Millcreek Stormwater Information.

This document has been prepared to provide greater consistency in and access to stormwater information. Municipal Separate Storm Sewer Systems (known as MS4s, often municipalities), construction contractors/developers, and the general public have a responsibility to do their part to keep stormwater pollutant free. The information provided here will be especially useful at assisting construction personnel in performing their stormwater responsibilities, but also provides essential information to anyone involved in stormwater protection.

Contents

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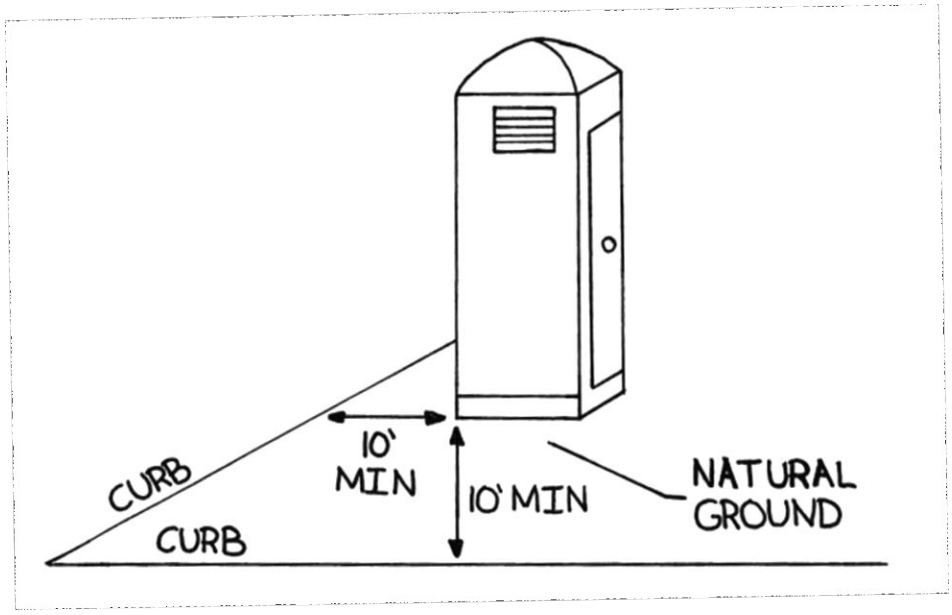
BMP 1- Portable Toilet on Pervious Surface



APPLICATION

- Provide temporary sanitary facilities when permanent facilities are too far from activities or are unavailable.

INSTALLATION/USE PROCEDURE

- Locate portable toilets away from waters of the state, and at least 10 feet from any storm water conveyance, inlet, curb and gutter, or conduit to a waterway.
- Wherever possible, locate portable toilet upon natural ground and not on impervious surfaces such as asphalt, concrete, or similar
- Prepare a level surface and provide clear access to the toilet(s) for servicing and for on-site personnel
- Wherever possible, locate a portable toilet next to track out pad or provide gravel access pad for maintenance pick up to reduce occurrence of mud track out by service provider.
- Secure portable toilets to prevent tipping e.g. stakes, tie downs, etc.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP.

Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.

- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.
- Also see BMP 2- Portable Toilet on Pavement

MAINTENANCE/MANAGEMENT

- Portable toilets should be maintained in good working order by licensed service
- Portable toilets should be inspected daily to detect any leaks
- Damaged toilets must be repaired/replaced immediately
- All waste must be deposited in the sanitary sewer system for treatment with appropriate agency approval
- Implement spill BMP immediately upon spill incident
- If track out from the service provider occurs, debris must be removed as soon as practicable.

PERFORMANCE

- A portable toilet is expected to contain human waste with zero exposure to storm water.
- A successful portable toilet is clean, effective, and is processed by the appropriate licensed facility.

REFERENCE

- Construction General Storm Water Permit (CGP) 2.3.3(f)
- Common Plat Permit (CPP) 2.4.4

BMP 2- Pavement Mounted Portable Toilet

Picture for concept purpose only

APPLICATION

- Use portable toilets on pavement only for projects without pervious staging areas. Usually projects within existing right-of-ways.
- Do not install portable toilets on pavement when private property is expected to be used. Generally, portable toilets installed on pavement are necessary for roadway projects but are not acceptable for commercial and residential projects.

INSTALLATION/USE PROCEDURE

- When near inlets, always locate portable toilets downstream of inlets. Identify on SWPPP BMP map.
- Place portable toilet on a surface no steeper than 2% grade.
- Attach portable toilet contractor illustrations, service and any maintenance information. For ground mount toilets provide each corner with 50# weights or as specified by the service contractor. For trailer mounted systems, provide a plan for securing the trailer as specified by the service contractor.
- Provide secondary containment. Submit for oversight authority review. A gutter dam BMP is a good choice.

- Obtain private or public right of way encroachment permit (or local equivalent) when required by the local authority.
- Attach a copy of the portable toilet manufacturer's maintenance literature.
- Ensure the spill prevention program includes containment materials and protocols for potential portable toilet spills.
- Ensure maintenance personnel and site workers involved in site operations understand BMP requirements.

OPERATOR BMP MODIFICATION OR REPLACEMENT

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MAINTENANCE/MANAGEMENT

- Inspect BMP location corresponds with SWPPP BMP map. Locations are often dynamic for projects within right-of-ways.
- Inspect maintenance per manufacturer requirements
- Inspect for leaks and tank levels
- Inspect anti-tipping system

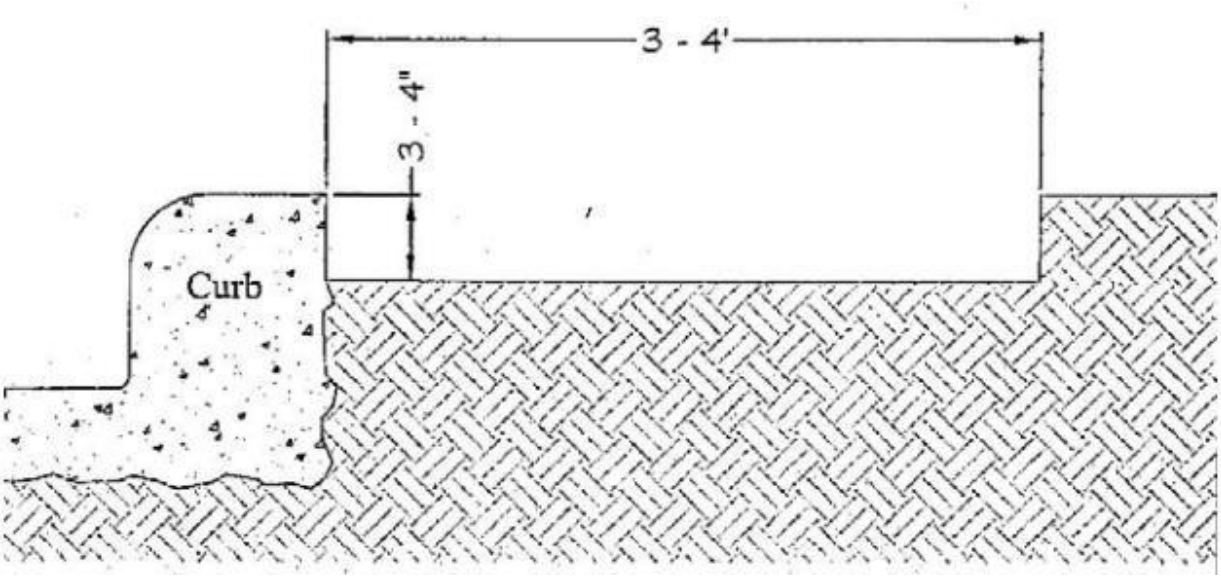
PERFORMANCE

- A portable toilet is expected to contain human waste with zero exposure to storm water.
- A successful portable toilet is clean, effective, and is processed by the appropriate licensed facility.

REFERENCE:

- CGP 2.3.3(f), 2.4.4
- CPP 2.4.4

BMP 3- Curb Sedimentation Trap



APPLICATION

- Use at project boundaries in which final grading is sloped towards pavement or roadways to retain sediment.
- Only applicable when the site is sloped towards the curb such that runoff overtops the curb
- Particularly useful for residential sites when major earth disturbing activities have ceased and final site stabilization (landscape installation) is pending.

INSTALLATION/USE PROCEDURE

- Excavate soil behind curb to a depth of 3-4 inches
- Extend the excavation 3-4 feet behind the curb to form a sediment trap
- Should not be installed on a slope that exceeds 5% as it may be ineffective and compromise the integrity of the curb
- Not suitable if underlying soil is expansive or collapsible, refer to the soils report.
- The sedimentation trap may be implemented behind a sidewalk instead of the curb
- The depth and width of the excavation may be increased if more sediment storage is necessary

OPERATOR BMP MODIFICATION OR REPLACEMENT

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MAINTENANCE/MANAGEMENT

- Inspect at least once every seven calendar days, or once every 14 calendar days and within 24 hours of the occurrence of a storm event of 0.5 inches or greater.
- Remove accumulated sediment when it reaches ½ height of original excavation.

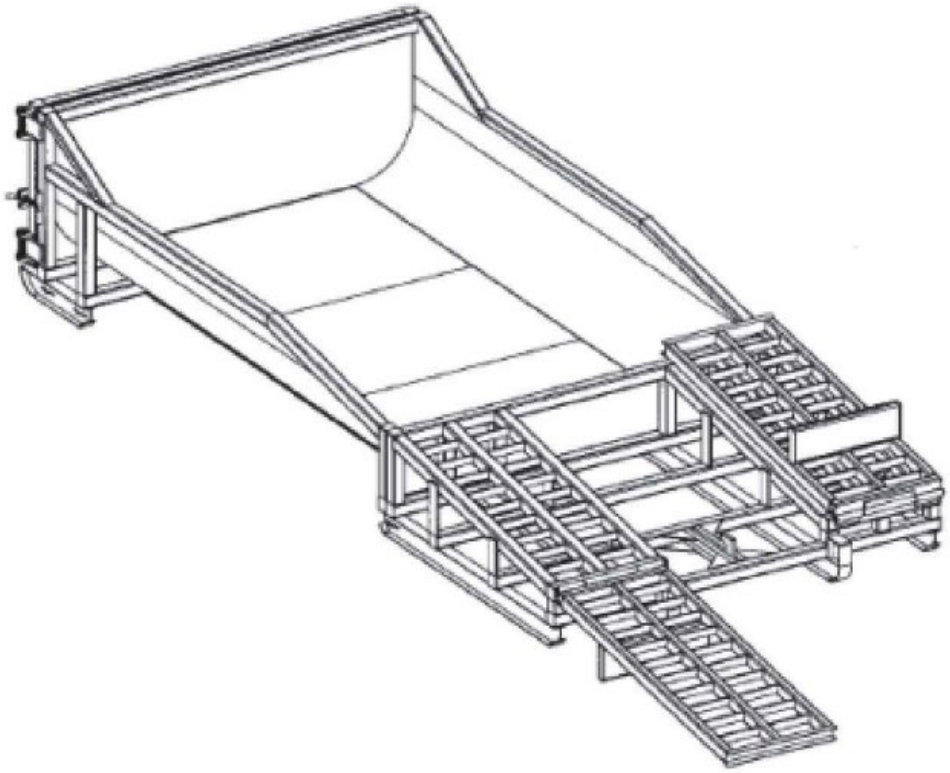
PERFORMANCE

- Sediment, or sediment laden water overtopping the curb, leaving the site, and entering the roadway constitutes BMP failure and must be corrected immediately.

REFERENCE

- CGP 2.2.3
- CPP 2.1.2

BMP 4- Concrete Washout Pan



NOT TO SCALE *

*Picture for concept only, attach detail for chosen site specific wash out pan

APPLICATION

Concrete waste management is necessary on construction sites when:

- Concrete, grout, or mortar is used as a construction material.
- Concrete truck drums, chutes, and hoses, or other concrete equipment (e.g. hand tools, screeds, shovels, rakes, floats, trowels, and wheelbarrows) are washed on-site and it is not possible to dispose of all concrete wastewater and washout off-site (ready mix plant, etc.).
- Grout or mortar mixing stations are used.

INSTALLATION/USE PROCEDURES

- Locate pans next to track-out or parking pad or provide its own anti-track-out system and area for driver chassis washing. Attach illustration with dimensions. Reference other track-out BMPs as needed to manage site conditions.
- Install a sign at each washout location and identify on the SWPPP BMP map.
- Locate washout facilities a minimum of 50 feet from sensitive areas such as storm drains, open ditches, water bodies, wetlands, or where an infiltration feature will be installed. Protect downstream inlets.
- When the minimum distance from sensitive areas is not practicable, provide secondary containment and attach containment system specifications to this BMP.
- Empty excess concrete onto the ground near the pour site until only liquid cement remains on tools and equipment.
- Wash cement off of the chute, pump equipment, and tools directly into the washout pan.
- Ensure concrete truck operators and concrete transport/disposal service providers have the necessary support to protect water quality.
- The operator is expected to modify the concrete waste management system, location and capacity when necessary as site conditions and operations warrant.
- The operator shall oversee and enforce concrete waste management procedures.
- Educate employees, concrete suppliers, and subcontractors of these concrete waste management requirements. Discuss the concrete management techniques with concrete suppliers before any deliveries are made.
- Incorporate requirements for concrete waste management into concrete supplier and subcontractor agreements.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Washouts must be maintained to provide adequate holding capacity with one foot of freeboard.
- Washout pan must be cleaned, or additional pans provided and ready for use once the concrete washout pan is 70% full.
- Maintenance includes removal and disposal of hardened concrete and excess liquid or slurry. Excess liquid and slurry shall be pumped or evaporated prior to removal of solids.
    - Attach method of liquid disposal including licensed dumping location.

- Dispose of all materials in conformance with applicable federal, state, and local regulations.
    - Do not discharge liquid or slurry to waterways, storm drains or directly onto ground.
- Inspect washout pans at least weekly, and before and after each concrete operation. During extended wet weather conditions, ensure track out is not occurring.
    - Check overall condition and performance.
    - Check remaining capacity (% full)
    - If using prefabricated pan containers, check for leaks.
- Damaged or leaking washout facilities shall be addressed immediately.

PERFORMANCE

- Pans must be water-tight with sufficient volume plus 1 foot freeboard to meet concrete washout needs in between maintenance/service intervals. Attach concrete waste volume calculations and identify the number washout pans required.
- The performance expected of a wash out pan is to contain all pollutants associated with washout of concrete, slurry, mortar, and other products with no discharge at anytime during operations.

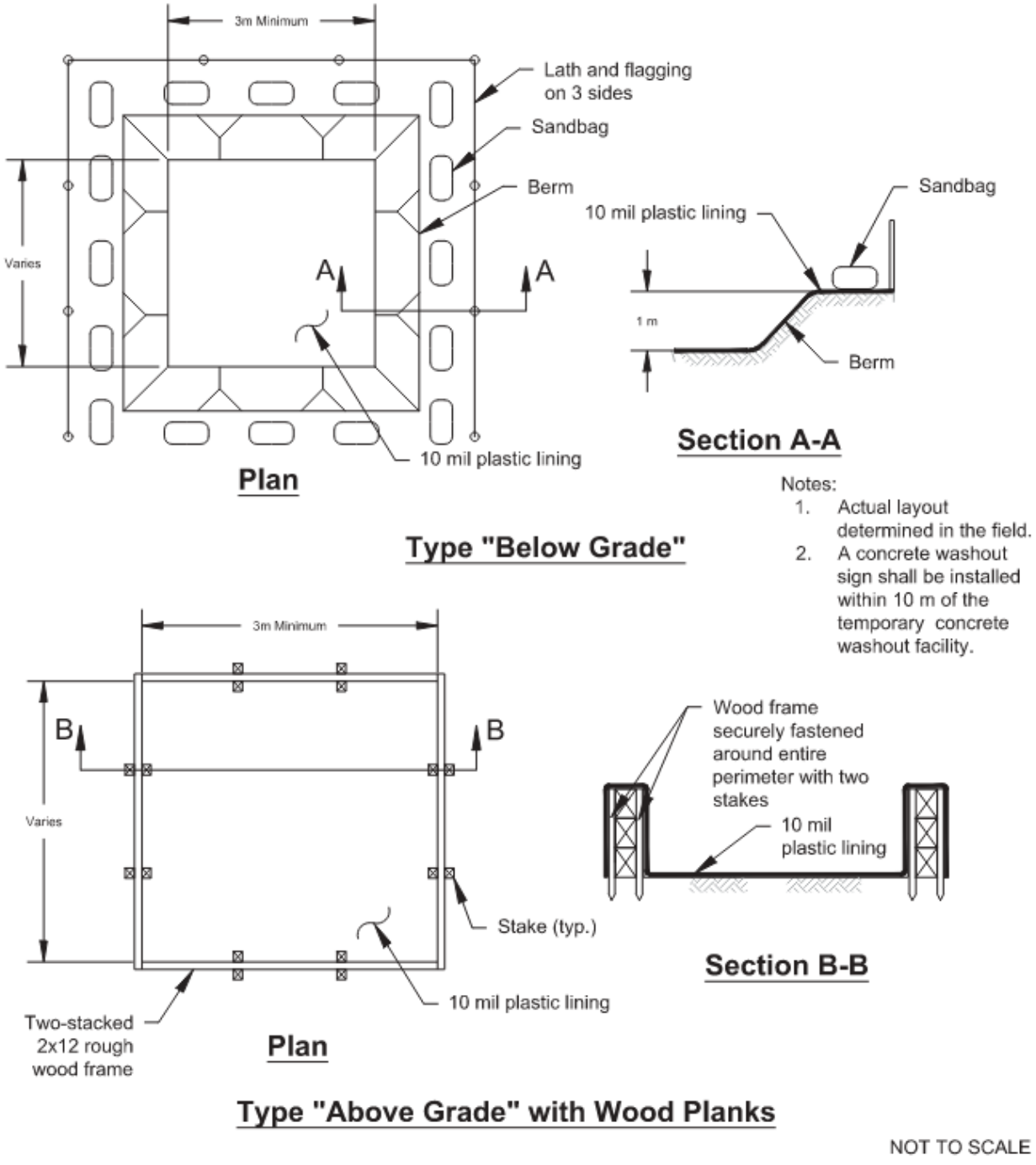
It is considered a concrete waste management failure when any of the following occur:

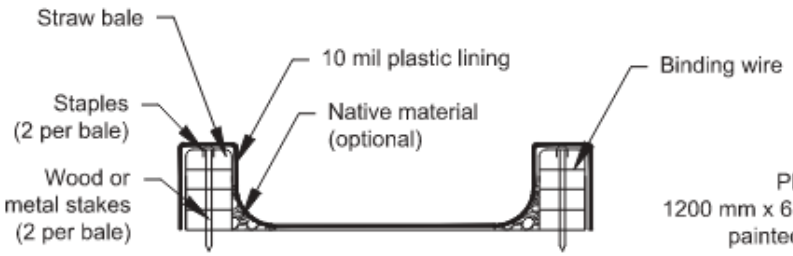
- There are leaks, overflows, or spills of concrete waste. The discharge of concrete washout waters is classified as a “Prohibited Discharge”
- Track-out associated with the concrete washout BMP operation.

REFERENCE

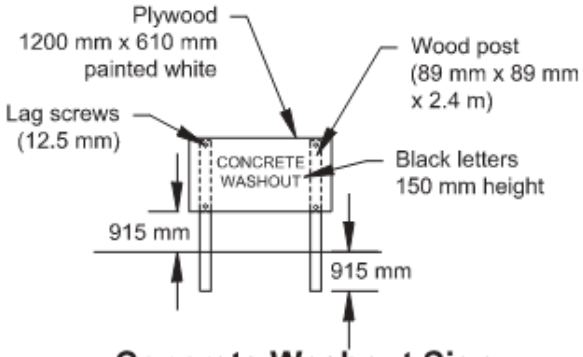
- CGP 2.3.4
- CPP 2.9.1

BMP 5- Concrete Washout Ground Fixed Systems

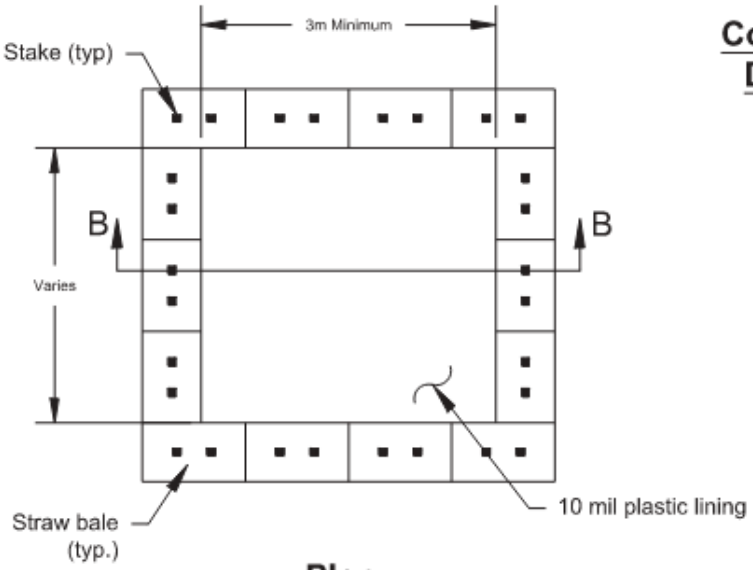




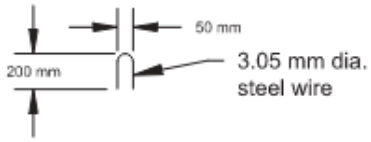
Section B-B



Concrete Washout Sign Detail (or equivalent)



Plan



Staple Detail

Notes:

1. Actual layout determined in the field.
2. The concrete washout sign shall be installed within 10 m of the temporary concrete washout facility.

