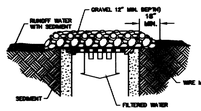


CROSS SECTION
N.T.S.

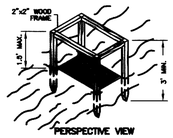
SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATION FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE AND UNAPPRECIATED AREAS.

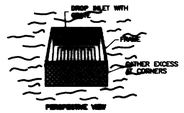
INLET PROTECTION
WIRE MESH AND GRAVEL
N.T.S.

ELEVATION OF STAKE AND FABRIC ORIENTATION

DETAIL



PERSPECTIVE VIEW



PERSPECTIVE VIEW

SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPE NO GREATER THAN 5%), WHERE THE INLET SHEET OR OVERLAND FLOWS MAY TO EXCEED 1 C.F.S.) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS. SUCH AS IN STREETS OR HIGHWAY MEDIANS.

IL ALTERNATIVE INSTALLATION
FILTER FABRIC PROTECTION
N.T.S.

Hazardous Waste Management

Applications: Perimeter Control; Slope Protection; Sediment Trapping; Channel Protection; Temporary Stabilization; Permanent Stabilization; **Waste Management**; **Housekeeping Practices**

DESCRIPTION
The hazardous waste management BMP addresses the problem of storm water polluted with hazardous waste through spills or other forms of contact. The objective of the Management Program is to minimize the potential of stormwater contamination from common construction site hazardous wastes through appropriate recognition, handling, storage and disposal practices.

It is not the intent of this Management Program to supersede or replace normal site assesment and remediation procedures. Significant spills and/or contamination warrant immediate response by trained professionals. Suspected job-site contaminants should be immediately reported to regulatory authorities and protective actions taken. The General Permit requires reporting of significant spills to the National Response Center (NRC) at (800) 424-8802.

PRIMARY USE
These management practices along with applicable OSHA and EPA guidelines should be incorporated at all construction sites which use or generate hazardous wastes. Many wastes such as fuel, oil, grease, fertilizer and pesticide are present at most construction sites.

INSTALLATION, APPLICATION AND DISPOSAL CRITERIA
The hazardous waste management techniques presented here are based on proper recognition, handling, and disposal practices by construction workers and supervisors. Key elements of the management program are education, proper disposal practices, as well as provisions for safe storage and disposal. Following are lists describing the targeted materials and recommended procedures:

- ☐ Targeted Solid Waste Materials
  - Paints
  - Solvents
  - Stains
  - Wood preservatives
  - Cutting oils
  - Greases
  - Roofing tar
  - Pesticides
  - Fuels and lube oils
  - Lead based paints (Demolition)

Storage Procedures
- ☐ Wherever possible, minimize use of hazardous materials.
- ☐ Minimize generation of hazardous wastes on the job-site.
- ☐ Segregate potentially hazardous waste from non-hazardous construction site debris.
- ☐ Designate a foreman or supervisor to oversee hazardous materials handling procedures.
- ☐ Keep liquid or semi-liquid hazardous waste in appropriate containers (closed drums or similar) and under cover.
- ☐ Store waste materials away from drainage ditches, swales and catch basins.
- ☐ Use containment berms in fueling and maintenance areas and where the potential for spills is high.
- ☐ Ensure that adequate hazardous waste storage volume is available.
- ☐ Ensure that hazardous waste collection containers are conveniently located.
- ☐ Do not allow potentially hazardous waste materials to accumulate on the ground.
- ☐ Enforce hazardous waste handling and disposal procedures.
- ☐ Clearly mark on all hazardous waste containers which materials are acceptable for the container.

Disposal Practices
- ☐ Regularly schedule hazardous removal to minimize on-site storage.
- ☐ Use only reputable, licensed hazardous waste haulers.

Education
- ☐ Instruct workers in identification of hazardous waste.
- ☐ Educate workers of potential dangers to humans and the environment from hazardous wastes.
- ☐ Instruct workers on safety procedures for common construction site hazardous wastes.
- ☐ Educate all workers on hazardous waste storage and disposal procedures.
- ☐ Have regular meetings to discuss and reinforce identification, handling and disposal procedures (incorporate in regular safety seminars).
- ☐ Establish a continuing education program to indoctrinate new employees.

