CITY OF BATESVILLE
DEVELOPMENT & CONSTRUCTION
STANDARDS MANUAL

CHAPTER 1
EROSION CONTROL SPECIFICATIONS

TABLE OF CONTENTS

Section	*Subject*	*Page*
1.1	GENERAL	1-1
1.1.1	Permit Applicant and Permit Issuance	1-1
1.1.2	Definitions	1-1
1.1.3	Erosion Control Plan	1-2
1.1.4.	Inspection	1-4
1.2	DESIGN CRITERIA	1-4
1.2.1	Erosion Control Design Measures	1-4
1.2.2	Control of Erosion and Sediment	1-4
1.3	MATERIAL SPECIFICATIONS	1-6
1.3.1	Materials	1-6
1.4	CONSTRUCTION REQUIREMENTS	1-7
1.4.1	General	1-7
1.4.2	Installation	1-7
1.4.3	Maintenance	1-8

LIST OF DRAWINGS

Title	*Drawing No.*
Temporary Stone Construction Entrance	EC-1
Silt Fence Detail	EC-2
Straw Dam Detail	EC-3
Fabric Drop Inlet Protection Detail	EC-4
Riprap Chute Detail	EC-5
Sandbag Curb Inlet Protection Detail	EC-6
Rock Check Dam Detail	EC-7

SECTION 1.1: GENERAL

1.1.1 Permit Applicant and Permit Issuance

A. The Contractor during any construction activity shall implement local agency requirements by City erosion control ordinance(s).

B. Erosion control methods and procedures shall comply with the most current version of 327 IAC 15-5. If any inconsistencies with 327 IAC 15-5 have been approved by IDEM, the Division of Soil Conservation, or the City of Batesville the more stringent shall apply. An August 1, 2003 version of 327 IAC 15 is shown in Appendix A.

C. The City of Batesville reserves the right to inspect any land-disturbing activities and the related methods of erosion control for compliance.

1.1.2 Definitions

A. “City of Batesville” means the designated unit of government given the authority to issue permits. Also any employee or representative whom they shall specifically delegate a responsibility.

B. “Person” means any entity, including any individuals, corporation, or public body holding title to or having an interest in land, operating, leasing, renting, or having made other arrangements with the title holder by which the title holder authorizes use of his or her land.

C. “Agricultural land use” means use of land for the production of animal or plant life, including forestry, pasturing or yarding livestock, and planting, growing, cultivating, and harvesting crops for human or livestock consumption.

D. “Nonagricultural land use” means commercial use of land for the manufacturing and wholesale or retail sale of goods and services, residential or institutional use of land intended primarily to shelter people, highway use of land including lanes, alleys, and streets, and other land uses not included under agricultural land use.

E. “Land-disturbing activity” means any manmade change of the land surface including removing vegetative cover, excavating, filling, transporting, and grading. In the context of this Chapter, it includes only nonagricultural land-disturbing activities on sites which also require a local improvement location permit or an approved subdivision plat.

F. “Site” means the entire area included in the legal description of the land on which land-disturbing activity has been proposed in the permit application.

G. "Runoff" means the portion of the precipitation from such sources as rainfall, snowmelt, or irrigation water that flows over the ground surface.

H. "Erosion" means the detachment and movement of soil, sediment, or rock fragments by water, wind, ice, or gravity.

I. "Erosion control measure" means a practice or a combination of practices to control erosion and resulting sedimentation.

J. "Erosion Control Plan" means a written description of pertinent information concerning erosion control measures designed to meet the requirements of this Chapter as submitted by the applicant for the review and approval of the City of Batesville.

1.1.3 Erosion Control Plan

A. No person shall begin a land-disturbing activity without receiving approval of an erosion control plan. An application should be made at the time of the preliminary plat submittal or local improvement location permit application to minimize the time delay before a project can begin. By submitting an application, the applicant is implying that the City of Batesville has been given permission to enter the site to obtain information required for review of the erosion control plan.