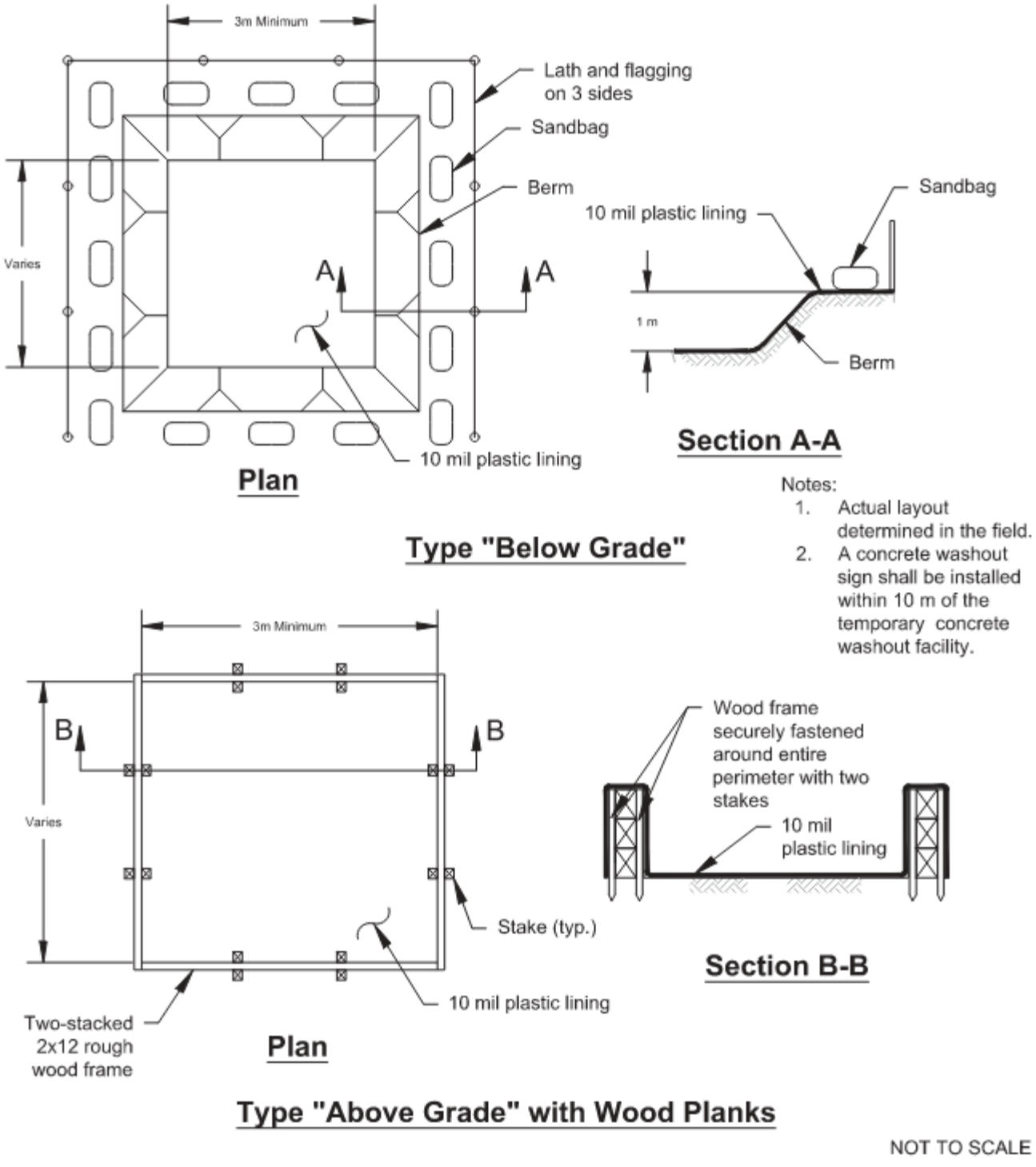
Type "Above Grade" with Straw Bales

NOT TO SCALE

APPLICATION

Concrete waste management is necessary on construction sites when:

- Concrete, grout, or mortar is used as a construction material.



- Concrete truck drums, chutes, and hoses, or other concrete equipment are washed on-site and it is not possible to dispose of all concrete wastewater and washout off-site (ready mix plant, etc.).
- Grout or mortar mixing stations are used.

INSTALLATION/USE PROCEDURES

- The washout facility shall be watertight and impermeable.
- The washout facility may be a self-installed structure or a pre-fabricated structure
- For self-installed washout structures, the lining material shall be a minimum of 10-mil polyethylene sheeting and must be free of holes, tears, or other defects that compromise the impermeability of the material. Liner materials shall be installed in accordance with manufacturer's recommendations.
    - No seams in the plastic are allowed at the bottom of the washout. The soil base shall be prepared free of rocks or other debris that may cause tears or holes in the plastic lining material.
- Washout facilities shall be constructed and maintained with sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations.
- On large sites with extensive concrete work, multiple washouts may be needed to provide adequate capacity.
- Locate pans next to track-out or parking pad or provide its own anti-track-out system and area for driver chassis washing. Attach illustration with dimensions. Reference other track-out BMPs as needed to manage site conditions.
- A sign shall be installed at each washout location.
- Install the washout at the location specified in the SWPPP.
- Locate washout facilities a minimum of 50 feet from sensitive areas such as storm drains, open ditches, water bodies, wetlands, or where an infiltration feature will be installed. Protect downstream inlets.
- When the minimum distance from sensitive areas is not practicable, provide secondary containment and attach containment system specifications to this BMP.
- Keep the washout areas away from other construction traffic and access areas to reduce the likelihood of accidental damage, spills, or tracking.
- Inspect and verify that concrete washout areas are in place prior to the commencement of concrete work.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.

- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- When materials are removed from ground fixed concrete washout systems, build a new structure; or, if the previous structure is still intact, inspect for signs of weakening or damage, and make any necessary repairs. Re-line the structure with new 10-mil polyethylene sheeting after each cleaning.
- Washouts must be maintained to provide adequate holding capacity with one foot of freeboard.
- Once the concrete washout system is 70% full, it is time to remove the existing waste material to allow further use or provide an additional washout facility.
- Maintenance includes removal and disposal of hardened concrete and excess liquid or slurry. Excess liquid and slurry shall be pumped or evaporated prior to removal of solids.
    - Attach method of liquid disposal including licensed dumping location.
- Dispose of all materials in conformance with applicable federal, state, and local regulations.
    - Do not discharge liquid or slurry to waterways, storm drains or directly onto ground.
- Inspect ground fixed concrete washout systems at least weekly, and before and after each concrete operation. During extended wet weather conditions, ensure track out is not occurring.
    - Check overall condition and performance.
    - Check remaining capacity (% full)
    - Check for leaks
- Damaged or leaking washout facilities shall be addressed immediately.
- When concrete washout areas are no longer required for the work, the hardened concrete and containment system shall be removed and disposed of at a licensed waste facility. Attach information of disposal facility. Where concrete is recycled attach recycling facility information.
- Holes, depressions, or other ground disturbances caused by the removal of concrete washout areas shall be backfilled, repaired, and stabilized to prevent erosion.

PERFORMANCE

- The performance expected of a wash out pan is to contain all pollutants associated with washout of concrete, slurry, mortar, and other products with no discharge at any time during operations.

It is considered a concrete waste management failure when any of the following occur:

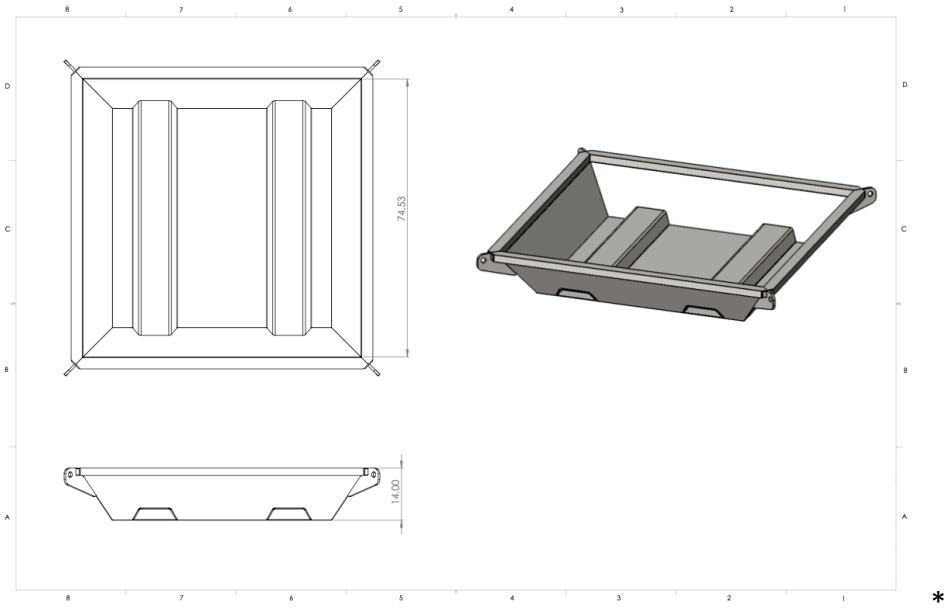
- There are rips, tears, or defects in the containment system
- Seepage overflows are observed or waste is outside of the containment system

- Track-out associated with the concrete washout BMP operation.

REFERENCE

- CGP 2.3.4,
- CPP 2.4.5, 2.9.1

BMP 6- Small Concrete Management Operations



*Picture for concept purpose only

APPLICATION

- Use for small pours only. Usually for single lot residential homes or other minor projects where the washout volume is small and using a proprietary concrete washout pan service is not practical.

INSTALLATION/USE PROCEDURES

- Small metal pan, plastic pools or equal portable watertight disposable container that can contain caustic materials. Attach dimensions of containers.
- Calculate concrete waste volume required. Attach calculations and identify the number of containment systems needed. Simply repeat this BMP for each day's concrete operation. Provide one additional container for redundancy.
- Maximize the capacity of the small containment system:
    - Empty excess concrete onto the ground near the pour site.
    - Wash cement off of the chute, pump equipment, and tools directly into the washout container.
- Place containers on a flat surface, near the track-out where there is enough room to wash the chassis and remove mud from the tires. Locate on the site BMP map.
- Containers are not allowed in roadway right of ways.
- Do not haul containers away until the waste concrete is set and all water has evaporated.

- Ensure the workforce is informed how to use your concrete management BMP.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Cover the containment system when not in use if a rain event is anticipated.
- Individual containers should no longer be used for washout once the volume capacity has reached 70% full. Utilize an additional container.
- This is a one time disposable BMP, typical maintenance is not necessary. Any exposed concrete washing and disposal operations are considered a BMP failure because the operation was not adequately anticipated and implemented.
- When the daily concrete management operation is completed simply repeat this BMP.

PERFORMANCE

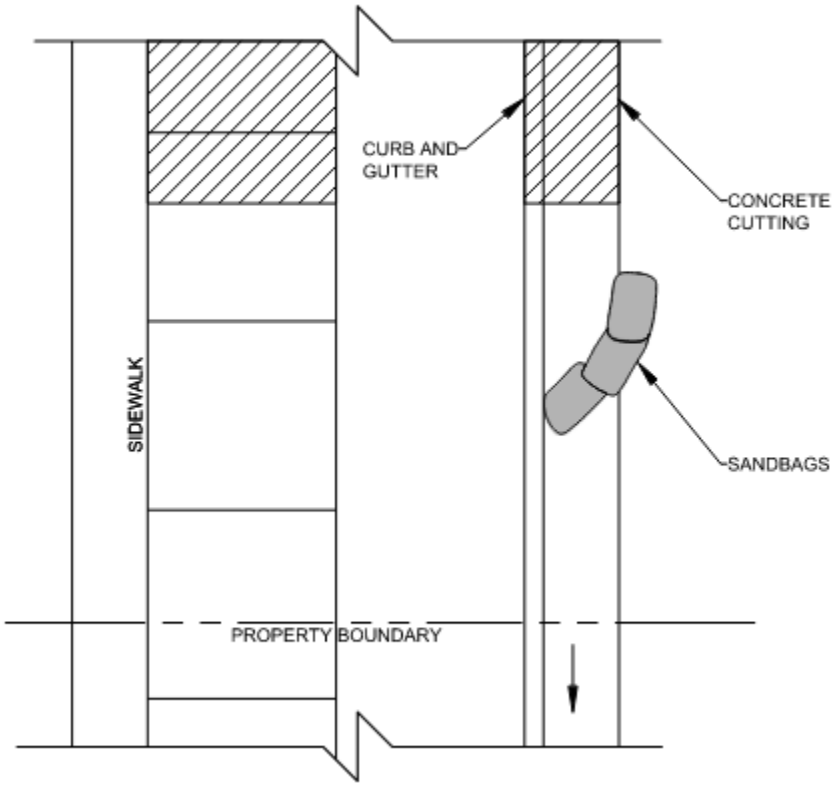
It is considered a concrete waste management failure when any of the following occur:

- Washout container overflows.
- Containers are hauled away prior to concrete set up and when liquid was not completely evaporated.
- When track-out results from washout container inadequate placement.
- When supply truck chassis are being washed outside of the containment system.

REFERENCE:

- CGP 2.3.4
- CPP 2.4.5, 2.9.

BMP 7- Pavement Saw Cutting-Wet



APPLICATION

- Use Pavement Saw Cutting-Wet BMP when cutting pavement with wet saw, especially in curb and gutter applications.
- Appropriate for use when dry cutting is not allowed or where dust is a concern.

INSTALLATION/USE PROCEDURES

- Install 6” min diameter sand or gravel bags in a manner to contain slurry from moving downslope from the cutting operation. Double up bags as necessary.
- Install enough bags anticipating the volume of cut slurry.
- Schedule cutting during dry weather periods.
- Remove slurry at the end of day or prior to rain events whichever comes first. When wet conditions exist, mix slurry with dirt or other absorbing material and remove immediately.
    - Dump waste in concrete washout containment system.
    - Dry the waste in a contained area and dispose of waste in regular waste management container.
- Sweep until no more waste can be picked up with a square nose shovel.

- Do not use water to rinse slurry from the cutting operation area, dry clean up methods only as described above.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- BMP is installed and removed with each cutting operation, no maintenance is necessary.

PERFORMANCE

- Utilizing water during saw cutting is a great way to capture dust from cutting operations so that dust does not travel out of the cutting operation area nor pollute the air.
- Additionally utilization of this BMP will prevent high density opacity for nearby drivers and operators.
- Performance criteria to judge application success would be that airborne dust does not occur and slurry is contained and disposed per BMP.

It is considered a BMP failure when any of the following occur:

- The dam created with sand or gravel bags overflows
- Cutting operations are not cleaned up by the end of day or prior to wet conditions.
- Any waste material is not disposed per BMP or otherwise can contaminate water resources

REFERENCE:

- CGP 2.3.4
- CPP 2.9.1

BMP 8- Pavement Saw Cutting-Dry

APPLICATION

- Use for pavement cutting on directly connected pavements or where cutting dust can be washed to drainage systems, especially in curb and gutter applications.

INSTALLATION/USE PROCEDURES

- Schedule cutting during dry weather periods.
- Remove cutting dust immediately following the cutting operation.
- Sweep until no more waste can be picked up with a square nose shovel.
- Dispose of cutting dust in a concrete waste container or regular waste management container.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- BMP is installed and removed with each cutting operation, no maintenance is necessary.

PERFORMANCE

- BMP application success would be that dust is contained to the cutting operation area and disposed per BMP.

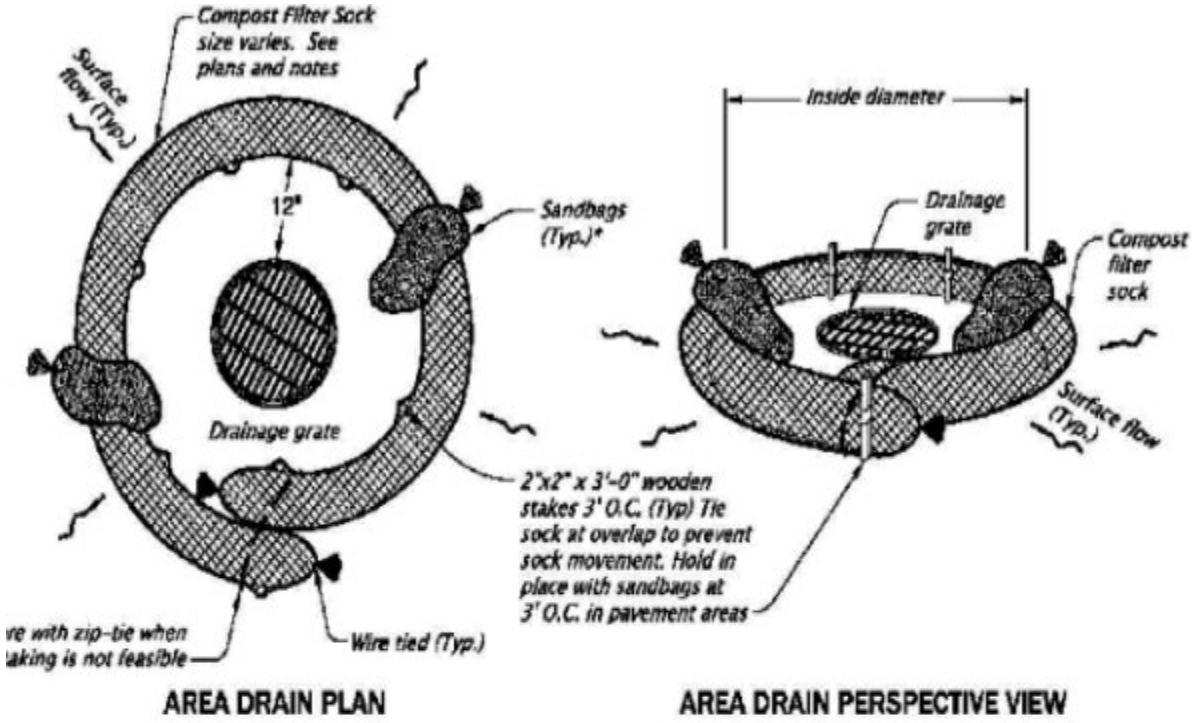
It is considered a BMP failure when any of the following occur:

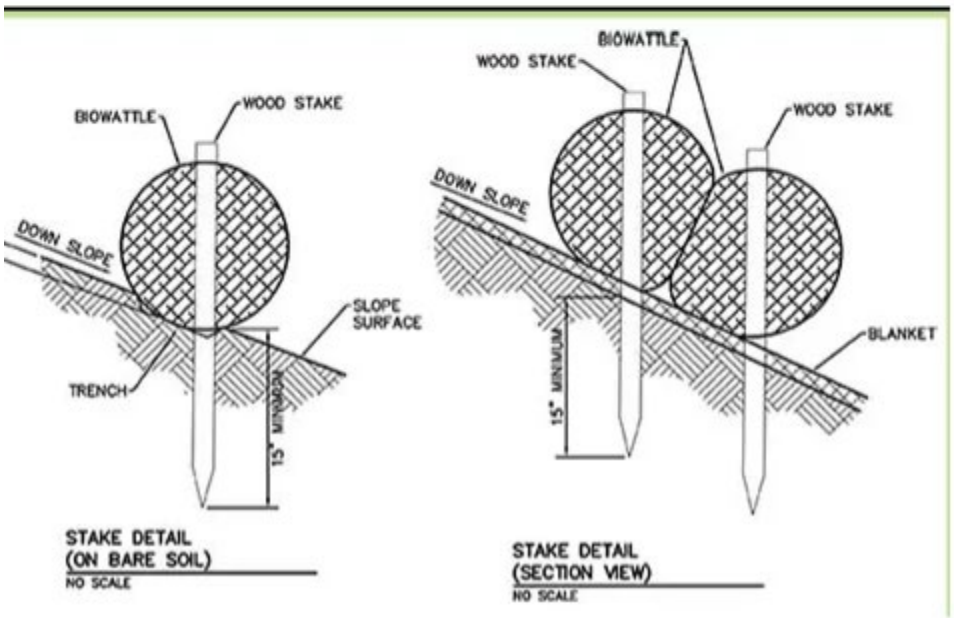
- Cutting dust enters drainage systems
- Cutting operations are not cleaned up immediately following the cutting operation
- Any waste material is not disposed per BMP or otherwise can contaminate water resources

REFERENCE:

- CGP 2.3.4
- CPP 2.9.1

BMP 9- Area Drain Filtration





APPLICATION

- Straw wattles or filter tubs are an open weave, mesh tube that is filled with a filter material (compost, wood chips, straw, coir, aspen fiber, or a mixture of materials) used to divert or filter stormwater.
- Straw wattles are a temporary BMP that can be used in the rough grading process of construction. Straw wattles and large filter sock can be used with or without storm drain inlet tops, but not ready for grading of roadway.
- Can be used for area drains until final stabilization is complete.

INSTALLATION/USE PROCEDURES

- On natural ground tubes shall be staked with 2 inch by 2 inch wooden stakes at a maximum spacing of 4 feet. Rebar or similar metal stakes may be used instead of wooden stakes. Filter tubes shall be embedded a minimum of two inches when placed on soil.
- Sand or rock bags shall be placed at a minimum, one foot from each end of the tube and at the middle of the tube.
- The end of tubes shall overlap a minimum of 18 inches when multiple tubes are connected to form a linear control along a contour or a perimeter.
- Straw wattles should wrap around the entirety of the storm drain to prevent sediment and other pollutants from entering the storm drain.
- Follow manufacturer's recommendations for staking or other methods of approved securement when used on pavement.

OPERATOR BMP MODIFICATION OR REPLACEMENT

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MAINTENANCE/MANAGEMENT

- Check straw wattles material to make sure it has not become clogged with sediment or debris. Clogged filter tubes usually lead to standing water behind the filter tube after a rain event. Sediment shall be removed from behind the filter tube before it reaches half the height of the exposed portion of the tube.
- The straw wattles should be checked to ensure it is in continuous contact with the soil at the bottom of the embedment trench. Closely check for rill erosion that may develop under the filter tubes. Eroded spots must be repaired and monitored to prevent reoccurrence. If erosion under the tube continues, additional controls are needed.

- Any straw wattles destroyed by construction operations or UV degradation will need to be removed and replaced.

PERFORMANCE

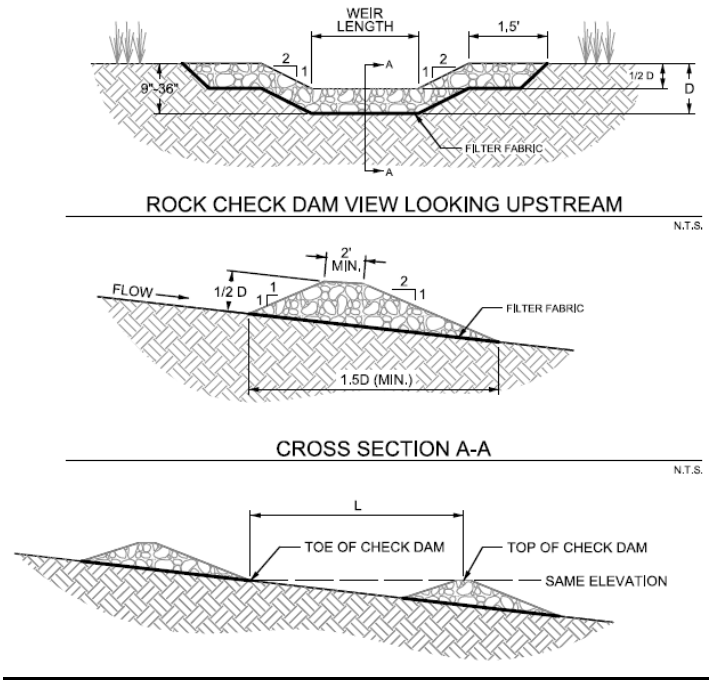
It is considered a BMP failure when any of the following occur:

- Damaged or not installed to the BMPs details or attached manufacturer illustrations
- Sediment depth around wattle exceeds maintenance tolerances.
- Opening or gaps in straw wattles.

