Top Ten BMPs: 3. Construction Entrances

- Remove mud and dirt from the tires of construction vehicles before they enter a paved roadway.
- Make sure that the construction entrance does not become buried in soil.
- Properly site entrance BMPs for all anticipated vehicles.
- 1. Preservation of Existing Vegetation (preservation-of-existing-vegetation.htm)
- 2. Construction Phasing (phasing.htm)
- 3. Construction Entrances (entrances.htm)
- 4. Silt Fencing (silt-fencing.htm)
- 5. Storm Drain Inlet Protection (storm-drain-inlet-protection.htm)
- 6. Vegetative Buffers (vegatative-buffers.htm)
- 7. Site Stabilization (site-stabilization, htm)
- 8. Equipment Fueling and Containment (equipment-fueling-containment.htm)
- 9. Waste Management (waste-management.htm)
- 10. Fugitive Dust Suppression (fugitive-dust-suppression.htm)

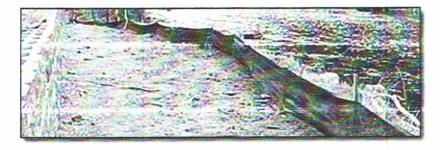


Utah Department of Environmental Quality

Best Management Practices for Construction Sites

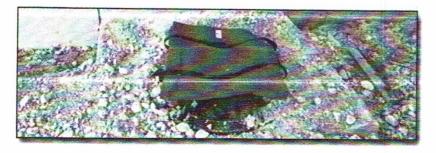
Top Ten BMPs: 4. Silt Fencing

- · Inspect and maintain silt fences after each storm.
- Make sure the bottom of the silt fence is buried.
- · Securely attach the material to the stakes.
- · Don't place silt fences in the middle of a waterway or use them as a check dam.
- · Stormwater should not flow around the silt fence.
- 1. Preservation of Existing Vegetation (preservation-of-existing-vegetation.htm)
- 2. Construction Phasing (phasing.htm)
- 3. Construction Entrances (entrances.htm)
- 4. Silt Fencing (silt-fencing.htm)
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Top Ten BMPs: 5. Storm Drain Inlet Protection

- Use rock or other appropriate material to cover the storm drain inlet to filter out trash and debris.
- Make sure the rock size is appropriate (usually 1 to 2 inches in diameter).
- · If you use inlet filters, maintain them regularly.
- 1. Preservation of Existing Vegetation (preservation-of-existing-vegetation.htm)
- 2. Construction Phasing (phasing.htm)
- 3. Construction Entrances (entrances.htm)
- 4. Silt Fencing (silt-fencing.htm)
- 5. Storm Drain Inlet Protection (storm-drain-inlet-protection.htm)
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Top Ten BMPs: 6. Vegetative Buffers

- Protect and install vegetative buffers along waterbodies to slow and filter stormwater run-off.
- · Maintain buffers by mowing or replanting periodically to ensure their effectiveness.
- 1. Preservation of Existing Vegetation (preservation-of-existing-vegetation.htm)
- 2. Construction Phasing (phasing.htm)
- 3. Construction Entrances (entrances.htm)
- 4. Silt Fencing (silt-fencing.htm)
- 5. Storm Drain Inlet Protection (storm-drain-inlet-protection.htm)
- 6. Vegetative Buffers (vegatative-buffers.htm)
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- 10. <u>Fugitive Dust Suppression (fugitive-dust-suppression.htm)</u>

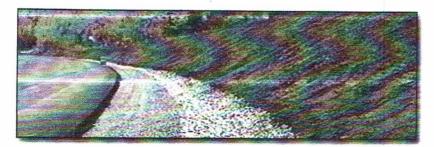


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Best Management Practices for Construction Sites

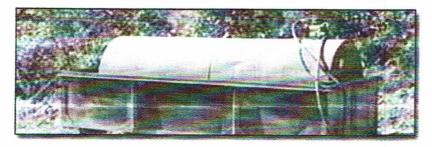
Top Ten BMPs: 7. Site Stabilization

- Vegetate, mulch, or otherwise stabilize all exposed areas as soon as land alterations have been completed.
- 1. Preservation of Existing Vegetation (preservation-of-existing-vegetation.htm)
- 2. Construction Phasing (phasing.htm)
- 3. Construction Entrances (entrances.htm)
- 4. Silt Fencing (silt-fencing.htm)
- 5. Storm Drain Inlet Protection (storm-drain-inlet-protection.htm)
- 6. Vegetative Buffers (vegatative-buffers.htm)
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Top Ten BMPs: 8. Equipment Fueling and Containment

