

Braintree Bylaw Chapter 12.20 Wetlands Rules and Regulations

Adopted on July 26, 2001
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Rules and Regulations

In conjunction with Chapter 12.20, Section IX of the Braintree Bylaw [Wetland Bylaw], these Rules and Regulations are established to define key terms, to establish procedures governing the filing of Notices of Intent or Requests for Determination of Applicability and to set fees for the processing of a Notice of Intent. On July 26, 2001 the Conservation Commission voted to adopt these Rules and Regulations.

A. WAIVERS

Strict compliance with the Bylaw and these Rules and Regulations may be waived when, in the judgment of the Conservation Commission, such action is in the public interest and is consistent with the intent and purpose of the Bylaw. Any request for a waiver must be submitted to the Commission in writing at the time of filing.

B. DEFINITIONS

Abutter: See Braintree Bylaw Chp. 12.20 Sec. V.A.1. For purposes of these Rules and Regulations, directly opposite a water body shall mean located within 100' of subject property

Activity: any form of construction, reconstruction or expansion of any building, structure, road or alteration of the physical, chemical or biological characteristics of an area of land or water

Agriculture: See CMR 10:04.

Alter: See Braintree Bylaw Chp. 12.20 Sec. X.

Applicant: See Braintree Bylaw Chp. 12.20 Sec. X.

Certificate of Compliance: written determination by the Commission that all work authorized has been completed in accordance with the Order of Conditions

Conditions: those requirements set forth in a written Order issued by the Conservation Commission to regulate or prohibit any activity

Conservation Commission: Braintree Conservation Commission

Creek: See definition for "Stream."

Date of Receipt: date of delivery to the Department of Planning and Conservation

Determination of Applicability: written findings by the Conservation Commission as to whether a site or the work proposed thereon is subject to the jurisdiction of the Bylaw

Dredge: to clean, deepen, widen, or excavate, either temporarily or permanently

Erosion Control: the prevention or reduction of the detachment or movement of soil or rock fragments by water, wind, ice or gravity

Emergency: projects necessary to protect the health and safety of the public and which require immediate action

Fill: to deposit or place any material so as to raise an elevation, either temporarily or permanently

Flood Control: the prevention or reduction of flooding

Floodplain: any land susceptible to being inundated by a flood having a 1% chance of being equaled or exceeded in any given year [a 100 year storm event]

Flooding: local and temporary inundation of water or a rise in the surface or body of water such that it covers land not usually under water

Ground Water: water below the earth's surface in the Zone of Saturation

Issuing Authority: Braintree Conservation Commission

Land: any ground, soil, earth [including wetlands and drainage ways] and any areas not permanently covered by water

Lake: any body of fresh water with a surface area of 10 acres or more, including Great Ponds

Notice of Intent: a written notice filed by any person intending to alter the physical or chemical properties of land subject to the Bylaw

Order: Order of Conditions

Person: See Braintree Bylaw Chp. 12.20 Sec. X.

Person Aggrieved: A person who, because of an act or a failure to act by the Issuing Authority, may suffer an injury in fact which is different either in kind or magnitude from that suffered by the general public and which is within the scope of the interests defined by the Bylaw. Said person must specify in writing sufficient facts as to how he or she may be affected by said act or failure to act.

Plans: See Rules and Regulations Section G.

Pond: See Braintree Bylaw Chp. 12.20 Sec. X.

Prevention of Pollution: the prevention or reduction of contamination of surface or ground water

Private Water Supply: any source of water available for private use

Public Water Supply: any source of water available, or potentially available, for public use as a designated water supply

Quorum: the majority of the Conservation Commission

Remove: taking away or moving any material thereby changing the elevation, either temporarily or permanently

River: See Braintree Bylaw Chp. 12.20 Sec. X.

Significant: plays a role in the protecting of the public interest under the Bylaw

Stream: a body of running water including brooks and creeks, continuous or intermittent, moving in a definite channel in the ground

Storm Damage Prevention: elimination or reduction of any damage caused by a storm

Water Pollution Prevention: See Prevention of Pollution [above].

