

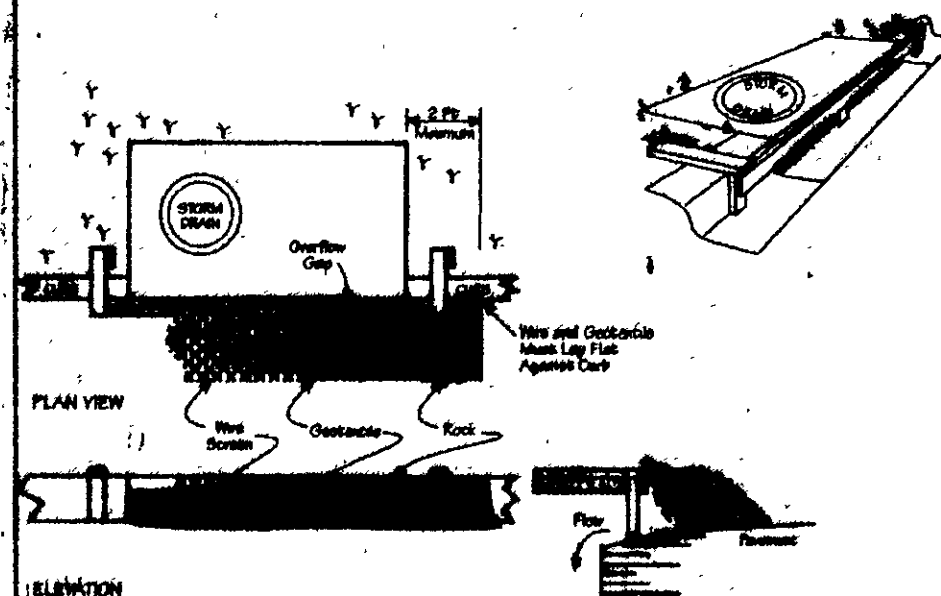
# EROSION CONTROL DETAILS

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**Engineers & Surveyors**  
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 320 Center Street, Unit F  
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SCALE : NONE

