

INLET PROTECTION – PAVED AREAS

(no.)
CODE 861



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DEFINITION

A temporary sediment control barrier formed around or in a storm drain inlet in paved areas.

PURPOSE

The purpose of this practice is to help prevent sediment from entering storm drains during construction.

CONDITIONS WHERE PRACTICE APPLIES

Various inlet protection practices are used where storm drain inlets are to be made operational during construction operations and before permanent stabilization of the disturbed drainage area. The methods of inlet protection are effective for areas that are paved and areas under construction. Sheet flow or concentrated flows are permitted with these methods. These methods of inlet protection are not applicable for direct discharges from pumps unless the pump discharges are treated prior to discharging to the inlets.

CRITERIA

The primary sediment to be trapped shall be identified and the appropriate

filter requirements specified per manufacturers' recommendations.

When flow rates are critical to the functioning of a site, the selection of the inlet protection device shall include the specified flow rate and the selection of the filter made in conjunction with the specifications for trapping sediment.

Inlet protection using fabric only as a drop-in shall not be allowed.

In situations where a compost filter sock is to be used, follow practice standard COMPOST FILTER SOCK 805.

Drop-in inlet protection devices shall include an overflow which prevents stormwater from flooding paved areas.

CONSIDERATIONS

In developing areas, installation of streets and storm sewer networks usually occur before construction of homes, businesses or other developments. During this and subsequent phases of construction, unprotected soil is susceptible to erosion. The sediment from this erosion may be carried onto paved areas and into the storm sewer system. In addition, sediment, such as concrete dust, may be transported from paved

areas under construction into the storm sewer system as well as sediment tracked onto the paved areas by construction equipment. Sediment that enters into the storm sewer system can be carried to lakes, detention ponds, or other natural or constructed drainageways. As a result, the water quality of the receiving body of water is detrimentally affected. In cases of extreme sediment loading, the storm sewer system may clog completely or lose a major portion of its capacity. To avoid these problems, it is necessary to prevent sediment from entering the system at the inlets.

Inlet protection consists of several types of inlet filters and traps. Each type differs in application dependent upon site conditions and type of inlet. Not all designs are appropriate in all cases. The user must carefully select a design suitable for the needs and site conditions.

Inlet protection is provided by placing a filter in front, around, on top or inside the inlet. Refer to practice standard COMPOST FILTER SOCK 805 for information on using compost socks for inlet protection.

Following are several items to consider when selecting which type of inlet protection to use:

1. Snow removal and street sweeping typically operate close to curbs and in streets or parking lots where inlets are located and can damage inlet protections that are placed in-front, around or above inlets.
2. Use designs that can withstand construction equipment that drive over inlet protections placed in front of inlets.
3. Safety concerns since inlet protections placed in front, around or above inlets typically cause significant ponding into the street or around the inlets.

4. Inlet protections placed in front of, around or above inlets are easily inspected and can be determined if functioning properly.
5. Inlet protections placed in front of or around inlets are flexible and can be applied to various types of inlets.
6. Inlet protections placed inside the inlet are more difficult to determine if functioning properly since sediment removal occurs inside the inlet structure. Inspections must be made close-up to determine effectiveness and for any damage to the protection.
7. Inside types of inlet protection are out of the way of construction equipment and other traffic and do not pond water into traffic areas.

Following are additional considerations that apply to all types of inlet protection methods:

1. The sediment storage capacity of the inlet protection method.
2. Practicality and ease of removing sediment and other pollutants.
3. Durability and the potential problems if the protection fails.
4. The source of runoff to each inlet so the sediment source is identified as well as flow rates if applicable.

Inlet protection methods should always be combined with other erosion and sediment controls. Also, a combination or series of inlet protection practices can also be used at each inlet to provide additional protection for the storm sewer system.

To prevent sediment from entering the storm sewer system, stabilize disturbed areas as quickly as possible and have routine maintenance where sediment, such as material tracked onto pavement areas, is removed prior to any runoff events.

PLANS AND SPECIFICATIONS

Plans and specifications for installing inlet protection practices shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. At a minimum include the following items:

1. Locations of inlet protection practices.
2. Type and size of inlet protection.
3. Filter specifications.
4. Installation directions, per manufacturers' specifications.

All plans shall include the installation, inspection, and maintenance schedules with the responsible party identified.

The inlet protection practice shall be constructed in a manner meeting the requirements of standard drawings for the different types of inlet protection being specified. The designer shall check that the requirements of this standard are met if using drawings prepared by manufacturers of the inlet protection devices. Standard Drawings [IUM-561C INLET PROTECTION – PAVED AREAS CURB PROTECTION](#) and [IUM-561D INLET PROTECTION – PAVED AREAS DROP-IN PROTECTION](#) can be used as the plan sheets.

OPERATION AND MAINTENANCE

Each inlet protection practice or device shall be inspected after every runoff event. Accumulated sediment shall be removed per manufacturers' directions but not less than when the capacity for sediment storage has been reduced by half. Sediment that has been removed shall be placed such that it will not reenter the storm drain system.

Repairs or replacement of inlet protection devices shall be made immediately.

For devices to be kept in place in the winter season, areas shall be cleared of any sediment accumulation and prepared or protected for snow removal operations.

Inlet protection practices shall be removed upon job completion.

REFERENCES

Wisconsin Department of Natural Resources, 2003. Storm Water Construction and Post-Construction Technical Standards

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