Wildlife: mammals, birds, reptiles and amphibians and all vertebrate and invertebrate animal species listed by the Massachusetts Division of Fisheries and Wildlife as endangered, threatened or of special concern

Work: See "Activity."

Zone of Saturation: the subsurface zone in which all open spaces are filled with water

C. FORMS

All forms must be approved by the Commission prior to their use and will be available from the Department of Planning and Conservation. The same forms as those required by MGL Chp. 131 Sec. 40 may be submitted if notice is given of application per Braintree Bylaw Chp. 12.20.

D. INCOMPLETE SUBMISSION

If the Commission determines that an application is incomplete, it shall notify the applicant within 21 days of the date of receipt.

E. NOTICE OF INTENT/ABBREVIATED NOTICE OF INTENT

Any Notice of Intent shall include plans, specifications and a complete description of all work proposed, all wetland resource areas on and adjacent to the site, impacts of proposed work on said resource areas, mitigation measures to reduce or eliminate said impacts, appropriate maps [locus, USGS] and calculations. In that the Braintree Bylaw considers wildlife habitat, recreation and aesthetics significant values of the wetlands, an applicant shall include a narrative addressing the impacts of any proposed activity on these values and how they will be mitigated. Due regard shall be shown for all natural features such as large trees, water courses and bodies, wetlands, wildlife habitat, and similar community assets.

In addition to these Rules and Regulations, the applicant shall consult MGL Chp. 13, Sec. 40, 310 CMR 10.00, Braintree Bylaw Chp. 12.20 before filing.

Hearing Date

From the date of filing the Conservation Commission has 21 days to open a public hearing. If there is not sufficient time to advertise before the next meeting or if the next meeting is more than 21 days from the date of filing, the applicant shall be asked to sign to extend the 21 day deadline. The applicant shall be billed for the required newspaper advertisement of the public hearing.

Submission Requirements

Under state statute the applicant shall

- complete the Notification to Abutters form, notify abutters by hand delivery or Certified Mail/Return Receipt requested and complete the Affidavit of Service;
- submit one check to DEP for the state's share of the filing fee and a second check to the Town of Braintree for the Town's share;
- mail 2 copies of full application Certified Mail to DEP with verification provided to the Commission at the time of submission [DEP Wetlands, 205A Lowell Street, Wilmington MA 01887];
- provide 1 full size copy to the Braintree Conservation Commission.

Under the Braintree Bylaw, the applicant shall submit to the Conservation Commission

- a List of Direct Abutters - based on the most recent Assessors' records, and including those adjacent to a road, across a water body or in another municipality;
- a stamped envelope addressed to each abutor and submitted in the order the names appear on the abutters' list;
- a check to the Town of Braintree for the local filing fee (see Fee Schedule to determine your fee);
- 2 copies of the application and plans (may be half size).

Fee Schedule

A. Application – Notice of Intent (NOI) Note: Fees apply to any of the following wholly or partially within any resource area or buffer zone.

Category 1: \$75

- a) Minor project: house addition, swimming pool, grading on a single or two-family lot

Category 2: \$300

- a) Construction of a single or two-family dwelling
- b) Crossing of a resource area for single or two family lot
- c) Parking area for up to 10 parking spaces

Category 3: \$500

- a) Each new subdivision lot and/or roadway
- b) Parking area for 11-50 parking spaces
- c) Alteration, greater than 2000 sq. ft. of site without any proposed building or pavement (i.e. removal of vegetation, removal of topsoil, grading, etc.)
- d) Any other activity not in Category 1, 2, or 4

Category 4: \$800

- a) Parking area, 51 or more parking spaces
- b) Each building in a multifamily development
- c) Each commercial or institutional building
- d) Each new stormwater discharge
- e) Each crossing of a resource area other than Category 2
- f) Dredging
- g) Bridge

B. Application – Abbreviated Notice of Resource Area Determination (ANRAD)

- a) \$100 for less than \$500 feet of resource area delineation
- b) \$300 for 501 or more feet of resource area delineation

F. REQUEST FOR DETERMINATION OF APPLICABILITY

Any person who desires a determination as to whether the Bylaw applies to an area or to work to be performed on said area shall submit a written request to the Braintree Conservation Commission.