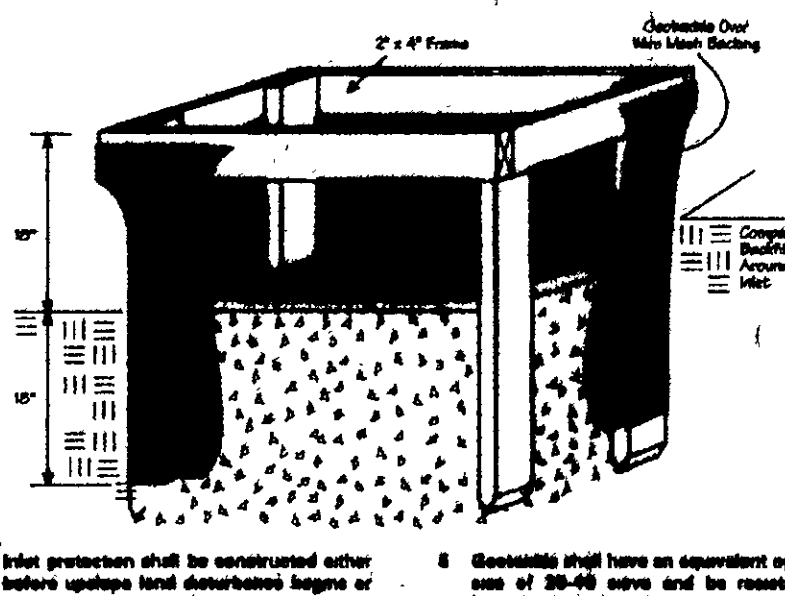
Page: 2/2

## Specifications for Curb Inlet Protection



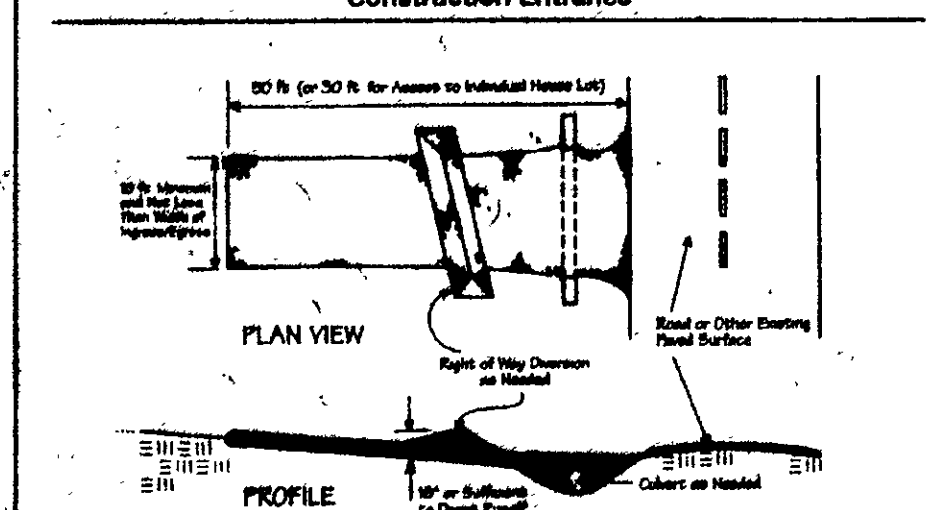
1. Inlet protection shall be constructed either before or after the curb is installed. The curb shall be installed before the curb is installed.
2. The wooden frame shall be constructed of 2-by-4-in construction-grade lumber. The frame shall be 2 ft wide and 4 ft long. The frame shall be installed on the curb.
3. The grate shall be of sufficient strength to support traffic and shall be 2 ft wide and 4 ft long. The grate shall be installed on the curb.
4. The grate shall have an equivalent opening size (EOS) of 30-60 mesh and be resistant to shattering. It shall be at least 1/8 in thick.
5. The grate shall be installed on the curb.
6. Two-inch stone shall be placed over the grate and compacted in such a manner as to prevent water from passing under or around the grate.

## Specifications for Inlet Protection in Swales, Ditch Lines or Yard Inlets



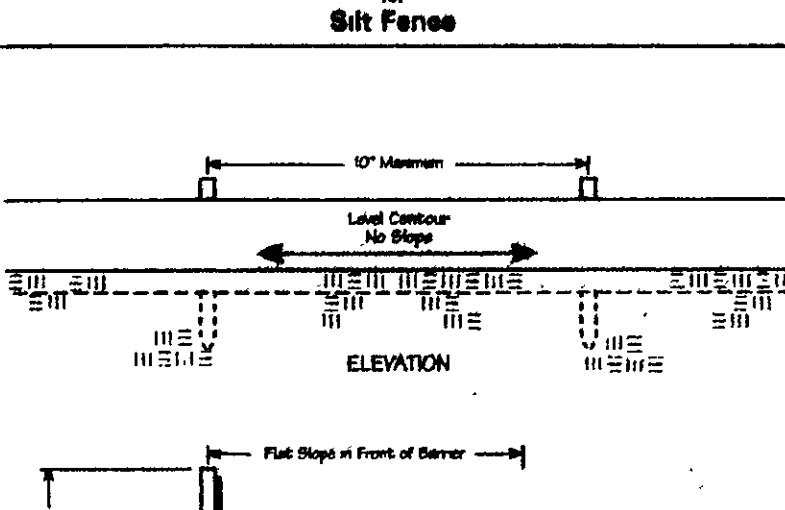
1. Inlet protection shall be constructed either before or after the ditch is installed. The ditch shall be installed before the ditch is installed.
2. The earth around the inlet shall be covered completely to a depth of at least 18 in.
3. The wooden frame shall be constructed of 2-by-4-in construction-grade lumber. The frame shall be 2 ft wide and 4 ft long. The frame shall be installed on the ditch.
4. The grate shall be of sufficient strength to support traffic and shall be 2 ft wide and 4 ft long. The grate shall be installed on the ditch.
5. The grate shall have an equivalent opening size (EOS) of 30-60 mesh and be resistant to shattering. It shall be at least 1/8 in thick.
6. The grate shall be installed on the ditch.
7. A compacted earth dike or a check dam shall be constructed in the ditch line below the inlet. It shall be at least 6 in high and 18 in wide.
8. Two-inch stone shall be placed over the grate and compacted in such a manner as to prevent water from passing under or around the grate.