Quality Assurance
- ☐ Foreman and/or construction supervisor shall monitor on-site hazardous waste storage and disposal procedures.
- ☐ Educate and if necessary, discipline workers who violate procedures.
- ☐ Ensure that the hazardous waste disposal contractor is reputable and licensed.

Requirements
- ☐ Job-site hazardous waste handling and disposal education and awareness program.
- ☐ Commitment by management to implement hazardous waste management practices.
- ☐ Compliance by workers.
- ☐ Sufficient and appropriate hazardous waste storage containers.
- ☐ Timely removal of stored hazardous waste materials.

Costs
- ☐ Possible modest cost impact for additional hazardous storage containers.
- ☐ Commitment by management to implement hazardous waste management practices.
- ☐ Small cost impact for training and monitoring.
- ☐ Potential cost impact for hazardous waste collection and disposal by licensed hauler – actual cost depends on type of material and volume.

LIMITATIONS
This practice is not intended to address site-assessments and pre-existing contamination. Major contamination, large spills and other serious hazardous waste incidents require immediate response from specialists.
Demolition activities and potential pre-existing materials, such as asbestos, are not addressed by this program. Site specific information on plans is necessary.
Contaminated soils are not addressed.
One part of a comprehensive construction site waste management program.

Targeted Constituents: ○ Sediment; ● Nutrients, Toxic Materials; ○ Oil & Grease; ○ Floatable Materials; ● Other Construction Wastes

Implementation Requirements: ◒ Capital Costs; ◒ Maintenance; ◒ Training; ○ Suitability for Slopes > 5%

Legend: ● Significant Impact; ◒ Medium Impact; ○ Low Impact; ? Unknown or Questionable Impact

W-2

Concrete Waste Management

Applications: Perimeter Control; Slope Protection; Sediment Trapping; Channel Protection; Temporary Stabilization; Permanent Stabilization; **Waste Management**; **Housekeeping Practices**

DESCRIPTION
Concrete waste at construction sites comes in two forms; 1)excess fresh concrete mix including truck and equipment washing, and 2) concrete dust and concrete debris resulting from demolition. Both forms have the potential to impact water quality through storm water runoff contact with the waste.

PRIMARY USE
Concrete waste is present at most construction sites. This BMP should be utilized at sites in which concrete waste is present.

APPLICATIONS
A number of water quality parameters can be affected by introduction of concrete - especially fresh concrete. Concrete affects the pH of runoff, causing significant chemical changes in water bodies and harming aquatic life. Suspended solids in the form of both cement and aggregate dust are also generated from both fresh and demolished concrete waste.

Current Unacceptable Waste Concrete Disposal Practices
- ☐ Dumping in vacant areas on the job-site.
- ☐ Illicit dumping off-site.
- ☐ Dumping into ditches or drainage facilities.

Recommended Disposal Practices
- ☐ Avoid unacceptable disposal practices listed above.
- ☐ Develop pre-determined, safe concrete disposal areas.
- ☐ Provide a washout area with a minimum of 6 cubic feet of containment area volume for every 10 cubic yards of concrete poured.
- ☐ Never dump waste concret illicitly or without property owners knowledge and consent.
- ☐ Treat runoff from storage areas through the use of structural controls as required.

Education
- ☐ Drivers and equipment operators should be instructed on proper disposal and equipment washing practices (see above).
- ☐ Supervisors must be made aware of the potential enviornmental consequences of improperly handled concrete waste.

Enforcement
- ☐ The construction site manager or foreman must ensure that employees and pre-mix companies follow proper procedures for concrete disposal and equipment washing.
- ☐ Employees violating disposal or equipment cleaning directives must be re-educated or disciplined if necessary.

Demolition Practices
- ☐ Monitor weather and wind direction to ensure concrete dust is not entering drainage structures and surface waters. Where appropriate, construct sediment traps or other types of sediment detention devices downstream of demolition activities.