Submission Requirements

- 1) The applicant shall provide three copies of the complete application to the Conservation Commission
- 2) The applicant shall compile a List of Direct Abutters - based on the most recent Assessors' records and including those adjacent to a road, across a water body or in another municipality.
- 3) A stamped envelope addressed to each abutter in the order the names appear on the List of Abutters shall be submitted with application.
- 4) If the applicant is not the owner, the applicant shall furnish proof that the owner has been notified of the filing of the Request.
- 5) The applicant should provide as much detail as possible concerning the area and work activity proposed. Include plans, maps, location of wetland resource areas, and mitigating methods to control erosion, prevent pollution and protect wetlands (haybales, silt fence, revegetation, limit of work, etc.). The Commission needs sufficient information to determine the location of and potential impact to wetland resource areas.
- 6) Federal Emergency Management Administration National Flood Insurance Program Elevation Certificate may be required if work is in Land Subject to Flooding.

Hearing Date

From the date of filing the Conservation Commission has 21 days to open a public hearing. If there is not sufficient time to advertise before the next meeting or if the next meeting is more than 21 days from the date of filing, the applicant shall be asked to sign to extend the 21 day deadline. The applicant shall be billed for the required newspaper advertisement of the public hearing.

G. PLANS AND REPORTS

The items below are set out as a minimum standard for submission of plans and reports. The applicant may be required to submit any additional information deemed necessary to determine the proposed effect on the interests protected by the Bylaw.

Plans

Plans shall show the location of all statutory wetlands on site and indicate the distance and bearing on all wetland flags. All plans shall be drawn to an appropriate scale and include the name and location of the project, the names of the person[s] preparing the drawings and the date prepared, including the latest revision date. Drawings shall be stamped and signed by a duly qualified Registered Professional Engineer or Registered Land Surveyor of the Commonwealth of Massachusetts. Plans shall also include the following:

- 1) names and addresses of the applicant and owner of record
- 2) names of all abutters, as determined from the most recent local tax list
- 3) maximum and minimum ground water elevations with dates of measurement, samplings, and percolation tests
- 4) soil characteristics in representative portions of the site, including depth of peat and mulch in wetlands
- 5) methods to be used to control erosion and maintain embankments facing any wetland and location of erosion control structures
- 6) existing and final surface contours and contour intervals [not greater than 2'], including pond bottom and stream invert contours
- 7) locations and elevations of sills and bottoms of septic systems
- 8) invert elevations on catchbasins
- 9) locations, sizes and slopes of existing and proposed culverts and pipes
- 10) cross section of all wetlands, showing slope and bank and bottom treatment
- 11) existing and proposed water storage capacity of the property including calculations and data upon which capacity is based [If filling is proposed, the effect of loss of storage on downstream channels and culverts shall be indicated.]
- 12) location and elevation of Bench Mark used for survey
- 13) existing stone wall, fences, buildings, historic sites, rock ridges and outcroppings
- 14) proposed pollution control devices on site, such as hooded catchbasins, oil absorption pillows, detention/retention basins, flow dissipaters, or vegetative buffers

Reports

- 1) hydraulic calculations for the 2, 10, 25 and 100 Year Storm Events and the data on which they are based
- 2) a list of all required permits, variances or approvals and proof of application for same
- 3) description of any alterations to flood storage capacity on the site
- 4) runoff plan and calculations for the 2, 10, 25 and 100 Year Storm Events using appropriate methodology and showing existing and proposed runoff conditions for comparative purposes
- 5) hydrographs that illustrate runoff characteristics before and after the proposed activity

H. CHANGE IN SUBMITTED PLANS

Should there be any significant change in proposed activity subsequent to filing an application, the applicant must notify the Commission in writing. No work shall be done on the subject area until the Commission has reviewed the changes. Within 21 days of receipt of notification of changes, the Commission shall determine if a new application must be filed.