## Specifications for Construction Entrance



1. Stone Bed—Two-inch stone shall be used, or crushed concrete equivalent.
2. Length—The construction entrance shall be as long as required to stabilize high traffic areas but not less than 30 ft (except on single residential lots where a 20-ft minimum length applies).
3. Thickness—The stone layer shall be at least 6 in thick.
4. Width—The entrance shall be at least 10 ft wide, but not less than the full width at points where vehicles or equipment occur.
5. Bedding—A geotextile shall be placed over the stone area prior to placing stone. It shall have a Grab Tensile Strength of at least 200 lb and a Mullen Burst Strength of at least 100 lb.
6. Culvert—A pipe or culvert shall be constructed under the entrance if needed to prevent surface water flowing across the entrance from being directed out onto paved surfaces.
7. Water Bar—A water bar shall be constructed as part of the construction entrance if needed to prevent surface runoff from flowing the length of the construction entrance and out onto paved surfaces.
8. Maintenance—Top dressing of additional stone shall be applied as conditions demand. Weed sprays, dyes, or other surface treatments shall be applied as needed to prevent weed growth.
9. Construction entrance shall not be used again to return soil from adjacent areas. The entrance area shall be stabilized from muddy soils.

## Specifications for Silt Fence



1. Silt fences shall not be planted from October 1 through November 20. During this period the seeds are likely to germinate but probably will not be able to survive the winter.
2. The following methods may be used for "Dormant Seeding":
  - From October 1 through November 20, prepare the seedbed, add the required amount of lime and fertilizer, then mulch and seed. After November 20, and before March 15, broadcast the selected seed mixture. Increase the seeding rates by 50% for this type of seeding.
  - From November 20 through March 15, when soil conditions permit, prepare the seedbed, lime and fertilizer, apply the selected seed mixture, mulch and seed. Increase the seeding rates by 50% for this type of seeding.
  - Apply seed uniformly with a cyclone seeder, drill, outspread seed, or hydro-seeder. Slurry may include seed and fertilizer on a firm, moist seedbed.
3. Permanent seeding shall include irrigation to establish vegetation during dry or hot weather or an adverse site conditions as needed for adequate moisture for seed germination and plant growth.
4. Excessive irrigation rates shall be avoided and irrigation monitored to prevent erosion and damage from runoff.

## Specifications for Permanent Seeding

1. A subsoiler, plow or other implement shall be used to reduce soil compaction and allow maximum infiltration. (Manufacturing information will help control bulk density rate and water quality.) Subsoiling should be done when the soil moisture is low enough to allow the soil to crack or fracture. Subsoiling shall not be done on steep slopes where soil erosion is a concern. Subsoiling shall be done to a depth of 12 to 18 in.
2. The site shall be graded as needed to permit the use of conventional equipment for seedbed preparation and layout.
3. Fertilizer shall be applied where needed to establish vegetation.
4. Mulch shall be applied immediately after seeding. Seedings made during optimum seeding times and with favorable soil conditions and on very flat areas may not need mulch to achieve adequate establishment. Dormant seeding shall be mulched.
5. Materials:
  - Straw—If straw is used, it shall be untreated small-grain straw, applied at the rate of 2 tons/acre or 50 lb/1,000 sq ft to three times. The straw shall be spread uniformly by hand or mechanically on the soil surface. It shall be applied in a random distribution of hand-applied straw, divide and into approximately 1,000-sq-ft sections and spread two 40-lb bales of straw in each section.
  - Hydroseeders—If wood cellulose fiber is used, it shall be used at 2,000 lb/acre or 40 lb/1,000 sq ft.
  - Other—Other acceptable mulches include mulch matings applied according to manufacturer's recommendations or wood chips applied at 5 tons/acre.
6. Straw Mulch Anchoring Methods:
  - Straw mulch shall be anchored immediately to minimize loss by wind or water.
  - Mechanical—A disk, harrow, or similar type tool shall be set straight to punch or anchor the mulch material into the soil. Straw mechanically anchored shall not be finally stepped but, generally, be left longer than 6 in.
  - Mulch Netting—Netting shall be used according to the manufacturer's recommendations. Netting may be necessary to hold mulch in place in areas of concentrated runoff and on eroded slopes.
  - Asphalt Emulsion—Asphalt shall be applied as recommended by the manufacturer or at the rate of 100 gal/acre.
  - Synthetic Binders—Synthetic binders such as Acrylic BUA (Aqua-Tac), DCA-70, Permacrete, Terra-Tack or equal may be used at rates recommended by the manufacturer.
  - Wood Cellulose Fiber—Wood cellulose fiber binder shall be applied at a net dry weight of 750 lb/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lb/100 gal of wood cellulose fiber.

