- ◆ Provide irrigation as required to establish growth and to maintain plant cover through duration of project.
- ◆ Reseed as necessary to provide 75% coverage
- ◆ Remediate any areas damaged by erosion or traffic.
- ◆ When 75% coverage is achieved inspect monthly for damage and remediate as necessary.

**DESCRIPTION:**

Temporary drains and swales are used to divert off-site runoff around the construction site, divert runoff from stabilized areas around disturbed areas, and direct runoff into sediment.

APPLICATIONS:

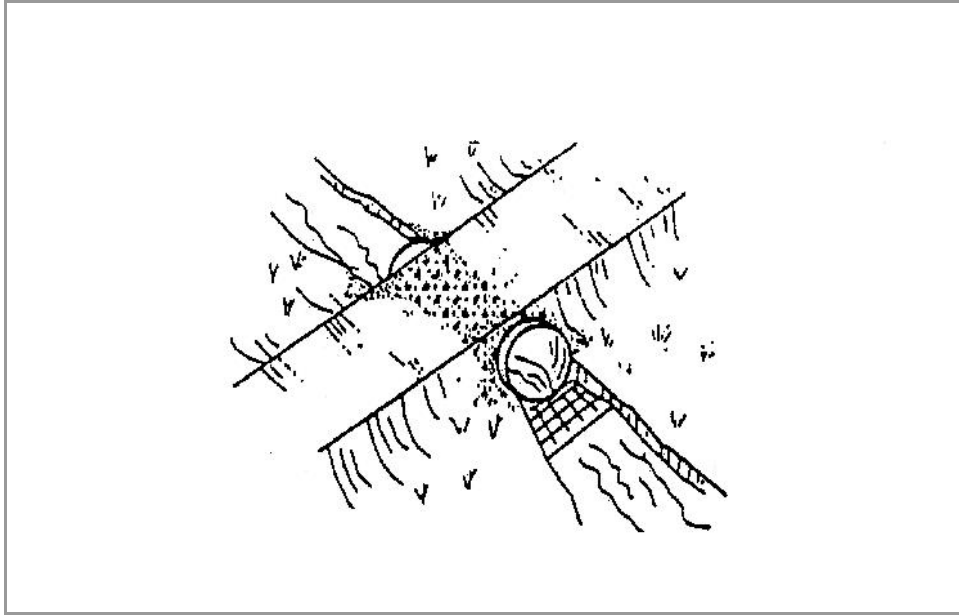
- ◆ Temporary drains and swales are appropriate for diverting any upslope runoff around unstabilized or disturbed areas of the construction site.
- ◆ Prevent slope failures. Prevent damage to adjacent property. Prevents erosion and transport of sediments into water ways. Increases the potential for infiltration. Diverts sediment-laden runoff into sediment basins or traps.

INSTALLATION/APPLICATION:

- ◆ Temporary drainage swales will effectively convey runoff and avoid erosion if built properly:
- ◆ Size temporary drainage swales using local drainage design criteria. A permanent drainage channel must be designed by a professional engineer (see the local drainage design criteria for proper design).
- ◆ At a minimum, the drain/swale should conform to predevelopment drainage patterns and capacities.
- ◆ Construct the drain/swale with an uninterrupted, positive grade to a stabilized outlet. Provide erosion protection or energy dissipation measures if the flow out of the drain or swale can reach an erosive velocity.

LIMITATIONS:

- ◆ Temporary drains and swales or any other diversion of runoff should not adversely impact upstream or downstream properties.
- ◆ Temporary drains and swales must conform to local floodplain management requirements.

**DESCRIPTION:**

A temporary access stream crossing is a temporary culvert, ford or bridge placed across a waterway to provide access for construction purposes for a period of less than one year. Temporary access crossings are not intended to be used to maintain traffic for the general public.

APPLICATIONS:

Temporary stream crossings should be installed at all designated crossings of perennial and intermittent streams on the construction site, as well as for dry channels which may be significantly eroded by construction traffic.