Requirements
- ☐ Use pre-determined disposal sites for waste concrete.
- ☐ Prohibit dumping waste concrete anywhere but pre-determined areas.
- ☐ Assign pre-determined truck and equipment washing areas
- ☐ Educate drivers and operators on proper disposal and equipment cleaning procedures.

Education
- ☐ Minimal cost impact for training and monitoring.
- ☐ Concrete disposal cost depends on availability and distance to suitable disposal areas.
- ☐ Additional costs involved in equipment washing could be significant.

LIMITATIONS
This concrete waste management program is one part of a comprehensive construction site waste management program.

Targeted Constituents: ○ Sediment; ● Nutrients, Toxic Materials; ○ Oil & Grease; ● Floatable Materials; ● Other Construction Wastes

Implementation Requirements: ◒ Capital Costs; ◒ Maintenance; ◒ Training; ○ Suitability for Slopes > 5%

Legend: ● Significant Impact; ◒ Medium Impact; ○ Low Impact; ? Unknown or Questionable Impact

W-3

STABILIZED CONSTRUCTION ENTRANCE

GENERAL NOTES:

1. STONE SHALL BE 3 TO 5 INCH DIAMETER CRUSHED ROCK OR ACCEPTABLE CRUSHED PORTLAND CEMENT CONCRETE.

2. LENGTH SHALL BE SHOWN ON PLANS, WITH A MINIMUM LENGTH OF 30 FEET FOR LOTS WHICH ARE LESS THAN 150 FEET FROM EDGE OF PAVEMENT. THE MINIMUM DEPTH IN ALL OTHER CASES SHALL BE 50 FEET.

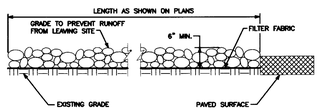
3. THE THICKNESS SHALL NOT BE LESS THAN 6 INCHES.

4. THE WIDTH SHALL BE NO LESS THAN THE FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.

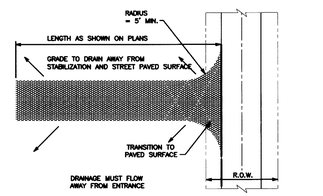
5. WHEN NECESSARY, VEHICLES SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO A PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WITH DRAINAGE FLOWING AWAY FROM BOTH THE STREET AND THE STABILIZED ENTRANCE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.

6. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PAVED SURFACES. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PAVED SURFACES, MUST BE REMOVED IMMEDIATELY.

7. THE ENTRANCE MUST BE PROPERLY GRADED ON INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.



PROFILE VIEW
N.T.S.



PLAN VIEW
N.T.S.

FIGURE 4.3.B
EROSION CONTROL PLAN
STANDARD GENERAL NOTES

1. EROSION CONTROL DEVICES AS SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO THE START OF LAND DISTURBING ACTIVITIES ON THE PROJECT.

2. ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS FOR THE PROJECT. CHANGES ARE TO BE APPROVED BEFORE CONSTRUCTION BY THE DESIGN ENGINEER AND THE CITY OF PLANO ENGINEERING DIVISION.

3. IF THE EROSION CONTROL PLAN AS APPROVED CANNOT CONTROL EROSION AND OFF-SITE SEDIMENTATION FROM THE PROJECT THE EROSION CONTROL PLAN WILL BE REQUIRED TO BE REVISED AND/OR ADDITIONAL EROSION CONTROL DEVICES WILL BE REQUIRED ON SITE.

4. IF OFF-SITE SOIL BORROW OR SPOIL SITES ARE USED IN CONJUNCTION WITH THIS PROJECT, THIS INFORMATION SHALL BE DISCLOSED AND SHOWN ON THE EROSION CONTROL PLAN. OFF-SITE BORROW AND SPOIL AREAS ARE CONSIDERED A PART OF THE PROJECT SITE AND THEREFORE SHALL COMPLY WITH THE CITY OF PLANO EROSION CONTROL PLAN REQUIREMENTS. THESE AREAS SHALL BE STABILIZED WITH PERMANENT GROUND COVER PRIOR TO FINAL APPROVAL OF THE PROJECT.