REFERENCE

- CGP 2.2.10

BMP 10- Rock Check Dam for Channels



APPLICATION

- Check dams are used in swales and drainage ditches (including those along linear projects such as roadways).
- They can also be used in short swales down a steep slope to reduce velocities.
- Check dams shall not be used in live stream channels.
- Check dams should be installed before the contributing drainage area is disturbed, so as to mitigate the effects on the swale from the increase in runoff.
- If the swale itself is graded as part of the construction activities, check dams are installed immediately upon completion of grading to control velocities in the swale until stabilization is completed.

INSTALLATION/USE PROCEDURES

- Install rock check dam per illustrated detail. D=24” or less and install the center of the dam about 6” lower than the sides.
- Check dams should be used in conjunction with other sediment reduction techniques prior to releasing flow offsite.
- Use 4” or greater rock diameter and non-woven geotextile fabric under check dams of 12 inches in height or greater. When high flow rates and velocities are anticipated engineering is required.

- Dam height should be between 9 and 36 inches and less than one-third the depth of the channel
- Dams should be spaced such that the top of the downstream dam is at the same elevation as the toe of the upstream dam. On channel grades flatter than 0.4 percent, check dams should be placed at a distance that allows pools to form between each check dam.
- The top of the side of the check dam shall be a minimum of 12 inches higher than the middle of the dam. In addition, the side of the dams shall be embedded a minimum of 18 inches into the side of the drainage ditch, swale or channel to minimize the potential for flows to erode around the side of the dam.
- Use geotextile fabric (of appropriate tensile strength, puncture rating and apparent opening size) under check dams of 12 inches in height or greater.
- Loose soil, wood chips, compost, and other floatable materials that are transportable during runoff should not be used to construct a check dam.

ALTERNATIVE DESIGN

- **Rock Check Dams:**
    - Stone shall be well graded with stone size ranging from 3 to 6 inches in diameter for a check dam height of 24 inches or less. The stone size range for check dams greater than 24 inches is 4 to 8 inches in diameter.
- **Rock Bag Check Dams:**
    - Rock bag check dams should have a minimum top width of 16 inches.
    - Minimum rock bag dam height of 12 inches would consist of one row of bags stacked on top of two rows of bag. The dam shall always be one more row wide than it is high, stacked pyramid fashion.
    - Bags should be filled with pea gravel, filter stone, or aggregate that is clean and free of deleterious material.
    - Sand bags shall not be used for check dams, due to their propensity to break and release sand that is transported by the concentrated flow in the drainage swale or ditch.
    - Bag material shall be polypropylene, polyethylene, polyamide or cotton burlap woven fabric, minimum unit weight 4-ounces-per-square-yard, Mullen burst strength exceeding 300-psi as determined by ASTM D3786, Standard Test Method for Hydraulic Bursting Strength of Textile Fabrics-Diaphragm Bursting Strength Tester Method, and ultraviolet stability exceeding 70 percent.
    - PVC pipes may be installed through the dam to allow for controlled flow through the dam. Pipe should be schedule 40 or heavier polyvinyl chloride (PVC) having a nominal internal diameter of 2 inches.
- **Sack Gabion Check Dams:**

  - Sack gabion check dams may be used in channels with a contributing drainage area of 5 acres or less.
  - Sack gabions shall be wrapped in galvanized steel, woven wire mesh. The wire shall be 20 gauge with 1 inch diameter, hexagonal openings.
  - Wire mesh shall be one piece, wrapped around the rock, and secured to itself on the downstream side using wire ties or hog rings.
  - Sack gabions shall be staked with ¾ inch rebar at a maximum spacing of three feet. Each wire sack shall have a minimum of two stakes.
  - Stone shall be well graded with a minimum size range from 3 to 6 inches in diameter.
- **Organic Filter Tube Check Dams:**
  - Organic filter tubes may be used as check dams in channels with a contributing drainage area of 5 acres or less.
  - Organic filter tubes shall be a minimum of 12 inches in diameter.
  - Filter material used within tubes to construct check dams shall be limited to coir, straw, aspen fiber and other organic material with high cellulose content. The material should be slow to decay or leach nutrients in standing water.
  - Staking of filter tubes shall be at a maximum of 4 foot spacing and shall alternate through the tube and on the downstream face of the tube.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Inspect the check dam system each report period and after storm events.
- Remove silt when sediment accumulation reaches approximately 1/3 the height of the dam.
- Inspect for erosion beneath and around the check dam (particularly where the edge of the dam meets the side of the channel) and restore as needed each report period.
- If erosion continues to be a problem, modifications to the check dam or additional controls must be engineered.

PERFORMANCE

- Check dam systems are intended to perform as engineered up to .25” of rain fall

- Rock check dams are performing as intended if the drainage channel they are protecting does not develop deep erosive gulleys between dams and the dam itself is not being undercut by erosion or eroded to either side of the dam.
- Due to the minimal sediment capture capability of check dams, good performance will include accumulations of sediment on the upstream side of dams between maintenance intervals.

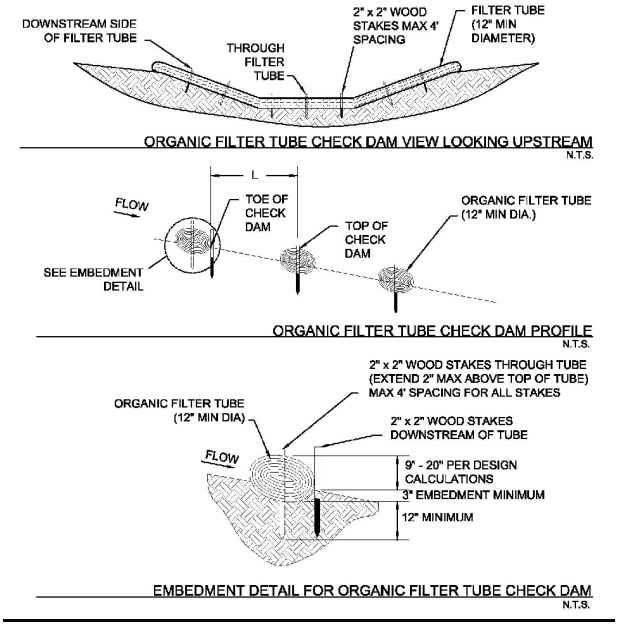
It is considered a BMP failure when any of the following occur:

- System not installed per illustrated detail, system not maintained, or system damaged by construction operations.
- Erosion damage resulting in variance from detail dimensions

REFERENCE

- U-CGP 2.2.11 – "Minimize erosion of constructed or natural site drainage feature channels and their embankments, outlets, adjacent streambanks, slopes, and downstream waters. Use erosion controls and velocity dissipation devices within and along the length of any constructed or natural site drainage feature channel and at any outlet to slow down runoff and minimize erosion."

BMP 11- Straw Wattle Check Dam for Channels



APPLICATION

- Check dams are used in swales and drainage ditches (including those along linear projects such as roadways).
- They can also be used in short swales down a steep slope to reduce velocities.
- Check dams shall not be used in live stream channels.
- Check dams should be installed before the contributing drainage area is disturbed, so as to mitigate the effects on the swale from the increase in runoff.
- If the swale itself is graded as part of the construction activities, check dams are installed immediately upon completion of grading to control velocities in the swale until stabilization is completed.

INSTALLATION/USE PROCEDURE

- Dam height should be between 9 and 36 inches and less than one-third the depth of the channel
- Dams should be spaced such that the top of the downstream dam is at the same elevation as the toe of the upstream dam. On channel grades flatter than 0.4 percent, check dams should be placed at a distance that allows small pools to form between each check dam.
- The top of the side of the check dam shall be a minimum of 12 inches higher than the middle of the dam. In addition, the side of the dams shall be embedded a minimum of 18 inches into the side of the drainage ditch, swale or channel to minimize the potential for flows to erode around the side of the dam.

- Check dams should be used in conjunction with other sediment reduction techniques prior to releasing flow offsite.
- Use geotextile fabric (of appropriate tensile strength, puncture rating and apparent opening size) under check dams of 12 inches in height or greater.
- Loose soil, wood chips, compost, and other floatable materials that are transportable during runoff should not be used to construct a check dam.

ALTERNATIVE DESIGN

- See "Rock Check Dam for Channels"

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Inspect the check dam system each report period and after storm events.
- Remove silt when sediment accumulation reaches approximately 1/3 the height of the dam.
- Inspect for erosion beneath and around check dam (particularly where edge of the dam meets the side of the channel) and restore as needed each report period.
- If erosion continues to be a problem, modifications to the check dam or additional controls must be engineered.

PERFORMANCE

- Check dam systems are intended to perform as engineered up to .25" of rain fall
- Check dams are performing as intended if the drainage channel they are protecting does not develop deep erosive gulleys between dams and the dam itself is not being undercut by erosion or eroded to either side of the dam.
- Due to the minimal sediment capture capability of check dams, good performance will include accumulations of sediment on the upstream side of dams between maintenance intervals.

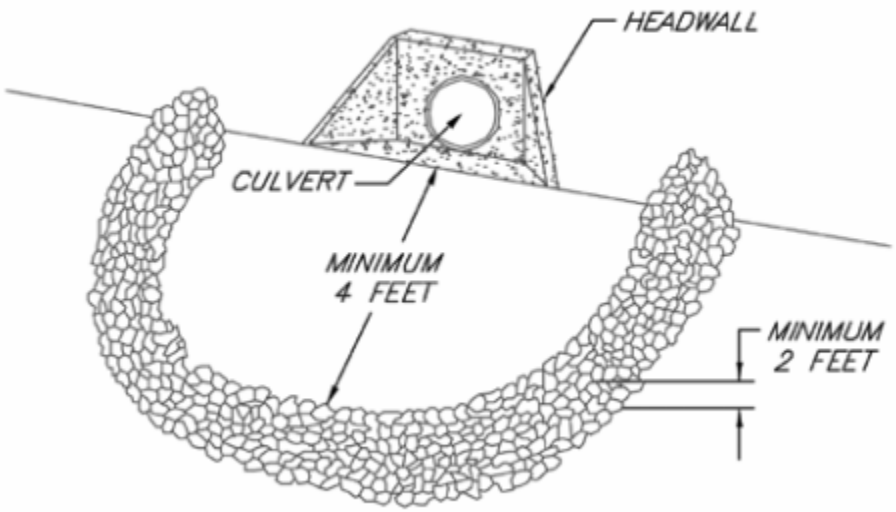
It is considered a BMP failure when any of the following occur:

- System not installed per illustrated detail, system not maintained, or system damaged by construction operations.
- Erosion damage resulting in variance from detail dimensions.

REFERENCE

- U-CGP 2.2.11 – “Minimize erosion of constructed or natural site drainage feature channels and their embankments, outlets, adjacent streambanks, slopes, and downstream waters. Use erosion controls and velocity dissipation devices within and along the length of any constructed or natural site drainage feature channel and at any outlet to slow down runoff and minimize erosion.”

BMP 12- Culvert Sediment Barrier



APPLICATION

A culvert inlet sediment barrier is a temporary rock barrier at a culvert inlet. The purpose of the barrier is to reduce the amount of sediment that enters the culvert by creating a small ponding area for the sediment to settle out.

- For use on a site with open culverts within the project area that are exposed to runoff.

INSTALLATION/USE PROCEDURES

- A geotextile should be placed between the stone barrier and the natural ground.
- Surround all sides of the culvert with Class II Channel Lining at a minimum of 4 feet from the culvert.
- The barrier must be designed to ensure that no bypasses occur up to 0.5” of rainfall
- Control the location of the sediment barrier spillway by placing an overflow notch at a selected location in the middle portion of the barrier.
    - The notch should be at least six inches lower than the rest of the barrier.
    - The downgradient portion of the overflow notch should be protected from erosion caused by potential spillover with Class II Channel Lining.
- The upstream face of the barrier should consist of smaller stone to decrease the flow rate through the stone.
- If a culvert inlet sediment barrier is intended to be used for long-term storm water management, design and installation must be approved by an accredited engineer.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Inspect the condition of the sediment barrier weekly and after every rainfall event greater than one-half inch. Erosion and scouring would necessitate barrier reinforcement.
- Remove sediment and/or debris when depth reaches one-half the height of the barrier.

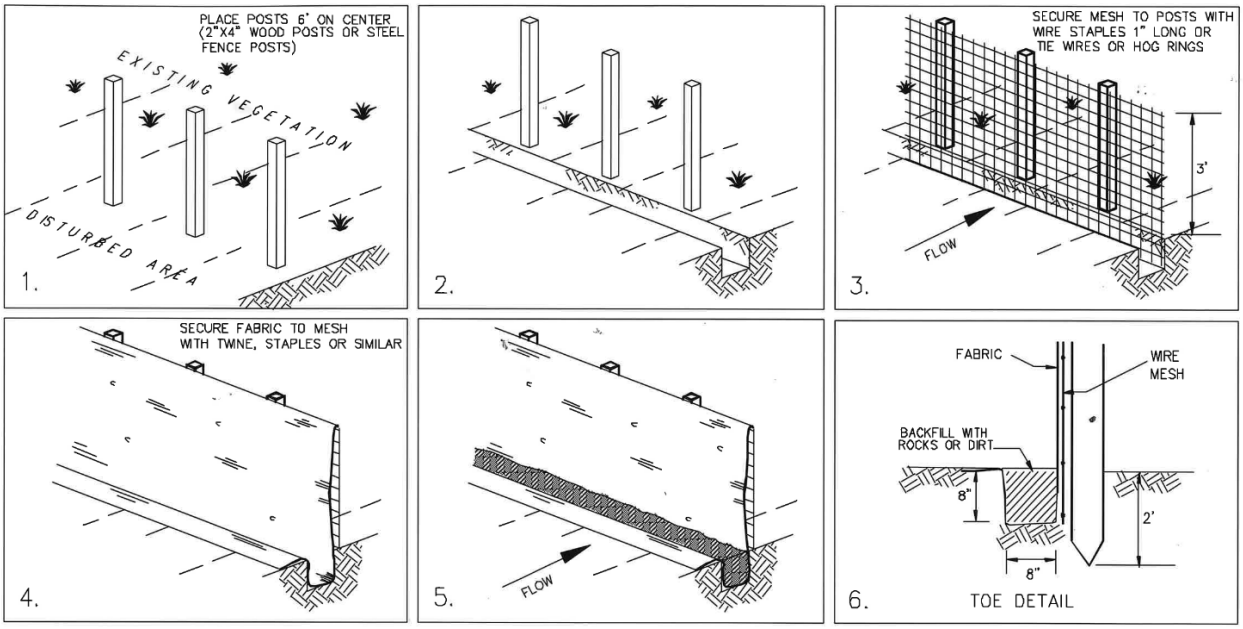
PERFORMANCE

- A culvert inlet sediment barrier is expected to utilize sediment deposition to the maximum extent possible before allowing runoff to enter the culvert.
- The overflow spillway should not compromise the capacity of the berm to slow the flow of the first half inch of rain

REFERENCE

- CGP 2.2.11
- CPP 2.3

BMP 13- Silt Fence



APPLICATION

A silt fence when properly installed and maintained can help mitigate the discharge of sediment in storm water runoff. It can be used in multiple applications such as:

- Downstream project boundaries
- Downstream side(s) of erodible stockpiled materials.
- Minor channels or slopes when calculations show runoff volumes will not exceed the anticipated volume capacity and strength of the system.

A silt fence is not intended for:

- Controlling large volumes of concentrated runoff. Use an alternative BMP. This case usually warrants retention ponds.
- Border control or limits of construction site only (i.e. not intended to fulfill the same purpose as construction fencing)

INSTALLATION/PROCEDURE/CALCULATIONS

- Install silt fence per detail dimensions, description and materials or -
- For proprietary systems attach all design, performance, installation, maintenance requirements and the proprietary BMP detail documents. All requirements of this BMP remain except for any differences necessary to achieve design performance.
- Install silt fence downstream of all necessary exposed boundaries as shown by the grading sheet, demolition map, phasing map, and or SWPPP BMP map, etc. Attach topographic maps for all construction phases to this BMP or reference where these maps are found in the SWPPP.

- Install silt fence along contours of the slope to maximize effectiveness.
- Overlap each fence segment in a series by at least 6 inches to prevent gaps.
- The end of the silt fence must be installed in a "J-hook" to treat runoff effectively. Flare the ends uphill to provide storage capacity of storm water runoff
- Attach engineering calculations for sites with steep slopes, for large areas clear of vegetation and when runoff rates or when runoff volumes behind fences will feasibly cause failure for storm events less than 2yr 24hr intensities and volumes. In this case, engineering calculations are required or as allowed by oversight authority.
- Ensure all workers are trained on proper installation, maintenance, and inspection of silt fences.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Inspect the silt fence prior to a forecasted rain event and during weekly inspections.
- Maintain or repair within the period given by the inspector following city and state code within the reporting period or prior to storm event.
- Inspect silt fence after storm events. Restore any fence damaged back to the installation requirements.
- Remove accumulated sediment when it reaches one-third fence height or as specified by proprietary system.

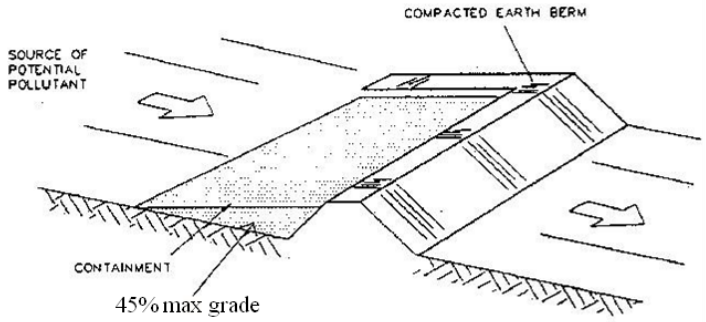
PERFORMANCE

- A silt fence allows water to pass trapping sediment behind. Runoff going around, under or over silt fence would indicate a silt fence system failure.
- A silt fence is expected to filter sediment for storm events less than 2yr 24hr storm events. Fence failures for events less than a 2yr 24hr storm feasibly means the silt fence was either designed, installed, was unmaintained, was damaged by construction operations or the silt fence was not the best BMP for the site exposure. When the area tributary to the fence results in runoff rates greater than silt fence design capability, provide conveyance swales and retention pond BMPs or as per other CGP options.

REFERENCE

- CGP 2.2.3, 2.2.5, 2.2.11, 2.2.12, 7.3.3

BMP 14- Earth Berm Barrier



APPLICATION

A temporary containment control constructed of compacted soil.

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

Not intended for erosion control.

INSTALLATION/USE PROCEDURES

- Construct an earthen berm downhill 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.
- The berm should be protected from heavy equipment traffic through signage or training

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Observe daily for any non-stormwater discharge.
- Look for runoff bypassing ends of berms eroding, or breaching.
- Repair or replace damaged areas of the berm and remove accumulated sediment.

- Recompact soil around the berm as necessary to minimize erosion rates.

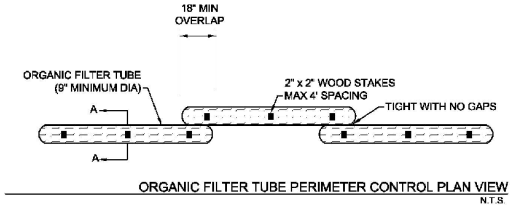
PERFORMANCE

- An earthen berm should be able to contain incidental spills in the area that it is installed while the spill control plan in the SWPPP is being put into effect.

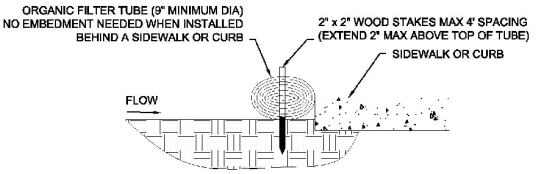
REFERENCE

- CGP 2.2.11
- CPP 2.3

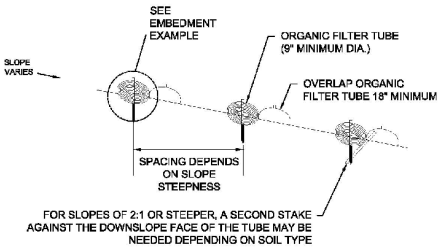
BMP 15- Filter Tubes on Slopes



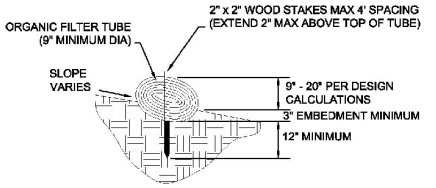
ORGANIC FILTER TUBE PERIMETER CONTROL PLAN VIEW
N.T.S.



INSTALLATION EXAMPLE FOR ORGANIC FILTER TUBEABUTTING PAVEMENT
N.T.S.



ORGANIC FILTER TUBE SLOPE PROTECTION PROFILE
N.T.S.



EMBEDMENT EXAMPLE FOR ORGANIC FILTER TUBE
N.T.S.

APPLICATION

Filter tubes are also called fiber rolls, fiber logs, wattles, mulch socks, and/or coir rolls. The tubes can be filled with organic material (compost, wood chips, straw, coir, aspen fiber, or a mixture of materials) or geosynthetic material. Though filter tubes have many uses, this BMP focuses on slope management.

- If the tubes will be left onsite as part of the final stabilization plan (such as in Arid and Semi-Arid areas with exceptions to final stabilization timeline requirements) they must be constructed of 100 percent biodegradable jute, coir, sisal or similar natural fiber or 100 percent UV photodegradable plastic, polyester or geosynthetic material.
- Filter tubes can be used to treat sheet flow over a short distance and can be used on steep slopes as both sediment and erosion control.
- Filter tubes work by detaining flow and capturing sediment as a linear control along the contours of a slope, or as a perimeter control down-slope of a disturbed area (when appropriately sized).
- Filter tubes are most effective with coarse to silty soil types; additional controls may be needed to remove fine silts and clays suspended in stormwater.

INSTALLATION/USE PROCEDURES

- Filter tubes should be installed along the contour.
- Tubes shall be staked with 2 inch by 2 inch wooden stakes at a maximum spacing of 4 feet. Rebar or similar metal stakes may be used instead of wooden stakes.

