

Impervious Area Dispersion

BMP MAINTENANCE FACT SHEET FOR

SITE DESIGN BMP SD-5 IMPERVIOUS AREA DISPERSION

Impervious area dispersion (dispersion) refers to the practice of effectively disconnecting impervious areas from directly draining to the storm drain system by routing runoff from impervious areas such as rooftops (through downspout disconnection), walkways, and driveways onto the surface of adjacent pervious areas. The intent is to slow runoff discharges, and reduce volumes. Typical dispersion components include:

- An impervious surface from which runoff flows will be routed with minimal piping to limit concentrated inflows
- Splash blocks, flow spreaders, or other means of dispersing concentrated flows and providing energy dissipation as needed
- Dedicated pervious area, typically vegetated, with in-situ soil infiltration capacity for partial or full infiltration
- Optional soil amendments to improve vegetation support, maintain infiltration rates and enhance treatment of flows
- Overflow route for excess flows to be conveyed from dispersion area to the storm drain system or discharge point

Normal Expected Maintenance

Vegetated area shall be maintained as part of normal landscape maintenance. Additionally, ensure that storm water runoff can be conveyed into the vegetated area as designed. That is, the mechanism that allows storm water runoff from impervious area to flow into the pervious area (e.g., a curb cut allows runoff from a parking lot to drain onto adjacent landscaping area, or a roof drain outlet is directed to a lawn) shall not be removed, blocked, filled, or otherwise changed in a manner that prevents storm water from draining into the pervious area. A summary table of standard inspection and maintenance indicators is provided within this Fact Sheet.

Non-Standard Maintenance or BMP Failure

Impervious area dispersion is a site design BMP that normally does not require maintenance actions beyond routine landscape maintenance. If changes have been made to the area, such as the vegetated area has been replaced with impervious area, or the mechanism that allows storm water runoff from impervious area to flow into the pervious area has been removed (e.g., roof drains previously directed to vegetated area have been directly connected to the street or storm drain system), the BMP is not performing as intended to protect downstream waterways from pollution and/or erosion. Corrective maintenance will be required to restore drainage into the pervious area as designed. If the pervious area has been removed, contact the [City Engineer] to determine a solution.

Runoff directed into vegetated areas is expected to be drained within 24-96 hours following a storm event. Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health, and surface ponding longer than approximately 96 hours following a storm event poses a risk of vector (mosquito) breeding. Poor drainage can result from clogging or compaction of the soils. Loosen or replace the soils to restore drainage.

Impervious Area Dispersion

Other Special Considerations

Site design BMPs, such as impervious area dispersion, installed within a new development or redevelopment project are components of an overall storm water management strategy for the project. The presence of site design BMPs within a project is usually a factor in the determination of the amount of runoff to be managed with structural BMPs (i.e., the amount of runoff expected to reach downstream retention or biofiltration basins that process storm water runoff from the project as a whole). When site design BMPs are not maintained or are removed, this can lead to clogging or failure of downstream structural BMPs due to greater delivery of runoff and pollutants than intended for the structural BMP. Therefore, the [City Engineer] may require confirmation of maintenance of site design BMPs as part of their structural BMP maintenance documentation requirements. Site design BMPs that have been installed as part of the project should not be removed, nor should they be bypassed by re-routing roof drains or re-grading surfaces within the project. If changes are necessary, consult the [City Engineer] to determine requirements.

Impervious Area Dispersion

SUMMARY OF STANDARD INSPECTION AND MAINTENANCE FOR SD-5 IMPERVIOUS AREA DISPERSION		
<p>The property owner is responsible to ensure inspection, operation and maintenance of permanent BMPs on their property unless responsibility has been formally transferred to an agency, community facilities district, homeowners association, property owners association, or other special district.</p> <p>Maintenance frequencies listed in this table are average/typical frequencies. Actual maintenance needs are site-specific, and maintenance may be required more frequently. Maintenance must be performed whenever needed, based on maintenance indicators presented in this table. The BMP owner is responsible for conducting regular inspections to see when maintenance is needed based on the maintenance indicators. During the first year of operation of a structural BMP, inspection is recommended at least once prior to August 31 and then monthly from September through May. Inspection during a storm event is also recommended. After the initial period of frequent inspections, the minimum inspection and maintenance frequency can be determined based on the results of the first year inspections.</p>		
Threshold/Indicator	Maintenance Action	Typical Maintenance Frequency
Poor vegetation establishment	Re-seed, re-plant, or re-establish vegetation per original plans.	<ul style="list-style-type: none"> Inspect monthly. Maintenance when needed.
Dead or diseased vegetation	Remove dead or diseased vegetation, re-seed, re-plant, or re-establish vegetation per original plans.	<ul style="list-style-type: none"> Inspect monthly. Maintenance when needed.
Overgrown vegetation	Mow or trim as appropriate.	<ul style="list-style-type: none"> Inspect monthly. Maintenance when needed.
<p>Standing water in vegetated pervious area for longer than 24 hours following a storm event</p> <p>Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health</p>	Disperse any areas of standing water to nearby landscaping (i.e., spread it out to another portion of the pervious area so it drains into the soil). Make appropriate corrective measures such as adjusting irrigation system, or repairing/replacing clogged or compacted soils.	<ul style="list-style-type: none"> Inspect monthly and after every 0.5-inch or larger storm event. If standing water is observed, increase inspection frequency to after every 0.1-inch or larger storm event. Maintenance when needed.
<p>Presence of mosquitos/larvae</p> <p>For images of egg rafts, larva, pupa, and adult mosquitos, see http://www.mosquito.org/biology</p>	Disperse any areas of standing water to nearby landscaping (i.e., spread it out to another portion of the pervious area so it drains into the soil). Loosen or replace soils to restore drainage (and prevent standing water)	<ul style="list-style-type: none"> Inspect monthly and after every 0.5-inch or larger storm event. If mosquitos are observed, increase inspection frequency to after every 0.1-inch or larger storm event. Maintenance when needed
Entrance / opening to the vegetated pervious area is blocked such that storm water from impervious area will not drain into the pervious area (e.g., a curb cut opening is blocked by debris or a roof drain outlet has been directly connected to the storm drain system)	Make repairs as appropriate to restore drainage into the vegetated pervious area.	<ul style="list-style-type: none"> Inspect monthly. Maintenance when needed.