SILT FENCE

GENERAL NOTES

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.

2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (e.g. PAVEMENT), WEIGHT FABRIC FLAP WITH ROCK ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.

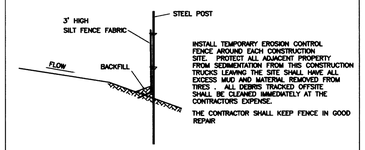
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.

4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHALL BE A 3 FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.

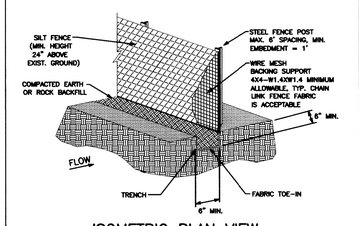
5. INSPECTION SHALL BE MADE WEEKLY AND AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.

6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

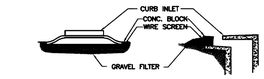
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF HALF THE HEIGHT OF THE FENCE. THE SILT SHALL BE DISPOSED OF AT AN APPROVED SITE AND IN SUCH A MANNER AS NOT TO CONTRIBUTE TO ADDITIONAL SILTATION.



PROFILE VIEW
N.T.S.

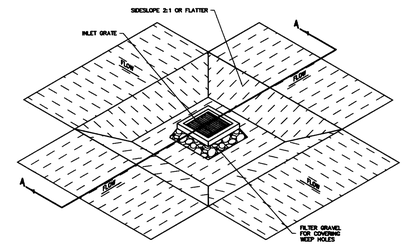


ISOMETRIC PLAN VIEW
N.T.S.

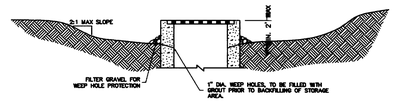


BLOCK AND GRAVEL PROTECTION
CONCRETE BLOCKS ARE TO BE PLACED ON THEIR SIDES IN A SINGLE ROW AROUND THE PERIMETER OF THE INLET WITH ENDS ABUTTING. OPENING IN THE BLOCKS SHOULD FACE OUTWARD. NOT UPWARD. WIRE MESH SHALL THEN BE PLACED OVER THE OUTSIDE FACE OF THE BLOCKS COVERING THE HOLES. FILTER STONE SHALL THEN BE PILED AGAINST THE WIRE MESH TO THE TOP OF THE BLOCKS WITH THE BASE OF THE STONE BEING A MINIMUM OF 18 INCHES FROM THE BLOCKS. PERIODICALLY, WHEN THE STONE FILTER BECOMES CLOGGED, THE STONE MUST BE REMOVED AND CLEANED IN A PROPER MANNER OR REPLACED WITH NEW STONE AND PILED BACK AGAINST THE WIRE MESH.

CURB INLET PROTECTION DETAIL
N.T.S.



ISOMETRIC PLAN VIEW
N.T.S.



SECTION A-A
N.T.S.

INLET PROTECTION
EXCAVATED IMPOUNDMENT

Solid Waste Management

Applications: Perimeter Control; Slope Protection; Sediment Trapping; Channel Protection; Temporary Stabilization; Permanent Stabilization; **Waste Management**; **Housekeeping Practices**

DESCRIPTION
Large volumes of solid waste are often generated at construction sites including: packaging, pallets, wood waste, concrete waste, soil, electrical wiring, cuttings, and a variety of other materials. The solid waste management practice lists techniques to minimize the potential of storm water contamination from solid waste through appropriate storage and disposal practices.

PRIMARY USE
These practices should be a part of all construction practices. By limiting the trash and debris on site, storm water quality is improved along with reduced clean up requirements at the completion of the project.