- When placed on pavement, sand or rock bags shall be placed abutting the down-slope side of the tubes to prevent runoff from dislodging the tubes. At a minimum, bags shall be placed one foot from each end of the tube and at the middle of the tube.
- Filter tubes shall be embedded a minimum of three inches when placed on soil. Placement on rock shall be designed as placement on pavement.
- The end of tubes shall overlap a minimum of 18 inches when multiple tubes are connected to form a linear control along a contour or a perimeter.
- Loose mulch material shall be placed against the log on the upstream side to facilitate contact with the ground.
- The last 10 feet (or more) at the ends of a line of tubes shall be turned upslope to prevent bypass by stormwater. Additional turned-upslope lengths of tubes may be needed every 200 to 400 linear feet, depending on the traverse slope along the line of tubes.
- The most common sizes of tubes are 6 to 24 inches in diameter; however, tubes are available in sizes as small as 4 inches and up to 36 inches in diameter. The designer shall specify a diameter based on the site application. Tubes less than 8 inches in diameter when filled will require more frequent maintenance if used.
- When using manufactured tubes, the manufacturer's recommendations for diameter and spacing based on slope, flow velocities, and other site conditions shall be followed and documented in a site's SWPPP.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Organic filter tubes should be inspected regularly each inspection period.
- The filter tube should be checked to ensure that it is in continuous contact with the soil at the bottom of the embedment trench. Closely check for rill erosion that may develop under the filter tubes. Eroded spots must be repaired and monitored to prevent reoccurrence. If erosion under the tube continues, additional controls are needed.
- Staking shall be checked to ensure that the filter tubes are not moving due to stormwater runoff. Repair and re-stake slumping filter tubes. Tubes that are split, torn or unraveling shall be repaired or replaced.

- Check the filter tube material to make sure that it has not become clogged with sediment or debris. Clogged filter tubes usually lead to standing water behind the filter tube after the rain event. Sediment shall be removed from behind the filter tube before it reaches half the height of the exposed portion of the tube.

PERFORMANCE

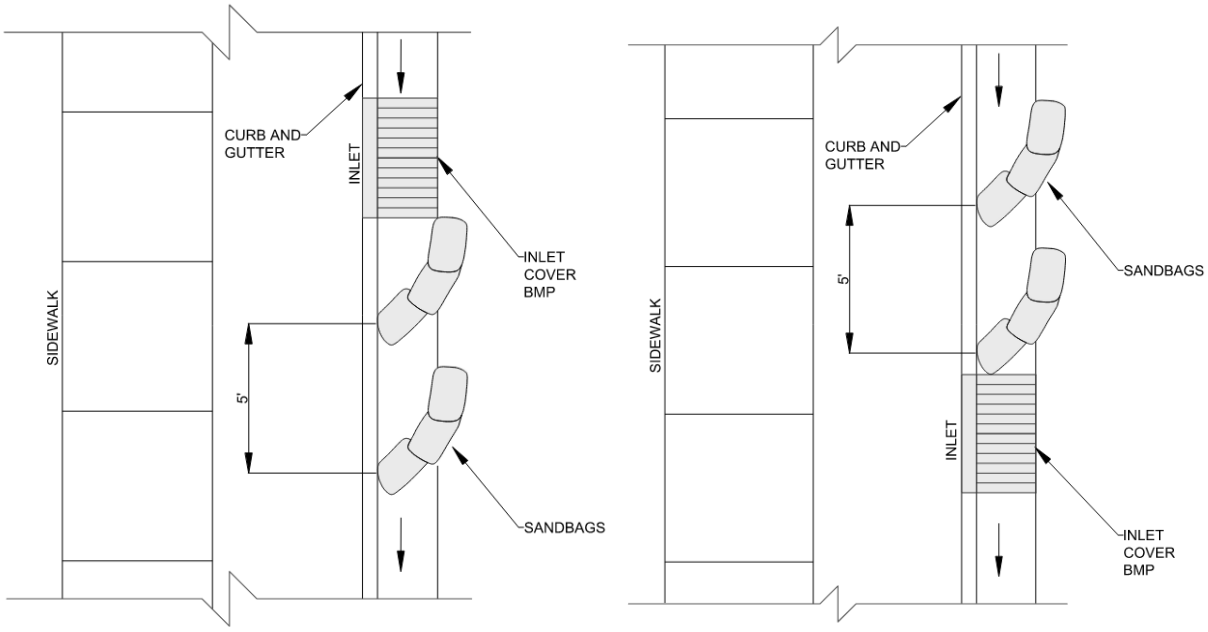
- Organic filter tubes are performing as intended if sheet flow of runoff is passing over or through the barrier and not simply around it, bypassing the control.
- Additionally, performance is achieved if the filter tube barrier is effectively minimizing the off-site discharge of sediment from the drainage area it is controlling and does not develop erosive rills/gullies between filter tubes and the tubes are not being undercut by erosion or eroded to either side of the barrier.
- Due to the relatively smaller sediment capture capability of these filter tubes, as compared to taller barriers, good performance will include accumulations of sediment on the upstream side of filter tubes until maintenance occurs, which will likely require more frequent maintenance.

REFERENCE

- CGP 2.2.3, 2.2.5, 2.2.11

CPP 2.3

BMP 20- Inlet Filter with Gutter Dam Combo



APPLICATION

- This BMP allows sediment laden storm water to be filtered by inlet cover and the gutter dam. Installing the gutter dam on the downstream end of the inlet will increase filter effectiveness and reduce sediment and debris by-pass. This configuration can reduce passing higher volumes downstream.
- This BMP allows for runoff by-pass during intense storm events but when adequately maintained can minimize sediment reaching storm water inlets. Inlet cover only BMPs should have secondary containment built in.
- Use Inlet Filter Gutter Dam Combo BMP for at grade inlets.
- Warning: This BMP is easily damaged by vehicles that park along the curb and gutter, and by snow removal operations.

INSTALLATION/USE PROCEDURES

- Install 6" min dia sand or gravel bags. Double up bags as necessary.
- Install upstream of inlets.
- This gutter dam system is working when the first dam is holding more sediment than the downstream dams. When the sediment collection is about the same then something is wrong.
- This system can scour out easily and needs regular maintenance to be effective.
- Inform subcontractors and suppliers of the gutter dams placement to roadside parking from damaging the sand or gravel bags.
- Train SWPPP inspection and maintenance team
- This BMP is designed for 1/4" (~2yr 10min intensity) rain storm events.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Anticipate significant storm events, repair damage and remove sediment deposits prior to storm events that could scour sediment deposits from the gutter dam.
- Inspect, remove sediment and repair gutter dam regularly during the report period and following each storm event. Check for out of place or broken bags, and torn or punctured fabric.
- Following storm events the first dam should have more sediment than the downstream dams. When inspection shows failure persists, even with regular maintenance, a third

dam should be installed. If the gutter dam system does not perform as intended, a different or additional BMP is warranted.

- Inspect for sediments and remove with shovel and broom or vacuum tools.
- When fabric removal or replacement results in sediment dropping into the inlet, use hydro vacuum machinery or safely remove by other means
- Bring awareness to workforce and suppliers parking near the gutter dam.
- Check during storm events and prevent driving hazardous resulting from surface water conditions.

PERFORMANCE

- A gutter dam system is expected to slow the flow of runoff in the gutter to allow for sediment deposition. Erosion control of non-stabilized sediment should be used in conjunction with a gutter dam system. This BMP should be utilized as a secondary control to erosion control BMPs.

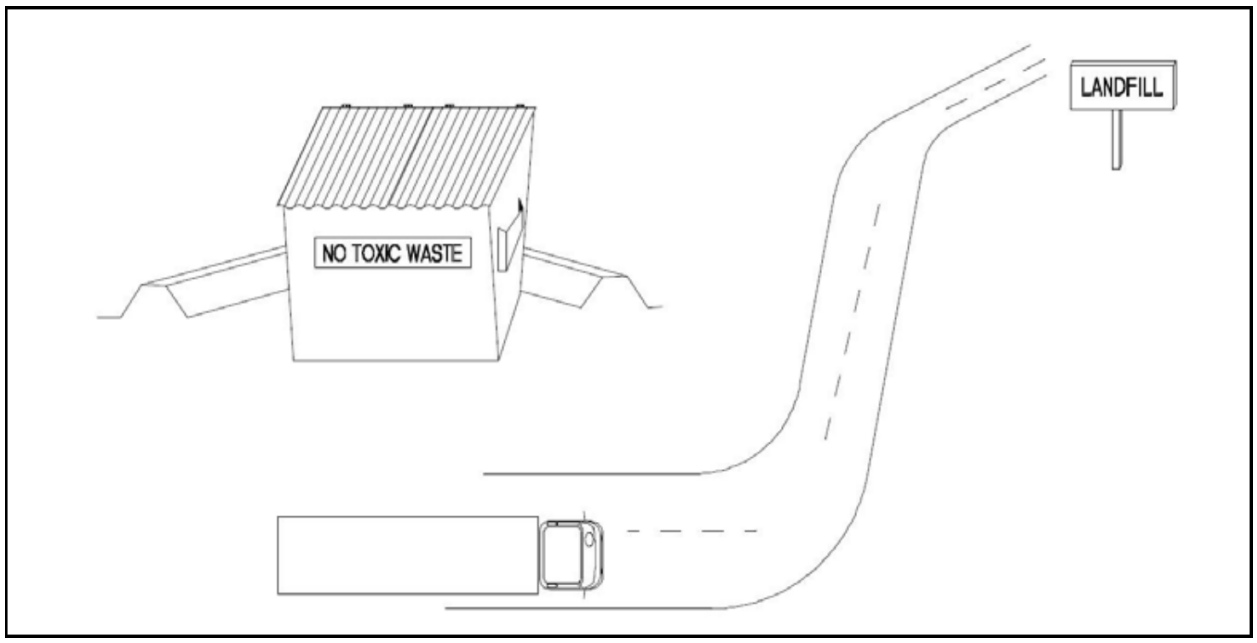
It is considered a BMP failure when any of the following occur:

- When storm events less than ¼" of rain results in significant scour an alternative BMP is warranted.
- When regular damage occurs to the gutter dam system due to traffic or snow operations an alternative BMP is warranted.
- When sediment deposits are equal to or greater in the downstream dam following storm events of 1/4" or less, the BMP is not adequate and warrants a different BMP.

REFERENCE:

- CGP 2.2.10
- CPP 2.1.3

BMP 21- Solid Waste Management



APPLICATION

- This BMP is necessary when construction activities generate solid waste that needs to be collected and disposed of properly to prevent environmental contamination.
- Use this BMP when: The site generates solid waste, including packaging materials, scrap construction materials, masonry products, timber, pipe and electrical cuttings, plastics, styrofoam, concrete, demolition debris; and other trash or building materials that could potentially contaminate stormwater if not managed correctly.

INSTALLATION/USE PROCEDURES

- **Selection Criteria**: Use durable, watertight containers (e.g., dumpster, trash receptacle) that are appropriately sized for the volume of waste generated on-site.
- **Placement**: position dumpsters on a flat, stabilized surface, away from storm drains and water bodies. Identify these locations on the site plan.
- **Usage**: ensure all construction waste is placed inside the dumpster. Do not overfill; waste should not extend beyond the sides or top of the dumpster. Do not dispose of liquids in this BMP. Most dumpsters and garbage trucks are not water tight.
- **Containment:** Provide containment or cover for waste that is blowable or that can leach nutrients, metals, pesticides, herbicides, oil, grease, bacteria, or other pollutants.
- **Segregation:** separate hazardous waste from non-hazardous waste and use appropriately labeled and secured containers for hazardous materials.

- Locate on parking pad or next to track-pad to prevent track-out when servicing. Show location on site BMP map.
- Do not install in roadways without approval of local municipality. This usually means obtaining a local right-of-way encroachment permit or equal to stage dumpsters in right-of-ways.
- Train workforce.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Ensure the workforce is informed about proper waste disposal procedures and the importance of maintaining the integrity of waste management BMPs.
- Operator is expected to modify the solid waste management system, location and capacity when necessary as site conditions and operations warrant.
- Inspect dumpsters for leaks, damage, and proper cover.
- Collect any trash around the construction site daily and deposit it in the waste container at designated collection areas.
- Arrange for regular waste removal to a licensed facility often enough to prevent overfilling.
- Contain and clean up spilled waste or overflow immediately.

PERFORMANCE

A solid waste management BMP is considered effective if:

- All construction and domestic waste generated is contained
- No incidents of dumpster overflow or leaks
- No visible waste or debris around the construction site or dumpster area

REFERENCE

- CGP 2.3.3 (e).

BMP 22- Chemical/Hazardous Materials Management

APPLICATION

- Use Chemical/Hazardous Materials Management BMP when chemicals or hazardous materials are used or stored at the construction site.

INSTALLATION/USE PROCEDURES

- Store chemicals and/or other hazardous materials in sealed, clearly labeled containers.
- Safety Data Sheets (SDS) specific to each chemical must be accessible on site.
- When chemicals/hazardous materials are not in use, store materials in such a way that they are not exposed to stormwater or runoff. (covered and off the ground)
- Storage and use areas must be located away from waters of the state, sensitive areas, and storm water conveyance systems
- Submit illustration or detail for secondary containment system when secondary containment and/or cover is required (containers more than 55 gallons); such as drip pan, spill containment pallets, or spill berm with impermeable liner.
- Attach a spill plan and provide a spill kit in good working condition sufficient to address small spills and protect water quality.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Train employees and subcontractors in chemical/hazardous materials BMPs.
- Regularly inspect the chemical storage area and the construction site for evidence of spills
- Spills must be properly cleaned up with dry clean up methods only.
- For spills that occur on permeable surfaces, remove contaminated material before leaching occurs and dispose according to manufacturer's recommended method of disposal and in compliance with Federal, State, Tribal, and local requirements
- Large spills must be documented and reported according to Section 2.3.6 of the CGP.
- Keep ample supplies of spill cleanup materials on-site and perform any repairs necessary to contain chemicals appropriately immediately.

- Dispose of expired or used up hazardous materials in accordance with the manufacturer's recommended method of disposal and in compliance with Federal, State, Tribal, and local requirements

PERFORMANCE

- This BMP is expected to contain chemical/hazardous materials in such a way that it cannot pollute the environment.
- No pollutants are allowed to reach storm water conveyance systems or waters of the state

REFERENCE

- CGP 2.3.3

BMP 23- Onsite Equipment Fueling

APPLICATION

- Use when fixed onsite fueling tanks are planned.

INSTALLATION/USE PROCEDURES

- Locate fueling operations a minimum of 50 feet from receiving waters, constructed or natural site drainage features, and storm drain inlets. If infeasible due to site constraints, store containers as far away from these features as the site permits. If site constraints prevent you from storing containers 50 feet away from the features identified, you must document in your SWPPP the specific reasons why the 50-foot setback is infeasible.
- Store fuels in sealed, clearly labeled containers.
- Containers must be covered and/or have secondary containment (curbing, spill berms, dikes, spill containment pallets, double-walled storage tank)
- Submit illustration or detail for secondary containment of fuel containers and secondary containment used during active fueling (drip pan, drop cloth, etc)
- Discourage topping-off of fuel tanks.
- 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.
- Create and attach a Spill Plan specific to the project.

- If you fuel many vehicles or pieces of equipment, consider using an off-site fueling station. These areas are better equipped to handle fuel and spills properly.
- Provide a copy of your off site written policy to the oversight authority for review

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Fuel equipment in designated areas only
- Train employees and subcontractors in proper fueling and cleanup procedures.
- Regularly check for leaks and damage including but not limited to: tanks, hoses, and secondary containment.
- Keep ample supplies of spill cleanup materials on-site and perform any repairs necessary to contain fuel appropriately immediately.
- If spill occurs, use dry clean up methods and dispose of spill clean up materials to a proper licensed facility.
- Large spills must be documented and reported according to Section 2.3.6 of the CGP.

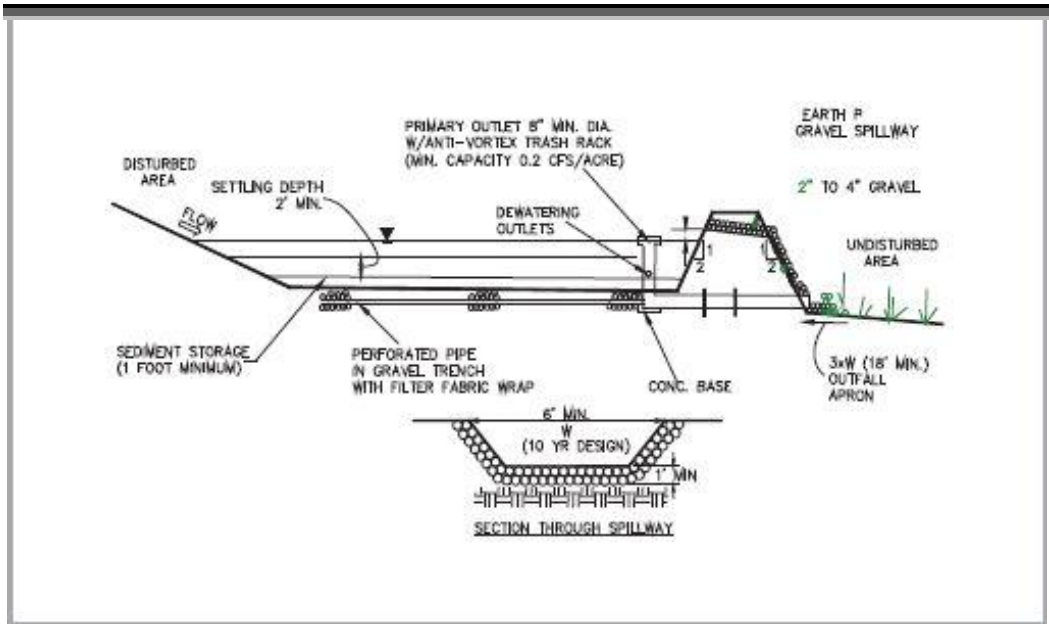
PERFORMANCE

- Onsite equipment fueling BMPs are expected to protect stormwater to the extent that no fuel, oil, or solvents are allowed to pollute waters of the state or storm water conveyances.

REFERENCE

CGP 2.3.1

BMP 26- Sediment Basin



APPLICATION

Sediment basins serve as treatment devices which can be used on a variety of project types. They are normally used in construction projects where:

- Large areas of land drain to the basin
- At the outlet of disturbed watersheds 10 acres or larger
- At the outlet of smaller watersheds as necessary
- Where post construction basins will be located
- for disturbed upstream drainage areas of 5 acres or more

INSTALLATION/USE PROCEDURES

- Determine the number of basins needed. In some cases, it is more effective to have multiple smaller basins versus one large basin. This is particularly important in areas with larger-grained sediments. In addition, potential damage from basin failure can be minimized by using multiple smaller basins, versus one large basin.
- Whenever possible, construct the sedimentation basins before clearing and grading work begins.
- Construct sediment basins at locations that are accessible for cleanout.
- Situate the basin or impoundment outside of any water of the state and any natural buffers.
- Design the basin or impoundment to avoid collecting water from wetlands or high ground water.
- Design the basin or impoundment to provide for either:
    (1) The calculated volume of runoff from the 2-year, 24-hour storm; or
    (2) 3600 cubic feet per acre drained.
- Utilize outlet structures that withdraw water from near the surface of the sediment basin or similar impoundment, unless infeasible.

- Use erosion controls and velocity dissipation devices to prevent erosion at inlets and outlets.
- Sediment basins and ponds must be installed only within the property limits where failure of the
  structure would not result in loss of life, damage to homes or buildings, or interruption of use or
  service of public roads or utilities.
- Sediment basins and ponds are attractive to children and can be very dangerous. Local ordinances regarding health and safety must be adhered to. If fencing of the pond is required, the type of fence and its location should be shown on the Stormwater Pollution Prevention Plan (SWPPP).
- Because of additional detention time, sediment basins may be capable of trapping smaller sediment particles than traps. However, they are most effective when used in conjunction with other BMPs such as seeding or mulching.
- Sediment basins can be converted to permanent structures after completion of the construction project. Remove all excess sediment from the basin. The containment volume must meet the design specifications of the approved plan set. The inside of a permanent sediment basin should be stabilized to meet local and UPDES requirements.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Inspect after each rainfall event and at a minimum as part of any regularly scheduled inspections.
- Repair any damage to the berm, spillway, sidewalls and outlet structures or mechanisms.
- Remove accumulated sediment to maintain at least one-half of the design capacity and conduct all other appropriate maintenance to ensure the basin or impoundment remains in effective operating condition.
- Check outlet for sedimentation/erosion of downgradient area and remediate and/or install downgradient BMPs as necessary.

PERFORMANCE

- Sediment basins are at best only 70-80 percent effective in trapping sediment which flows into them. Therefore, they should be used in conjunction with erosion control

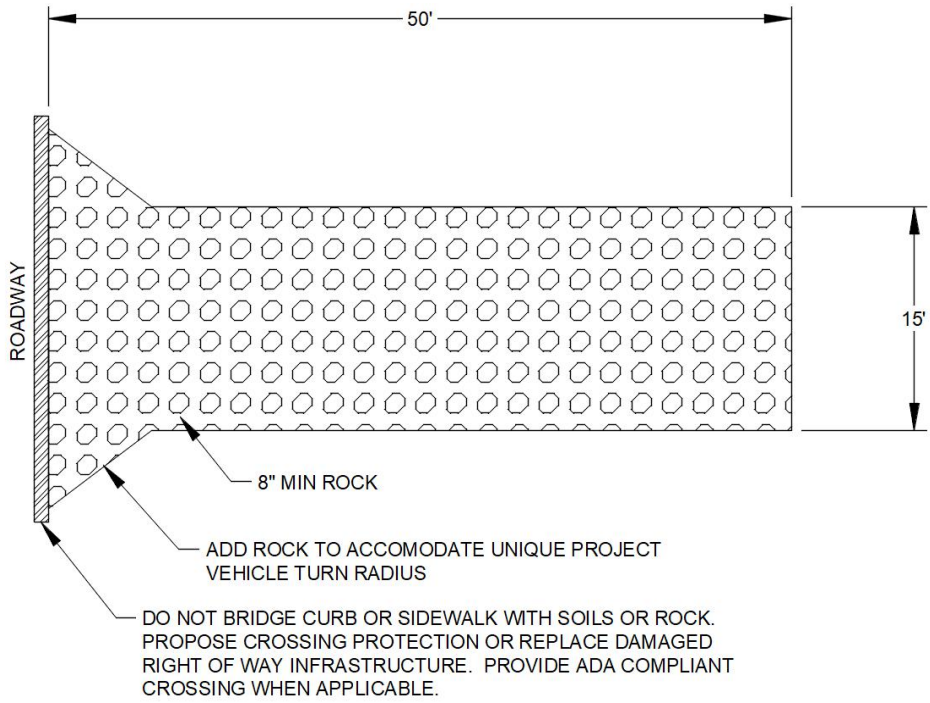
practices such as temporary seeding, mulching, diversion dikes, etc. to reduce the amount of sediment flowing into the basin.

- A type of outlet being used with increasing frequency is the floating skimmer. Some early tests indicate that the skimmer (which draws water only from the surface) might be more effective at retaining sediment in the basin than the standard riser and barrel configuration.