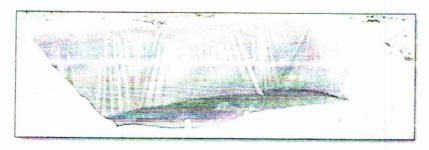
- Use offsite fueling stations as much as possible, or dedicated fueling areas onsite.
- · Discourage "topping-off" of fuel tanks.
- Dedicated fueling areas should be level, protected from stormwater, and located at least 50 ft from downstream drainage facilities and watercourses.
- Protect fueling areas with berms and dikes to prevent run-on, run-off, and to contain spills.
- Use vapor recovery nozzles with automatic shutoffs to control drips as well as air pollution.
- 1. Preservation of Existing Vegetation (preservation-of-existing-vegetation.htm)
- Construction Phasing (phasing.htm)
- 3. Construction Entrances (entrances.htm)
- 4. Silt Fencing (silt-fencing.htm)
- 5. Storm Drain Inlet Protection (storm-drain-inlet-protection.htm)
- 6. <u>Vegetative Buffers (vegatative-buffers.htm)</u>
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Contact Paul Harding (mailto:pharding@utah.gov) (801) 536-4108 for further information

Top Ten BMPs: 9. Waste Management

- · Choose smaller, covered containers and more frequent collection.
- · Do not allow waste to accumulate on-site.
- · Separate recyclable materials from waste and keep covered.
- Conduct visual inspections of dumpsters and recycling bins, removing contaminants and keeping containers covered.
- Stockpile processed materials on-site separately. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
- 1. Preservation of Existing Vegetation (preservation-of-existing-vegetation.htm)
- 2. Construction Phasing (phasing.htm)
- 3. Construction Entrances (entrances.htm)
- 4. Silt Fencing (silt-fencing.htm)
- 5. Storm Drain Inlet Protection (storm-drain-inlet-protection.htm)
- 6. Vegetative Buffers (vegatative-buffers.htm)
- 7. Site Stabilization (site-stabilization.htm)
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- 9. Waste Management (waste-management.htm)
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Top Ten BMPs: 10. Fugitive Dust Suppression

- · Apply water on haul roads.
- · Haul materials in properly tarped or sealed containers.
- Restrict vehicle speeds to 10 mph.
- · Cover excavated areas and material after excavation activity ceases.
- Reduce the excavation size and/or number of excavations.
- · Water-down equipment and excavation faces.
- 1. Preservation of Existing Vegetation (preservation-of-existing-vegetation.htm)
- 2. Construction Phasing (phasing.htm)
- 3. Construction Entrances (entrances.htm)
- 4. Silt Fencing (silt-fencing.htm)
- 5. Storm Drain Inlet Protection (storm-drain-inlet-protection.htm)
- 6. <u>Vegetative Buffers (vegatative-buffers.htm)</u>
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- 10. Fugitive Dust Suppression (fugitive-dust-suppression.htm)



2.1 SWPPP Sign

Operations or Site Condition: NA

Instruction: See site plan for location

Installation Schedule: Prior to any land disturbance

Maintenance Requirements: Repair when damaged

Maintenance Personnel: Project Manager

Applicable Trades: NA

Detail:

2.3.1 LOT Cut Down

Operation or Site Conditions: Most of the existing vegetation will either trampled or cleared by the building operations. Storm events can occur at anytime necessitating the need for maintained sediment control at the boundary. The LOT is 0.25 acre and only 2% at its steepest point therefore this cut should be plenty adequate to retain any runoff during the expected summer cloud burst. The 1' foot cut down will still provide plenty of volume even with some spoil is placed in the cut down area, however most of the excavation spoil will be placed behind the foundation or hauled off as the foot is excavated.

instruction: Excavator X. Remove 1' from the front 20'. Maintain the minimum dimensions as per detail and site plan.

Installation Schedule: Install the LOT Cut Down just prior to footing excavation.

<u>Maintenance Requirements</u>: Restore when more than 50% of the Cut Down is filled with sediment from erosion deposition or construction activities fill beyond the minimum dimensions.

Applicable Trades: Primarily the excavator and grading subs but any trades whose activity damages this BMP

Maintenance Personnel: Excavator, Grading Subs or trades who damage this BMP.

Detail:

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2.3.2 Gutter Dam

Operation and Site Condition: An inlet is located at the bottom of the cul-de-sac which is at a roadway sag. Inlet protection can cause flooding and will likely damaged adjacent residential property. Therefore a gutter dam has been selected to be a redundant BMP to the other sediment control BMPs. This BMP is designed with dual catchments so performance can be measured. A property maintained gutter dam and the other erosion boundary control BMPs should be sufficient for this size of project.