B. Content of Erosion Control Plan for Land-Disturbing Activities Covering One or More Acres in a Given Site

1. Existing Site Map: A map of existing site conditions on a minimum scale of one inch equals 100 feet and adequate to show the site and adjacent areas, including:
   a. Site boundaries and adjacent lands which accurately identify the site location;
   b. Lakes, streams, wetlands, channels, ditches, and other watercourses on and adjacent to the site;
   c. One hundred-year flood plains, floodway fringes and floodways;
   d. Location of the predominant soil types as identified by the Ripley or Franklin County USDA Soil Conservation Service Soil Survey or as determined by a professional soil scientist;
   e. Vegetative cover such as grass, weeds, and trees;
   f. Location and dimensions of stormwater drainage systems and natural drainage patterns on and immediately adjacent to the site;
   g. Locations and dimensions of utilities, structures, roads, highways, and paving; and
   h. Site topography at a contour interval not to exceed five feet.

2. Plan of final site conditions. A plan of final site conditions on the same scale as the existing site map showing the site changes.
3. Site construction plan. A site construction plan including:

a. Locations and dimensions of all proposed land-disturbing activities;
b. Locations and dimensions of all temporary soil stockpiles;
c. Locations and dimensions of all erosion control measures necessary to meet the requirements of this Chapter;
d. Schedule of the anticipated starting and completion dates of each land-disturbing activity, including the installation of erosion control measures needed to meet the requirements of this Chapter; and
e. Provisions for maintenance of the erosion control measures during construction.

C. Content of Erosion Control Plan for Land-Disturbing Activities Covering Less than One Acre in a Given Site

An erosion control plan statement describing the site and erosion control measures and including a development schedule and a simple map showing the locations of the control measures is all that is required.

D. Review of Erosion Control Plan

The City of Batesville shall promptly review the application and erosion control plan in conjunction with the subdivision plat and local improvement permit application to determine whether the requirements of this Chapter have been met. If the conditions are not met, the City of Batesville shall inform the applicant in writing and either may require additional information or may disapprove the plan. If requested additional information is submitted, the City of Batesville shall again determine whether the plan meets the requirements of this Chapter. If the plan is disapproved, the City of Batesville shall inform the applicant in writing, giving reasons for disapproval.

E. Permits

1. Surety Bond

As a condition of approval and issuance of the permit, the City of Batesville may require the applicant to provide a surety bond or an irrevocable letter of credit when the erosion control plan has been approved to guarantee a good faith execution of the erosion control plan and any permit conditions.

a. Notify the City of Batesville at least 24 hours before commencing with any land-disturbing activity;
b. Notify the City of Batesville of the completion of erosion control measures within seven days after their installation;
c. Obtain permission from the City of Batesville prior to modifying the erosion control plan;
d. Install all erosion control measures as identified in the approved erosion control plan;
e. Maintain all road drainage systems, stormwater drainage systems, erosion control measures, and other facilities identified in the erosion control plan until the project has been terminated (See Section 7 for

continuing maintenance responsibility).

f. Where legal, remove sediment resulting from land-disturbing activities from adjacent surfaces and drainageways and/or repair erosion damage to adjacent surfaces and drainageways; and

g. Allow the City of Batesville to enter the site for verifying compliance with the erosion control plan or for the performing of any work necessary to bring the site into compliance with the erosion control plan.

1.1.4. Inspection

To ensure compliance with the erosion control plan, the City of Batesville shall inspect sites having ongoing land-disturbing activities at least once a month during the period between March 1 and November 30 and at least twice during the period between December 1 and February 28.

If land-disturbing activities are being carried out without a permit, the City of Batesville shall issue a stop work order pursuant to the provisions of Chapter 160 of the Batesville Erosion Control Code.

SECTION 1.2: DESIGN CRITERIA

1.2.1 Erosion Control Design Measures

A. All erosion control measures including, but not limited to, those required to comply with this Chapter shall meet the design criteria, standards, and specifications for erosion control measures similar to or the same as those outlined in the Field Office Technical Guide of the USDA Soil Conservation Service, and the Indiana Stormwater Quality Manual, formerly known as the Indiana Handbook for Erosion Control in Developing Areas.