## SEEDING DATES AND SOIL CONDITIONS

Seeding should be done March 1 to May 31 or Aug 1 to September 30. These seeding dates are ideal but, with the use of additional mulch and irrigation, seedings may be made any time throughout the growing season. Tillage/seeding preparation should be done when the soil is dry enough to crumble and not form ridges when compressed by hand. For winter seeding, see the following section on dormant seedings.

## DORMANT SEEDINGS

1. Seedings shall not be planted from October 1 through November 20. During this period the seeds are likely to germinate but probably will not be able to survive the winter.
2. The following methods may be used for "Dormant Seeding":
  - From October 1 through November 20, prepare the seedbed, add the required amount of lime and fertilizer, then mulch and seed. After November 20, and before March 15, broadcast the selected seed mixture. Increase the seeding rates by 50% for this type of seeding.
  - From November 20 through March 15, when soil conditions permit, prepare the seedbed, lime and fertilizer, apply the selected seed mixture, mulch and seed. Increase the seeding rates by 50% for this type of seeding.
  - Apply seed uniformly with a cyclone seeder, drill, outspread seed, or hydro-seeder. Slurry may include seed and fertilizer on a firm, moist seedbed.
3. Permanent seeding shall include irrigation to establish vegetation during dry or hot weather or an adverse site conditions as needed for adequate moisture for seed germination and plant growth.
4. Excessive irrigation rates shall be avoided and irrigation monitored to prevent erosion and damage from runoff.

| Permanent Seeding           |         |                |                               |
|-----------------------------|---------|----------------|-------------------------------|
| Seed Mix                    | lb/acre | lb/1,000 sq ft | Notes                         |
| General Use                 |         |                |                               |
| Cracking Red Fescue         | 20-40   | N-1            |                               |
| Dormant Ryegrass            | 10-20   | N-2            |                               |
| Kentucky Bluegrass          | 10-20   | N-3            |                               |
| Tall Fescue                 | 40      | 1              |                               |
| Practical Ryegrass          | 40      | 1              |                               |
| Steep Slopes or Cut Slopes  |         |                |                               |
| Tall Fescue                 | 40      | 1              |                               |
| Crack Vetch                 | 10      | N              |                               |
| Tall Fescue                 | 20      | N              | Do not seed later than August |
| Red Top                     | 20      | N              |                               |
| Tall Fescue                 | 20      | N              | Do not seed later than August |
| Road Right-of-Way and Berms |         |                |                               |
| Tall Fescue                 | 40      | 1              |                               |
| Practical Ryegrass          | 50      | 2X             |                               |
| Dormant Ryegrass            | 5       |                |                               |
| Limbs                       |         |                |                               |
| Kentucky Bluegrass          | 50      | 1X             |                               |
| Dormant Ryegrass            | 50      | 1X             |                               |
| Kentucky Bluegrass          | 50      | 1X             | For shaded areas              |
| Dormant Ryegrass            | 50      | 1X             |                               |

Note: Other approved seed species may be substituted.

## Specifications for Small Lot Seeding Sites

1. Promoting vegetation shall be returned on the portions of the building lot for as long as construction operations allow. Seeding shall be done as early as possible after construction is complete.
2. Temporary seed (annual ryegrass, etc.) and/or mulch shall be applied to areas, such as stockpiles, that are bare and not actively being worked. This shall apply to areas that will not be reworked for 14 days or more.
3. Stockpiles excavated from basements shall be covered with straw, mulch, or other waterways and shall be seeded and/or mulched.
4. Silt fences shall control sheet flow runoff from the building lot. It shall not be constructed on channels or areas of concentrated flow. Other sediment traps shall be used as needed to control sediment runoff.
5. Construction vehicle access shall be limited to one route, to the greatest extent practical. The access shall be gravel or crushed rock applied to the driveway area.
6. Mud tracked onto the street or sidewalk shall be removed daily or as needed to prevent it from accumulating. It shall be removed by shoveling and sweeping and shall NOT be washed off paved surfaces or into storm drains.