<u>Instruction</u>: Install 6" dia ¾" gravel filled bag filters installed per detail and site plan. Do drive on or park over this BMP.

Installation Schedule: Prior to any land disturbance

Maintenance Requirements: Maintain per the minimum.

Applicable Trades: NA

Maintenance Personnel: Project Manager. Any trade damaging this BMP is expected to prepare or replace it

Detail:

2.3.4 Manual Sweeping

Operation and Site Conditions: Some operations require driving off durable surfaces and the track out or boundary controls can fail which will necessitate cleaning of the streets and gutters.

Instruction: Square nose shovel and broom. All trades are expected to remove tracked out or mud and dirt that end up on street from regular operations. Repeat removal until no more mud can be picked up. Do not worry about the dirt stain and do not wash with water. The small amounts of mud trapped in the tread will also spread dirt on the streets overtime. In this case the mud will be removed by BMP 2.3.3.

Schedule: NA.

<u>Maintenance</u>: Immediately following the incident. Minor track out not causing a public nuisance and no risk of being washed to stormwater systems may be removed at end of day or before forecast storm event whichever comes first.

Maintenance Personnel: Any trade tracking the mud

Applicable Trades: All

2.3.5 Topsoil Preservation Policy

Operation or Site Condition: Topsoil will be removed by the excavation and general grading operations also most of surface will be disturbed by all trades involved in this home. It is necessary to remove and stockpile the topsoil in the footing and general home grading envelope so is can be preserved and reused.

Instruction:

- Excavator X, remove topsoil under the footing, spoil zone and general home grading envelope. Stockpile in the back of and middle of LOT 2 for the final grading construction phase. Note, this is not intended for the foundation backfill or the non topsoil spoil that must be hauled off.
- 2. Grader X, spread topsoil during last phase.
- 3. Apply BMP 2.3.1 water erosion control and apply BMP 2.4 dust control.

Installation Schedule: NA

Maintenance Requirements: NA

Applicable Trades: Excavator X and Grader X

Maintenance Personnel: NA

2.4.1 Hose

Operation or Site Condition: Excavation, grading and even other normal construction activity will kick up dust on hot windy days.

<u>Instruction</u>: Garden hose provided for construction operations kicking up dust or other activities involving light weight powdery materials.

<u>Installation Schedule</u>: Provide hose connected to a culinary water jumper from City Water Department prior to land disturbance.

Maintenance: Generally, apply during excavation, grading and mortar mixing operations. Also prior to end of work day ground is powdery.

Maintenance Personnel: Project Manager will watch for general dry dusty conditions. However, each trade will be expected to use this BMP for operations they are responsible for. Primarily for excavation, grading and Brick Mason operations however any trade kicking up dust is expected to implement this BMP.

Applicable Trades: Primarily Excavator, Grader and Brick Masons but also any trade whose operation is kicking up dust.

2.5.1 Scrape Tires

Operation or Site Condition: It is not practical to provide a parking pad for the excavation, forklift and final grade operations, therefore it is necessary to scrape tires or tracks.

Instruction: Remove mud from tires and tracks by scraping. Any tool effective at removing mud is fine.

Schedule: NA

Maintenance: Upon incident. Apply roadway clean up per BMPs 2.3.3 & 2.3.4.

Maintenance Personnel: Perpetrating tradesmen

Applicable Trades: All tradesmen whose activity causes mud to stick to tires or tracks.

2.5.2 Parking Pad

<u>Operation or Site Condition</u>: Most tradesmen will need to enter and exit the site either to transport tools or supplies. The parking pad system intended to prevent mud from sticking to tires or tracks.

Instruction: All tradesmen are required to park on the parking pad or the street except for the tradesmen authorized by me to drive off the pad. Any trades with mud on tires must apply BMP 2.5.1. The forklift, excavator, skid-steer operators are the only persons allowed off the pad, however, they are required to apply BMP 2.5.1 and 2.3.4 as part of their normal operation. Do not allow mud to remain on the road as you will be required to scrape and broom it manually.

Installation Schedule: Following backfill of foundation

Maintenance Requirements: Replace gravel or rake when mud or dirt is sticking to tires

Applicable Trades: All trades driving onto the site

Maintenance Personnel: Project Manager. Inform me if you notice any problems.

Detail:

2.5.3 Forklift Policy

Operation or Site Condition: Forklift operators will need to cross the road multiple times a day to service multiple homes.

Instruction: Forklift operator must stop the vehicle immediately after crossing back over the curb and remove any mud chunks from the road. To prevent the hassle of removing mud, it will be best if you schedule your Forklift operations during dry weather. The manual sweeping will need to meet the requirements in BMP 2.3.4 Manual Sweeping.