INSTALLATION/APPLICATION:

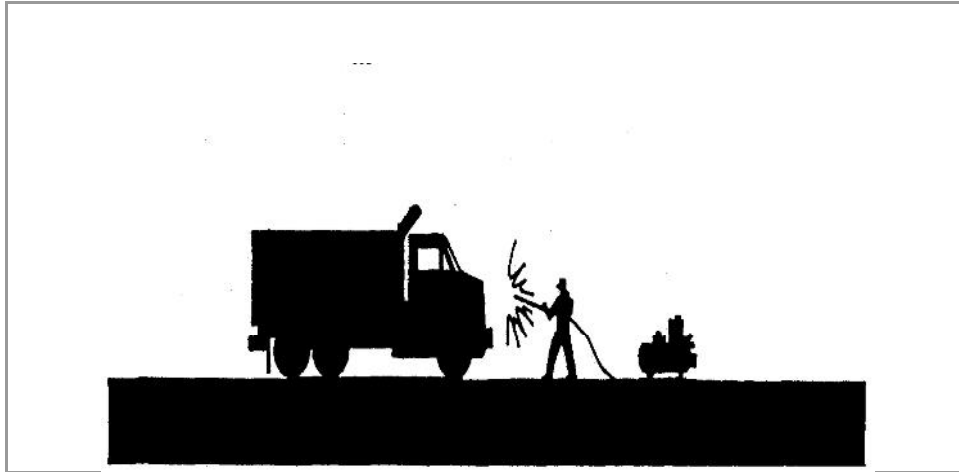
Requires knowledge of stream flows and soil strength and should be designed under the direction of a Utah registered engineer with knowledge of both hydraulics and construction loading requirements for structures.

LIMITATIONS:

- ◆ May be an expensive for a temporary improvement.
- ◆ Requires other BMP's to minimize soil disturbance during installation and removal.
- ◆ Fords should only be used in dry weather.
- ◆ A Stream Alteration Permit may be required, contact the Utah Division of Water Rights before implementation.

MAINTENANCE:

- ◆ Inspect weekly and after each significant rainfall, including assessment of foundations.
- ◆ Periodically remove silt from crossings.
- ◆ Replace lost aggregated from inlets and outlets of culverts.

**DESCRIPTION:**

Prevent or reduce the discharge of pollutants to storm water from vehicle and equipment cleaning by 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:

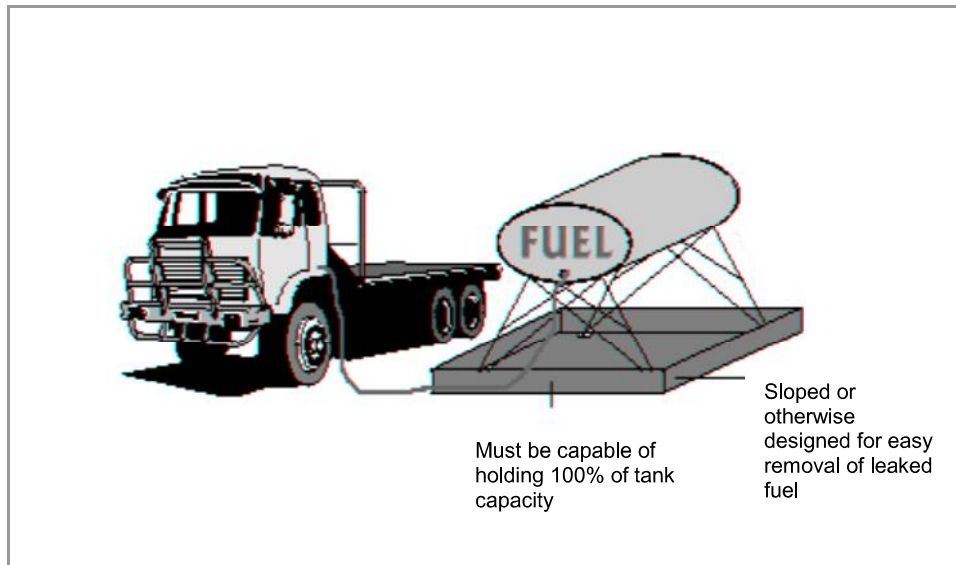
- ◆ Use designated, bermed wash areas to prevent wash water contact with storm water, creeks, rivers, and other water bodies. The wash area can be sloped for wash water collection and subsequent infiltration into the ground.
- ◆ Use as little water as possible to avoid having to install erosion and sediment 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.