## Specifications for Temporary Seeding

| Seeding Dates                | Species            | lb/1,000 sq ft | Per Acre      |
|------------------------------|--------------------|----------------|---------------|
| March 1 to August 15         | Grass              | 3              | 3 bales/40 lb |
|                              | Tall Fescue        | 1              | 40 lb         |
|                              | Annual Ryegrass    | 1              | 40 lb         |
|                              | Perennial Ryegrass | 1              | 40 lb         |
| August 15 to November 1      | Rye                | 3              | 3 bales/40 lb |
|                              | Tall Fescue        | 1              | 40 lb         |
|                              | Annual Ryegrass    | 1              | 40 lb         |
|                              | Perennial Ryegrass | 1              | 40 lb         |
| November 1 to Spring Seeding | Wheat              | 3              | 3 bales/40 lb |
|                              | Tall Fescue        | 1              | 40 lb         |
|                              | Annual Ryegrass    | 1              | 40 lb         |
|                              | Perennial Ryegrass | 1              | 40 lb         |

Note: Other approved seed species may be substituted.

1. Structural erosion- and sediment-control practices such as diversions and sediment traps shall be installed and stabilized with temporary seeding prior to grading the rest of the construction site.
2. Temporary seed shall be applied between construction operations on soil that will not be graded or reworked for 60 days or more. These sites should be seeded as soon as possible after grading or shall be seeded within 7 days. Several applications of temporary seeding are necessary on typical construction projects.
3. The seedbed should be pulverized and loose to ensure the success of establishing vegetation. However, temporary seeding shall not be postponed if ideal seedbed preparation is not possible.
4. Soil Amendments—Applications of temporary vegetation shall establish adequate stands of vegetation which may require the use of soil amendments. Soil tests should be taken on the soil to predict the need for lime and fertilizer.
5. Seeding Method—Seed shall be applied uniformly with a cyclone seeder, drill, outspread seed, or hydro-seeder. When feasible, seed that has been broadcast shall be covered by raking or dragging and then lightly tamped into place with a roller or outspread. If hydroseeding is used, the seed and fertilizer will be mixed on-site and the seeding shall be done immediately and without interruption.
6. Applications of temporary seeding shall include mulch which shall be applied during or immediately after seeding. Seedings made during optimum seeding times and with favorable site conditions and on very flat areas may not need mulch to achieve adequate establishment.
7. Materials:
  - Straw—If straw is used, it shall be untreated small-grain straw applied at the rate of 2 tons/acre or 50 lb/1,000 sq ft (two to three bales). The straw shall be spread uniformly by hand or mechanically on the soil surface. It shall be applied in a random distribution of hand-applied straw, divide and into approximately 1,000-sq-ft sections and spread two 40-lb bales of straw in each section.
  - Hydroseeders—If wood cellulose fiber is used, it shall be used at 2,000 lb/acre or 40 lb/1,000 sq ft.
  - Other—Other acceptable mulches include mulch matings applied according to manufacturer's recommendations or wood chips applied at 5 tons/acre.
  - Straw mulch shall be anchored immediately to minimize loss by wind or water. Anchoring Methods:
    - Mechanical—A disk, harrow, or similar type tool shall be set straight to punch or anchor the mulch material into the soil. Straw mechanically anchored shall not be finally stepped but, generally, be left longer than 6 in.
    - Mulch Netting—Netting shall be used according to the manufacturer's recommendations. Netting may be necessary to hold mulch in place in areas of concentrated runoff and on eroded slopes.
    - Asphalt Emulsion—Asphalt shall be applied as recommended by the manufacturer or at the rate of 100 gal/acre.
    - Synthetic Binders—Synthetic binders such as Acrylic BUA (Aqua-Tac), DCA-70, Permacrete, Terra-Tack or equal may be used at rates recommended by the manufacturer.
    - Wood Cellulose Fiber—Wood cellulose fiber binder shall be applied at a net dry weight of 750 lb/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lb/100 gal of wood cellulose fiber.