Installation Schedule: NA

Maintenance Requirements: Upon incident

Applicable Trades: Framer Co. x, Drywall Co. x, Landscape Co. x

Maintenance Personnel: Forklift Operator

2.5.3 Forklift Policy

Operation or Site Condition: Forklift operators will need to enter and travel on the road to reach the north, west and south sides of the home.

Instruction: Forklift operator must stop the vehicle immediately after crossing back over the curb and remove any mud chunks from the road. To prevent the hassle of removing mud, it will be best if you schedule your Forklift operations during dry weather. The manual sweeping will need to meet the requirements in BMP 2.3.4 Manual Sweeping.

Installation Schedule: NA

Maintenance Requirements: Upon incident

Applicable Trades: Framer Co. x, Drywall Co. x, Landscape Co. x

Maintenance Personnel: Forklift Operator

2.6.1 Trash Receptacle

Operation or Site Conditions: All trades can generate light weight trash from the lunch box alone however, most will generate light weight trash as part of their operation. Light weight trash is the primary concern because it can blow off the site.

Instruction: I have provided (2) 60 gal trash receptacles with lids chained to post. All trades are required to use these or put your trash in your own vehicle. Do not fill receptacles with heavy weight trash see BMP 2.6.2 for heavy weight trash.

Schedule: Prior to land disturbance

Maintenance: Ensure lids are always closed. Dump when trash is spilling over.

Maintenance Personnel: Project Manager. All trades are expected to close lids.

Applicable Trades: All trades generating light weight trash of any kind

2.6.2 Heavy Trash Policy

Operation or Site Condition: This site will likely generate 30 yards of heavy trash

Instruction: To maintain room or all tradesmen pile all heavy trash in designated location shown on site map. Do not place light weight trash with the heavy weight trash. See BMP 2.6.1 for light weight trash control

Schedule: NA

Maintenance: Remove when spilling beyond trash envelop shown on site plan

Maintenance Personnel: Project Manager. All trades generating heavy trash.

Applicable Trades: All trades generating heavy trash or waste.

2.6.3 Excavation Spoil Envelope and Policy

Operation or Site Condition: Because this LOT is ¼ acre excavation spoil envelope will be limited therefore it is necessary to identify the envelope.

<u>Instruction</u>: Excavator X maintain spoil within designated envelop shown on site map. Any spoil that does not fit inside the envelope must hauled off as excavated.

Schedule: NA

Maintenance: NA

Maintenance Personnel: NA

Applicable Trades: Primarily Excavator X

2.6.4 Portable Toilet

Operation or Site Condition: A portable toilet is necessary for the duration of this project

Instruction: Portable toilet is provided by Company X. The Portable toilet is located on the parking pad 10' away from sidewalk. The BMP 2.3.1 will trap and contain sewer in the event of tipping and BMP 2.5.1 will prevent Company X from tracking out. FYI Portable Toilet Company X, you are required to use BMP 2.5.1 if you allow mud to stick to your tires.

Schedule: Prior to land disturbance

Maintenance: NA other than keeping it on the parking surface for pick up and drop off.

<u>Maintenance Personnel</u>: Project Manager, Portable Toilet Company X

Applicable Trades: Project Manager. Portable Toilet Company X

2.6.5 Concrete Washout

Operation or Site Condition: Concrete supplier and concrete materials workers will need a place to wash equipment and dispose of excess material.

Instruction: Concrete Supplier X and Brick Mason X you are required to wash your equipment and excess material in this BMP. Do not wash your chassis on the street. Practice BMP 2.5.1 if mud sticks to your tires. This BMP provides a adequate location to clean equipment including washing your chassis and will prevent mud from sticking to your tires.

Schedule: Prior to concrete pours

Maintenance: Replace when 50% full

Maintenance Personnel: Project Manager

Applicable Trades: Footing/Foundation, Flat Workers, Brick Masons, Painters and Interior Finishers

Detail:

2.6.6 Dirt Gutter Dams

Operation or Site Condition: Concrete cutting is necessary for the 20' wide drive approach. The cutter will be using coolant necessitating containment.

Instruction: Concrete Cutting Company X, build a 18"wide 24" long dirt gutter dam enough to contain coolant and cutting slurry. Remove dirt and cutting slurry immediately following the cut. Broom until no more material can be picked up with a square nose shovel. Dispose of waste in BMP 2.6.5.

Schedule: Prior to concrete cutting operation

Maintenance: NA

Maintenance Personnel: NA

Applicable Trades: Concrete Cutting Company X

2.7.1 Storage Policy

Operation or Site Condition: About 30 gallons of various liquids will be used for this project but will not be necessary until the foundation is complete. About 1000 lbs of various power will be necessary for this project and again will not be necessary until foundation and framing is complete.