I. CERTIFICATE OF COMPLIANCE

A Certificate of Compliance will be issued only after a project is completed in its entirety. An applicant shall request in writing a Certificate of Compliance and provide the Commission with As-Built plans.

Erosion Control Regulations

Adopted by the Braintree Conservation Commission July 26, 2001

PREAMBLE

Uncontrolled excavation, grading and construction activities may cause excessive quantities of soil to erode. Erosion and resulting sediment requires the costly repair of washed-out roads and embankments, creates excess turbidity, clogs storm drains and swales, muddies streams, silts rivers and lakes and limits the use of water for most beneficial purposes. Sediment-choked streams are unsightly and reduced channel capacity may result in flooding and associated damages.

A. OBJECTIVES

The objectives of these regulations are to:

- Reduce environmental damage from sediment and erosion by requiring adequate provisions to control stormwater runoff [*Runoff*] and by protecting exposed or disturbed areas;
- Restrict runoff entering or leaving sites to non-erosive velocities through the use of erosion and runoff control measures [*Control Measures*] so that surface and ground water quality are protected, erosion is minimized and flooding potential is reduced;
- Assure that *Control Measures* are incorporated into site planning at an early stage in the design process;
- Prevent the unnecessary stripping of vegetation and loss of soils, especially adjacent water bodies;
- Prevent construction activities that may cause mass movement, slumping or erosion of land surfaces;
- Prevent excess turbidity in water bodies;
- Eliminate costly maintenance and repairs to roads, embankments, swales, streams, water bodies, stormwater control facilities, and adjacent properties.

B. INTENT

These regulations are designed to allow broad discretion for addressing the impacts from construction activities so long as *Control Measures* comply with the Objectives and Design Standards. These regulations therefore do not specify or mandate specific *Control Measures*. They provide the flexibility to choose or design *Control Measures* subject to review by the Conservation Commission [*Commission*].

C. DEFINITIONS

Adjacent Property: property which may experience erosion, sedimentation or construction impacts directly related to activities from a separate site

Certification: determination by the *Commission* that an Erosion and Stormwater Runoff Control Plan [*Plan*] complies with these regulations

Certified Professional: a person certified as a geologist or who holds a Massachusetts license as a professional engineer or landscape architect

Construction Activity: developing, redeveloping, enhancing and maintaining land, including but not limited to land disturbance, building construction, paving and surfacing, storage and disposal of construction related materials

Development: any construction or grading activities

Dewatering: removal and disposal of surface water or ground water to prepare a site for construction

Directly Drains: conveyance and discharge of *runoff*, either on the surface or by an open channel or pipe, into an adjacent water body

Disturbed Area: an area where the ground cover is destroyed or removed

Erosion: detachment and movement of soil or rock fragments by water, wind, ice or gravity

Erosion Prevention: measures to prevent and/or minimize erosion, sedimentation and other impacts associated with construction activities

Grading: excavating, grubbing, filling or stockpiling of earth materials

Highly Erodible Soils: soil map units classified as such by the Natural Resources Conservation Service

Land Disturbance: activities that can change the physical conditions of landform, vegetation or hydrology including but not limited to clearing, grading, grubbing, excavation, filling and storing of materials

Soil: any unconsolidated mineral or organic material

Untreated Runoff: contaminated runoff that has not been filtered, screened, settled or otherwise treated for removal of pollutants prior to discharge into a stormwater system or adjacent water body

Water Body: permanent or intermittent bodies of water including creeks, streams, ponds, rivers, lakes, drainage channels and wetlands

Wetland: any land which meets local, state or federal definition of wetland and is subject to the jurisdiction of the *Commission*