SD-5

Impervious Area Dispersion

References

American Mosquito Control Association.

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

County of San Diego. 2014. Low Impact Development Handbook.

<http://www.sandiegocounty.gov/content/sdc/dpw/watersheds/susmp/lid.html>

San Diego County Copermittees. 2016. Model BMP Design Manual, Appendix E, Fact Sheet SD-5.

http://www.projectcleanwater.org/index.php?option=com_content&view=article&id=250&Itemid=220

SD-5

Impervious Area Dispersion

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	
Property / Development Name:		Responsible Party Name and Phone Number:
Property Address of BMP:		Responsible Party Address:

INSPECTION AND MAINTENANCE CHECKLIST FOR SD-5 IMPERVIOUS AREA DISPERSION PAGE 1 of 3			
Threshold/Indicator	Maintenance Recommendation	Date	Description of Maintenance Conducted
Poor vegetation establishment Maintenance Needed? <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	<input type="checkbox"/> Re-seed, re-plant, or re-establish vegetation per original plans <input type="checkbox"/> Other / Comments:		
Dead or diseased vegetation Maintenance Needed? <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	<input type="checkbox"/> Remove dead or diseased vegetation, re-seed, re-plant, or re-establish vegetation per original plans <input type="checkbox"/> Other / Comments:		
Overgrown vegetation Maintenance Needed? <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	<input type="checkbox"/> Mow or trim as appropriate <input type="checkbox"/> Other / Comments:		

Impervious Area Dispersion

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	

INSPECTION AND MAINTENANCE CHECKLIST FOR SD-5 IMPERVIOUS AREA DISPERSION PAGE 2 of 3			
Threshold/Indicator	Maintenance Recommendation	Date	Description of Maintenance Conducted
<p>Standing water in vegetated pervious area for longer than 24 hours following a storm event</p> <p>Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health</p> <p>Maintenance Needed?</p> <p><input type="checkbox"/> YES</p> <p><input type="checkbox"/> NO</p> <p><input type="checkbox"/> N/A</p>	<p><input type="checkbox"/> Disperse any areas of standing water to nearby landscaping (i.e., spread it out to another portion of the pervious area so it drains into the soil). Make appropriate corrective measures to prevent standing water such as adjusting irrigation system, or repairing/replacing clogged or compacted soils</p> <p><input type="checkbox"/> Other / Comments:</p>		
<p>Presence of mosquitos/larvae</p> <p>For images of egg rafts, larva, pupa, and adult mosquitos, see http://www.mosquito.org/biology</p> <p>Maintenance Needed?</p> <p><input type="checkbox"/> YES</p> <p><input type="checkbox"/> NO</p> <p><input type="checkbox"/> N/A</p>	<p><input type="checkbox"/> Disperse any areas of standing water to nearby landscaping (i.e., spread it out to another portion of the pervious area so it drains into the soil)</p> <p><input type="checkbox"/> Make corrective measures (see above) to restore drainage (and prevent standing water)</p> <p><input type="checkbox"/> Other / Comments:</p>		

SD-5

Impervious Area Dispersion

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	

INSPECTION AND MAINTENANCE CHECKLIST FOR SD-5 IMPERVIOUS AREA DISPERSION PAGE 3 of 3			
Threshold/Indicator	Maintenance Recommendation	Date	Description of Maintenance Conducted
<p>Entrance / opening to the vegetated pervious area is blocked such that storm water from impervious area will not drain into the pervious area (e.g., a curb cut opening is blocked by debris or a roof drain outlet has been directly connected to the storm drain system)</p> <p>Maintenance Needed?</p> <p><input type="checkbox"/> YES</p> <p><input type="checkbox"/> NO</p> <p><input type="checkbox"/> N/A</p>	<p><input type="checkbox"/> Make repairs as appropriate to restore drainage into the vegetated pervious area*</p> <p><input type="checkbox"/> Other / Comments:</p>		

*If the pervious area has been removed, contact the [City Engineer] to determine a solution.