REFERENCE

- CGP 2.2.12, 7.3.5
- Drainage Design Manual for City
- Salt Lake County Best Management Practices for Construction Activities

BMP 27- Rock Track Out Pad



APPLICATION

- Use this BMP when vehicles and equipment operations require egress from the project property during wet conditions resulting in sediment track out. This system works by shaking and rubbing the tires(from the large rocks) as the wheels pass over the rocks, therefore the longer the rock path the better. Note, small rocks will not shake or rub mud off tires like large rocks.

INSTALLATION/USE PROCEDURE

- Determine the ingress/egress location(s) allowed by the oversight authority and show them on the site plan.
- Use 8” rock for the track out pad at a minimum depth of 8” and use dimensions described in the illustration above.
- Workforce and subcontractors must utilize the track out pad when leaving the construction site.
- Move vehicles forward and in reverse until mud is removed from tires.
- Stop, and inspect for rocks wedged in dual tires and mud sticking to tires. Remove wedged rocks and any remaining mud sticking to tires either manually or by continuing the forward and reverse action.
- Ensure the workforce is trained regarding track-out BMP requirements.

- Use of Sweeping BMP is still usually necessary at the end of the day at minimum.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Rake, refresh or wash rock as necessary when space between rocks is inundated with mud.
- Add, extend or replace rock as necessary to achieve performance criteria results.
- Train workforce when BMP improper use is recognized.
- When sediment, rock, or gravel track out occurs due to BMP failure or misuse, debris must be removed from roadways according to the CGP criteria.
    - Street clean-up operations are separate from this Rock Track Out Pad BMP, but necessary to address unacceptable track out that may occur.

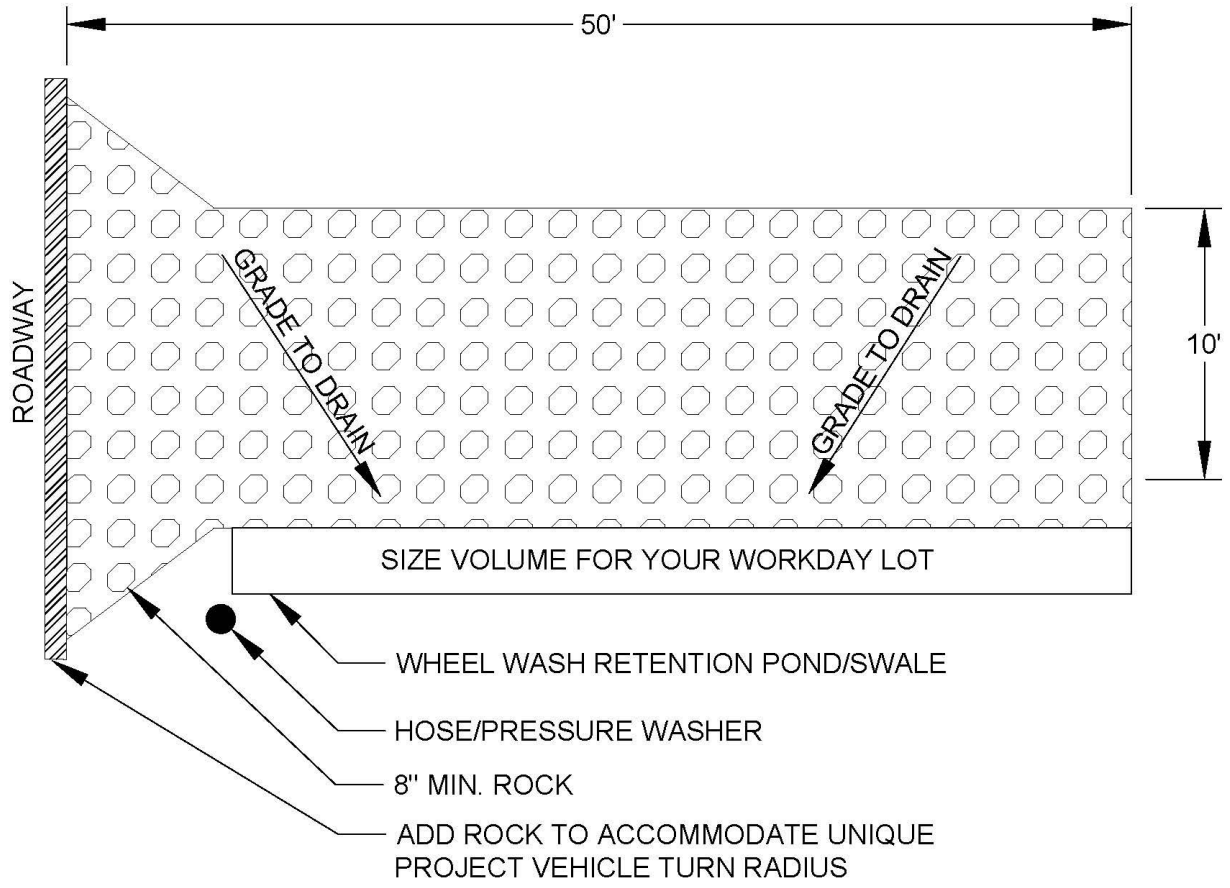
PERFORMANCE:

- Slick conditions, slurry, mud chucks, rocks, gravel, water quality risk and driver hazards constitute BMP failure and require immediate sufficient action.
- Light tracking is expected and requires regular maintenance but not usually immediate action. Light tracking is defined as minor residual dirt that can't be picked up by a square nose shovel.
    - Remove/sweep prior to unsafe and wet conditions or end of workday, whichever is first.

REFERENCE:

- CGP 2.2.4, 5.1, 5.2.1
- CPP 2.4.1

BMP 28- Wheel Wash



APPLICATION

- Use this BMP when vehicles and equipment operations require egress from the project property during wet conditions resulting in sediment track out.
- Wheel washes are a logical redundant option during very wet conditions when other wheel agitation type tire mud management systems are not effective.

INSTALLATION/USE PROCEDURE

- Determine the ingress/egress location(s) allowed by the oversight authority and show them on the site plan.
- Do not bypass the wheel wash area when track out prevention is necessary.
- Wash all wheels with a hose or pressure washer provided. Pull forward as necessary to remove all mud from tires and tread.
- Check for rocks wedged in dual tires and remove.
- Identify the necessary retention volume needed for wash waters and attach to this BMP.
- Ensure the workforce is trained regarding track-out BMP requirements.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Rake or wash rock as necessary when BMP is not working.
- Remove pond/swale sedimentation at 50% capacity.
- Expand the wash water basin as necessary to contain the retention volume required.
- Do not wash wheels anywhere on site except at the designed wheel wash area that has a retention pond to retain and treat wash waters.
- Train workforce when BMP improper use is recognized.
- When sediment, rock, or gravel track out occurs due to BMP failure or misuse, debris must be removed from roadways according to the CGP criteria.
    - Street clean-up operations are separate from this wheel wash BMP, but necessary to address unacceptable track out that may occur.

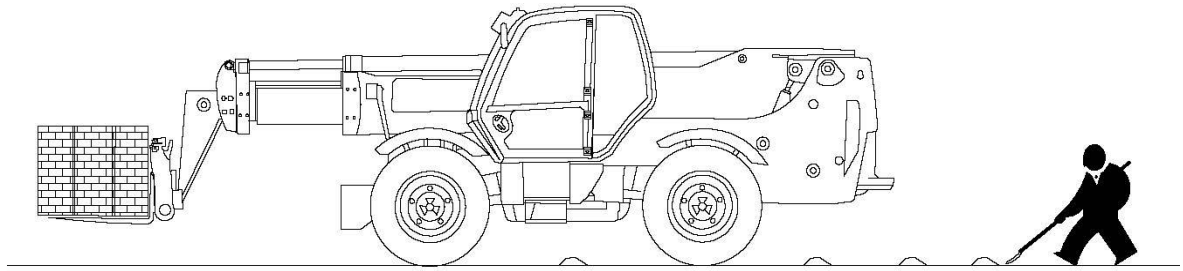
PERFORMANCE:

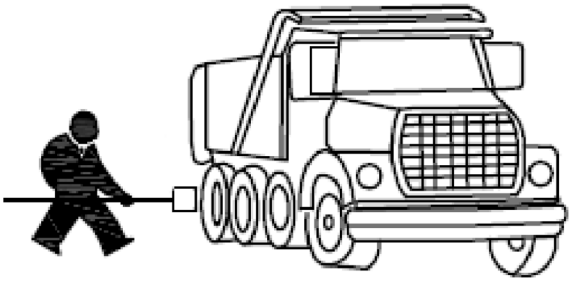
- The Wheel Wash BMP is expected to greatly minimize the risk of excessive track out onto roadways and also utilizes sediment deposition in the wash water retention pond.
- Slick conditions, slurry, mud chucks, rocks, gravel, water quality risk and driver hazards constitute BMP failure and require immediate sufficient action.
- Light tracking is expected and requires regular maintenance but not usually immediate action. Light tracking is defined as minor residual dirt that can't be picked up by a square nose shovel.
    - Remove/sweep prior to unsafe and wet conditions or end of workday, whichever is first.

REFERENCE:

- CGP 2.2.4, 5.1, 5.2.1
- CPP 2.4.1

BMP 30- Manual Mud Removal





APPLICATION

- Use this BMP when vehicles and equipment operations require egress from the project property during wet conditions resulting in mud sticking to vehicle tires and tracks.
- Use this BMP when the primary track out BMP is not practical. Use for unusual infrequent situations that are not practical for the primary egress location.
- Use this BMP as a redundant BMP when the primary agitating track out BMP(s) is not working. Usually when some mud is still sticking to tires found when checking for wedged rocks and the effectiveness of agitating tire sediment removal BMP system.
- Use this BMP for short transfer of vehicles for short distances, e.g. across the street.

INSTALLATION/USE PROCEDURES

- Stop before exiting the site and use a square nose shovel or stiff broom to remove mud from tires and remove mud tracks when applicable.
    - When manually removing mud on pavement, shovel and sweep with each track out occurrence and always perform this BMP when incidents are upstream of inlets.
- Check for and remove rocks wedged in dual tires.
- Ensure the workforce is trained regarding mud removal and clean up of trackout BMP requirements.
- Use of Sweeping BMP is still usually necessary at the end of day minimum.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP.

Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.

- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- When removing mud from tires or tracks on pavement sweep prior to wet conditions or end of day, whichever comes first.
- Train workforce when BMP improper use is recognized.
- When sediment, rock, or gravel track out occurs due to BMP failure or misuse, debris must be removed from roadways according to the CGP criteria.
    - Street clean-up operations are separate from this Manual Mud Removal BMP, but necessary to address unacceptable track out that may occur.

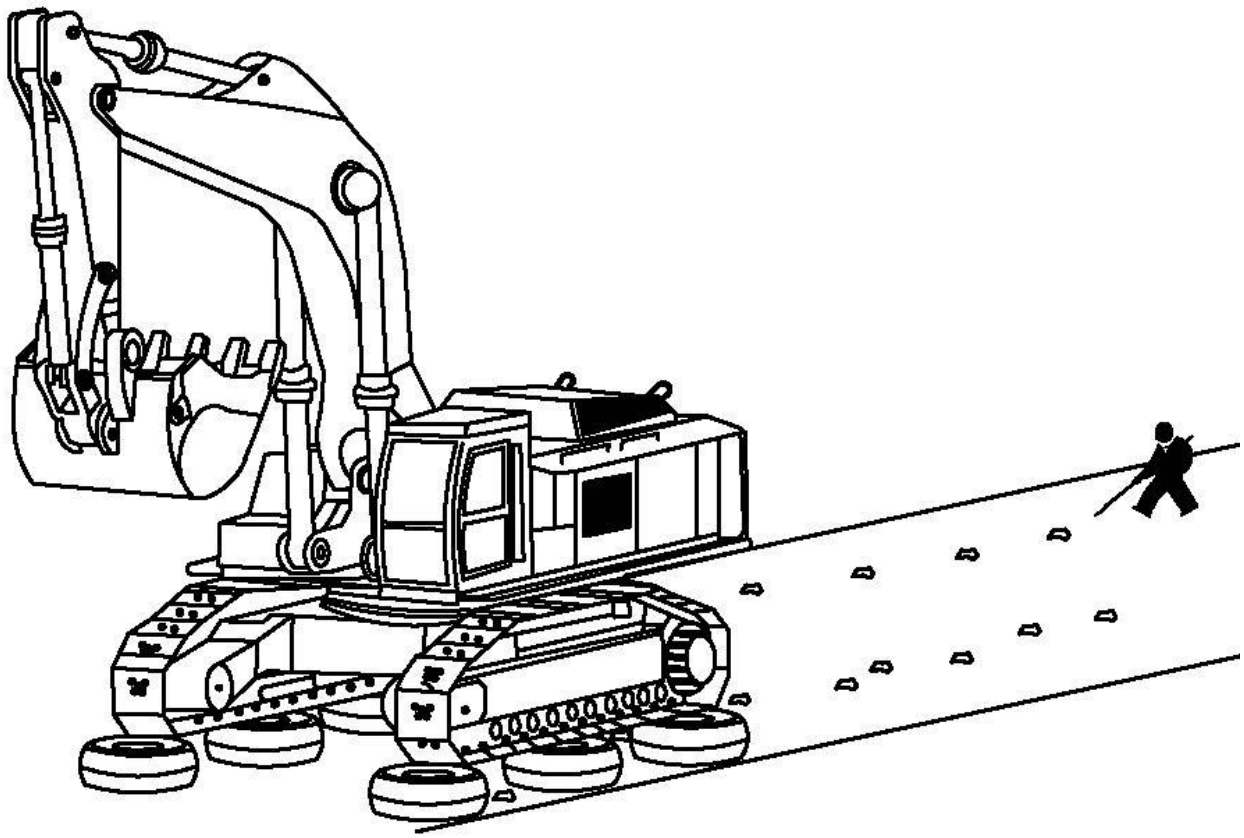
PERFORMANCE:

- Slick conditions, slurry, mud chucks, rocks, gravel, water quality risk and driver hazards constitute BMP failure and require immediate sufficient action.
- Light tracking is expected and requires regular maintenance but not usually immediate action. Light tracking is defined as minor residual dirt that can't be picked up by a square nose shovel.
    - Remove/sweep prior to unsafe and wet conditions or end of workday, whichever is first.

REFERENCE:

- CGP 2.2.4, 5.1, 5.2.1
- CPP 2.4.1

BMP 31- Track Vehicle Crossing



APPLICATION

- Use when track vehicle road crossing for multiple project sites is planned. It is not always practical to remove mud from most tracked construction equipment. Even track washing is usually impractical resulting in follow up clean up as the most practical BMP approach.

INSTALLATION/USE PROCEDURES

- When road crossings are short distances, remove clumps with a square nose shovel and broom at each crossing. The clumps will be compacted to the road reducing vacuum sweeper effectiveness.
- When distant crossings are necessary, scraping or track washing BMPs are usually necessary. A machinery bucket blade can also work but follow up with a vacuum operated sweeper is also necessary.
- Protect roadway infrastructure from vehicle tracks. Placing tires beneath tracks is usually effective. Decide the track buffer method and attach your plan to this BMP.
- Ensure the workforce is trained regarding track-out BMP requirements.
- Use of Sweeping BMP is still usually necessary at the end of day minimum.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Regular sweeping is usually necessary daily. Shovels are intended to remove the dirt/mud clumps but will not move residual slurry that collects over multiple days.
- Train workforce when BMP improper use is recognized.
- When sediment, rock, or gravel track out occurs due to BMP failure or misuse, debris must be removed from roadways according to the CGP criteria.
    - Street clean-up operations are separate from this Track Vehicle Crossing BMP, but necessary to address unacceptable track out that may occur.

PERFORMANCE

- Slick conditions, slurry, mud chucks, rocks, gravel, water quality risk and driver hazards constitute BMP failure and require immediate sufficient action.
- Light tracking is expected and requires regular maintenance but not usually immediate action. Light tracking is defined as minor residual dirt that can't be picked up by a square nose shovel.
    - Remove/sweep prior to unsafe and wet conditions or end of workday, whichever is first.

REFERENCE

- CGP 2.2.4, 5.1, 5.2.1
- CPP 2.4.1

BMP 32- Street Sweeping

APPLICATION

- A Sweeping BMP is necessary to address the immediate safety, water quality and complaint issues that exist resulting from vehicle track out.
- Sweeping BMPs do not eliminate the requirement for egress track out BMPs, but are necessary to compensate for the realistic limitations of most egress track out BMPs.

INSTALLATION/USE PROCEDURES

- Use vacuum type sweeping machinery.
- Anticipate end of day sweeping or multiple times a day as needed. The better the egress track out BMP the less sweeping operations are necessary.
- A Square nose shovel and broom are also always a good roadway sediment and debris removal option.
- Identify the sweeper hopper licensed dump location. Attach dump location information to this BMP.
- Ensure the workforce is trained regarding track-out BMP requirements.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Employ sweeping operations at the end of the workday and as necessary.
- Train workforce when BMP improper use is recognized.

PERFORMANCE:

- Slick conditions, slurry, mud chucks, rocks, gravel, water quality risk and driver hazards constitute BMP failure and require immediate sufficient action.
- Light tracking is expected and requires regular maintenance but not usually immediate action. Light tracking is defined as minor residual dirt that can’t be picked up by a square nose shovel.
    - Remove/sweep prior to unsafe and wet conditions or end of workday, whichever is first.

REFERENCE:

- CGP 2.2.4, 5.1, 5.2.1

- CPP 2.4.1

BMP 33- Fugitive Dust Control Plan

APPLICATION

- Dust control BMPs are necessary when project vehicle operations are accelerating the wind picking up fine sediment particles.
- Dust suppression BMPs are necessary for projects where vegetation is removed increasing the risk of wind picking fine sediment particles.
- Dust suppression BMPs are necessary masonry mixing operations.
- Dust suppression BMPs are necessary for dirt processing operations.
- Per State code 307-309 the Utah Division of Air Quality(UDAQ) a Utah State Fugitive Dust Control Permit(FDCP) is required for all project activities disturbing ¼ acre and for demolition projects.

INSTALLATION/USE PROCEDURES

- Attach a copy of the Fugitive Dust Control Plan and the UDAQ permit information
- Attach a copy of the Dust Control Plan Tools and details for suppression, including but not limited to equipment information, methods, and responsible party (in house or subcontracted)
- Attach a list of all dust generating operations, including but not limited to; vehicle traffic, dirt processing, load and haul, brick mason operations, etc.
- Ensure the workforce is trained regarding track-out BMP requirements.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Implement Fugitive Dust Control plan per DAQ permit.
- Train workforce when BMP improper use is recognized.

PERFORMANCE:

- UAC section R307-309-5. Typically this means no greater than 10% opacity at property boundaries.
- Any neighbor complaints warrants reevaluation of the effectiveness of the dust control plan and/or an inspection by the oversight authority.

REFERENCE:

- UAC section R307-309-5
- CGP 2.2.6
- CPP 2.2.6

BMP 34 - Vegetation Removal Phasing

APPLICATION

- Erosion and dust suppression is necessary for all areas where vegetation is removed.
- Use vegetation removal phasing management to minimize dust and erosion risk. Many large projects can reduce their fugitive dust risk and the extent of expensive dust suppression operations by simply minimizing the site clearing. Phasing vegetation removal can support the FDCP but is not the same as the FDCP dust suppression operations.

INSTALLATION/USE PROCEDURES

- Attach a copy of phasing maps showing no disturbance areas for each phase. A vegetated buffer can also be utilized to provide erosion control along the outskirts of the project area.
- Ensure the workforce are informed regarding no disturbance areas.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Train workforce when encroachment into no disturbance areas are found. Update no disturbance maps and SWPPP document as relevant.
- Address encroachment exposures and add or amend BMPs to compensate for the exposure as necessary.

PERFORMANCE:

- Encroachment of no disturbance phasing plan areas constitutes BMP non-compliance.

REFERENCE:

- UAC section R307-309-5
- CGP 2.2.2, 2.2.9, 2.2.6, 7.3.2.f
- CPP 2.2.14

MS4 Preferred Best Management Practices (BMPs)

BMP 35 - Stabilization Plan

APPLICATION

- The project final landscaping plan sheets can satisfy CGP final stabilization requirements when the final landscaping plan includes stabilizing all bare sediment surfaces. This means when the final landscaping plan includes a schedule for permanent impervious, pervious, mulch, and established vegetation surfaces, etc.
- A temporary stabilization plan/BMP is necessary when the project has not reached 70% uniformly vegetated cover and exposed areas during periods of non-construction activity exceed the time limits of the UDAQ permits and CGP requirements. Usually this is 14 days of inactivity but there are practical time frames that can be considered with a stabilization plan BMP and schedule.

INSTALLATION/USE PROCEDURES

- Attach a copy of the final landscaping plan, including but not limited to vegetation establishment periods.
- Attach a copy temporary vegetation, including but not limited to temporary seed plan, chemical treatment of erodible surfaces, erosion control blankets, etc,
- Provide a list of all the SWPPP erosion, operation and fugitive dust BMPs that must remain in place through the final stabilization installation and establishment period.
- Ensure the workforce is informed of the final stabilization BMP requirements.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is expected to submit a site specific final stabilization plan attached to this BMP. This may include: Proprietary system literature, illustrations, any operation procedures and maintenance required to achieve storm water pollution prevention and final stabilization.

MAINTENANCE/MANAGEMENT

- Ensure all other SWPPP containment BMPs are installed, maintained and inspected throughout the installation of the final landscaping infrastructure and vegetation establishment period.
- Train workforce when final stabilization plan and site BMP non-containment is recognized.

PERFORMANCE:

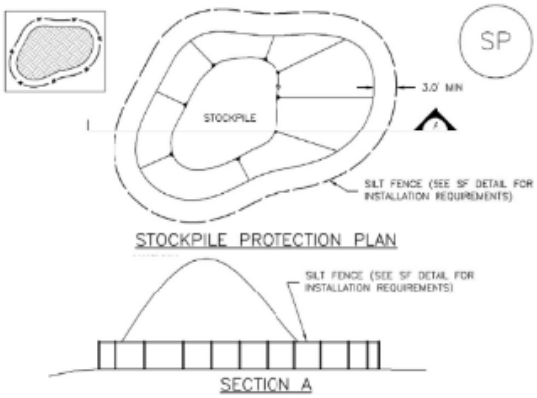
A Final Stabilization Plan is not effective when any of the following occurs:

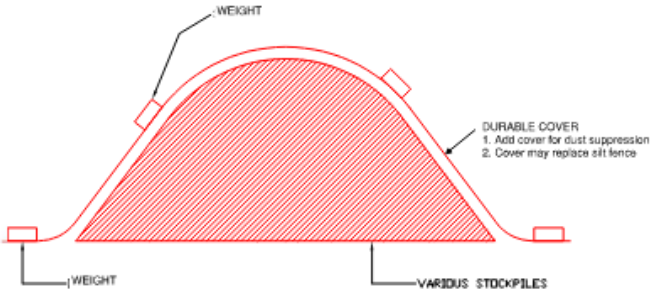
- Sediment is or will leave the site for storms less than 2yr event and during wind events.
- A pollutant risk to water quality is present.
- Fugitive dust opacity exceeds DAQ Permit requirements which is usually opacity exceeding 10% at the property boundary.
- Any neighbor complaints warrants an inspection.