D. APPLICABILITY

- 1) These regulations shall apply to every Notice of Intent [NOI] where:
 - site work
 - a) involves the excavation or placement of more than 100 cubic yards of material
 - b) disturbs cumulatively more than 5,000 SF
 - c) will occur on a slope greater than 15%
 - a site
 - a) contains highly erodible soils
 - b) drains directly into a water body
 - a retention pond or basin of 1,000 SF or more in size will be created
 - the *Commission* determines that there is a high potential for environmental degradation from erosion or runoff
- 2) A single-family residential site may be exempted from these regulations provided:
 - it is not located within a subdivision subject to these regulations,
 - site work will not disturb more than 3,000 SF, and
 - adequate *Control Measures* are incorporated into the development.

E. APPLICANT'S RESPONSIBILITIES

- Persons engaged in development shall file a *Plan* in accordance with these regulations.
- Development shall not begin unless a *Plan* has been certified and those *Control Measures* identified in the *Plan* are installed and functional.
- All *Control Measures* shall be maintained in effective conditions to ensure compliance with the *Plan*.

F. EROSION AND STORMWATER RUNOFF CONTROL PLAN

- 1) A *Plan*, prepared in accordance with the methods and measures identified in the publications below, shall be submitted with every Notice of Intent subject to these regulations.

"The Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas: A Guide For Planners, Designers, and Municipal Officials" (EOEA) and

"Guidelines for Soil and Water Conservation in Urbanizing Areas of Massachusetts" (Soil Conservation Service)

- 2) Said *Plan* shall have a Project Narrative which includes a description of:

- the nature and purpose of the development and the amount of grading involved,
- the proposed stages of development including start and completion dates, the sequence of construction and grading activities, the sequence for installing *Control Measures* and for final stabilization, current site conditions,
- neighboring areas that might be affected by the development, i.e. roads, water bodies and residences,
- the soils on site including soil names, map unit, erodibility, permeability, texture and soil structure,
- areas with potentially serious erosion problems,
- the methods which will be used to control runoff, erosion and sedimentation,
- specifications and calculations of how the site will be stabilized during and after construction,
- maintenance activities for the *Control Measures*.

- 3) Said *Plan* shall have a Site Plan which includes:

- north arrow, scale, benchmark and datum,
- existing and final contours at 2' intervals extending at least 50' beyond the site's boundary,
- existing vegetation including tree lines, grassy areas and unique vegetation,
- boundaries of the different soil types on site,
- property lines,
- elevations of streets, parking lots, water levels of ponds and wetlands, storm sewer inlets and outlets and the first floor of all existing and proposed structures,
- drainage dividing lines and direction of flow for the catchment areas on site during and after construction,
- areas with potentially serious erosion problems,
- limits of clearing and grading,
- location of
 - a) utilities,
 - b) *Control Measures* to be installed on site illustrated with detail drawings,
 - c) off-site and on-site access routes for construction and maintenance vehicles,
 - d) borrow and waste disposal areas,
 - e) debris and garbage disposal area ,
- vegetation specifications for temporary and permanent stabilization,
- methods and location of concrete-wash disposal.