Instruction: Store any liquids or powder supplies in the foundation for inside the building at all times.

Schedule: NA

Maintenance: NA

Maintenance Personnel: NA

<u>Applicable Trades</u>: Primarily, carpentry finishers, painters, brick masons or any tradesmen needing to store liquid or erodible construction materials not covered specific BMPs.

2.7.2 Utility Backfill Staging Zone

Operation or Site Conditions: Sewer pipe installation, Power connection, Phone connection, and Gas connection.

<u>Instruction</u>: Utility Companies and Plumbers stage your backfill next to each other as shown on the site Plan. A location just off the parking pad is provided where you will be able to access your backfill without tracking mud onto the street. See location and staging envelope on Site Plans in Appendix B

Schedule: NA

Maintenance: NA

Maintenance Personnel: NA

Applicable Trades: Primarily Plumber X, Rocky Mountain Power, Centurylink, Comcast and Questar

2.7.3 Landscaping Staging Zone

<u>Operation or Site Conditions</u>: The front yard will be landscaped for the homeowner. Backyard landscaping will be the responsibility of the home owner.

Instruction:

- 1. Grader X existing topsoil is stockpiled in the back of the LOT next to the fence. Any addition topsoil must be dumped on the property behind the sidewalk where rain events will not carry sediment to the gutter.
- 2. Landscaper you must stage all the landscaping materials on the property behind the sidewalk. Dump your material where rain events will not carry sediment to the gutter.
- 3. If you are afraid of breaking the sidewalk file a Right of Way Encroachment Permit to bridge the sidewalk and inform me so I can update the SWPPP.

Schedule: NA

Maintenance: NA

Maintenance Personnel: NA

Applicable Trades: Primarily Landscaper X, Grader

2.8.1 Backyard Stabilization Plan

Operation or Site Conditions: The backyard will be left un-stabilized and the homeowner will be required to landscape it in accordance to City ordinance. The homes to the north and east are occupied and landscaped. The property to the south is vacant but covered with thick weeds.

Instruction:

1. Grader do not grade beyond the property boundary. Also preserve the vegetation in the rear 20'. It has an acceptable grade already.

Schedule: NA

Maintenance: NA

Maintenance Personnel: NA

Applicable Trades: Primarily Grader

3.0 Spill Control Plan

Operations or Site Condition: Spills can happen at any time. The project will extend into winter necessitating a plan that will work in freezing temperatures and snowy conditions.

Instruction:

- Containment: Two 5 gal buckets with lids filled with sand are located at the low side of the project in the park strip, see site plan. Keep lid closed so the sand will stay dry. Wet sand will likely freeze solid. These are intended for containing flowing spills and absorbing spilled liquids, however, when site conditions allow dirt may also be used. You will need your own shovel.
- 2. Cleanup and Disposal: It will only take minutes to dam then absorb any liquid. Clean up immediately following the spill event. Dispose waste in BMP 2.6.5 unless the SDS directs otherwise.

Installation Schedule: Prior to any land disturbance

Maintenance Requirements: Replace as used

Maintenance Personnel: Project Manager

Applicable Trades: All

City Site Conditions and Maintenance Minimums

General

Minimum: Repair damaged BMPs with-in 7 days and prior to forecast precipitation and non-stormwater runoff and whichever comes first.

Track Out

Minimum: Remove all mud or dirt by the end of each work day, and when track out amounts become a hazard, unacceptable public nuisances or before wet conditions whichever, comes first. Performance: No more material can be removed with square nose shove and broom.

Inlet Control

Minimum: Remove sediment at the end of each workday, or before a forecast storm event which comes first.

Clean up

Minimum: Removal of mud, dirt, trash and other debris is necessary but cannot be accepted to replace the prevention BMPs.

Below are links to various Construction Storm Water BMP Manuals for reference.

Jtah Department	of	Environmental	Quality
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Example Appendix G BMP Specifications and Details Construction Storm Water (UPDES)

Weber County

Construction Best Management Practices

Salt Lake County

BEST MANAGEMENT PRACTICES FOR CONSTRUCTION ACTIVITIES

Davis County

A Guide to Storm water Best Management Practices

Nevada DOT

Storm water Quality Manuals: Construction Site Best Management Practices (BMPs) Manual

Caltrans

Construction Site Best Management Practices (BMP) Manual

Oregon

Construction Storm water Best Management Practices Manual

Los Angeles

Construction Site Best Management Practices (BMPs) Manual