REFERENCE:

- UAC section R307-309-5
- CGP 2.2.6, 2.2.14, 2.2.14.a, 7.3.5.b
- CPP 2.2.14, 8.2.1

BMP 36 - Stockpile Management





APPLICATION

- Projects where topsoil is stockpiled and reused at a later phase
- Projects where spoil or backfill materials is planned
- Projects with offsite stockpiling
- Stockpile management BMPs are usually necessary when other boundary and FDCP BMPs alone do not adequately contain water and wind erosion resulting from the stockpiled materials. The BMP can include but not limited to: stockpile boundary filters, covers, and locations, etc.

INSTALLATION/USE PROCEDURES

- Provide staging/storage area location(s) on the BMP map including additional maps of offsite locations.
- Attach and additional BMP illustrations(boundary and cover BMPs may have many variations including but not limited to: boundary control, cover description etc. Many times this BMP can use other BMP details controls, like silt fence, wattle and showing how they will apply to this detail.
- Ensure the workforce is informed of stockpile management requirements.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Ensure the boundary toe control BMPs are installed and maintained against this detail or the attached or referenced details and specifications.
- Ensure the covers are installed and maintained against this detail or the attached or referenced details and specifications. Check for cover and weight placement and for raveling or ripping cover(do not allow the cover raveling and ripping become an additional pollution source).
- Train workforce when non-containment is recognized.

PERFORMANCE:

A stockpiling BMP is not effective when any of the following occurs:

- Sediment is eroding under or around silt fence and or from underneath the cover.
- In adequate cover and cover material that is raveling and ripping creating an additional pollution source.

REFERENCE:

- CGP 2.2.8 7.3.3
- CPP 2.2.5, 7.3.3, 2.2.14

BMP 37 - Construction Dewatering Retention

APPLICATION

- Project where waterline system commissioning is necessary
- A DEQ Dewatering permit is not required when full retention is allowed and achieved onsite. Note, groundwater dewatering operations usually do not qualify for a DEQ Dewatering Permit waiver. The exposure period and amount of groundwater results in uncertain and unrealistic volume calculations.

INSTALLATION/USE PROCEDURES

- Provide a retention location on BMP map.
- Provide a simple detail of retention pond and operation volume necessary for full retention of anticipated dewatering volume. Attached copy of volume calculations to this BMP.
- Ensure the workforce is informed of the CGP dewatering BMP requirements.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Inspect following dewatering operation and ensure volume exists for any subsequent dewatering operations.
- Train workforce when non-containment is recognized.

PERFORMANCE:

- Any uncontained dewatering volume constitutes BMP failure.

REFERENCE:

- CGP 1.2.2, 1.2.4, 2.3.7, 7.3.4
- CPP 1.2.4, 2.2.7

BMP 39 - Construction Dewatering DEQ Permit Required

APPLICATION

- Projects where groundwater is anticipated or other dewatering operation volumes would exceed available space for onsite retention.
- Project where pressure system and waterline commissioning is necessary
- Projects where groundwater dewatering operations are anticipated.

OPERATION PROCEDURE

- Provide dewatering operation location(s) on BMP map.
- Attach a copy of the DEQ Dewatering Permit to this BMP.
- Attach a copy of all permit required inspection, monitoring requirements, operator prepared BMPs or proprietary systems and chemical treatment methods.
- Ensure the workforce is informed of the DEQ permit dewatering BMP requirements.

OPERATOR BMP MODIFICATION OR REPLACEMENT

- Operator is invited to propose an alternative BMP or modify this preferred BMP. The proposed BMP must match or exceed performance requirements as this preferred BMP. Any deviations from this preferred BMP must be reviewed and accepted by the oversight authority.
- Submit BMP modifications or replacements to the oversight authority for review; including but not limited to; Proprietary system literature, modified illustrations, any operation procedures and maintenance adjustments, etc.

MAINTENANCE/MANAGEMENT

- Ensure proprietary system, inspection, monitoring maintenance and application methods are followed.
- Train workforce when non-containment is recognized.

PERFORMANCE:

- Any uncontained dewatering volume constitutes BMP failure.
- Any DEQ Dewatering Permit non-compliance.

REFERENCE:

- CGP 1.2.2, 1.2.4, 2.3.7, 7.3.4
- CPP 2.2.3

BMP 40 - Spill Control Plan

APPLICATION

- Most projects are susceptible to spill risk and therefore have a need for spill containment and clean up operations

CGP REQUIREMENT

- Per (CGP Part 7.3.5.b (7) and 2.3.6):
  - Describe the spill prevention and control plan. Include ways to reduce the chance of spills, stop the source of spills, contain and clean up spills, dispose of materials contaminated by spills, and train personnel responsible for spill prevention and control.
  - Some projects/site may be required to develop a Spill Prevention Control and Countermeasure (SPCC) plan under a separate regulatory program (40 CFR 112). If you are required to develop an SPCC plan, or you already have one, you should include references to the relevant requirements from your plan.
  - The plan must include the materials and method of containment and for flowing liquid, cleanup, disposal and follow the minimum spill controls below.

    For more information, see *EPA SWPPP Guide*, Chapter 5, P2 Principle 6.

- 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 permittees. The permittee shall submit within 7 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 recurrence 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)-231-1769 (801) 536-4123
Utah Department of Health Emergency Response	(801) 580-6681

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
Antifreeze, battery acid, gasoline, engine degreasers	Air, Land, Water	100 lbs (13 gallons)
Refrigerant	Air	1 lb

OPERATION PROCEDURE

- Provide spill kit location(s) on BMP map.
- Attach of list of potential spill sources and identify the responsible person if different than the applicant.
- Per the source list, anticipate the spill risk and provide a spill plan equal to the risk. Attach copy of spill kit contents. Both proprietary material containment

and clean up materials and or self provided, dirt, sand and a means of implementation can be sufficient.
- Provide both flow containment and clean up materials. Attach a list of materials and any specific instruction for the workforce.
- Attach any proprietary system instruction or company wide specific spill management and SPCC
- Report spills. A reported spill is not a violation but unfortunately the applicant must be responsible for all damage restoration and cost.
- Train workforce

MAINTENANCE/MANAGEMENT

- Inspect spill kit contents and its location against your attachments and site BMP map. Ensure spill kit materials are in good condition and in quantity to meet site specific spill risks.
- Evaluate spill incidents and train workforce as necessary. Document incident details

PERFORMANCE:

The following are spill plan concerns.

- Uncontained spills that could have been prevented.
- Contained spills that are not cleaned up the same day or prior to wet conditions whichever is first.
- Unreported spills.
- Any non-rectified spill damage

REFERENCE:

- CGP 7.3.5.b(7), 2.3.6
- CPP 2.8.3

How to Apply for a Construction General Permit (CGP) or Common Plan Permit (CPP) and Pre-construction SWPPP Checklist

How to Apply for CGP or CPP:

Please proceed to the State of Utah DEQ General Construction: UPDES Permits site:

https://deq.utah.gov/water-quality/general-construction-storm-water-updes-permits

How to Apply for a Construction General Permit (CGP) or Common Plan Permit (CPP) and Pre-construction SWPPP Checklist

SWPPP Evaluation Checklist
For a physical/PDF copy, contact Aaron Roberts.

Created November 2024

(Insert MS4 logo here)

UPDES CONSTRUCTION GENERAL PERMIT (CGP) UTRC00000 and COMMON PLAN PERMIT (CPP) UTRH00000 STORM WATER POLLUTION PREVENTION PLAN (SWPPP) COMPLIANCE EVALUATION FORM(S)

SECTION 1: Instructions for SWPPP Evaluations

1) The SWPPPs being reviewed with this document are being evaluated for their compliance with the corresponding UPDES construction storm water discharge permit; for additional information on those permits, go to the DWQ construction storm water permitting webpage: https://deq.utah.gov/water-quality/general-construction-storm-water-updes-permits.
2) The appropriate permit is identified by the applicant during permitting but must be confirmed by evaluation in Section 2 of this form, to demonstrate applicability of coverage under either of the UPDES construction storm water permits:
   a) Construction General Permit (CGP), UTRC00000 (viewable through this link)
   b) Common Plan Permit (CPP), UTRH00000 (viewable through this link)
3) If the appropriate UPDES permit has been selected for coverage and the applicable complete SWPPP has been submitted for review with a complete application, then the SWPPP evaluation must move forward.
4) Per Utah Code Title19-Chapter5-Section108.3, the SWPPP reviewer shall complete the first review of the SWPPP within 14 business days after the day on which the applicant submits a complete SWPPP and application for local storm water permit coverage (if local permit coverage is required).
5) A "No" answer for any questions in the following SWPPP Evaluations (for either CGP in Section 3, or CPP in Section 4) will amount to an incomplete SWPPP and will be returned for modification. Questions answered "N/A" (not applicable) do not affect the approval of the SWPPP unless the reviewer determines it was an incorrect answer to a given question.
6) Per Utah Code Title19-Chapter5-Section108.3, any non-compliance in the SWPPP (which requires modification to bring the SWPPP into compliance) requires a specific request for modification to be provided to the applicant; such requests must be thorough such that they will bring the SWPPP into compliance upon correction, and must include citations to local ordinances or state/federal law that require the modification. Furthermore, these requested modifications must be logged in an index of requested modifications.
7) Per Utah Code Title19-Chapter5-Section108.3, the SWPPP reviewer has 14 business days after the day on which the operator submits the modified SWPPP to complete the review of the SWPPP.

NOTE: Pre-Construction SWPPP Review Checklists are a requirement of all UPDES MS4 Permits (Part 4.2.4.3). As such, utilizing these SWPPP Evaluation forms will meet that requirement.

SECTION 2: Confirmation of Appropriate UPDES Construction Storm Water Permit Coverage

1) Will the project disturb at least 1-acre of land? (CGP Part 1.1.2 and CPP Part 1.1)	Yes ☐ No ☐
2) Is the project part of a Common Plan of Development or Sale (CPoD) that will collectively disturb at least 1-acre of land? (CGP Part 1.1.2 and CPP Part 1.1)	Yes ☐ No ☐
3) If CPoD, is the lot a single residential lot no more than 1-acre of disturbance? (CPP Part 1.1)	Yes ☐ No ☐ N/A ☐

How to determine appropriate UPDES construction storm water permit coverage:

If **"No"** to both questions **#1** and **#2**, then **no UPDES construction storm water permit is required.**

If **"Yes"** to question **#1** and **"No"** to question **#2**, then the project **must obtain CGP (UTRC00000) coverage** and **Section 3** of this evaluation form would be applicable for SWPPP review.

If **"Yes"** to both questions **#2** and **#3**, then the project **may obtain CPP (UTRH00000) coverage** and **Section 4** of this evaluation form would be applicable for SWPPP review; **however** operator **may choose to cover the multiple lots under one CGP (UTRC00000) permit** and **Section 3** of this evaluation form would be applicable for SWPPP review.

NOTE: Commercial Common Plans of Development or Sale must be covered under the CGP (UTRC00000).

As such, if **"Yes"** to question **#2** and **"No"** to question **#3** (or the **project desires to cover multiple residential lots under a single permit**, (CPP Part 1.1.4.b)) then the **CPP (UTRH00000) is not valid and the project must obtain CGP (UTRC00000) coverage** and **Section 3** of this evaluation form would be applicable for SWPPP review.

4) At the completion of Section 2, has the appropriate UPDES Construction Storm Water Permit coverage been confirmed and obtained? **NOTE:** If **"No"**, then the applicant must resubmit the application with the appropriate permit coverage obtained and included in a revised SWPPP that was written in compliance with the appropriate corresponding UPDES permit.	Yes ☐ No ☐

If **"Yes"** to question **#4, complete the review of the submitted SWPPP for the appropriate UPDES Construction Storm Water Permit coverage** using **Section 3 (for CGP)** or **Section 4 (for CPP).**

Reviewer (*Print Name*): _____ Title: _____ Signature: _____ Date: _____

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How to Apply for a Construction General Permit (CGP) or Common Plan Permit (CPP) and Pre-construction SWPPP Checklist

Created November 2024

SECTION 3
UPDES CONSTRUCTION GENERAL PERMIT (CGP) UTRC00000
STORM WATER POLLUTION PREVENTION PLAN (SWPPP)
COMPLIANCE EVALUATION FORM

SWPPP Review #_____

Site Name: _____ UPDES Permit #: _____

Site Address: _____

Local Jurisdiction or County: _____ Inspection Cycle: High Priority 7 Days ☐ 14 Days ☐

Permit Effective Date: _____ Permit Expiration Date: _____ Total Project Area (acres): _____ Total Disturbed Area (acres): _____

Project Type: Residential/Subdivision ☐ Commercial ☐ Industrial ☐ Linear (Road/Pipe/Power) ☐ Land Disturbance ☐

OPERATOR CONTACT INFORMATION

Operator: _____ Phone: _____ E-mail: _____

On-site Facility Contact: _____ Phone: _____ E-mail: _____

Important Contacts: _____ Phone: _____ E-mail: _____

Owner: _____ Phone: _____ E-mail: _____

CONSTRUCTION GENERAL PERMIT (CGP) SWPPP EVALUATION

1) Is the Storm Water Team (including other site Operators) identified by name and position in the SWPPP, including their SWPPP responsibilities and trainings? (CGP Part 7.3.1) **NOTE**: Storm Water Team responsibilities that must be included (CGP Part 6.1): **(1)** design, installation, maintenance, and/or repair of storm water controls (including pollution prevention controls); **(2)** application and storage of treatment chemicals (if applicable); **(3)** conducting inspections (CGP Part 4.1); and **(4)** taking corrective actions (CGP Part 5)	Yes ☐ No ☐
2) For any Storm Water Team member identified as being responsible for conducting inspections (CGP Part 4), has the SWPPP detailed their training/qualifications for conducting inspections in compliance with CGP Part 6.3? (CGP Part 7.3.1)	Yes ☐ No ☐
3) If the project is >5-acres in disturbance, has a perennial surface water within 50 feet of the project, or has a steep slope (70% or 35 degrees, or more), was a "qualified" SWPPP writer listed in the storm water team as having the responsibility and qualification to write/ certify the SWPPP? (CGP Part 7.2 and 7.2.1.a-e)	Yes ☐ No ☐ N/A ☐
4) Are estimates provided for the size of the property (in acres, or length in miles if a linear site) and the total area to be disturbed by construction (including on-site and off-site support activity areas) to the nearest 1/4 acre (or 1/4 mile if linear)? (CGP Part 7.3.2.b-c)	Yes ☐ No ☐
5) Does the plan describe the nature of construction activities, including the age or dates of past renovations for structures undergoing demolition (CGP Part 7.3.2.a)	Yes ☐ No ☐
6) Does the plan describe any on-site and off-site construction support activities areas (CGP Part 1.2.1.b)? (CGP Part 7.3.2.d)	Yes ☐ No ☐ N/A ☐
7) Is there a description of the construction schedule for: **(1)** commencement of activities, **(2)** temporary/permanent cessation of construction activities, **(3)** temporary/final stabilization of exposed areas of the site, and **(4)** removal of temporary storm water controls and construction equipment or vehicles and the cessation of construction related pollutant-generating activities. (CGP Part 7.3.2.e)	Yes ☐ No ☐
8) Are the business days and hours for the project identified in the SWPPP? (CGP Part 7.3.2.g)	Yes ☐ No ☐
9) Is a legible Site Map (or maps) included (in an appendix of the SWPPP) which shows the permit required features of the site? (CGP Part 7.3.3) **NOTE**: Required map features include: **a)** boundaries of the property; **b)** locations where construction activities will occur, including: **i)** earth-disturbing and demolition activities (phasing noted), **ii)** approximate slopes before and after grading (steep slopes noted), **iii)** stockpile locations (sediment, soil, materials, etc.), **iv)** any Waters of the State crossings, **v)** designated vehicle exit points (onto paved roads), **vi)** structures and other impervious surfaces upon completion of construction, **vii)** on-site and off-site construction support activity; **c)** all Waters of the State within 1-mile of the site's discharge point (and the impairment/high-quality status of the water body); **d)** type and extent of pre-construction ground cover; **e)** drainage patterns of storm water and authorized non-storm water before and after grading; **f)** storm water and authorized non-storm water discharge locations (including discharges to storm sewer inlets and outfalls to Waters of the State); **g)** pollutant-generating activities (CGP Part 7.3.2.f); **h)** storm water controls (including natural buffers and shared controls); **i)** storage of polymers, flocculants, or other treatment chemicals.	Yes ☐ No ☐
10) If the site discharges into a Municipal Separate Storm Sewer System (MS4) prior to reaching receiving waters of the state, is the MS4 listed? (CGP Part 1.4 and Part 4.8)	Yes ☐ No ☐ N/A ☐
11) Are the first downstream receiving waters of the state listed in the SWPPP, identifying the impairment (and TMDL status) or high-quality (Category 1 or 2) status of the water body? (CGP Part 3.2)	Yes ☐ No ☐
12) If the receiving water is identified as impaired, does the SWPPP list the impairment causing pollutants for the water body, and does it address the control of those impairment causing pollutants in the plan (or state that no impairment causing pollutants are anticipated on-site)? (CGP Part 3.2)	Yes ☐ No ☐ N/A ☐
13) If the receiving water is identified as high-quality, does the plan describe precautions taken to minimize pollution effects in the water body? (CGP Part 3.2)	Yes ☐ No ☐ N/A ☐

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How to Apply for a Construction General Permit (CGP) or Common Plan Permit (CPP) and Pre-construction SWPPP Checklist

Created November 2024

SECTION 4
UPDES COMMON PLAN PERMIT (CPP) UTRH00000
STORM WATER POLLUTION PREVENTION PLAN (SWPPP)
COMPLIANCE EVALUATION FORM

SWPPP Review #_____

Site Name: _____ UPDES Permit #: _____

Site Address: _____

Local Jurisdiction or County: _____

Permit Effective Date: _____ Permit Expiration Date: _____ Total Project Area (acres): _____ Total Disturbed Area (acres): _____

OPERATOR CONTACT INFORMATION

Operator: _____ Phone: _____ E-mail: _____

On-site Facility Contact: _____ Phone: _____ E-mail: _____

Important Contacts: _____ Phone: _____ E-mail: _____

Owner: _____ Phone: _____ E-mail: _____

COMMON PLAN PERMIT (CPP) SWPPP EVALUATION

1) Does the SWPPP include the following information: project name, address, and latitude/longitude, and UPDES Permit number?	Yes ☐ No ☐
2) Does the project meet eligibility criteria for the Common Plan Permit, including the 1-acre maximum disturbance, residential land-use stipulation, multiple site coverage applications (requiring a different permit number for each lot), high-risk sites (as determined by the MS4, if applicable), and limitations of the CPoD (common plan purpose not yet achieved)? (CPP Part 1.1.1-6)	Yes ☐ No ☐
3) Are the SWPPP contacts listed in the plan, with contact information (name, address, telephone number, email address) for owner, general contractor, or any other party that affects implementation of the SWPPP? (CPP Part 4.2.1)	Yes ☐ No ☐
4) Does the SWPPP identify an on-site SWPPP sign? (CPP Part 1.9)	Yes ☐ No ☐
5) If dewatering is anticipated on-site, does the SWPPP identify whether on-site infiltration will be utilized or if an UPDES dewatering permit has been obtained? (CPP Part 2.7)	Yes ☐ No ☐
6) Does the SWPPP list all the anticipated allowable non-storm water discharges at the site, and describe control methods to be utilized to manage those discharges in a manner that will minimize the discharge of pollutants? (CPP Part 1.3, 2.4.5, and 2.9)	Yes ☐ No ☐
7) Does the SWPPP identify whether phasing (minimizing the total exposure of disturbed soil at a given time) is possible? (CPP Part 2.3.1)	Yes ☐ No ☐
8) If phasing is planned, does the SWPPP show the locations on the site map and a summary of the delayed disturbances in the planned phasing? (CPP Part 2.3.1)	Yes ☐ No ☐ N/A ☐
9) Does the SWPPP identify which perimeter sediment control BMPs will be used to prevent sediment from leaving the site? (CPP Part 2.1.2 and 2.3)	Yes ☐ No ☐
10) If the project is within 50-feet of a waterbody, does the SWPPP contain descriptions of the placement and dimensions of the 50-foot natural buffer, the substitute control measures, or detailed explanations of why either could not be applied? (CPP Part 2.3.5 and 4.2.4)	Yes ☐ No ☐ N/A ☐
11) If there are critical or sensitive areas located or adjacent to the site, does the plan specify a BMP to separate or isolate those areas with environmental fencing or another practice? (CPP Part 2.2)	Yes ☐ No ☐ N/A ☐
12) Does the SWPPP describe what track out controls will be used to prevent dirt from being tracked on streets as vehicles leave the site? (CPP Part 2.4.1)	Yes ☐ No ☐
13) Does the SWPPP identify whether any storm drain inlets are down gradient of the site and describe what inlet protection BMPs will be used (if inlets are present)? (CPP Part 2.1.3)	Yes ☐ No ☐
14) Are curb ramps proposed for the site which are made of a non-dirt material that will not wash away in storm water? (CPP Part 2.4.2)	Yes ☐ No ☐ N/A ☐
15) Are stockpiles or spoil piles planned for the site which have a BMP listed that can contain runoff from those piles? (CPP Part 2.1.1)	Yes ☐ No ☐ N/A ☐
16) Does the project have a BMP identified to contain, dry, and dispose of any wash water from concrete, masonry, stucco, and paint (water-based)? (CPP Part 2.4.5 and 2.9.1)	Yes ☐ No ☐
17) Does the SWPPP include waste management procedures including soil removal, clearing debris removal, demolition removal, trash disposal, construction-waste disposal, liquid waste disposal and sanitary waste disposal? (CPP Part 2.4.3, 2.4.4, 2.9, and 4.2.7)	Yes ☐ No ☐
18) Are spill prevention and response measures detailed in the SWPPP with responsible parties identified? (CPP Part 2.8.3)	Yes ☐ No ☐
19) Does the SWPPP describe methods for the storage of construction materials that minimize exposure of materials with a pollution risk (certain building and landscaping materials, pesticides, herbicides, detergents, etc.)? (CPP Part 2.4.3 and 2.8.2)	Yes ☐ No ☐

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Standard Operating Procedure for MS4 Construction Oversight
Inspections of Permitted Construction Sites SOP

Last Reviewed: November 12, 2024

Introduction

This SOP was written for Utah MS4s to help them meet the requirements of their MS4 Permit and to provide guidance to abide by Utah Code 19-5-108.3. This SOP references the *Construction Site Storm Water Runoff Control* (4.2.4) section of the MS4 Permit. The overarching goal of this SOP is to standardize storm water construction program practices across all MS4s in the State of Utah.