B. The Field Office Technical Guide of the USDA Soil Conservation Service is available online at http://www.nrcs.usda.gov/technical/efotg/

C. The Indiana Stormwater Quality Manual is available from the Indiana Department of Natural Resources, Division of Soil Conservation, online at http://www.in.gov/dnr/soilcons/publications/stormwatermanual.html

1.2.2 Control of Erosion and Sediment

Control of erosion and sediment is the responsibility of the applicant. Refer to the Erosion Control Ordinance for the authority and penalties that will be enforced. Applicability and requirements are defined as follows:

A. Applicability: This section applies to the following sites with land-disturbing activities:

1. those requiring a subdivision plat approval or local improvement location permit for the construction of commercial, residential, or institutional buildings on any parcel of land.
2. those involving grading, removal of protective ground cover or vegetation, excavation, land filling, or other land-disturbing activity affecting a surface area of 6,000 square feet or more;
3. those involving excavation, filling, or a combination of excavation and filling affecting 400 cubic yards or more of soil, sand, gravel, stone, or other material.
4. those involving street, highway, road, or bridge construction, enlargement, relocation, or reconstruction; and
5. those involving the laying, repairing, replacing, or enlarging of an underground pipe or utility for a distance of 300 feet or more.

B. Erosion and Other Sediment Control Requirements
The following requirements shall be met on all sites:
1. Site Dewatering: Sediment-laden water flowing from the site shall be detained by temporary sediment basins. Also, water shall not be discharged in a manner that causes erosion in the receiving channel.
2. Waste & Material Disposal: Wastes or unused building materials including, but not limited to, garbage, debris, cleaning wastes, wastewater, toxic materials, and hazardous substances, shall not be carried by runoff from a site. Proper disposal of all wastes and used building materials, in line with the nature of the waste material, is required.
3. Tracking: Sediment being tracked from a site onto public or private roadways shall not be allowed. This can be accomplished initially by a well-planned layout of roads, access drives, and parking areas of sufficient width and length. However, protective covering also may be necessary.
4. Sediment Removal: Public or private roadways shall be kept cleared of accumulated sediment. If appreciable sedimentation occurs after a storm event, the sediment shall be deposited on the parcels of land, if in the site, from where it likely originated.
5. Drain Inlet Protection: All storm drain inlets shall be protected against sedimentation with straw bales, filter fabric, or equivalent barriers meeting accepted design criteria, standards, and specifications.
6. Site Erosion Control: The following items apply only to the time period when land-disturbing activities are taking place:
   a. Runoff passing through a site from adjacent area shall be controlled by diverting it around disturbed areas. Alternatively, the existing channel may be improved to prevent erosion or sedimentation from occurring.
   b. Runoff from a disturbed area shall be controlled by one or more of the following measures:
      1. barring unforeseen weather conditions, all disturbed ground left

inactive for seven or more days shall be stabilized prior to the tenth day by seeding, sodding, mulching, covering, or by other equivalent erosion control measures.

2. with disturbed areas within a site of 10 acres or more, where drainage is in the same direction or where runoff will result in loss of soil, an abatement or recovery program is required. Where feasible, one or more sediment basins shall be constructed. Each sediment basin shall have a depth of at least three feet and have sufficient surface area to trap the sediment. The size of sedimentation basin should be at least one percent of its drainage area. Sediment shall be removed from time to time to maintain a minimum three-foot depth. When the disturbed area is stabilized, the sediment basin can be removed. However, if erosion is likely to continue, the sediment basin shall be maintained by the existing or subsequent landowners. The discharge rate from a sediment basin shall not cause scouring in the receiving channel.
3. with disturbed areas within a site of less than 10 acres, filter fences, straw bales, or equivalent erosion control measures placed along all sideslope and downslope sides of the site shall be required. Also, if concentrated flow area to reduce the amount of sediment removed from the site. However, if these measures are not sufficient to control off-site sedimentation, a sediment basin may still be required.

C. Erosion from all storage piles shall be controlled by placing straw bales, filter fence or other appropriate barriers around the piles. Adjacent storm drain inlets shall be protected using similar filter barriers. Moreover, any soil storage pile containing more than ten cubic yards of material may be located closer than 25 feet to a roadway or a drainage channel but shall be covered with tarps or a suitable alternative if in existence for less than seven days. However, if a pile is in existence for more than seven days, barriers also shall be placed around the pile.