G. DESIGN STANDARDS

- 1) Development shall be fitted to topography and soils so as to minimize erosion.
- 2) In no event shall any site work be started prior to the starting date specified in the *Plan*.
- 3) Natural vegetation shall be retained and protected wherever possible.
- 4) Clearing, grading or other site work shall be performed in a manner that will minimize erosion and shall be limited to the area of immediate construction operations and for the shortest practical period of time.
- 5) Site drainage shall be designed to effectively treat increased runoff created during and after construction so that adjacent properties and downstream water bodies are protected from erosion.
- 6) Uncontrolled runoff shall not be diverted onto adjacent properties or into the storm drain or sewer system. Said runoff shall be disposed of at non-erosive velocities at established drainage locations.
- 7) Sediment transported by runoff shall be retained on site through the use of sediment basins, silt traps or other appropriate measures, which to the extent possible, shall be installed before clearing and grading begin.
- 8) Cut and fill slopes shall be constructed in a manner that will minimize erosion. No slope shall be steeper than two horizontal to one vertical unless approved by the *Commission*.
- 9) Diversions or other appropriate measures shall be installed at the top of cut and fill slopes to prevent uncontrolled drainage flows on the disturbed slopes.
- 10) Drainage swales used to divert runoff shall be vegetated and stabilized to control erosion in concentrated flow areas.
- 11) All functioning storm drain inlets shall be protected so that runoff will not enter the conveyance system without first being filtered or otherwise treated to remove sediment.
- 12) Suitable *Control Measures*, such as temporary seeding or mulching, shall be used to protect exposed critical areas during construction.
- 13) A site shall be maintained and/or watered to prevent dust erosion.
- 14) Grading shall not be permitted to continue if the *Commission* determines that fugitive dust is significantly impacting adjacent ways or property.
- 15) Topsoil shall be stockpiled on site to the extent practicable for use on areas to be revegetated. Said soil shall be protected so that it does not erode.
- 16) Stockpiled construction materials shall be protected so that they do not erode. Excavated materials shall not be deposited or stored near water bodies unless authorized by the *Commission*.
- 17) Construction equipment shall not cross or disturb stream channels except at approved crossings.
- 18) In areas of the site where construction activities will cease for more than 21 days or have permanently ceased, temporary vegetation or other stabilization measures shall be initiated within 14 days of cessation of said activities, weather permitting.
- 19) Where inadequate vegetation exists, temporary or permanent vegetation shall be established.
- 20) Permanent protective vegetation and erosion control structures shall be installed as soon as practical and shall not be considered established until the ground cover is mature enough to satisfactorily control erosion. Ground cover shall not be considered mature until at least two growing seasons have elapsed.
- 21) Whenever access routes for construction vehicles intersect public roads, provisions shall be made to minimize the transport of sediment by runoff or by vehicles onto said roads. When sediment is transported onto a public road surface, the road shall be cleaned thoroughly at the end of each day, or more often if required by the *Commission*.

H. MAINTENANCE

- 1) All Plans shall include a maintenance element which shall:
 - identify all of the *Control Measures* that will be inspected and maintained,
 - provide an inspection schedule for each *Control Measure*,
 - list typical maintenance procedures for each *Control Measure*,
 - describe steps to take if *Control Measures* prove inadequate,
 - provide forms and instructions for record keeping,

- list the names and personnel assigned to each task and the training needed to perform each job.
- 2) *Control Measures* installed under these regulations shall be adequately maintained in perpetuity in accordance with the *Plan* by the applicant and any owner of lots on which said measures have been installed.

I. INSPECTION AND ENFORCEMENT

The *Commission* shall enforce these regulations. If the *Commission* or its staff finds that on-site conditions are in violation of these regulations or not as stated in the *Plan*, the *Commission* may issue a stop work order and direct the applicant to take corrective measures.

J. CONSTRUCTION CERTIFICATION BY REGISTERED PROFESSIONAL

For any site which requires a professional site plan, the *Commission* may require that a certified professional verify in writing that all *Control Measures* have been installed in accordance with the *Plan*.

K. SEQUENCING OF CONTROL MEASURES

If a project is so large or complex that a Plan encompassing the total project cannot reasonably be prepared prior to initial groundbreaking, an applicant may seek authorization from the *Commission* to undertake major grading activities incrementally. Approval by the *Commission* of phased grading activities shall take place in two steps. The applicant shall submit to the *Commission* for review and approval:

- 1) a conceptual plan of the entire development, and
- 2) detailed plans prepared by a Professional Engineer registered in the Commonwealth for each phase of the project showing the nature and extent of the work to be completed in that phase.