From **Utah Code 19-5-108.3:**
"A municipal system shall conduct an oversight inspection[1] through an electronic site inspection[2]. A municipal system may conduct an on-site inspection if the municipal system has a documented reason for justifying an on-site oversight inspection."

To differentiate between the two types of oversight inspections, the terms "onsite oversight" and "electronic oversight" inspection are used.

- "Onsite oversight inspection" is an inspection in which MS4 staff physically visit a construction site to perform an inspection as has been done historically.
- "Electronic oversight inspection" is an offsite inspection of the operator's submitted electronic site inspection report.

Each of these types of oversight inspections will be described in the *During Construction* portion within the *Process* section of this SOP.

1. Purpose:

The purpose of this SOP is to describe how all MS4s will conduct inspections for construction sites that require storm water pollution control measures. For purposes of this SOP, "operator" means the person responsible for the Storm Water Pollution Prevention Plan (SWPPP) implementation on an applicable construction site.

2. Responsibilities:

[1] "Oversight inspection" means a construction site inspection performed by the municipal system to assess compliance with the permit. (Utah Code 19-5-108.3(1)(g))
[2] "Electronic site inspection" means geo-located and time-stamped photos taken, evaluated, and submitted electronically by the applicant to the municipal system. (Utah Code 19-5-108.3(1)(e))

Each MS4's storm water staff are responsible for implementing the requirements and may not defer from this SOP. The operator is responsible for abiding by all requirements of the UPDES Storm Water General Permit or Common Plan Permits for Construction Activities and the MS4 is responsible for oversight.

- The position responsible for oversight inspections is the Stormwater Operations Manager.
- The position(s) who has authority to implement enforcement procedures is Stormwater Operations Manager as well as the Division of Water Quality (DWQ).

This SOP is to be followed and updated according to State and municipal requirements.

3. MS4 Permit Requirements:

1. Oversight Inspection
    a. Required to be completed by the MS4 on any construction site that is greater than or equal to one acre or is part of a common plan of development or sale which collectively disturbs land greater than or equal to one acre.
    b. MS4 must inspect all phases of construction, including prior to land disturbance, during active construction, and following active construction.
    c. Oversight inspections are required to be completed monthly for non-priority construction sites and biweekly for priority construction sites.
2. Qualified Personnel
    a. The oversight inspection must be performed by a "qualified person" as described in the DWQ MS4 Permit.
    b. Anyone having a job duty related to implementing the construction storm water program must receive annual training. New hires must be trained within 60 days of hire.
3. Record Retention
    a. All MS4s must maintain records for at least five years of all applicable construction project documents which could include:
        i. Site plan reviews
        ii. SWPPPs
        iii. Inspections
        iv. Enforcement Actions (notices of violation, stop work orders)

4. Process:

1. Pre-construction
    a. The MS4 will perform a pre-construction SWPPP review and meeting which at minimum will include:

i. A review of the site design
ii. Planned operations at the construction site
iii. Planned Best Management Practice(s) (BMPs) during the construction phase
iv. Planned long-term storm water run-off BMPs
v. Documentation:
    1. SWPPP Review Checklist: Document the SWPPP Review Checklist through Millcreek's M:Drive
    2. Pre-construction Meeting: Document the meeting within Millcreek's M:Drivev

b. The MS4 will determine whether the construction site will be identified as priority and receive bi-weekly MS4 oversight inspections.
c. The MS4 must provide the operator the procedure for notifying the MS4 of their completion of active construction.
d. The MS4 will perform a pre-construction electronic oversight inspection or onsite oversight inspection with the operator(s).
    i. This pre-construction inspection must occur before land disturbance and will verify that the operator has placed all site specific construction BMPs prescribed by the SWPPP.
    ii. Documentation:
        1. Pre-construction inspection: Document the inspection through Utilisync.
e. The operator will submit a Notice of Intent (NOI) through the NeT NPDES eReporting Tool online (NeT) *before* earth disturbing activities.

2. During Construction
    a. Electronic Oversight Inspection
        i. The MS4 will perform their required electronic oversight inspections (at the intervals mentioned in 2.1.c) through access to the Operator's SWPPP and electronic site inspection(s).
            1. The operator's report must use geo-located and time-stamped photos of all BMPs implemented at the construction site.
            2. All photos must be sufficient to depict that the BMP(s) is meeting its proper function to eliminate or control pollutants on site.
            3. The operator's report should show compliance with the Construction General Permit (CGP), Common Plan Permit (CPP) if applicable, and the site specific SWPPP.

a. This includes all documentation regarding corrections taken as a result of the operator's self inspection.

b. Onsite Oversight Inspection
   i. An onsite oversight inspection may be warranted under the following conditions:
      1. Compliance with the CGP, CPP if applicable, and site specific SWPPP cannot be reasonably determined during an electronic oversight inspection.
      2. A perceived or reported threat to water quality that is immediate[3] and/or imminent[4]. Or a reported complaint.
      3. Failure to install BMPs prior to land disturbance.
      4. Illicit discharge, unknown/unidentified non-storm water discharge, or prohibited discharge per CGP/CPP permits.
      5. The operator requests that oversight inspections be performed onsite.
      6. Any other oversight inspection step listed below that cannot be fulfilled.

c. An oversight inspection, both electronic and onsite, is performed by following these steps:
   1. Review the SWPPP
   2. Review the SWPPP signage for compliance with the CGP or CPP
      a. Placed in a safe, conspicuous, and publicly accessible location near the entrance
      b. Includes UPDES permit tracking number, contact information, and method of SWPPP access
   3. Review the operator self SWPPP inspection reports
   4. Review the entire perimeter and any downgradient areas
   5. Review points of vehicle/equipment exit
   6. Review any discharge points (keep in mind that these are not always piped inlets)

[3] Immediate Threat: A situation where pollutant discharge to state waters is already occurring or is inevitable without urgent corrective action. This refers to a present and active risk that requires immediate attention to prevent or mitigate further contamination.

[4] Imminent Threat: A situation that poses a high likelihood of pollutant discharge to state waters in the near future if corrective actions are not taken. This refers to conditions that suggest a serious risk is developing but has not yet resulted in an actual discharge.

7. Review all BMPs installed to mitigate or prevent sediment, erosion, and pollution
8. Review all stabilizing areas (especially steep slopes)
9. Review all pollutant generating activities such as fueling areas, washout areas, etc.
10. Observe all discharges (if prohibited or unauthorized this is an immediate and/or imminent threat to water quality)
11. Observe all conditions that could result in polluted storm water discharge (including sediment in the street/gutter)
12. Determine if any additional sediment, erosion, and/or pollution prevention controls are needed
13. Verify that all above activities are accounted for and updated in the site's SWPPP and Map
14. Any deficiencies must be noted in the oversight inspection form

d. For oversight inspections, MS4 staff must use the *Oversight Construction Inspection Form* provided by the Division of Water Quality.
   i. MS4 staff sends a copy of the oversight inspection to the operator.
   ii. MS4 staff maintains record of all oversight inspections through Utilisync.
e. If the storm water BMPs on a construction site are found to be deficient by the MS4 inspector, steps will be taken to address the deficiencies as outlined in the *Enforcement for Construction Sites SOP*.
   i. Violations could include:
      1. Failure to maintain BMPs
      2. Failure to install BMPs
      3. An illicit discharge
      4. Failure to conduct inspections
      5. Failure to update SWPPP
      6. Any other CGP and/or CPP requirements that are deficient

3. After Construction
   a. The operator will request through NeT, a Notice of Termination (NOT) once these conditions have been met:
      i. All temporary storm water control measures have been removed
      ii. The site has achieved final stabilization
      iii. All construction materials, waste, and equipment have been removed

iv. All potential pollutants and pollution-generating activities have been removed

b. MS4 staff who have 'MS4 Authority' will be notified of the request to approve the operator's NOT via an email notification from NeT.
c. MS4 staff will verify through an electronic oversight inspection (or on-site oversight inspection if applicable described in the *Enforcement for Construction Sites SOP*) if all NOT requirements have been met and approve or deny the NOT submission via NeT.
d. MS4 staff will document the NOT inspection through the State's Storm Water NOT Inspection Form and maintain a record of it through Utilisync and Millcreek's M:Drive.
e. All documents related to each applicable construction site must be retained for five years or until construction is completed, whichever is longer.

Standard Operating Procedure for MS4 Construction Oversight

Enforcement for Construction Sites SOP

Last Reviewed: November 12, 2024

Introduction

This SOP was written for Utah MS4s to help them meet the requirements of their MS4 Permit and to provide guidance to abide by Utah Code 19-5-108.3. This SOP references the *Construction Site Storm Water Runoff Control* (4.2.4) section of the MS4 Permit. The overarching goal of this SOP is to standardize storm water construction program practices across all MS4s in the State of Utah.

From **Utah Code 19-5-108.3:**
"A municipal system may conduct an on-site inspection if the municipal system has a documented reason for justifying an on-site oversight inspection." (Utah Code 19-5-108.3(15))

"Violation" means a failure to implement or maintain preferred best management practices. (Utah Code 19-5-108.3(1)(k))

1. Purpose:

The purpose of this SOP is to describe how MS4s will implement standards from the MS4 Permit in conjunction with Utah State Code 19-5-108.3 in regard to sites that do not comply with their SWPPP and state issued Construction General Permit (CGP) or Common Plan Permit (CPP) if applicable. For purposes of this SOP, "operator" means the person responsible for SWPPP implementation on an applicable construction site.

2. Responsibilities:

Each MS4's storm water staff are responsible for implementing the requirements and may not defer from this SOP. The operator is responsible for abiding by all requirements of the UPDES Storm Water General Permit or Common Plan Permits for Construction Activities and the MS4 is responsible for oversight.

- The position responsible for oversight inspections is the Stormwater Operations Manager.
- The position(s) who has authority to implement enforcement procedures is Stormwater Operations Manager, as well as the Division of Water Quality (DWQ).

This SOP is to be followed and updated according to State and municipal requirements.

3. MS4 Permit Requirements:

1. Enforcement procedures and regulatory authority must be written and documented in the SWMP of each MS4.
    a. The procedures of this SOP should be summarized or referenced in the MS4's SWMP which is accessible by the public. Regulatory authority is described in the *Inspections of Permitted Construction Sites SOP*.
2. Each MS4 staff with responsibility over the SWPPP program must be trained in proper documentation of inspections, follow-up, and enforcement actions.
    a. Documentation of routine maintenance, corrective action, follow-up inspections, and enforcement actions should all be included with the *Oversight Construction Inspection Form* provided by the DWQ.
        i. Any communication between the operator and the MS4 should be recorded and retained through Utilisync and Millcreek's M:Drive.
        ii. Verbal communication alone is not advised. If important communication does occur verbally (such as agreement on BMP improvement, corrective action deadline, etc) between the operator and the MS4, restating the conversation afterwards via email to the operator is advised so that a record can be retained.

4. Process:

1. Oversight Inspections
    a. If violations of the CGP/CPP permit are determined after conducting an inspection (electronic or onsite) as identified in the *Oversight Inspections SOP*, the MS4 must document each violation on the *Oversight Construction Inspection Form* provided by DWQ as identified in the next step. *If the inspection was conducted onsite, justification for an onsite oversight inspection must be documented on the inspection form*.
2. Violation and Follow-up Procedures
    a. First Notice of Violation (NOV 1)
        i. The MS4 must notify the operator of the violation in writing on the *Oversight Construction Inspection Form*. The violation notation at minimum must include:
            1. Explanation/Identification of each violation
            2. Associated citation from the CGP/CPP
            3. Deadline to correct each violation.
                a. The deadline to correct violations should be no sooner than 24 hours (immediate threats to water

quality), and no later than 7 days (imminent threats to water quality).

ii. Reinspection

1. The MS4 should perform a follow-up electronic oversight inspection to verify that each violation has been corrected after the deadline given by the MS4.
    a. If the follow up electronic inspection report submitted by the operator is not sufficient for MS4 staff to determine that the violation has been corrected, an onsite oversight inspection may be conducted. *If the inspection was conducted onsite, justification for an onsite oversight inspection must be documented on the inspection form.*
2. If the operator has not corrected the violation(s), the MS4 will notify the operator that the violation hasn't been corrected in writing as described in the next step.

b. Second Notice of Violation (NOV 2)

i. The MS4 must notify the operator of the violation in writing on the Construction Oversight Inspection Form. The violation notation at minimum must include:

1. Explanation/Identification of each remaining violation
2. Associated citation from the CGP/CPP
3. Deadline to correct each violation.
    a. The deadline to correct violations should be no sooner than 24 hrs (immediate threats to water quality), and no later than 7 days (imminent threats to water quality).
4. Written warning that a stop work order can be issued if the violation is not corrected within the new time period specified by the MS4. (at minimum, another 24 hours)

ii. Reinspection

1. The MS4 should perform a follow-up electronic oversight inspection to verify that each violation has been corrected after the deadline within the time period given by the MS4.
    a. If the follow up electronic inspection report submitted by the operator is not sufficient for MS4 staff to determine that the violation has been corrected, an onsite oversight inspection may be

conducted. *If the inspection was conducted onsite, justification for an onsite oversight inspection must be documented on the inspection form.*

2. If the operator has not corrected the violation(s), the MS4 will notify the operator that the violation hasn't been corrected in writing as described in the next step.

c. Third Notice of Violation (NOV 3)
   i. The MS4 may issue a stop work order until the MS4 performs an oversight inspection to verify that the violation has been corrected or the operator shows the violation has been corrected through an electronic site inspection report.

d. Documentation:
   i. The results of all enforcement notices, communications, and inspections (including follow-up or reinspections) must be documented through Utilisync.

3. Special Cases
   a. The MS4 can issue a stop work order earlier than in the process described above if the MS4 can document that the violation imposes an immediate[5] and/or imminent[6] threat to water quality.
   b. The MS4 can correct a violation for the operator, and recoup the costs associated, if the operator refuses to correct the violation and there is imminent significant harm to water quality or the stormwater system.
   c. The MS4 cannot issue a stop work order if the violation is a result of a properly installed and maintained BMP per specifications from the preferred BMP list.
   d. MS4s are not allowed to issue fines related to oversight of construction sites.

5. Communication:

Each MS4 will utilize a method of communication for enforcement (such as a notice of violation, stop work orders) to the operator.

- The method used for this MS4 is Utilisync as well as follow-up emails.

[5] Immediate Threat: A situation where pollutant discharge to state waters is already occurring or is inevitable without urgent corrective action. This refers to a present and active risk that requires immediate attention to prevent or mitigate further contamination.

[6] Imminent Threat: A situation that poses a high likelihood of pollutant discharge to state waters in the near future if corrective actions are not taken. This refers to conditions that suggest a serious risk is developing but has not yet resulted in an actual discharge.

6. Flow Chart attached.

Stormwater Inspection Forms
For a physical/PDF copy, contact Aaron Roberts.

Construction Oversight Inspection Form

Project Name		**UPDES Permit #**				**Expiration Date**	
Address						**Date**	
Owner			**Operator**			**Start Time**	
Site Contact			**Phone**			**Stop Time**	
Weather		**Date of last rain event**		**Approximate Rainfall (in)**			
Inspector(s)		**MS4/City**		**Receiving Waters**			
Project Area		**Disturbed Area**		**Project Type**			
Inspection reason	Scheduled☐	Complaint/Tip:☐	Random☐	**Inspector Code**		State☐	Local ☐
Inspection Code	**SW Sampling** ☐	**SW non-Sampling** ☐	**Inspection Type**	**Onsite** ☐	**Electronic** ☐	**Reason (please list):**	

Part 1: Onsite Compliance Inspection	**List: Yes, No, N/A**
Arrival and Initial Checks: *(Permit Signage; SWPPP Accessibility; Track-Out Control)*	
1. Is the SWPPP signage posted at the site entrance, clearly visible, and does it include the required information (e.g., UPDES tracking number and site operator contact information)? *(CGP 1.5; CPP 1.9)*	
2. Is a copy of the SWPPP available onsite, or is its location clearly indicated on the posted signage and accessible within a reasonable time? *(CGP 1.5.7; CPP 1.9)*	
3. Are effective track-out controls, such as stabilized construction entrances or wheel wash systems, installed and maintained at all egress points? Are paved surfaces free of track-out or sediment accumulation? *(CGP 2.2.4; CPP 2.4.1)*	
Perimeter Inspection: *(Perimeter Controls; Natural Buffer Areas; Discharge Points)*	
4. Are perimeter controls (e.g., silt fences, wattles, berms) properly installed and maintained, effectively preventing sediment from leaving the site, with no visible evidence of sediment discharges beyond the site boundary? *(CGP 2.2.3; CPP 2.1.2)*	
5. Are natural buffers (or equivalent sediment controls) maintained around water bodies within 50 feet of earth disturbances, and are these buffers effectively minimizing sediment discharges? *(CGP 2.2.1; CPP 2.3.5)*	
6. Is the operator ensuring that stormwater discharges are free of visible pollutants, prohibited discharges, or sediment impacting waters of the state or unprotected storm drains? If not, immediately call the Environmental Incident Response Line (801) 536-0539. *(CGP 1.3, 3.1; CPP 2.3.4)*	
7. Are velocity dissipation devices installed at outfalls, along drainage channels, or at other locations to slow down runoff and prevent erosion? *(CGP 2.2.11; CPP 2.3.3)*	
Interior Site Inspection: *(BMPs: Inlet Protection; Stockpiles and Construction Materials; Erosion Controls / Pollution Prevention Controls; Chemical Storage and Fueling Areas; Sanitation and Waste Management; Concrete and Paint Washout)*	
8. Are storm drain inlets within and immediately adjacent to the construction site properly protected with appropriate BMPs (See SWPPP for installation specifications)? Has accumulated sediment in and around the inlet been removed? *(CGP 2.2.10; CPP 2.1.3)*	
9. Are soil and material stockpiles adequately protected from erosion and sediment transport using covers, silt fences, or other appropriate BMPs, and are they located away from stormwater conveyances and inlets? *(CGP 2.2.5; CPP 2.1.1)*	
10. Are effective suppression measures, such as water spraying or mulching, implemented on exposed soil areas to prevent excessive dust generation? *(CGP 2.2.6; CPP N/A)*	
11. Are erosion control measures (e.g., stabilization, mulching, erosion blankets) implemented effectively on slopes, disturbed areas, and other vulnerable areas, including any areas with no construction activities for 30 days (CPP 14 days)? *(CGP 2.2.14; CPP 2.6.1)*	
12. Is vegetation preservation, slope disturbances, topsoil management, and soil compaction being effectively managed to prevent potential impacts on water quality? *(CGP 2.2.2, 2.2.7-2.2.9; CPP 2.5)*	
13. Are effective spill prevention, containment, and pollutant discharge minimization measures in place for all equipment fueling, maintenance, and washing activities? *(CGP 2.3.1, 2.3.2; CPP 2.8.1)*	
14. Are chemical storage and hazardous waste areas properly managed with secondary containment and spill prevention measures in place, and are these areas free from spills or leaks? *(CGP 2.3.3.c-d; CPP 2.8.3)*	
15. Are waste management practices effective, with all construction materials, debris, and waste properly stored, contained, and disposed of to prevent exposure to storm water and overflow? (CGP 2.3.3.a-b, e; CPP 2.4.3, 2.8.2)	
16. Are portable sanitation facilities (e.g., port-o-potties) positioned securely, away from drainage features, and maintained to prevent leaks or spills? *(CGP 2.3.3.f; CPP 2.4.4)*	
17. Are designated areas for concrete, paint, and other construction material washout properly managed to prevent contamination of stormwater? *(CGP 2.3.4; CPP 2.1.1)*	
18. Do the storm water controls (e.g., erosion, sediment, and pollution prevention measures) match those indicated on the site map, and are they designed, installed, and maintained according to BMP specifications in the SWPPP, considering precipitation, slope, soil type, and construction phase adjustments? *(CGP 2.1.1-2.1.4; CPP 4.1.1)*	
Comments *(Summarize key observations from the inspection, including any violations, corrective actions needed, and any discussions with the site operator):*	

Part 2: SWPPP Pre-Site Review (CGP Part 7; CPP Part 4) *(Ensure all information is accurate and up to date)*	**List:** **Yes, No, N/A**
1. Has a pre-construction review of the SWPPP been conducted by the appropriate municipal agency?	
2. Are contact names, positions, responsibilities, and telephone numbers of the Storm Water Team and all other responsible parties listed in the SWPPP? *(CGP 7.3.1; CPP 4.2.1)*	
3. Is there documentation verifying that all key personnel have received appropriate training as required by the CGP/CPP, and are these records included in the SWPPP? *(CGP 6.2, 6.3, 2.2.13.f; CPP 4.2.8)*	
4. Is the construction activity described in detail, including an estimate of the area to be disturbed, the sequence of construction activities, and a description of all on-site and off-site construction activity support areas? *(CGP 7.3.2; CPP 4.2.2)*	
5. Does the SWPPP include a detailed site map showing storm drains, slopes, surface drainage patterns, stream buffer zones, stormwater discharge points, construction boundaries, limits of disturbance, surface waters (including the name of receiving waters), and the placement of both structural and non-structural controls? *(CGP 7.3.3; CPP 4.2.3)*	
6. Does the SWPPP include accurate discharge information, including receiving waters, impaired waters, and high-quality waters? Are there specific measures outlined to prevent the discharge of pollutants into these waters? *(CGP 3.2; CPP 4.2.5)*	
7. Does the SWPPP identify all pollution-generating activities (e.g., concrete washout, solid waste disposal) that could affect stormwater discharges from the site? *(CGP 7.3.2.f; CPP 4.2.6)*	
8. Are non-storm water discharges identified and controlled, with descriptions of allowable discharges (e.g., fire hydrant flushing, uncontaminated groundwater) included in the SWPPP? *(CGP 7.3.4; CPP 1.3)*	
9. Does the SWPPP describe natural buffers and/or equivalent sediment controls (i.e., compliance alternatives)? *(CGP 7.3.5.b(1), Appendix A; CPP 4.2.4)*	
10. Does the SWPPP detail the specifications of all erosion and sediment controls (e.g., silt fences, sediment basins, check dams, inlet protection) in line with CGP requirements? *(CGP 7.3.5.a; CPP N/A)*	
11. Have specific stabilization measures, including both vegetative and non-vegetative practices, as well as the stabilization deadline, been provided in the SWPPP? *(CGP 7.3.5.b(6); CPP 4.2.3)*	
12. Does the SWPPP include comprehensive spill prevention and response procedures, including personnel responsibilities, cleanup steps, and emergency contact information? *(CGP 7.3.5.b(7); CPP N/A)*	
13. Does the SWPPP describe the placement of pollution prevention controls, such as those for material storage, construction waste management, sanitary waste management, and spill prevention measures? *(CGP 7.3.5.b(8); CPP 4.2.6, 4.2.7)*	
14. Does the SWPPP include a clear schedule for conducting inspections, and taking corrective actions? Is the inspection schedule, rain gauge location (if applicable), and any relevant checklists or forms clearly documented? *(CGP 7.3.6; CPP 3.2, 3.3)*	
15. Are site inspections being conducted at the selected frequency (i.e., every 7 or 14 days; within 24 hours of a 0.50-inch rainfall), and did they adequately cover all necessary areas or document storm water control issues? *(CGP 4.2, 4.5, 4.6; CPP 3.4)*	
16. Are corrective actions from previous inspections documented and updated in the SWPPP within the required 7-day timeframe, including changes to storm water controls, construction plans, and SWPPP modifications? *(CGP 5, 7.5; CPP 3.5, 3.6)*	
17. Does the SWPPP include the Notice of Intent (NOI) and a copy of the CGP or Common Plan Permit, along with any additional permits required (e.g., dewatering, stream alteration)? *(CGP 7.4; CPP 4.2.9)*	
18. Has the SWPPP been signed by the appropriate responsible corporate officer or duly authorized representative? *(CGP 9.9; CPP 4.2.10)*	
Comments:	

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 into 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.