**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 areas 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.

**DESCRIPTION:**

Vegetated buffers are areas of natural or established vegetation maintained to protect the water quality of neighboring areas. Buffer zones slow stormwater runoff, provide an area where runoff can permeate the soil, contribute to ground water recharge, and filter sediment. Slowing runoff also helps to prevent soil erosion and streambank collapse.

APPLICATIONS:

Vegetated buffers can be used in any area able to support vegetation. They are most effective and beneficial on floodplains, near wetlands, along streambanks, and on unstable slopes.

INSTALLATION/APPLICATION CRITERIA:

To establish an effective vegetative buffer, follow these guidelines:

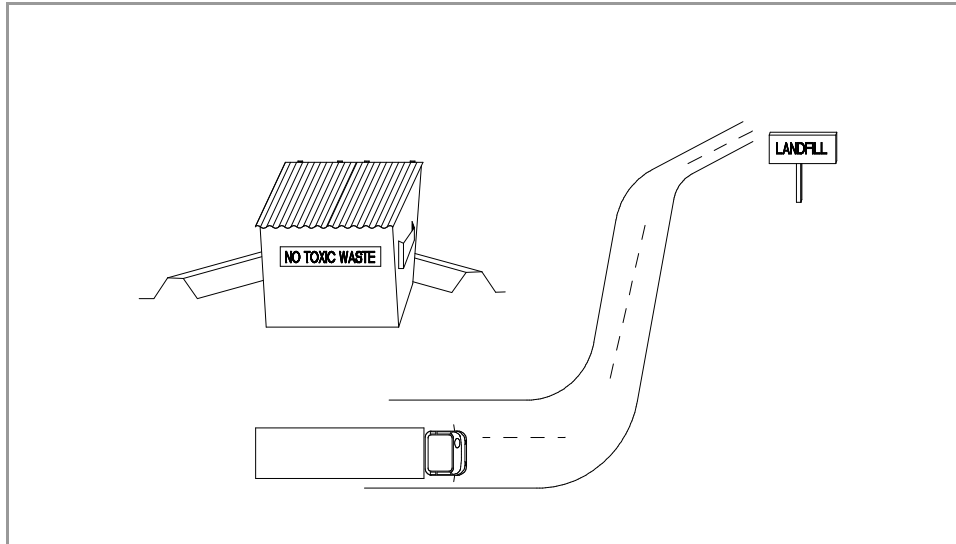
- ◆ Make sure soils are not compacted.
- ◆ Make sure slopes are less than 5 percent unless temporary erosion control mats are also used.
- ◆ Determine buffer widths after carefully considering slope, vegetation, soils, depth to impermeable layers, runoff sediment characteristics, type and amount of pollutants, and annual rainfall.
- ◆ Make sure buffer widths increase as slope increases.
- ◆ Intermix zones of vegetation (native vegetation in particular), including grasses, deciduous and evergreen shrubs, and understory and overstory trees.
- ◆ In areas where flows are concentrated and fast, combine buffer zones with other practices such as level spreaders, infiltration areas, or diversions to prevent erosion and rilling.

LIMITATIONS:

Adequate land must be available for a vegetated buffer. If land cost is high, buffer zones might not be cost-effective. In addition, adequate vegetative cover must be maintained in the buffer to keep it effective. Vegetated buffers work well with sheet flows, but they are not appropriate for mitigating concentrated stormwater flows.

MAINTENANCE:

Keeping vegetation healthy in vegetated buffers requires routine maintenance. Depending on species, soil types, and climatic conditions, maintenance can include weed and pest control, mowing, fertilizing, liming, irrigating, and pruning.

**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 watertight 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 Porta-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).

NOTES



Salt Lake County Engineering & Flood Control
2001 South State Street, N3100
Salt Lake City, UT 84190
Phone: 801 468-2711



Remember,
WE ALL LIVE DOWNSTREAM