STANDARDS FOR HAYBALE SEDIMENT TRAPS AND SILT FENCES

A. APPLICABILITY

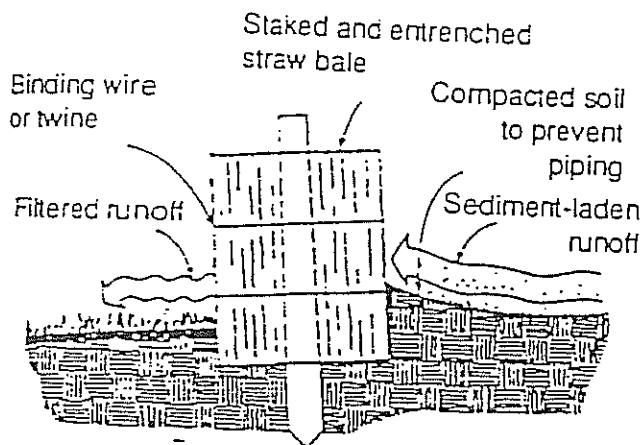
Either silt fences or haybales may be used as an erosion control measure when appropriate. If the use of haybales are proposed, said haybales may be used only with the approval of the Commission.

B. PERFORMANCE STANDARDS

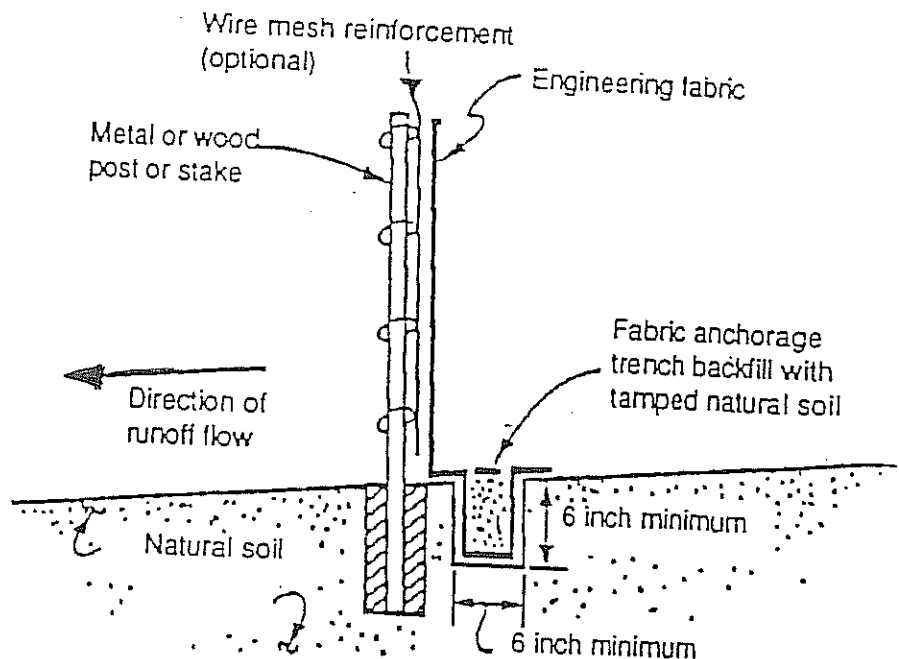
Staked haybales or silt fences may be used as an erosion control measure only where the drainage area is less than two acres, the maximum uncontrolled slope length above the haybales or silt fence is 150', the water reaches the haybales or silt fence as sheet flow and any ponding created will not cause property damage or a safety hazard.

C. DESIGN RECOMMENDATIONS

- The following construction details shall be incorporated onto the record set of plans for any project proposing to use haybales and/or silt fence for erosion control:



Cross section of a properly installed haybale



Note: Depending upon configuration, attach fabric to wire mesh with hog rings, steel posts with tie wires, or wood posts with staples.