Inspector				
	Print Name	Title	Signature	Date

Last updated: 11/22/24

Stormwater Inspection Forms

UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY

UPDES STORM WATER NOTICE OF TERMINATION INSPECTION FORM

BACKGROUND INFORMATION					
Site Name:				UPDES Permit #:	
Site Address:					
Local Jurisdiction or County:					
Permit Effective Date:			Permit Expiration Date:		
Total Project Area:			Total Disturbed Area:		
Project Type: (circle)	*Subdivision*	*Commercial*	*Industrial*	*Linear (Road/Pipe/Power)*	*Land Disturbance*

OPERATOR CONTACT INFORMATION			
	NAMES	PHONE NUMBERS	E-MAIL
Operator:			
Onsite Facility Contact:			
Important Contacts:			
Important Contacts:			

NOTICE OF TERMINATION (NOT) INSPECTION			
Site Name:		Date of Evaluation:	
Site Address:			
Inspected By:		Title\Organization:	

	YES	NO	COMMENTS:
1. Has the site been properly stabilized according to permit requirements?			
2. Have all temporary BMPs been removed?			
3. Have post-construction (permanent storm water system) elements been constructed and inspected in accordance with approved project drawings?			
4. Is the site acceptably clean?			

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.

Inspector:

(Print Name) (Title) (Signature) (Date)

Operator:

(Print Name) (Title) (Signature) (Date)

modified 08/22

Construction General Permit (CGP) and Common Plan Permit (CPP)

Please proceed to the State of Utah DEQ, Storm Water Permits page:

https://deq.utah.gov/water-quality/storm-water-permits-updes-permits

Website Links for Other Stormwater Organizations and Stormwater Information

Salt Lake County Stormwater Coalition:

https://stormwatercoalition.org/

Utah Stormwater Advisory Committee

https://utah.apwa.org/about/committees-and-task-forces/utah-storm-water-advisory-committee/

Millcreek Stormwater Management Plan:

https://www.millcreekut.gov/177/Stormwater

Millcreek Long-term Stormwater Management Plan

https://www.millcreekut.gov/426/Stormwater-Maintenance-Agreement

IDDE Program and Hotline

Millcreek Illicit Discharge Detection and Elimination

https://www.millcreekut.gov/479/Illicit-Discharge-Detection-Elimination-

See Salt Lake County Stormwater Coalition:

https://stormwatercoalition.org/

MS4 Stormwater Permit

Utah DEQ Website for Millcreek MS4 Permit:

https://lf-public.deq.utah.gov/WebLink/DocView.aspx?id=10718&eqdocs=DWQ-2023-003215

Utah Pollutant Discharge Elimination System Storm Water Program
MS4 Report Form

The purpose of this report is to contribute information to an evaluation of the UPDES municipal separate storm sewer system (MS4) permit program. Consistent with 40 CFR §122.37 the Utah Department of Environmental Quality is assessing the status of the storm water program. A "no" answer to a question does not necessarily mean noncompliance with your permit or with the federal regulations. In order to establish the range of variability in the program it is necessary to ask questions along a fairly broad performance continuum.

1. MS4 Information

Millcreek
Name of MS4

Aaron	Roberts	Storm Water Operations Manager
Name of Contact Person (First)	(Last)	(Title)

(801) 214-2662	arobertS@millcreekut.gov
Telephone (including area code)	Email

1330 East Chambers Avenue
Mailing Address

Millcreek	UT	84106
City	State	ZIP code

What size population does your MS4 serve? 64,110 UPDES number: UTS000001

What is the reporting period for this report? (mm/dd/yyyy) From 07/01/2023 to 06/30/2024

2. Water Quality Priorities

A. Does your MS4 discharge to waters listed as impaired on a state 303(d) list? ☑ Yes ☐ No

B. If yes, identify each impaired water, the impairment, whether a TMDL has been approved by EPA for each, and whether the TMDL assigns a wasteload allocation to your MS4. Use a new line for each impairment, and attach additional pages as necessary.

Impaired Water	Impairment	Approved TMDL		TMDL assigns WLA to MS4	
Big Cottonwood Creek	Temp, Bioassessment	☐ Yes	☑ No	☐ Yes	☑ No
Big Cottonwood Creek	E.Coli	☑ Yes	☐ No	☐ Yes	☑ No
Mill Creek	Bioassessment	☐ Yes	☑ No	☐ Yes	☑ No
Mill Creek	E.Coli	☑ Yes	☐ No	☐ Yes	☑ No
Parleys Creek	Bioassessment, Dissolved Oxyge	☐ Yes	☑ No	☐ Yes	☑ No
Parleys Creek	E.Coli	☑ Yes	☐ No	☐ Yes	☑ No
Jordan River	Bioassessment, TDS, Phosphoru	☐ Yes	☑ No	☐ Yes	☑ No
Jordan River	E.Coli	☑ Yes	☐ No	☐ Yes	☑ No

C. What specific sources contributing to the impairment(s) are you targeting in your storm water program?
Nutrients, Organics, Fertilizers, Pet Waste

D. Do you discharge to any high-quality waters (e.g., Tier 2, Tier 3, outstanding natural resource waters, or other state or federal designation)? ☑ Yes ☐ No

E. Are you implementing additional specific provisions to ensure their continual integrity? ☐ Yes ☑ No

updated 5-17-21

MS4 Annual Report Form (cont) 2

3. Public Education and Public Participation

A. Is your public education program targeting specific pollutants and sources of those pollutants? ☑ Yes ☐ No

B. If yes, what are the specific sources and/or pollutants addressed by your public education program?

Sediment (construction/landscaping), yard waste, fertilizers, pet waste

C. Note specific successful outcome(s) (e.g., quantified reduction in fertilizer use; NOT tasks, events, publications) fully or partially attributable to your public education program during this reporting period.

St. County Data shows actual or decreasing pollutant numbers over 12 months, quarterly newsletter articles on pollutant reduction

D. Do you have an advisory committee or other body comprised of the public and other stakeholders that provides regular input on your storm water program? ☐ Yes ☑ No

E. Do you belong to a storm water coalition or other advisory committee? If yes, describe: ☑ Yes ☐ No

Utah Stormwater Advisory Committee, SL County Stormwater Coalition

4. Construction

A. Do you have an ordinance or other regulatory mechanism stipulating:

Erosion and sediment control requirements?	☑ Yes	☐ No
Other construction waste control requirements?	☑ Yes	☐ No
Requirement to submit construction plans for review?	☑ Yes	☐ No
MS4 enforcement authority?	☑ Yes	☐ No

B. Do you have written procedures for:

Reviewing construction plans?	☑ Yes	☐ No
Performing inspections?	☑ Yes	☐ No
Responding to violations?	☑ Yes	☐ No

C. What is the threshold for construction storm water plan review (e.g., all projects, projects disturbing greater than one acre, etc.)? All projects over .10 Acres, all projects on "sensitive lands", any demolition

D. Identify the number of active construction sites ≥ 1 acre in operation in your jurisdiction at any time during the reporting period. 26

E. How many of the sites identified in 4.D did you inspect during this reporting period? 26

F. Identify the number of active construction sites < 1 acre in operation in your jurisdiction at any time during the reporting period. 38

G. How many of the sites identified in 4.F did you inspect during this reporting period? 38

H. Describe, on average, the frequency with which your program conducts construction site inspections.

Every 30 Days, or every 14 (priority sites)

I. Do you prioritize certain construction sites for more frequent inspections? ☑ Yes ☐ No

If Yes, based on what criteria? non-compliance, proximity to water, sensitive land

J. Identify which of the following types of enforcement actions you used during the reporting period for construction activities, indicate the number of actions, or note those for which you do not have authority:

☑ Yes	Notice of violation	# 4	No Authority ☐
☑ Yes	Administrative fines	# 4	No Authority ☐
☐ Yes	Stop Work Orders	#	No Authority ☐
☐ Yes	Civil penalties	#	No Authority ☐
☐ Yes	Criminal actions	#	No Authority ☐
☑ Yes	Administrative orders	# 51	No Authority ☐
☐ Yes	Other _____	#	

MS4 Annual Report Form (cont) 3

K. Do you use an electronic tool (e.g., GIS, data base, spreadsheet) to track the locations, inspection results, and enforcement actions of active construction sites in your jurisdiction? ☑ Yes ☐ No

L. What are the 3 most common types of violations documented during this reporting period?
good housekeeping, sediment control, concrete washout

M. How often do municipal employees receive training on the construction program? Annually (full city), Quarterly (program)

5. Illicit Discharge Elimination

A. Have you completed a map of all outfalls and receiving waters of your storm sewer system? ☑ Yes ☐ No

B. Have you completed a map of all storm drain pipes and other conveyances in the storm sewer system? ☑ Yes ☐ No

C. Identify the number of outfalls in your storm sewer system. 113

D. Identify the number of Class V injection wells in your jurisdiction. 26

E. Do you have documented procedures, including frequency, for screening outfalls? ☑ Yes ☐ No

F. Of the outfalls identified in 5.C, how many were screened for dry weather discharges during this reporting period?
18

G. Of the outfalls identified in 5.C, how many have been screened for dry weather discharges at any time since you obtained MS4 permit coverage? 113

H. What is your frequency for screening outfalls for illicit discharges? Describe any variation based on size/type.
20% of outfalls annually, high priority areas annually regardless

I. Do you have an ordinance or other regulatory mechanism that effectively prohibits illicit discharges? ☑ Yes ☐ No

J. Do you have documented procedures for tracing and removing an illegal discharge? ☑ Yes ☐ No

K. Do you have an ordinance or other regulatory mechanism that provides authority for you to take enforcement action and/or recover costs for addressing illicit discharges? ☑ Yes ☐ No

L. During this reporting period, how many illicit discharges/illegal connections have you discovered? 7

M. Of those illicit discharges/illegal connections that have been discovered or reported, how many have been eliminated?
7

N. Identify which of the following types of enforcement actions you used during the reporting period for illicit discharges, indicate the number of actions, or note those for which you do not have authority:

☐ Yes	Notice of violation	#____	No Authority ☑
☐ Yes	Administrative fines	#____	No Authority ☑
☐ Yes	Stop Work Orders	#____	No Authority ☑
☐ Yes	Civil penalties	#____	No Authority ☑
☐ Yes	Criminal actions	#____	No Authority ☑
☐ Yes	Administrative orders	#____	No Authority ☑
☑ Yes	Other Warning Letters	#2	

O. How often do municipal employees receive training on the illicit discharge program? Annually

MS4 Annual Report Form (cont) 4

6. Storm Water Management for Municipal Operations

A. Have storm water pollution prevention plans (or an equivalent plan) been developed for:

All public parks, ball fields, other recreational facilities and other open spaces	☑ Yes	☐ No
All municipal construction activities, including those disturbing less than 1 acre	☑ Yes	☐ No
All municipal turf grass/landscape management activities	☐ Yes	☑ No
All municipal vehicle fueling, operation and maintenance activities	☐ Yes	☑ No
All municipal maintenance yards	☐ Yes	☑ No
All municipal waste handling and disposal areas	☐ Yes	☑ No

Other Majority of facilities managed by Salt Lake County

B. Are storm water inspections conducted at these facilities? ☑ Yes ☐ No

C. If Yes, at what frequency are inspections conducted? Quarterly, Semi-Annually, Annually

D. List activities for which operating procedures or management practices specific to storm water management have been developed (e.g., road repairs, catch basin cleaning).
Salt Lake County Operations have SOPs in place for these activities

E. Do you prioritize certain municipal activities and/or facilities for more frequent inspection? ☑ Yes ☐ No

F. If Yes, which activities and/or facilities receive most frequent inspections? Millcreek Common

G. How are you disposing of catch basin decant water and solid material?
Disposed of at Salt Lake County facility

H. Are municipal vehicles washed into an approved wastewater disposal system? ☑ Yes ☐ No

I. Do all municipal employees and contractors overseeing planning and implementation of storm water related activities receive comprehensive training on storm water management? ☑ Yes ☐ No

J. If yes, do you also provide regular updates and refreshers? ☑ Yes ☐ No

K. If so, how frequently and/or under what circumstances? Annually for all employees, quarterly for program

7. Long-term (Post-Construction) Storm Water Measures

A. Do you have an ordinance or other regulatory mechanism to require:

Site plan reviews for storm water/water quality of all new and re-development projects?	☑ Yes	☐ No
Long-term operation and maintenance of storm water management controls?	☑ Yes	☐ No
Retrofitting to incorporate long-term storm water management controls?	☑ Yes	☐ No

B. If you have retrofit requirements, what are the circumstances/criteria?
Proximity to water body, status of waterbody, potential for water contamination

C. What are your criteria for determining which new/re-development storm water plans you will review (e.g., all projects, projects disturbing greater than one acre, etc.) All projects

D. Do you require water quality or quantity design standards or performance standards, either directly or by reference to a state or other standard, be met for new development and re-development? ☑ Yes ☐ No

E. Do these performance or design standards require that pre-development hydrology be met for:

Flow volumes	☑ Yes	☐ No
Peak discharge rates	☑ Yes	☐ No
Discharge frequency	☑ Yes	☐ No
Flow duration	☑ Yes	☐ No

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F. Please provide the URL/reference where all post-construction storm water management standards can be found.
Millcreek SWMP, Section 8.1.1

G. How many development and redevelopment project plans were reviewed during the reporting period to assess impacts to water quality and receiving stream protection? 232

H. How many of the plans identified in 7.G were approved? 232

I. How many privately owned permanent storm water management practices/facilities were inspected during the reporting period? 8

J. How many of the practices/facilities identified in I were found to have inadequate maintenance? 0

K. How long do you give operators to remedy any operation and maintenance deficiencies identified during inspections?
10-14 days pending severity

L. Do you have authority to take enforcement action for failure to properly operate and maintain storm water practices/facilities? ☑ Yes ☐ No

M. How many formal enforcement actions (i.e., more than a verbal or written warning) were taken for failure to adequately operate and/or maintain storm water management practices? 0

N. Do you use an electronic tool (e.g., GIS, database, spreadsheet) to track post-construction BMPs, inspections and maintenance? ☑ Yes ☐ No

O. Do all municipal departments and/or staff (as relevant) have access to this tracking system? ☑ Yes ☐ No

P. How often do municipal employees receive training on the post-construction program? Annually

8. Program Resources

A. What was the annual expenditure to implement MS4 permit requirements this reporting period? $1068772

B. What is next year's budget for implementing the requirements of your MS4 UPDES permit? $1300000

C. This year what is/are your source(s) of funding for the storm water program, and annual revenue (amount or percentage) derived from each?

Source: Stormwater Utility Fee Fund Amount $ ____ OR % 100

Source: ____ Amount $ ____ OR % ____

Source: ____ Amount $ ____ OR % ____

D. How many FTEs does your municipality devote to the storm water program (specifically for implementing the storm water program; not municipal employees with other primary responsibilities)? 4

E. Do you share program implementation responsibilities with any other entities? ☑ Yes ☐ No

Entity	Activity/Task/Responsibility	Your Oversight/Accountability Mechanism
SLCo Health Dept	IDDE & Related Enforcement	Coordination and Reporting
SLCo SW Coalition	Public Education and Outreach	Interlocal Agreement with SLCo
SLCo Operations	Good Housekeeping	Interlocal Agreement with SLCo

10. *E. coli* TMDL Compliance Report

Section required for permittees that discharge to waters listed on the Utah 303(d) list as impaired for *E. coli* for which storm water is a contributing source per the *Jordan River Watershed Wide E. coli TMDL*. All other permittees leave this section blank.

Public Education & Outreach

1. What sources of *E. coli* have been identified in your MS4? (check all that apply)
   - ☐ MS4s
   - ☐ WWTPs
   - ☐ Industrial Stormwater
   - ☑ Construction Stormwater
   - ☑ Urban (Impervious Surfaces, Recreationists and unhoused population, Stormwater Outfalls)
   - ☐ Agriculture (Livestock, irrigated pastures, canals with potential to discharge)
   - ☑ Wildlife (Waterfowl, deer, elk, etc.)
   - ☐ Onsite Wastewater Systems
   - ☑ Domestic Pets
   - ☑ E. coli impaired upstream AUs
   - ☐ Other (please list) : _____
2. What audiences have you targeted for education and outreach based on the sources above? (list below) Construction sites, recreationists, pet owners, park visitors
3. Do you use a collaborative program to meet E. coli TMDL permit requirements?
   a. If yes, list: Salt Lake County Stormwater Coalition

Illicit Discharge Detection and Elimination (IDDE)

4. How many priority areas (that are potential sources of *E. coli*) within your MS4 have you identified? 2
   a. Are there additional areas to be inventoried (yes/no)?
   b. How many priority areas were inspected in this reporting term? 2
5. Has the MS4 created a plan to implement BMPs (structural or non-structural) for the *E. coli* sources identified in the inventory above (yes/no)? Yes
   a. If yes, what BMPs have you prioritized? (check all that apply)
      - ☑ Increase sweeping at priority areas
      - ☑ Clean-up of pet & waterfowl areas prior to storm events
      - ☑ Keep pet waste bags stocked
      - ☑ Clean out pet waste receptacles regularly (so they don't overfill)
      - ☐ Educate on regular septic system maintenance
      - ☐ Partner with programs to work with unhoused populations
      - ☐ Require regular septic system maintenance
      - ☑ Regularly educate target audiences
      - ☐ Increase waste containment areas
      - ☐ Run on diversion (from sources of L. coli)

8

- ☑ Identification and repair of illicit cross-connections
- ☑ Updates to MS4 infrastructure
- ☑ Installation of LID controls with bacterial listed as a medium to high effectiveness
- ☐ Others:_____

6. Have you implemented any BMPs specific to *E. coli* source reduction during this reporting period (yes/no)? Yes
   a. If yes, what BMPs have you implemented? (check all that apply)
      - ☑ Increase sweeping at priority areas
      - ☑ Clean up of pet & waterfowl areas prior to storm events
      - ☑ Keep pet waste bags stocked
      - ☑ Clean out pet waste receptacles regularly (so they don't overfill)
      - ☐ Educate on regular septic system maintenance
      - ☐ Partner with programs to work with unhoused populations
      - ☐ Require regular septic system maintenance
      - ☑ Regularly educate target audiences
      - ☑ Increase waste containment areas
      - ☐ Run on diversion (from sources of E. coli)
      - ☑ Identification and repair of illicit cross-connections
      - ☐ Updates to MS4 infrastructure
      - ☐ Installation of LID controls with bacterial listed as a medium to high effectiveness
      - ☐ Others:_____

Post-Construction

7. Which LID controls do you promote (please list)? Preservation, Retention/Filtration, Filtration
8. Have you added *E. coli* reduction to your retrofit plan for prioritizing retrofit sites (yes/no) ?
   a. If yes, have you retrofit any sites during this reporting period for *E. coli* reduction (yes/no)? No
   b. If yes, please list the retrofit site:_____

Pollution Prevention & Good-Housekeeping

9. How many MS4 owned or operated sites were identified as having potential sources of *E. coli* (please list sites)? 1
10. Were any MS4-owned or operated added to the list of high-priority sites based on potential for *E. coli* contamination (yes/no)? No
    a. If yes, were BMPs utilized/installed to prevent E. coli contamination (yes/no) ?
    b. If yes, please list BMPs utilized or installed: On-site retention, SOPs
11. Were SOPs for street sweeping & storm sewer system maintenance updated (yes/no) ?

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11. Additional Information

In the space below, please include any additional information on the performance of your MS4 program. If providing clarification to any of the questions on this form, please provide the question number (e.g., 2C) in your response.

Section 3. Public Education and Outreach - Please refer to the Salt Lake County Stormwater Coalition Annual Report for more information at https://stormwatercoalition.org

In addition to public outreach done in coordination with SL County Coalition; Millcreek has done the following:
-Venture Out Series is a weekly event in Millcreek, storm water education and outreach was provided at a specific Millcreek Storm Water booth. Information pamphlets, educational poster boards and Stormwater SWAG was handed out each week.
-Various events throughout the year where a Storm Water booth was present to hand out informational pamphlets, Stormwater SWAG and answer questions/educate.
-Jordan River Cleanup days in conjunction with Jordan River Commission, public education and outreach conducted at these events.
-Millcreek hosted (in conjunction with the Rivers Council, Cottonwood Heights, Murray and Midvale) a rain harvesting event. Over 200 rain barrels were distributed to Millcreek residents for use on their property in harvesting storm runoff.
-Weekly e-newsletter's are issued by Millcreek. Which provide information for citizens who have opted to receive these newsletters. These newsletters direct residents to our website for more information on storm water.
-Quarterly print newsletter issued by Millcreek with a back page devoted to Storm Water centric items.

Section 4 C - Will be changing with new regulations from Utah Legislature to over 1 acre and in "sensitive land" areas.

Section 6. Millcreek contracts with Salt Lake County Operations for maintenance of roads, storm drain systems, parks and other facilities. Please refer to Salt Lake County's Annual Report for inspection and SOP information at these facilities.

7.C and 7.H - Numbers shown represent building permits reviewed under specific categories. These numbers are higher than years past as it is now inclusive of ALL demolitions and duplicate sites with multiple units. Every permit within certain criteria are reviewed per our new requirements.

8.C - Salt Lake County also provides 3 FTEs, 1 Vector Truck and 1 Sweeper to Millcreek for Storm Drain Maintenance Services.

Reporting Year 2023-2024, Millcreek completed a DEQ Stormwater Program Audit. 41 Deficient items were reported and rectified by the final deadline of February 15, 2024.

Certification Statement and Signature

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. ☑ Yes

Jeff Silvestrini, Mayor — 09-24-2024

Name of Certifying Official, Title — Date (mm/dd/yyyy)