SECTION 1.3: MATERIALS SPECIFICATIONS

1.3.1 MATERIALS

A. Straw Bales: Bales shall be new, firm, and well compacted straw bales bound with wire or nylon. Minimum size for bales shall be 14" x 18" x 36" when used for dams or filters.
   1. Where grades are 7% or higher, straw bales cannot be used for dams or filters.
B. Temporary Seeding:
   1. Seed mixture for summer planting shall be Annual Rye Grass applied at the rate of 40 pounds per acre combined with White or Red Sweet Clover

at the rate of 15 pounds per acre.

2. Seed mixture for fall planting shall be Hard Red Winter Wheat and Winter Rye (grain) mixed in equal proportions and applied at the rate of 100 pounds per acre.
3. Apply 1,000 pounds per acre of 12-12-12 analysis, or equivalent, fertilizer. Work the fertilizer into the soil 2-4 inches deep.

C. Stabilized Construction Roads: These roads shall be constructed of aggregate base course in accordance with Street Specifications in order to prevent erosion.

D. Erosion Blanket: Erosion blanket shall be wood excelsior, straw, or coconut fibers with photodegradable netting. Erosion control blankets shall be as manufactured by North American Green Models S75, S150, and SC150 or approved equal.

E. Limestone-filled sandbags: Fill sandbags approximately halfway with #5 Limestone.

F. Vegetative Filter Strips: Seeding mixture shall be Creeping Red Fescue at the rate of 20 pounds per acre combined with Annual Rye Grass at the rate of 5 pounds per acre.

G. Silt Fence: Fence shall consist of 2 x 2 hardwood posts and woven or non-woven geotextile fabric according to the "Handbook" referenced in 1.2.1 above and the Erosion Control Details.

H. Temporary Stone Construction Entrance/Exit Pad: Use 2 to 3-inch size washed stone (per INDOT standards) over a geotextile fabric.

SECTION 1.4: CONSTRUCTION REQUIREMENTS

1.4.1 GENERAL

A. Erosion control measures shall be installed to minimize the effects of erosion and siltation/sedimentation caused by this Contract.

B. The "Handbook" referenced in 1.2.1 above shall be used by the Contractor for reference when field conditions dictate additional erosion control measures.

1.4.2 INSTALLATION

A. Straw bale barriers shall be placed as ditch checks and as silt fences.

B. Limestone-filled sandbags shall be placed as checkdams and sediment traps. Space checkdams at a distance such that the top of the downstream dam is level with the lowest ground elevation at the upstream dam.

C. Temporary seeding shall be placed on all stockpiles and disturbed areas. No fertilizer, mulch, or topsoil will be required where temporary seeding is sown.
   1. Seeding Methods: Seed shall be applied with equipment approved by the City of Batesville.
   2. Seeding Period: Between June 15 and August 31, the summer seed mixture shall be used. After September 1 until the ground freezes, the fall seed mixture shall be used.
   3. Contractor is responsible for soil stabilization.

D. Erosion Blankets:
   1. Blankets shall be staked or stapled in place in accordance with manufacturer's instructions.
   2. Blankets shall be placed on all disturbed areas (and where shown on the erosion control plan) with slopes 10:1 or steeper whenever seeding will not be performed within 15 days.

E. Silt fence shall be installed where shown on erosion control plan and/or per the "Handbook" referenced in 1.2.1 above.

F. All perimeter silt barrier systems and point discharge location(s) from proposed construction activities shall be installed prior to any surface disturbance.

1.4.3 MAINTENANCE

A. All erosion control measures shall be maintained until the final seeding has been accepted by the City of Batesville.

B. Straw bales, silt fences and sandbags shall be inspected frequently and repaired or replaced as necessary. After the straw bales, silt fences and sandbags have served their purpose, they shall be removed and disposed of off-site. The depressions shall be filled, compacted, and seeded.

C. Washouts and bare spots shall be reseeded.

D. If sedimentation is likely to be a problem after land-disturbing activities have ceased, some or all of the erosion control measures shall be maintained by the applicant or subsequent landowner for as long as the problem exists.

END OF SECTION