Typical installation for silt fence

2. Haybales and/or silt fence shall be installed along the contour and constructed so that the flow cannot bypass the ends.
3. Soil shall be compacted on the upslope side of the haybales as shown in the detail and loose straw shall be wedged between the haybales.
4. If the silt fence is longer than 600', it shall be constructed in separate, independent units with each unit having a length of 600'.
5. Haybales shall be trenched 4" into the ground and shall be staked by steel fence posts or 2" x 2" wood stake with the stakes angled towards the previously laid haybale [as shown on the construction detail].
6. Silt fences may be constructed with or without supporting fencing as shown on the construction detail. If support fences are included, they shall be strong enough to withstand the load from ponded water and trapped sediment and the support posts should be spaced at 10' or less and should be driven at least 1' into the ground. If support fences are not used, the posts shall be spaced at 4' or less. Posts shall be placed or driven at least 2' into the ground. Posts shall be 4 inch diameter wood posts or standard steel fence posts weighing no less than 1.3 pounds per linear foot, with a minimum length of 30" plus burial depth.
7. Silt fence shall be anchored in a trench dug on the upslope side of the posts. The trench shall be at least 6" deep and 6" wide. The fabric shall be laid in the trench which is then backfilled and compacted as shown on the construction detail.
8. The filter fabric shall be furnished in a continuous roll to avoid splices. When a splice cannot be avoided, it shall be made at a fence post. The fabric shall be overlapped 6 inches, folded over and securely fastened.

D. **MAINTENANCE**

All haybales and/or silt fences shall be inspected immediately after each runoff event and at least daily during prolonged rainfall. Any required repairs should be made immediately including replacing deteriorated, destroyed or rotted haybales. When sediment deposits reach approximately one-half the height of the haybales or silt fence, the sediment shall be removed.

EROSION AND STORMWATER CONTROL PLAN

Check List

The following items should be incorporated with respect to specific site conditions in an Erosion Control Plan:

LOCATION INFORMATION

- ___ Project Location
- ___ Roads, Streets
- ___ North Arrow
- ___ Scale
- ___ Adjoining Lakes, streams or other major drainage ways

GENERAL SITE FEATURES

- ___ Legend
- ___ Existing contours
- ___ Proposed contours
- ___ Limit & acreage of disturbed area
- ___ Planned & existing building locations & elevations
- ___ Planned & existing road locations & elevations
- ___ Lot and/or building numbers
- ___ Land use of surrounding areas
- ___ Rock outcrops
- ___ Seeps or springs & wetland limits
- ___ Easements, streams, lakes, ponds, drainage ways & dams
- ___ Boundaries of the total tract
- ___ Borrow and/or waste areas
- ___ Stockpiled topsoil or subsoil locations
- ___ Street profiles

SITE DRAINAGE FEATURES

- ___ Existing & planned drainage patterns, [include off-site areas that drain through the project area]
- ___ Size of areas [acreage]
- ___ Size & location of culverts & sewers
- ___ Soils information [type & special characteristics]
- ___ Design calculation for peak discharges of runoff [including the construction phase & final runoff coefficients of the site]
- ___ Design calculations, cross sections & methods of stabilization of existing & planned channels [include temporary linings]

- ___ Design calculations & construction details of energy dissipators below culverts & storm sewer outlets [for rip rap aprons, include stone sizes (diameters) & apron dimensions]
- ___ Soil information below culvert & storm sewer outlets
- ___ Design calculations and construction details to control groundwater, i.e. high water table
- ___ Name of receiving watercourses or name of municipal operator [only where stormwater discharges are to occur]

EROSION CONTROL MEASURES

- ___ Location of temporary & permanent measures
- ___ Construction drawings and details for temporary & permanent measures
- ___ Design calculations for sediment basins & other measures
- ___ Maintenance requirements during construction
- ___ Person responsible for maintenance during construction
- ___ Maintenance requirements & person responsible for maintenance measures after construction

VEGETATIVE STABILIZATION

- ___ Areas & acreage to vegetatively stabilize
- ___ Planned vegetation with details of plants, seeds, mulch & fertilizer
- ___ Specifications for permanent & temporary vegetation
- ___ Method of soil preparation

OTHER REQUIREMENTS

- ___ Narrative describing construction sequence
- ___ Narrative describing the nature & purpose of construction activity
- ___ Construction sequence related to sedimentation & erosion control [including measures to be installed prior to the start of grading & their removal when disturbed areas have been permanently stabilized]