APPLICATIONS
This solid waste management practice for construction sites is based on proper storage and disposal practices by construction workers and supervisors.. Key elements of the program are education and modification of improper disposal habits.. Cooperation and vigilance is required on the part of supervisors and workers to ensure that the recommendations and procedures are followed. Following are lists describing the targeted materials and recommended procedures:

- ☐ Targeted Solid Waste Materials
  - Paper and cardboard containers
  - Plastic packaging
  - Styrofoam packing and forms
  - Insulation materials (non-hazardous)
  - Wood pallets
  - Wood cuttings
  - Pipe and electrical cuttings
  - concrete, brick, and mortar waste
  - Shingle cuttings and waste
  - Roofing tar
  - Steel (cuttings, nails, rust residue)
  - Gypsum board cuttings and waste
  - Sheathing cuttings and waste
  - Miscellaneous cuttings and waste
  - Food waste
  - Demolition waste

Storage Procedures
- ☐ Wherever possible, minimize production of solid waste materials.
- ☐ Designate a foreman or supervisor to oversee and enforce proper solid waste procedures.
- ☐ Instruct construction workers in proper solid waste procedures.
- ☐ Segregate potentially hazardous waste from non-hazardous construction site debris.
- ☐ Keep solid waste materials under cover in either a closed dumpster or other enclosed trash container that limits contact with rain and runoff.
- ☐ Store waste materials away from drainage ditches, swales and catch basins.
- ☐ Do not allow trash containers to overflow.
- ☐ Do not allow waste materials to accumulate on the ground.
- ☐ Prohibit littering by workers and visitors.
- ☐ Police area daily for litter and debris.
- ☐ Enforce solid waste handling and storage procedures.

Disposal Procedures
- ☐ If feasible, segregate recyclable wastes from non-recyclable waste materials and dispose of properly.
- ☐ General construction debris may be hauled to a licensed construction debris landfill (typically less expensive than a sanitary landfill).
- ☐ Use waste facilities approved by local jurisdiction.
- ☐ Runoff which comes into contact with unprotected waste shall be directed into structural be diretreatment such as silt fence to remove debris.

Education
- ☐ Educate all workers on solid waste storage and disposal procedures.
- ☐ Instruct workers in identification of solid waste and hazardous waste.
- ☐ Have regular meetings to discuss and reinforce disposal procedures (incorporate in regular safety seminars).
- ☐ Clearly mark on all solid waste containers which materials are acceptable.

Quality Control
- ☐ Foreman and/or construction supervisor shall monitor on-site solid waste storage and disposal procedures.
- ☐ Discipline workers who repeatedly violate procedures.

Requirements
- ☐ Job-site waste handling and disposal education and awareness program.
- ☐ Commitment by management to implement and enforce Solid Waste Management Program.
- ☐ Compliance by workers.
- ☐ Sufficient and appropriate waste storage containers.
- ☐ Timely removal of stored solid waste materials.
- ☐ Possible modest cost impact for additional waste storage containers.
- ☐ Minimal overall cost impact.

LIMITATIONS
Only addresses non-hazardous solid waste.
One part of a comprehensive construction site management program.

Targeted Constituents: ○ Sediment; ● Nutrients, Toxic Materials; ○ Oil & Grease; ● Floatable Materials; ● Other Construction Wastes

Implementation Requirements: ◒ Capital Costs; ◒ Maintenance; ◒ Training; ○ Suitability for Slopes > 5%

Legend: ● Significant Impact; ◒ Medium Impact; ○ Low Impact; ? Unknown or Questionable Impact

W-1

RECORD DRAWING
THIS DRAWING REFLECTS FIELD REVISIONS AS PROVIDED BY THE CONTRACTOR.

STATE OF TEXAS
JAY E. MARSH
70773
REGISTERED PROFESSIONAL ENGINEER
10/02/02

NO.	BY	DATE	REVISION
1	EAE	10/11/02	RECORD DRAWING

PATE ENGINEERS
8150 BROOKRIVER DRIVE
SUITE S-700
DALLAS, TEXAS, 75247
TEL (214) 357-2981
FAX (214) 357-2985
JOB NO. 083100900

EROSION CONTROL DETAILS

SPRINGHILL SUITES

TOWN OF ADDISON, TEXAS

DRAWN	DESIGN	DATE	NOTES	SCALE	FILE	NUMBER
JPS	JEM	05/03/01	AS	N.T.S.	MARADEC3	D3